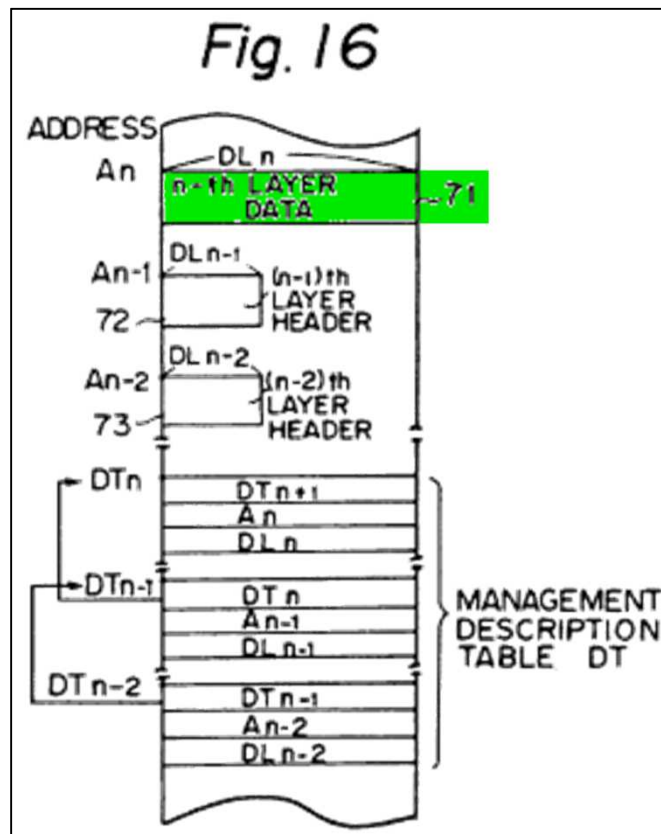


699 Patent: Disputes

1. Kiyohara transfers packet data without headers to the “destination”
2. Kiyohara transfers packet data to the “destination” without the host processing network layer or transport layer headers
3. Kiyohara’s data storage area is on the host
4. Information in Kiyohara’s data storage area is controlled by the application
5. SMB is a session layer protocol (claims 2, 7)

PO argues that Kiyohara transfers the headers and the data to the “destination”

“...transferring the data to the destination, without transferring the network layer headers or the transport layer headers of the plurality of packets to the destination...”



PO argues that Fig. 16 shows that the data storage area and the header storage area are on the *same physical memory* and are stored *sequentially* (address An, An-1, An-2, etc.).

Paper 15 (POR) at 15-17.

Ex. 1089 (Kiyohara) at Fig. 16.

“Destination” does not require a separate physical memory

7. A method comprising:
receiving, by a network interface that is coupled to a computer, a plurality of packets each containing data, a network layer header and a transport layer header, wherein the data is for an application running on the computer;
providing, by the network interface to the computer, a session layer header from one of the packets;
analyzing, by the computer, the session layer header, including obtaining a destination for the data in a memory of the computer, such that information that is later stored in the destination will be controlled by the application; and
transferring the data to the destination, without transferring the network layer headers or the transport layer headers of the plurality of packets to the destination, and without processing the network layer headers or the transport layer headers by the computer.

Ex. 1001 (699 Patent) at Claim 7; see *also id.* at Claims 1 and 13; Paper 29 (Reply) at 4.

Kiyohara's header portions and data portions are stored in different areas

United States Patent [19] [11] Patent Number: 5,237,693
Kiyohara et al. [45] Date of Patent: Aug. 17, 1993

US000537693A

[54] SYSTEM FOR ACCESSING PERIPHERAL DEVICES CONNECTED IN NETWORK

[75] Inventors: Toshimi Kiyohara, Nara; Yamaguchi, Ikoma, both

[73] Assignee: Sharp Kabushiki Kaisha, Japan

[21] Appl. No.: 676,981

[22] Filed: Mar. 29, 1991

[30] Foreign Application Priority Data

Apr. 4, 1990 [JP] Japan

Apr. 4, 1990 [JP] Japan

Apr. 5, 1990 [JP] Japan

Apr. 12, 1990 [JP] Japan

[51] Int. Cl. 5

[52] U.S. Cl.

[58] Field of Search

[56] References Cited

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4,658,331 4/1987 Teng

4,663,748 5/1987 Karbowiak et al.

4,682,581 7/1987 Kotlik et al.

4,777,595 10/1988 Strecker et al.

4,831,518 5/1989 Yu et al.

4,835,674 5/1989 Collins et al.

4,885,742 12/1989 Yano

4,897,781 1/1990 Chang et al.

4,907,224 3/1990 Scolis et al.

4,941,089 7/1990 Fisher

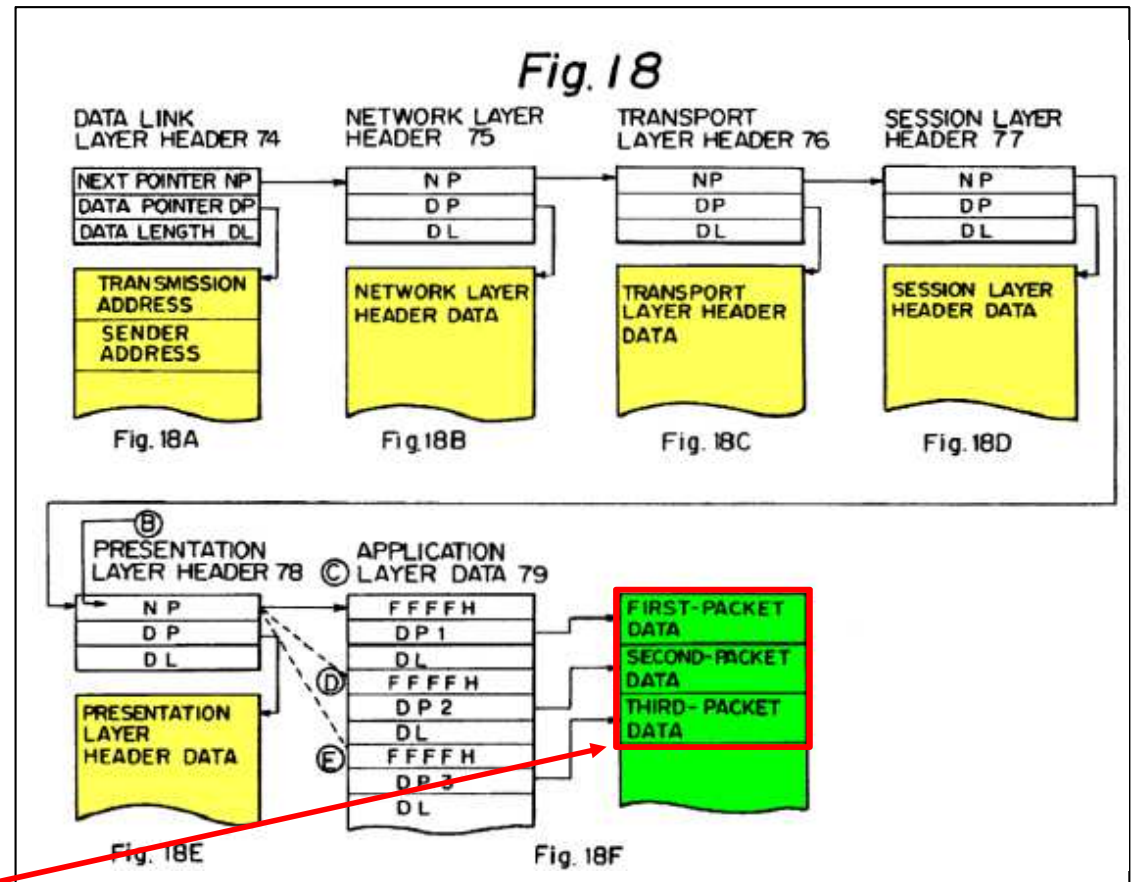
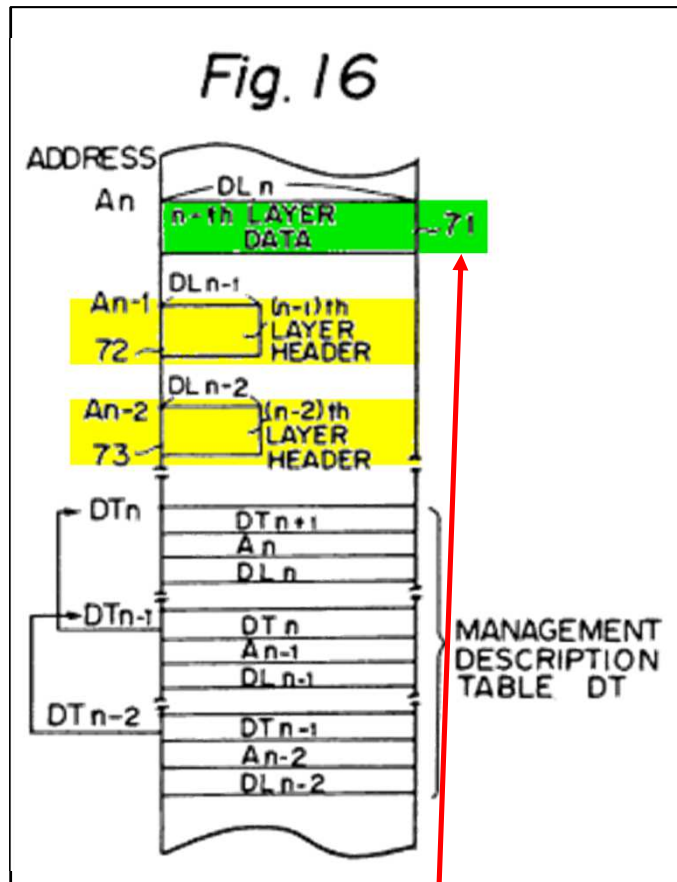
4,962,497 10/1990 Ferenc et al.

4,991,133 2/1991 Devos et al.

FIG. 23 shows the procedure for receiving the packets from the transmission medium. When the communication LSI or hardware issues a receiving interruption, the header portion is cut out from the packet data and is stored in the header storage area for each layer (step SX8) and the data portion is stored in the data storage area for creating the management descriptor table DT (step SX9). After that, whether the communication

Ex. 1089 (Kiyohara) at 17:18-25; Paper 1 (Petition) at 44, 61;
Ex.1003 (Horst Decl.) at A-13; Paper 29 (Reply) at 4-8.

Kiyohara's header portions and data portions are stored in different areas

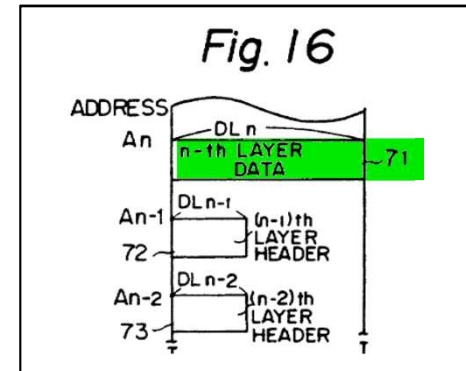


The data storage area 71 is the “destination”, which only contains data

Ex. 1089 (Kiyohara) at Figs. 16, 18;
 Ex.1003 (Horst Decl.) at 57-58;
 Paper 29 (Reply) at 4-8.

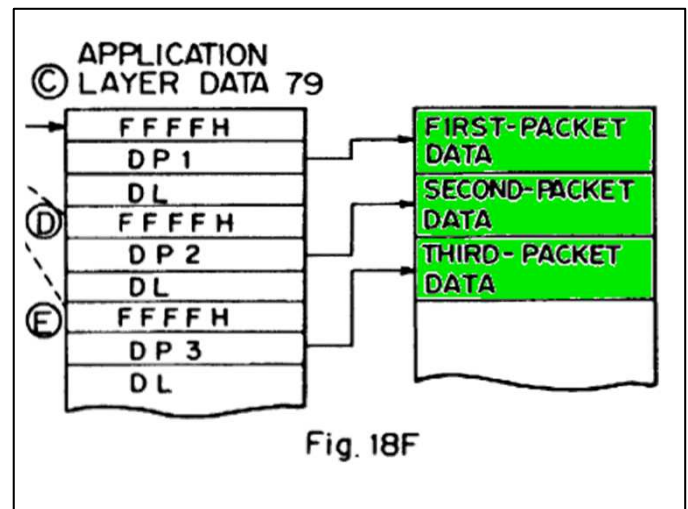
Only the data portions of Kiyohara's packets are stored sequentially in the memory

The physical structure comprises **n-th layer data 71** having a length of DL_n to be written in sequence from an address An , a **(n-1)th layer header 72** having a length of DL_{n-1} to be written at an address $An-1$, a **(n-2)th layer header 73** having a length of DL_{n-2} to be written at an address $An-2$, and the like.



According to the present embodiment, therefore, **when data is received, only the data is kept sequentially stored in the data storage area.** It is thus unnecessary to

Ex. 1089 (Kiyohara) at Figs. 16, 18, 15:20-25, 17:32-44;
Ex.1003 (Horst Decl.) at 57-58; Paper 29 (Reply) at 4-6.

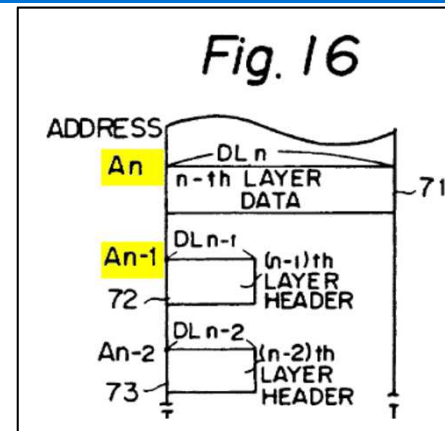


Dr. Horst: Addresses An-1, An-2 are for layers n-1, n-2, not relative locations of the addresses

Page 1

1 UNITED STATES PATENT AND TRADEMARK OFFICE
2 BEFORE THE PATENT TRIAL AND APPEAL BOARD
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4 INTEL CORPORATION,
5 Petitioner,
6 vs. IPR20018-00401
7 ALACRITECH,
8 Patent Owner.
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13 DEPOSITION OF ROBERT HORST, PH
14 Redwood Shores, California
15 Tuesday, August 28, 2018
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22
23 Reported by:
24 JANIS JENNINGS, CSR, CCRR
25 Job No. 146788

INTE



Q. And what does "An-1" and "An-2" mean?

MS. KHACHATOURIAN: Objection. Form.

THE WITNESS: Those are just referencing which layer they're corresponding to so that -- those refer to numbers; where the network layer may be one number and the transport layer may be a different number.

Ex. 1089 (Kiyohara) at Fig. 16; Ex. 1425 (Horst Dep.) at 37:9-15; Paper 29 (Reply) at 7.

699 Patent: Disputes

1. Kiyohara transfers packet data without headers to the “destination”
2. **Kiyohara transfers packet data to the “destination” without the host processing network layer or transport layer headers**
 - a. Kiyohara discloses offloading processing of network and transport layers to a network coprocessor on an intelligent board
 - b. Kiyohara’s host does not process the network or transport headers
3. Kiyohara’s data storage area is on the host
4. Information in Kiyohara’s data storage area is controlled by the application
5. SMB is a session layer protocol (claims 2, 7)

Petitioner's disclosures all concern the third embodiment

United States Patent [19] [11] Patent Number: 5,237,693
 Kiyohara et al. [45] Date of Patent: Aug. 17, 1993

5,008,879 4/1991 Fisher et al. 370/85.2
 5,060,263 10/1991 Bosen et al. 364/200
 5,081,623 1/1992 Almscow 370/85.4
 5,095,480 3/1992 Fenner 370/94.1
 5,121,390 6/1992 Farrell et al. 395/200
 5,126,932 6/1992 Wolfson et al. 364/200
 5,148,568 9/1992 Flaherty et al. 395/325

[21] Appl. No.: 676,981
 [22] Filed: Mar. 29, 1991
 [30] Foreign Application Priority Data
 Apr. 4, 1990 [JP] Japan
 Apr. 4, 1990 [JP] Japan
 Apr. 5, 1990 [JP] Japan
 Apr. 12, 1990 [JP] Japan
 [51] Int. Cl. 5 G06
 [52] U.S. Cl. 395/725; 364/240; 364/241.9; 364/DIG. 1;
 [58] Field of Search 370/85.4
 340/825; 364/200; 395/200; 250; 275;
 [56] References Cited
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 4,423,414 12/1983 Bryant et al. 3
 4,454,575 6/1984 Bushaw et al.
 4,658,331 4/1987 Teng
 4,663,748 5/1987 Karbowiak et al.
 4,682,581 7/1987 Kotlik et al. 3
 4,777,595 10/1988 Strecker et al.
 4,831,518 5/1989 Yu et al.
 4,835,674 5/1989 Collins et al.
 4,885,742 12/1989 Yano
 4,897,781 1/1990 Chang et al.
 4,907,224 3/1990 Scolis et al.
 4,941,089 7/1990 Fisher
 4,982,497 10/1990 Ferenc et al.
 4,991,133 2/1991 Davis et al.

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 Cavium, Inc. v. Alacritech, Inc.
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The high-speed communication bus window according to the present embodiment operates to pass or receive the data between the layers in the similar manner to the high-speed communication buffering control device according to the **third embodiment**. Hence, please refer the description about **FIGS. 15 to 26**.

Ex. 1089 (Kiyohara) at 20:4-9;
 Paper 29 (Reply) at 2, 8.

Kiyohara explains how its intelligent board system processes received packets

“...transferring the data to the destination...without processing the network layer headers or the transport layer headers by the computer.”

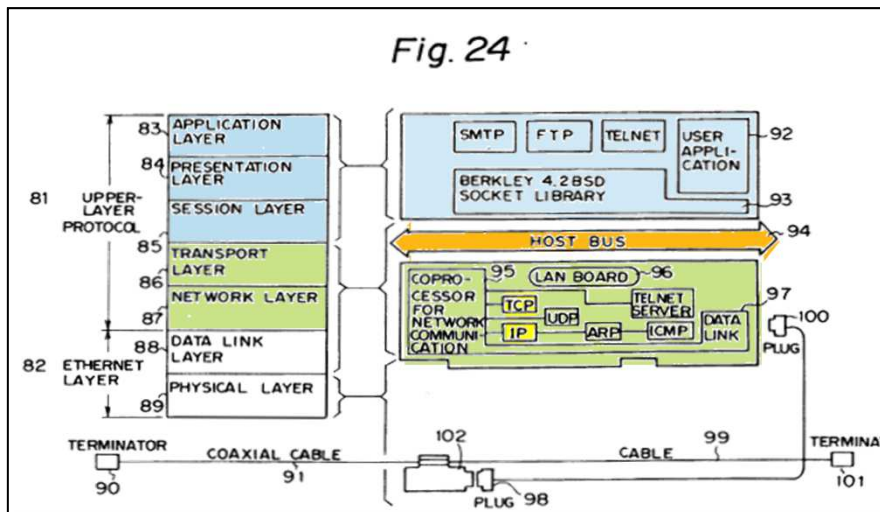


FIG. 24 shows the intelligent board system. As shown, the intelligent board system is divided into two sections, the first section includes a simple main transfer protocol (SMTP), a file transfer protocol (FTP), a telnet, a Berkley 4.2 BSD socket library 93, and a user application 92. The first section of the intelligent board system takes the responsibility of the application layer 83, the presentation layer 84, and the session layer 85 included in the upper protocol layer 81. The second section includes a transmission control protocol (TCP), an internet protocol (IP), a user datagram protocol (UDP), an address resolution protocol (ARP), and an internet control message protocol (ICMP), a host bus 94, a coprocessor for a network communication 95, a LAN board 96, and a data link 97. The second section of the intelligent board system takes the responsibility of the transport layer 86, the network layer 87 in the upper protocol layer 81, and the data link layer 88 in the ethernet layer 82 which includes a physical layer 89.

Ex. 1089 (Kiyohara) at 17:52-18:2; Fig. 24; Paper 1;
 Paper 29 (Reply) at 2-3, 8-10; see also (Petition) at 36-45; Ex.1003 (Horst Decl.) at 51-59.

Dr. Horst explained what is depicted in Figure 24 of Kiyohara

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1 UNITED STATES PATENT AND TRADEMARK OFFICE
2 BEFORE THE PATENT TRIAL AND APPEAL BOARD
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4 INTEL CORPORATION,
5 Petitioner,
6 vs. ALACRITECH, Patent Owner.
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13 DEPOSITION OF ROBERT HORST
14 Redwood Shores, California
15 Tuesday, August 28, 2001
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23 Reported by:
24 JANIS JENNINGS, CSR, CCRR
25 Job No. 146788

INTEL EX. 1425.001

Q. What does Figure 24 show?

A. Figure 24 shows an intelligent board system with two sections, where the upper section is the host side of the host bus with a processor running applications, and the lower section is an intelligent board with a coprocessor for network communication.

Ex. 1425 (Horst Dep.) at 30:13-19;
Paper 29 (Reply) at 2.

699 Patent: Disputes

1. Kiyohara transfers packet data without headers to the “destination”
2. **Kiyohara transfers packet data to the “destination” without the host processing network layer or transport layer headers**
 - a. Kiyohara discloses offloading processing of network and transport layers to a network coprocessor on an intelligent board
 - b. Kiyohara’s host does not process the network or transport headers
3. Kiyohara’s data storage area is on the host
4. Information in Kiyohara’s data storage area is controlled by the application
5. SMB is a session layer protocol (claims 2, 7)

PO relies on Kiyohara's description of Figs. 20A and 20B as allegedly showing the host performs all header processing

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEALS BOARD

CAVIUM, INC.
Petitioner,

v.

ALACRITECH, INC.
Patent Owner

Case IPR2018-00401
U.S. Patent No. 7,945,699

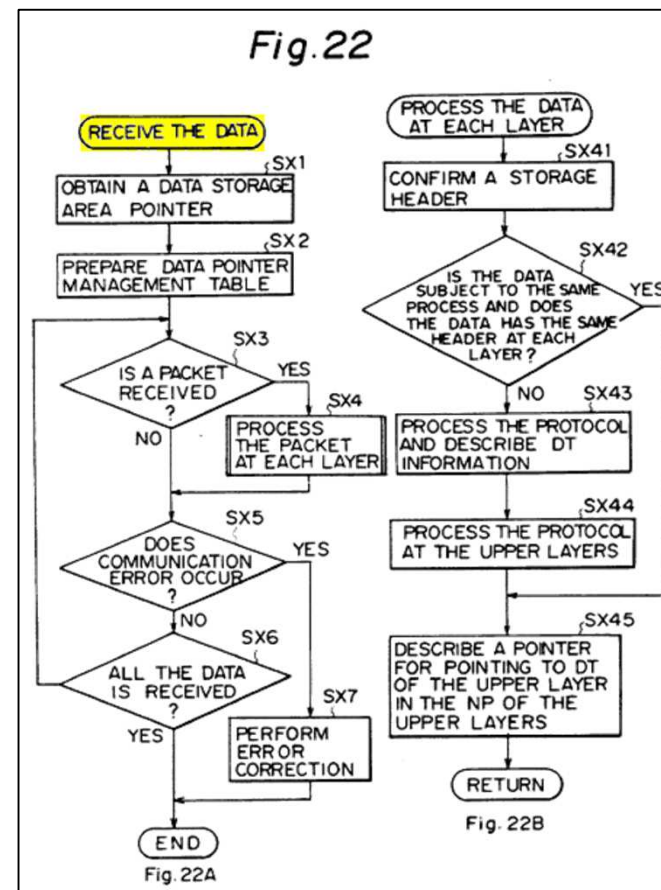
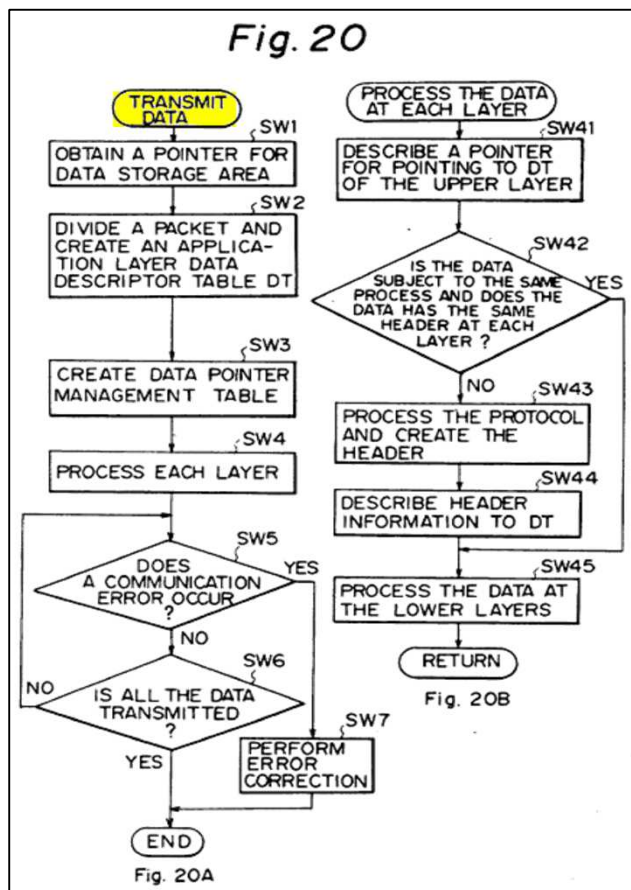
PATENT OWNER'S RESPONSE
PURSUANT TO 37 C.F.R. § 42.120

If anything *Kiyohara* insinuates that the host processes all layer headers, including the transport and network layer headers. *Id.* at 69. With respect to FIGS. 20A and 20B, *Kiyohara* states, “processing is carried out at each layer (step SW4) depending on each protocol” (Ex. 1089, *Kiyohara*. at 16:22-23 (emphasis added)) and “[i]f... the headers and the processings [sic] are respective in the layers, the protocol for each layer is processed and the header for each layer is created.” *Id.* at 16:34-36 (emphasis added). A POSITA would understand that these processing steps are performed by a processor of the host computer since the host computer would be tasked with generating the management descriptor tables DT and data pointer management table 80. Ex. 2026, ¶ 69.

Paper 15 (POR) at 22.

Kiyohara's Figs. 20A and 20B are for transmission; Figs. 22A and 22B are for reception

Neither disclose the host performing all protocol processing



Ex. 1089 (Kiyohara) at Figs. 20, 22; Paper 29 (Reply) at 10.

Kiyohara bypasses protocol processing for layers that have expected headers

United States Patent [19] **5,237,693**
 Kiyohara et al. [45] **Date of Patent: Aug. 17, 1993**

US005237693A

[54] **SYSTEM FOR ACCESSING PERIPHERAL DEVICES CONNECTED IN NETWORK**
 [75] Inventors: Toshimi Kiyohara, Nara; Tomohisa Yamaguchi, Ikoma, both of Japan
 [73] Assignee: Sharp Kabushiki Kaisha, Osaka, Japan

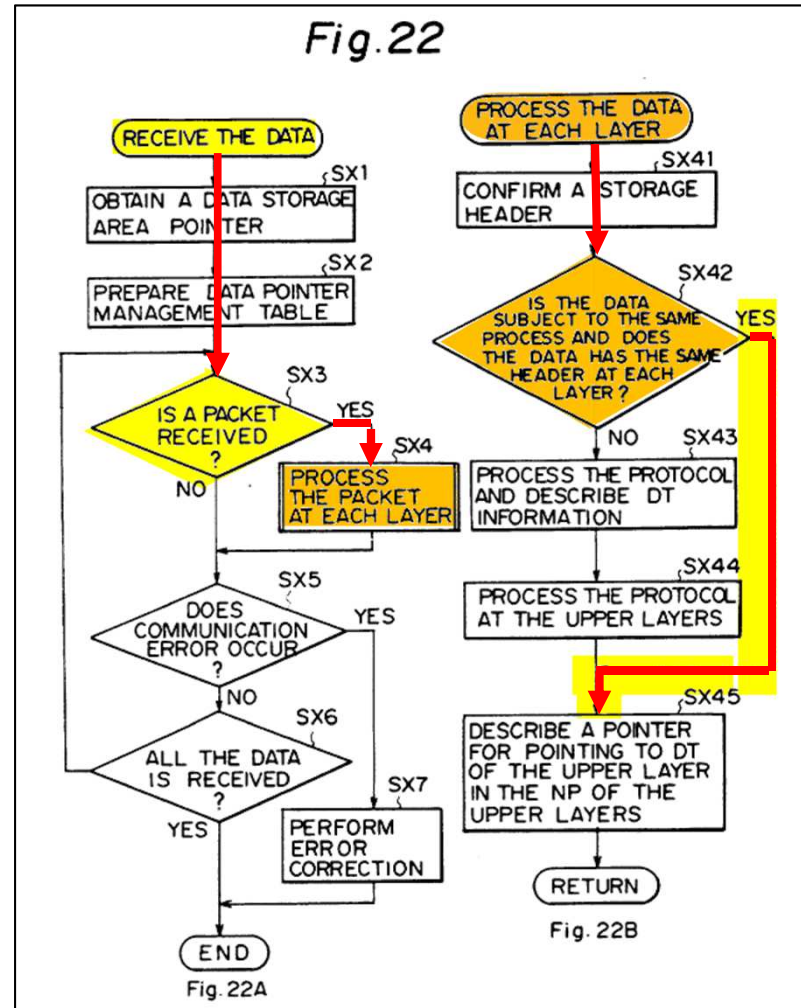
FOREIGN PATENT DOCUMENTS
 61-70654 4/1986 Japan
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 2-109136 4/1990 Japan
 2-52900 11/1990 Japan

Primary Examiner—Michael R. Fleming
 Assistant Examiner—Tariq Rafiq Hafiz
 Attorney, Agent, or Firm—Nixon & Vanderby

ABSTRACT
 The system for accessing a plurality of devices connected in a network by using a system call, said system capable of accessing a device connected with any one of nodes through the network, the system includes a unit for detecting a device requested to be accessed and a node connected with the device through the network, a unit for converting the system call into a protocol at a time when the device to be accessed is connected with a different node from which the access is not issued, a unit for transmitting the protocol from the node to the different node through the network, and a unit for re-converting the protocol transmitted into the system call so that the system call is executed. The converting unit is adapted to execute the system call at a time when the device to be accessed is connected with a node from which the access is issued and the detecting unit includes an application for issuing the system call for accessing the device connected with the different node, and a router for detecting whether or not the device to be accessed is located in the node.

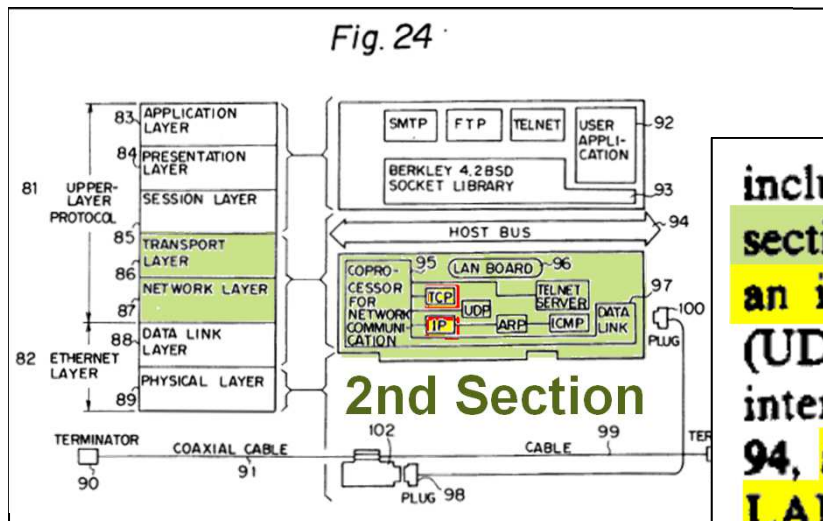
Fig. 22A

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 Cavium, Inc. v. Alacritech, Inc.
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Ex. 1089 (Kiyohara) at Fig. 22; Paper 1 (Petition) at 39-42, 44; Ex.1003 (Horst Decl.) at 58-59.

Kiyohara's second section is the only one with TCP and IP protocols for network and transport layer processing



included in the upper protocol layer 81. The second section includes a transmission control protocol (TCP), an internet protocol (IP), a user datagram protocol (UDP), an address resolution protocol (ARP), and an internet control message protocol (ICMP), a host bus 94, a coprocessor for a network communication 95, a LAN board 96, and a data link 97. The second section of the intelligent board system takes the responsibility of the transport layer 86, the network layer 87 in the upper protocol layer 81, and the data link layer 88 in the ethernet layer 82 which includes a physical layer 89.

Ex. 1089 (Kiyohara) at Fig. 24, 17:60-18:2; Paper 1 (Petition) at 37-39; Ex.1003 (Horst Decl.) at 52-53.

699 Patent: Disputes

1. Kiyohara transfers packet data without headers to the “destination”
2. Kiyohara transfers packet data to the “destination” without the host processing network layer or transport layer headers
3. **Kiyohara’s data storage area is on the host**
4. Information in Kiyohara’s data storage area is controlled by the application
5. SMB is a session layer protocol (claims 2, 7)

PO admits the data storage area is where the packet is stored but disputes whether it is on the host

“...obtaining a destination for the data in a memory of the computer...”

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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PURSUANT TO

above limitation. Specifically, Petitioner argues that the “data storage area” discussed in *Kiyohara* is where the packet data is stored. Petition at 56. Patent Owner does not dispute this. What Patent Owner *does* dispute is Petitioner’s unsupported statement that “[t]his data storage area is on the host.” *Id.* at 56-57. Petitioner

Paper 15 (POR) at 23.

Dr. Horst explained that data is stored where the application layer has access to it

1 UNITED STATES P
2 BEFORE THE PAT
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4 INTEL CORPORATION,
5 Petitioner,
6 vs.
7 ALACRITECH,
8 Patent Own
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13 DEPOSITION OF
14 Redwood Sho
15 Tuesday, P
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23 Reported by:
24 JANIS JENNINGS, CSR, CCRR
25 Job No. 146788

Q. Okay. And, you know, we discussed about data storage area and header storage area. Do you know where physically the data storage area is located?

THE WITNESS: The data is stored at the location where the application layer has access to it. So typically that would be on the host.

INTEL EX. 1425.001

Ex. 1425 (Horst Dep.) at 33:24-34:9 (objection omitted);
Paper 29 (Reply) at 2-3, 10-11.

Kiyohara's data storage area pointer is obtained from the application

US00537693A

United States Patent [19] [11] **Patent Number:** 5,237,693
Kiyohara et al. [45] **Date of Patent:** Aug. 17, 1993

[54] **SYSTEM FOR ACCESSING PERIPHERAL DEVICES CONNECTED IN NETWORK**
 [75] **Inventors:** Toshimi Kiyohara, Nara; Tomohisa Yamaguchi, Ikoma, both of Japan
 [73] **Assignee:** Sharp Kabushiki Kaisha, Osaka, Japan

[21] **Appl. No.:** 676,981
 [22] **Filed:** Mar. 29, 1991

[30] **Foreign Application Priority Data**

Apr. 4, 1990 [JP]	Japan	2-89666
Apr. 4, 1990 [JP]	Japan	2-89666
Apr. 5, 1990 [JP]	Japan	2-91042
Apr. 12, 1990 [JP]	Japan	2-97225

[51] **Int. Cl.:** G06F 13/00
 [52] **U.S. Cl.:** 395/725; 364/238.3; 364/240; 364/241.9; 364/DIG. 1; 395/200; 395/325

[58] **Field of Search:** 370/85, 501, 90.1; 340/825; 364/200; 395/200, 275, 725, 325

[56] **References Cited**

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4,658,331	4/1987	Teng	364/200
4,663,748	5/1987	Karbowiak et al.	370/89
4,682,581	7/1987	Kozlik et al.	340/825.06
4,777,595	10/1988	Streckler et al.	364/200
4,831,518	6/1989	Yu et al.	364/200
4,835,674	5/1989	Collins et al.	364/200
4,845,742	12/1989	Yano	370/85.2
4,897,781	1/1990	Chang et al.	364/200
4,907,224	3/1990	Scolis et al.	370/85.2
4,941,089	7/1990	Fisher	364/200
4,962,497	10/1990	Feresic et al.	370/60.1
4,991,133	2/1991	Devis et al.	364/200

19 Claims, 26 Drawing Sheets

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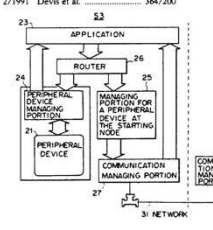
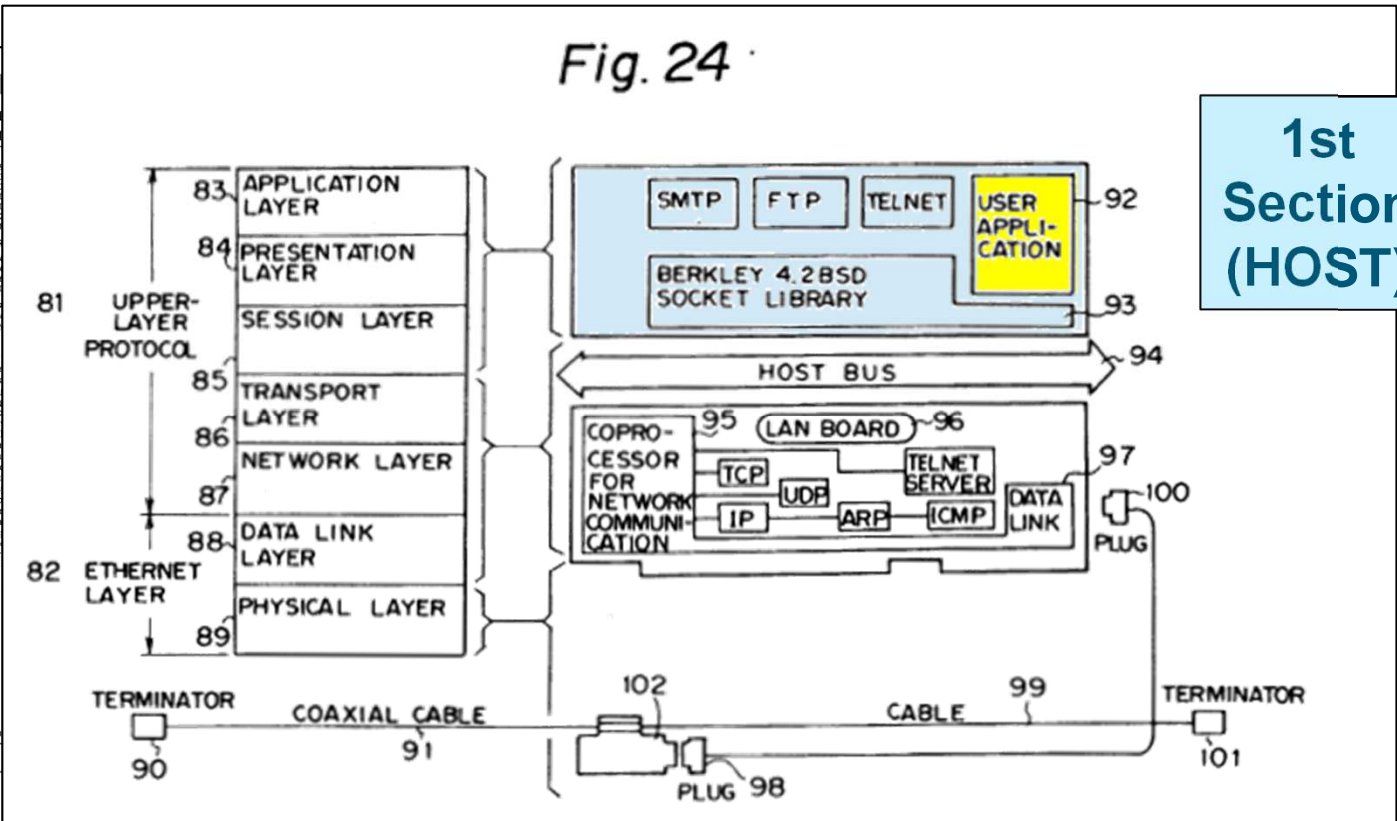
As shown in FIG. 22A, like the data transmission, the head pointer of the data storage area is obtained from the application (step SX1) and the data pointer management table 80 is created (step SX2). Then, when receiv-

Ex. 1089 (Kiyohara) at 16:60-63;
 Paper 1 (Petition) at 39-42;
 Ex.1003 (Horst Decl.) at 58.

Kiyohara's first section (host) includes a user application

United States Patent [19]
Kiyohara et al.

[54] SYSTEM FOR ACCESSING PERIPHERAL DEVICES CONNECTED IN NETWORK
 [75] Inventors: Toshimi Kiyohara, Nara; Tomohisa Yamaguchi, Ikoma, both of Japan
 [73] Assignee: Sharp Kabushiki Kaisha, Osaka, Japan
 [21] Appl. No.: 676,981
 [22] Filed: Mar. 29, 1991
 [30] Foreign Application Priority Data
 Apr. 4, 1990 [JP] Japan 2-89665
 Apr. 4, 1990 [JP] Japan 2-89666
 Apr. 5, 1990 [JP] Japan 2-91042
 Apr. 12, 1990 [JP] Japan 2-97225
 [51] Int. Cl. 5 G06F 13/00
 [52] U.S. Cl. 395/725; 364/238.3; 364/240; 364/241.9; 364/DIG. 1; 395/200; 395/325
 [58] Field of Search 370/85, 501, 90, 1; 340/825; 364/200; 395/200; 250, 275, 725, 325
 [56] References Cited
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 4,454,575 6/1984 Bushaw et al. 364/200
 4,658,331 4/1987 Teng 364/200
 4,663,748 5/1987 Karbowiak et al. 370/89
 4,662,581 7/1987 Kotlik et al. 340/825.06
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 4,831,518 5/1989 Yu et al. 364/200
 4,835,674 5/1989 Collins et al. 364/200
 4,845,742 12/1989 Yano 370/85.2
 4,897,781 1/1990 Chang et al. 364/200
 4,907,224 3/1990 Scolis et al. 370/85.2
 4,941,089 7/1990 Fisher 364/200
 4,962,497 10/1990 Ferenc et al. 370/60.1
 4,991,133 2/1991 Davis et al. 364/200

1st Section (HOST)

Ex. 1089 (Kiyohara) at Fig. 24; Paper 1 (Petition) at 37-39; Ex.1003 (Horst Decl.) at 52-53.

Kiyohara's first section (host) includes a user application

United States Patent [19] [11] Patent Number: 5,237,693
Kiyohara et al. [45] Date of Patent: Aug. 17, 1993

US00537693A

[54] SYSTEM FOR ACC
DEVICES CONNEC
[75] Inventors: Toshimi
Yamagu
[73] Assignee: Sharp K
Japan
[21] Appl. No.: 676,981
[22] Filed: Mar. 29
[30] Foreign Applic
Apr. 4, 1990 [JP] Japa
Apr. 4, 1990 [JP] Japa
Apr. 5, 1990 [JP] Japa
Apr. 12, 1990 [JP] Japa
[51] Int. Cl.⁵
[52] U.S. Cl. 364/240, 364/

[58] Field of Search 340/825, 364/200
Referen
[56] U.S. PATENT
4,326,289 4/1982 Diek
4,433,414 12/1983 Bryn
4,454,575 6/1984 Bush
4,658,331 4/1987 Ten
4,663,748 5/1987 Kar
4,662,581 7/1987 Kot
4,777,595 10/1988 Sira
4,831,518 5/1989 Yu
4,835,674 5/1989 Coll
4,845,742 12/1989 Yam
4,897,781 1/1990 Cha
4,907,224 3/1990 Scol
4,941,089 7/1990 Fish
4,982,497 10/1990 Fere
4,991,133 2/1991 Dev

FIG. 24 shows the intelligent board system. As shown, the intelligent board system is divided into two sections, the first section includes a simple main transfer protocol (SMTP), a file transfer protocol (FTP), a telnet, a Berkley 4.2 BSD socket library 93, and a user application 92. The first section of the intelligent board system takes the responsibility of the application layer 83, the presentation layer 84, and the session layer 85 included in the upper protocol layer 81. The second

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22 PERIPHERAL DEVICE

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Ex. 1089 (Kiyohara) at 17:52-60; Paper 1 (Petition) at 37-38; Ex.1003 (Horst Decl.) at 52-53.

PO admits that no data is left behind on the NI device, so it must be stored on the host

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE

Consequently, unlike the '699 patent, the network layer header and transport layer header of *Kiyohara* are not left behind at the NI device but instead they are transferred, along with the data, to the same memory destination shown in FIG. 16.

PATENT OWNER'S RESPONSE
PURSUANT TO 37 C.F.R. § 42.120

Paper 15 (POR) at 18.

699 Patent: Disputes

1. Kiyohara transfers packet data without headers to the “destination”
2. Kiyohara transfers packet data to the “destination” without the host processing network layer or transport layer headers
3. Kiyohara’s data storage area is on the host
4. **Information in Kiyohara’s data storage area is controlled by the application**
5. SMB is a session layer protocol (claims 2, 7)

Kiyohara in combination with SMB discloses an application that controls data in the data storage area

“...such that information that is later stored in the destination will be controlled by the application...”

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

CAVIUM, INC.
Petitioner

ALACRITY
Patent

Case IPR. No.
U.S. Patent No.

Title: OBTAINING A DESTINATION
INTERFACE DEVICE CAN WRITE
HEADERS DIRECTLY

Petition For *Inter Partes* Review
Under 35 U.S.C. §§ 311-319 and 316

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DM2/7931314

Kiyohara discloses that a “head pointer of the data storage area is obtained from the application” (*id.* at 16:60-63, Fig. 22A), and information is later stored in this destination—*i.e.*, the descriptors are set up first, then data from subsequent data packets are stored in the destination using those descriptors. *See, e.g., id.* at Figs. 22A, 22B, 23 (showing process loops for receiving a sequence of packets). Kiyohara,

Paper 1 (Petition) at 55-60; see also Paper 29 (Reply) at 11-12.

A POSA would have understood that the information is controlled by the application

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRI

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Patent C

Case IPR. No.
U.S. Patent No.

Title: OBTAINING A DESTINATION
INTERFACE DEVICE CAN WRITE NET
DIRECTLY INTO I

DECLARATION OF ROBERT H
PETITION FOR INTER
U.S. PATENT I

Kiyohara also discloses that the data pointer to the data storage area is obtained from the application, hence the information is controlled by the application:

As shown in FIG. 22A, like the data transmission, the head pointer of the data storage area is obtained from the application (step SX1) and the data pointer management table 80 is created (step SX2).

Ex.1089, Kiyohara at 16:60-63 (emphasis added.)

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CAVIUM-1003
Cavium, Inc. v. Alacritech, Inc.
Page 001

Ex. 1003 (Horst Decl.) at 81-83;
Paper 1 (Petition) at 56;
Paper 29 (Reply) at 11-12.

Dr. Horst: data received from an SMB request is sent to the requesting application

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

CAVIUM, INC.
Petitioner

v.

ALACRITECH, INC.
Patent Owner

Case IPR No. **Unassigned**
U.S. Patent No. 7,945,699
Title: OBTAINING A DESTINATION ADDRESS SO THAT A NETWORK INTERFACE DEVICE CAN WRITE NETWORK DATA WITHOUT DIRECTLY INTO HOST MEMORY

DECLARATION OF ROBERT HORST, PH.D. IN SUPPORT
PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 7,945,699

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

DM279554663

Cavium

116. `smb_com` is a command code that identifies the operation to be performed. SMB allows many operations to be performed over the network, but for the purposes of the 699 Patent claim analysis, a single example command will suffice. One such command is `SMBreadX`, which is one of the commands that reads a block of data from a remote file:

118. The code implementing SMB receives the packet, strips off the header, and returns the data to the requesting application. Looking at an exemplary implementation, the following code from a 1996 Samba release is an excerpt from the `SMBreadX` command. These excerpts from the `client.c` file show part of the code that uses `SMBreadX` to determine the memory locations for buffering data from a remote file before writing that part of the remote file to a local file.

Ex. 1003 (Horst Decl.) at 63-65;
Paper 1 (Petition) at 57-60.

699 Patent: Disputes

1. Kiyohara transfers packet data without headers to the “destination”
2. Kiyohara transfers packet data to the “destination” without the host processing network layer or transport layer headers
3. Kiyohara’s data storage area is on the host
4. Information in Kiyohara’s data storage area is controlled by the application
5. **SMB is a session layer protocol (claims 2, 7)**

Claim language

US007945699B2

(12) **United States Patent**
Boucher et al.

(10) **Patent No.:** US 7,945,699 B2
(45) **Date of Patent:** *May 17, 2011

(54) **OBTAINING A DESTINATION ADDRESS SO THAT A NETWORK INTERFACE DEVICE CAN WRITE NETWORK DATA WITHOUT HEADERS DIRECTLY INTO HOST MEMORY**

(75) **Inventors:** Laurence B. Boucher, Saratoga, CA (US); Stephen E. J. Bightman, San Jose, CA (US); Peter K. Craft, San Francisco, CA (US); David A. Higgen, Saratoga, CA (US); Clive M. Pullbrick, San Jose, CA (US); Daryl D. Starr, Milpitas, CA (US)

(73) **Assignee:** Alacritech, Inc., San Jose, CA (US)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 34 days.
This patent is subject to a terminal disclaimer.

(21) **Appl. No.:** 12/025,941

(22) **Filed:** Dec. 1, 2008

(65) **Prior Publication Data**
US 2009/0086732 A1 Apr. 2, 2009

Related U.S. Application Data

(63) Continuation of application No. 10/881,271, filed on Jun. 29, 2004, now Pat. No. 7,461,160, which is a continuation of application No. 09/789,366, filed on Feb. 20, 2001, now Pat. No. 6,757,746, which is a continuation-in-part of application No. 09/464,283, filed on Dec. 13, 1999, now Pat. No. 6,427,173, which is a continuation of application No. 09/439,603, filed on Nov. 12, 1999, now Pat. No. 6,247,090, which is a continuation of application No. 09/902,544, filed on Apr. 27, 1998, now Pat. No. 6,226,680, said application No. 10/881,271 is a continuation-in-part of application No. 09/748,936, filed on Dec. 26, 2000, now Pat. No. 6,334,153, and a continuation-in-part of application No. 09/692,561, filed on Oct. 18, 2000, and

a continuation-in-part of application No. 09/675,700, filed on Sep. 29, 2000, and a continuation-in-part of application No. 09/675,684, filed on Sep. 29, 2000, now Pat. No. 6,807,581, and a continuation-in-part of application No. 09/514,425, filed on Feb. 28, 2000, now Pat. No. 6,427,171, and a continuation-in-part of application No. 09/416,925, filed on Oct. 13, 1999, now Pat. No. 6,470,415, and a continuation-in-part of application No. 09/141,713, filed on Aug. 28, 1998, now Pat. No. 6,389,479, and a continuation-in-part of application No. 09/384,792, filed on Aug. 27, 1999, now Pat. No. 6,434,620.

(60) Provisional application No. 60/061,809, filed on Oct. 14, 1997, provisional application No. 60/098,296, filed on Aug. 27, 1998.

(51) **Int. Cl.**
G06F 15/16 (2006.01)
G06F 12/00 (2006.01)

(52) **U.S. Cl.** 709/250; 709/230

(58) **Field of Classification Search** 709/203, 709/225, 229, 230, 232, 250
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS
4,366,538 A 12/1982 Johnson et al. 304/200 (Continued)

FOREIGN PATENT DOCUMENTS
WO 03/081942 3/1998 (Continued)

OTHER PUBLICATIONS
Internet pages entitled "Hardware Assisted Protocol Processing", (which Eugene Feinber is working on), 1 page, printed Nov. 23, 1998. (Continued)

Primary Examiner — Zarni Mung
(74) *Attorney, Agent, or Firm* — Silicon Edge Law Group LLP, Mark Lauer

CAVIUM-1001
Cavium, Inc. v. Alacritech, Inc.
Page 001

2. The method of claim 1, wherein obtaining the destination for the data in the memory of the computer includes providing, by the network interface to the computer, a session layer header from one of the packets.

7. A method comprising:
receiving, by a network interface that is coupled to a computer, a plurality of packets each containing data, a network layer header and a transport layer header, wherein the data is for an application running on the computer;
providing, by the network interface to the computer, a session layer header from one of the packets;
analyzing, by the computer, the session layer header, including obtaining a destination for the data in a memory of the computer, such that information that is later stored in the destination will be controlled by the application; and
transferring the data to the destination, without transferring the network layer headers or the transport layer headers of the plurality of packets to the destination, and without processing the network layer headers or the transport layer headers by the computer.

Ex. 1001 (699 Patent) at Claims 2 and 7;
Paper 29 (Reply) at 13-15

PO disputes whether the SMB protocol is a session layer protocol

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CAVIUM, INC.

Petitioner

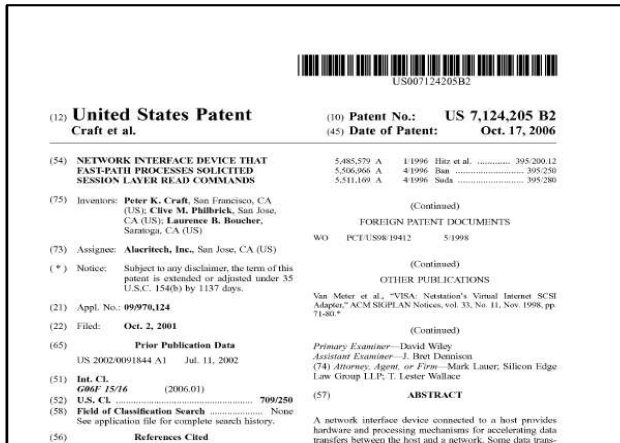
“...providing, by the network interface to the computer, a session layer header from one of the packets...”

A close review of *SMB* reveals that it not only fails to state or suggest that the SMB protocol is a session layer protocol, but it instead supports Patent Owner’s argument that the SMB protocol is an application layer protocol or at least a presentation layer protocol. Ex. 2026, ¶ 78. In support of its contention that the SMB

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PU

Paper 15 (POR) at 29-30

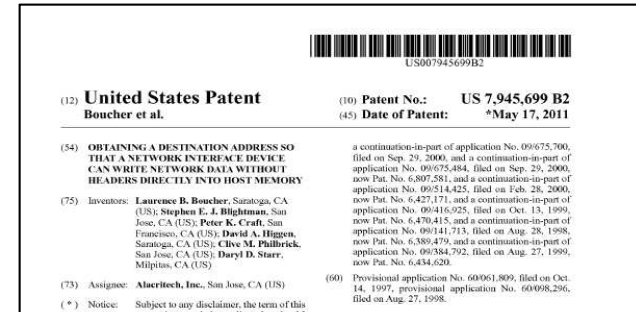
The 205 and 699 Patents are closely related and claim priority from the same applications



The present application claims the benefit under 35 USC § 119 of U.S. Patent Application Ser. No. 60/061,809, filed Oct. 14, 1997, and U.S. Patent Application Ser. No. 60/098,296, filed Aug. 27, 1998, and claims the benefit under 35 USC § 120 of U.S. patent application Ser. No. 09/067,544, filed Apr. 27, 1998, U.S. patent application Ser. No. 09/141,713, filed Aug. 28, 1998, U.S. patent application Ser. No. 09/384,792, filed Aug. 27, 1999, U.S. patent application Ser.



Ex. 1090 (205 Patent) at 1:8-15;
Paper 29 (Reply) at 13-14, FN 2.



on Nov. 12, 1999, now Pat. No. 6,247,060, which is a continuation of application No. 09/067,544, filed on Apr. 27, 1998, now Pat. No. 6,226,680, said *** application No. 09/416,925, filed on Oct. 13, 1999, now Pat. No. 6,470,415, and a continuation-in-part of application No. 09/141,713, filed on Aug. 28, 1998, now Pat. No. 6,389,479, and a continuation-in-part of application No. 09/384,792, filed on Aug. 27, 1999, now Pat. No. 6,434,620. Provisional application No. 60/061,809, filed on Oct. 14, 1997, provisional application No. 60/098,296, filed on Aug. 27, 1998.

Ex. 1001 (699 Patent) at (63), (60);
Paper 29 (Reply) at 13-14, FN 2.

Each of the 205 Patent inventors are inventors on the 699 Patent

US007124205B2

(12) United States Patent
Craft et al.

(10) Patent No.: **US 7,124,205 B2**
 (45) Date of Patent: **Oct. 17, 2006**

(54) NETWORK INTERFACE DEVICE THAT FAST-PATH PROCESSES SOLICITED SESS

(75) Inventors: **Peter K. Craft, San Francisco, CA (US); Clive M. Philbrick, San Jose, CA (US); Laurence B. Boucher, Saratoga, CA (US)**

(73) Assignee: **Alacritch, Inc., San Jose, CA (US)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 34 days.

(21) Appl. No.: **12/325,941**
 (22) Filed: **Dec. 1, 2008**

(65) Prior Publication Data
 US 2009/0086732 A1 Apr. 2, 2009

(56) References Cited

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5,056,058 A	10/1991	Himan et al.	364,900
5,058,110 A	10/1991	Beach et al.	370,856
5,097,442 A	3/1992	Ward et al.	363,78
5,163,131 A	11/1992	Ross et al.	395,200
5,212,728 A	5/1993	Dally et al.	395,400
5,280,477 A	1/1994	Temp	370,851
5,289,880 A	2/1994	Lent et al.	395,275
5,303,344 A	4/1994	Yokoyama et al.	395,200
5,412,782 A	5/1995	Hassman et al.	395,250
5,418,912 A	5/1995	Christenson	709,234
5,448,566 A	9/1995	Richter et al.	370,944

36 Claims, 25 Drawing Sheets

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 Cavium, Inc. v. Alacritch, Inc.
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Ex. 1090 (205 Patent) at (75);
 Paper 29 (Reply) at 13-14.

US007945699B2

(12) United States Patent
Boucher et al.

(10) Patent No.: **US 7,945,699 B2**
 (45) Date of Patent: ***May 17, 2011**

(54) OBTAINING A DESTINATION ADDRESS SO THAT A NETWORK INTERFACE DEVICE CAN WRITE NETWORK DATA WITHOUT HEADERS DIRECTLY INTO HOST MEMORY

(75) Inventors: **Laurence B. Boucher, Saratoga, CA (US); Stephen E. J. Blightman, San Jose, CA (US); Peter K. Craft, San Francisco, CA (US); David A. Higgen, Saratoga, CA (US); Clive M. Philbrick, San Jose, CA (US); Daryl D. Starr, Milpitas, CA (US)**

(73) Assignee: **Alacritch, Inc., San Jose, CA (US)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 34 days.

(21) Appl. No.: **12/325,941**
 (22) Filed: **Dec. 1, 2008**

(65) Prior Publication Data
 US 2009/0086732 A1 Apr. 2, 2009

(56) References Cited

U.S. PATENT DOCUMENTS

4,366,538 A	12/1982	Johnson et al.	364,200
4,580,065 A	5/1986	Shah et al.	710,8
4,991,133 A	2/1991	Davis et al.	364,900
5,056,058 A	10/1991	Himan et al.	364,900
5,058,110 A	10/1991	Beach et al.	370,856
5,097,442 A	3/1992	Ward et al.	363,78
5,163,131 A	11/1992	Ross et al.	395,200
5,212,728 A	5/1993	Dally et al.	395,400
5,280,477 A	1/1994	Temp	370,851
5,289,880 A	2/1994	Lent et al.	395,275
5,303,344 A	4/1994	Yokoyama et al.	395,200
5,412,782 A	5/1995	Hassman et al.	395,250
5,418,912 A	5/1995	Christenson	709,234
5,448,566 A	9/1995	Richter et al.	370,944

36 Claims, 25 Drawing Sheets

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 Cavium, Inc. v. Alacritch, Inc.
 Page 001

Ex. 1001 (699 Patent) at (75);
 Paper 29 (Reply) at 13-14.

The 205 patent's disclosure of SMB as a session layer protocol should carry to the 699 patent

“[W]e presume, unless otherwise compelled, that the same claim term in . . . related patents carries the same construed meaning.”

Omega Eng'g, Inc. v. Rayek Corp., 334 F.3d 1314, 1334 (Fed. Cir. 2003)
Paper 29 (Reply) at 13-14.

PO relies on Microsoft SMB Protocol and CIFS Protocol Overview

9/23/2016 Microsoft SMB Protocol and CIFS Protocol Overview | Microsoft Docs

Microsoft SMB Protocol and CIFS Protocol Overview

05/30/2018 2 minutes to read

In this article

In this section

In the OSI networking model, Microsoft SMB Protocol is most often used as an Application layer or a Presentation layer protocol, and it relies on lower-level protocols for transport. The transport layer protocol that Microsoft SMB Protocol is most often used with is NetBIOS over TCP/IP (NBT). However, Microsoft SMB Protocol can also be used without a separate transport protocol the Microsoft SMB Protocol/NBT combination is generally used for backward compatibility.

- Extended file attribute handling
- Unicode support
- Opportunistic locks

In the OSI networking model, Microsoft SMB Protocol is most often used as an Application layer or a Presentation layer protocol, and it relies on lower-level protocols for transport. The transport layer protocol that Microsoft SMB Protocol is most often used with is NetBIOS over TCP/IP (NBT). However, Microsoft SMB Protocol can also be used without a separate transport protocol the Microsoft SMB Protocol/NBT combination is generally used for backward compatibility.

The Microsoft SMB Protocol is a client-server implementation and consists of a set of data packets, each containing a request sent by the client or a response sent by the server. These packets can be broadly classified as follows:

- Session control packets Establishes and discontinues a connection to shared server resources
- File access packets Accesses and manipulates files and directories on the remote server.

<https://docs.microsoft.com/en-us/windows/desktop/dfs/microsoft-smb-protocol-and-cifs-protocol-overview>

1/2

Alacritech Ex. 2005, Page 1

Ex. 2005, Page 1 (2018 Microsoft SMB Protocol and CIFS Protocol Overview); Paper 15 (POR) at 10, 32-33.

Dr. Horst: SMB protocol is used by an application program, like Samba, to read and write files remotely

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Case No. U.S. Patent and Trademark Office
Title: OBTAINING A DESTINATION ADDRESS FOR A NETWORK INTERFACE DEVICE CAN WITHIN A DIRECT CONNECTION

DECLARATION OF READINESS FOR PROCEEDING
PETITION FOR REVIEW
U.S. PATENT AND TRADEMARK OFFICE

112. A person of ordinary skill in the art would understand that SMB is a session layer protocol. As explained above, the session layer sits between the transport and application layers in the OSI reference model. The TCP protocol is a transport layer protocol. Further, an application program such as Samba may use SMB to read and write files on a remote server. Thus, SMB is a layer between the application layer and the transport (TCP or UDP) layer as shown in this diagram:

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Cavium, Inc. v. Alacritech, Inc.
Page 001

Ex. 1003 (Horst Decl.) at 60; Paper 1 (Petition) at 47, 57, 64-65.

The 699 patent's preferred embodiment uses Samba to generate its session layer header

example, Compaq Proliant). Software executing on host computer **100** includes: 1) a Linux operating system **103**, and 2) an application program **104** by the name of “Samba”. Oper-

108 to protocol stack **107**. The first part of this 192 bytes is session layer header information, whereas the remainder of the 192 bytes is session layer data. Protocol stack **107** notifies application program **104** that there is data for the application program. Protocol stack **107** does this by making a call to the “remove_wait_queue” routine.

(12) United States Patent
Boucher et al.

(54) OBTAINING A DESTINATION ADDRESS THAT A NETWORK INTERFACE DEVICE CAN WRITE NETWORK DATA WITHOUT HEADERS DIRECTLY INTO HOST MEMORY

(75) Inventors: **Laurence B. Boucher**, San Jose, CA (US); **Stephen E. J. Bightman**, San Jose, CA (US); **Peter K. Craft**, San Francisco, CA (US); **David A. L. Smithey**, San Jose, CA (US); **Clive M. Phillips**, San Jose, CA (US); **Daryl D. Starnes**, Milpitas, CA (US)

(73) Assignee: **Alacritech, Inc.**, San Jose, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 34 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **12025341**

(22) Filed: **Dec. 1, 2008**

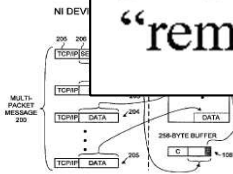
(65) **Prior Publication Data**

US 2009/0086732 A1 Apr. 2, 2009

Related U.S. Application Data

(63) Continuation of application No. 10/881,271, filed Jun. 29, 2004, now Pat. No. 7,461,160, which is a continuation of application No. 09/789,366, filed Feb. 20, 2001, now Pat. No. 6,757,746, which is a continuation-in-part of application No. 09/427,177, filed on Dec. 15, 1999, now Pat. No. 6,427,177, which is a continuation of application No. 09/419,619, filed on Nov. 12, 1999, now Pat. No. 6,247,660, which is a continuation of application No. 09/067,544, filed Apr. 27, 1998, now Pat. No. 6,226,688, which is a continuation of application No. 10/881,271, which is a continuation of application No. 09/748,936, filed on Dec. 2, 2001, now Pat. No. 6,534,153, and a continuation of application No. 09/692,561, filed on Oct. 18, 2001.

application No. 09/675,484, filed on Sep. 25, 2000, now Pat. No. 6,807,581, and a continuation-in-part of application No. 09/514,425, filed on Feb. 28, 2000, now Pat. No. 6,427,177, and a continuation-in-part of application No. 09/416,925, filed on Oct. 15, 1999, now Pat. No. 6,470,415, and a continuation-in-part of



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Cavium, Inc. v. Alacritech, Inc.
Page 001

Ex. 1001 (699 Patent) at 3:53-55, 5:5-10; Paper 1 (Petition) at 29-30;
Ex.1003 (Horst Decl.) at 47-48;
Paper 29 (Reply) at 14-15.

PO alleges that NetBIOS is the session layer

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

CAVIUM, INC.
Petitioner,

v.

ALACRITECH, INC.
Patent Owner

Case IPR2018-00401
U.S. Patent No. 7,945,699

PATENT OWNER'S RESPONSE
PURSUANT TO 37 C.F.R. § 42.120

The SMB protocol typically relies on NetBIOS over TCP/IP for transport. Ex. 2006, *Networking Bible* at 595 (“SMB commands are sent using NetBIOS over TCP/IP . . . to create stateless connections between hosts.”); Ex. 2005, Microsoft SMB Protocol Overview at 1; Ex. 1055, *SMB* at .014 (illustrating SMB at the highest layer of the protocol stack and above the NetBIOS and TCP layers); *Id.* at .032 (discussing SMB using NetBIOS as a delivery vehicle, which in turn relies on TCP for transport). NetBIOS is a session layer protocol that encapsulates the application layer and presentation layer payload (e.g., SMB payload) and is itself encapsulated by transport layer protocols like TCP. *See* Ex. 2006, *Networking Bible* at 528 (“NetBIOS is a Session layer (Layer 5) service for PCs.”). Ex. 2026, ¶ 59.

Thus, since Petitioner admits that the TCP protocol is a transport layer protocol (*See* Ex. 1003, Horst Decl. at ¶ 112), then SMB, which is two levels above TCP, must be at least a presentation layer protocol while NetBIOS is actually the session layer protocol. Ex. 2026, ¶ 81. *SMB* also explicitly states that the SMB protocol makes

Paper 15 (POR) at 10-11, 32.

NetBIOS is an interface not a protocol

Technical Standard

Protocols for X/Open PC Interworking:

The NetBIOS service has become the dominant mechanism for personal computer networking. NetBIOS provides a vendor independent interface for the IBM Personal Computer (PC) and compatible systems.

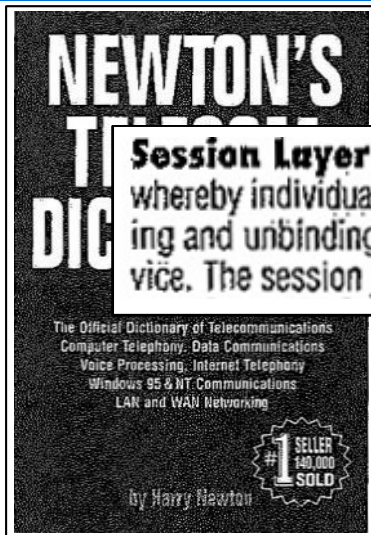
NetBIOS defines a software interface not a protocol. There is no "official" NetBIOS service standard. In practice, however, the IBM PC-Network version is used as a reference. That version is described in the IBM document 6322916, "Technical Reference PC Network" [2].

THE *Open* GROUP

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Cavium, Inc. v. Alacritech, Inc.
Page 001

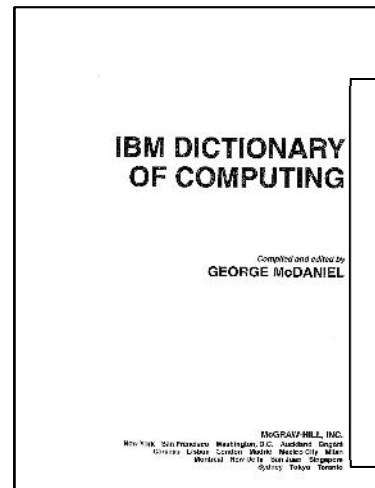
Ex. 1055 (SMB) at 60; Paper 1 (Petition) at 47.

PO's extrinsic evidence includes definitions of "session layer" that are consistent with SMB



Ex. 2008 (Newton's Telecom Dictionary)

Session Layer The fifth layer — the network processing layer — in the OSI Reference Model, which sets up the conditions whereby individual nodes on the network can communicate or send data to each other. The session layer is responsible for binding and unbinding logical links between users. It manages, maintains and controls the dialogue between the users of the service. The session layer's many functions include network gateway communications.



Ex. 2009 (IBM Dictionary of Computer)

session layer (1) In the Open Systems Interconnection reference model, the layer that provides the means necessary for two end users to organize and synchronize their dialogue and to manage their data exchange. These services establish, maintain, and terminate communication. (T) See Open Systems Interconnection reference model. (2) The composite layer consisting of the data flow control and transmission control layers forming the half-sessions and session connectors in the network.

Paper 29 (Reply) at 14; Paper 15 (POR) at 30.

Ex. 2007 does not include a definition for "session layer"

Evidence of Obviousness Far Outweighs Patent Owner's Alleged “Objective Evidence”

All citations refer to the docket for Case IPR2018-00226 unless otherwise noted.

Petitioner's arguments are the same for IPR2018-00234 and IPR2018-00401.



No evidence PO's products practice the claims

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

ALACRITECH, INC.,

Plaintiff,

v.

TIER 3, INC., ET AL.,

WISTRON CORPORATION, ET AL.,

DELL INC.,

Defendants,

and

INTEL CORPORATION,

Intervenor.

**ALACRITECH'S FIRST AMENDED AND SUPPLEMENTAL
DISCLOSURES FOR INTEL**

Plaintiff Alacritech, Inc. ("Alacritech" or "Plaintiff")

Supplemental Patent Rule ("P.R.") 3-1 and 3-2 Disclosures to Defendant Intel Corporation
("Intel" or "Defendant").

Plaintiff submits these Disclosures based upon information it has acquired to date, as it presently understands this information and the significance thereof, without yet having had the full benefit of formal discovery. Accordingly, Plaintiff reserves the right to modify, amend, retract, and/or further supplement the disclosures made herein as additional evidence and information becomes available, after the Court has construed the Asserted Patents and as otherwise allowed by the Local Rules and Federal Rules of Civil Procedure.

¹ *Alacritech, Inc. v. Tier 3, Inc., et al.*
(EDTX, Case No. 2:16-cv-00693-JRG-RSP)
INTEL EX. 1232.001

(f) Alacritech Instrumentalities

Alacritech is still investigating this matter, however, at this time Alacritech is not relying on the assertion that its own apparatus, product, device, process, method, act, or other instrumentality of its own practices the claimed inventions. Alacritech reserves the right to supplement and/or amend this disclosure to identify any apparatus, product, device, process, method, act, or other instrumentality of its own that practices the Asserted Claims of which Alacritech was not aware at the time of these disclosures.

Paper 42 (205 Reply) at 12;
IPR2018-0234 Ex. 1232.005 (Alacritech's First Amended and
Supplemental Patent Local Rule 3-1 and 3-2 Disclosures).

“Conventional wisdom”: Use special purpose NICs for TCP/IP acceleration

IP Storage and the CPU Consumption Myth

Robert Horst
3ware, Inc.
701 E. Middlefield Rd.
Mountain View, CA 94043

Abstract

This paper addresses a key issue that arises when attaching storage devices directly to IP networks: the perceived need for hardware acceleration of the TCP/IP networking stack. While many implicitly assume that acceleration is required, the evidence shows that this conclusion is not well founded. In the past, network accelerators have had mixed success, and the current economic justification for hardware acceleration is poor given the low cost of host CPU cycles. The I/O load for many applications is dominated by disk latency, not transfer rate, and hardware protocol accelerators have little effect on the I/O performance in these environments. Application benchmarks were run on an IP storage subsystem to measure performance and CPU utilization on Email, database, file serving, and backup applications. The results show that good performance can be obtained without protocol acceleration.

1. Introduction

The growing popularity of gigabit Ethernet has prompted increasing interest in using standard IP networks to attach storage devices to servers. These Ethernet Storage Area Networks (E-SANs), have significant advantages in cost and management ease compared with Fiber Channel SANs. Some IP storage products are already on the market, and work to standardize the protocols is progressing in the IP Storage working group of the IETF [1].

Networks customized to storage networking, such as Fiber Channel, were developed largely due to the perception that standard networking protocols are too heavyweight for attaching storage. Conventional wisdom says that IP storage is impractical without special purpose NICs to accelerate the TCP/IP protocol stack. This paper shows that the need for hardware acceleration is largely a myth. Several different lines of reasoning show that the future of storage networking will rely heavily on storage devices connected to servers without special purpose hardware accelerators.

2. The History

There are many accelerators to the CPU. Some examples have been successful communications, unmet expectations. Examples of date from the many systems, the I/O processor to. However, it has been of architecture to rapid pace of technology. A specific re I/O initiative. processor, such as an I/O processor, from its attached started, the 1960 task, but its performance as the main CPU some point an. Somewhere in between or without the and support costs become a burden. The accelerator is usually a different CPU architecture than the main CPU, and it usually has a different software development environment. Maintaining two such environments is costly, and even if they were identical, there is overhead for inventing and testing the software interface between the processors. The software development cost eventually kills the front-end processor architecture, until the next generation of engineers rediscovers the idea and repeats the cycle.

Some may argue that the problem was that the accelerators should have been optimized hardware instead of embedded programmable processors. Unfortunately, every protocol worthy of acceleration continues to evolve, and it is difficult to stay ahead of the moving target. The new protocols proposed for IP storage, iSCSI and iFCP, are far from stable, and even after the standards have been formally approved, there will likely be a long series of enhancements and bug fixes. It seems extremely

Networks customized to storage networking, such as Fiber Channel, were developed largely due to the perception that standard networking protocols are too heavyweight for attaching storage. Conventional wisdom says that IP storage is impractical without special purpose NICs to accelerate the TCP/IP protocol stack. This paper

Paper 42 (205 Reply) at 14;
Ex. 2300.001 (IP Storage and the CPU Consumption Myth).

SMB Is Prior Art

Petitioner's arguments rely on the same evidence for IPR2018-00226 and IPR2018-00401.



Dates on SMB are consistent with publicly availability in 1992

Technical Standard

Protocols for X/Open PC Interworking:
SMB, Version 2

X/Open CAE Specification (1992)

© September 1992, X/Open Company Limited

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THE *Open* GROUP

Paper 1 (205 Petition) at 18;
Paper 1 (699 Petition) at 16;
Ex. 1055.004 (SMB).

Open Group declaration establishes SMB was publicly available on its website


Declaration from The Open Group, L.L.C.
RE: Technical Standard, Protocols for X/Open PC Interworking: SMB, Version 2

I, Meryl Schlachterman, declare

Declaration from The Open Group, L.L.C.
RE: Technical Standard, Protocols for X/Open PC Interworking: SMB, Version 2

1. I am the Director of policies and procedures for other publications.
2. The Open Group was responsible for publishing the technical standard, "Protocols for X/Open PC Interworking: SMB, Version 2," reference number C209, available at: www.opengroup.org/bookstore/catalog/c209.htm.
3. According to our records, this technical standard was first available to the public on October 15, 1992 when it was published on The Open Group website.

I declare that all statements made herein are true and correct to the best of my knowledge and belief.



Executed on September 29, 2017
at Cotati, CA

The Open Group L.L.C.
800 District Avenue, Suite 150
Burlington MA 01803

INTEL EX. 1077.001

Paper 1 (205 Petition) at 18 (citing Ex. 1077 (Open Group Declaration));
Paper 29 (699 Reply) at 26 (citing Ex. 1404 (Open Group Declaration)).
Ex. 1077 for the 205 IPR and Ex.1404 for the 699 IPR are identical.

Bennett declaration establishes SMB was publicly available in various libraries

DECLARATION OF SCOTT BENNETT, Ph.D.
17 NOVEMBER 2017

DECLARATION OF SCOTT BENNETT, Ph.D. 17 NOVEMBER 2017

- I. INTRODUCTION...
- II. BACKGROUND AND QUALIFICATIONS.....1
- III.
- IV.
- V.
- VI.

identical copies of the C209 document; that the C209 document was publicly available from its publisher on or about September 1992; that C209 document partially copied in Exhibit 1074 was publicly available at the British Library by 29 October 1992, soon after the book's publication; and that the C209 document was publicly available in at least two other libraries by January 1993 and April 1994.

Paper 1 (205 Petition) at 18 (citing Ex. 1078 (Bennett Declaration)); Paper 29 (699 Reply) at 26 (citing Ex. 1405 (Bennett Declaration)). Ex. 1078 for the 205 IPR and Ex. 1405 for the 699 IPR are identical.

INTEL EX.1078.001

Hsieh-Yee declaration establishes SMB was publicly available in British Library

UNITED STATES PATENT AND TRADEM
BEFORE THE PATENT TRIAL AND APPEAL BOARD

DECLARATION OF INGRID HSIEH-YEE, Ph.D

CAVIUM, INC.
Petitioner,

v.

ALACRITECH,
Patent Owner

Case IPR. No. Und
U.S. Patent No. 7,111,000

Title: NETWORK INTERFACE DEVICES AND METHODS FOR SOLICITING SESSIONS

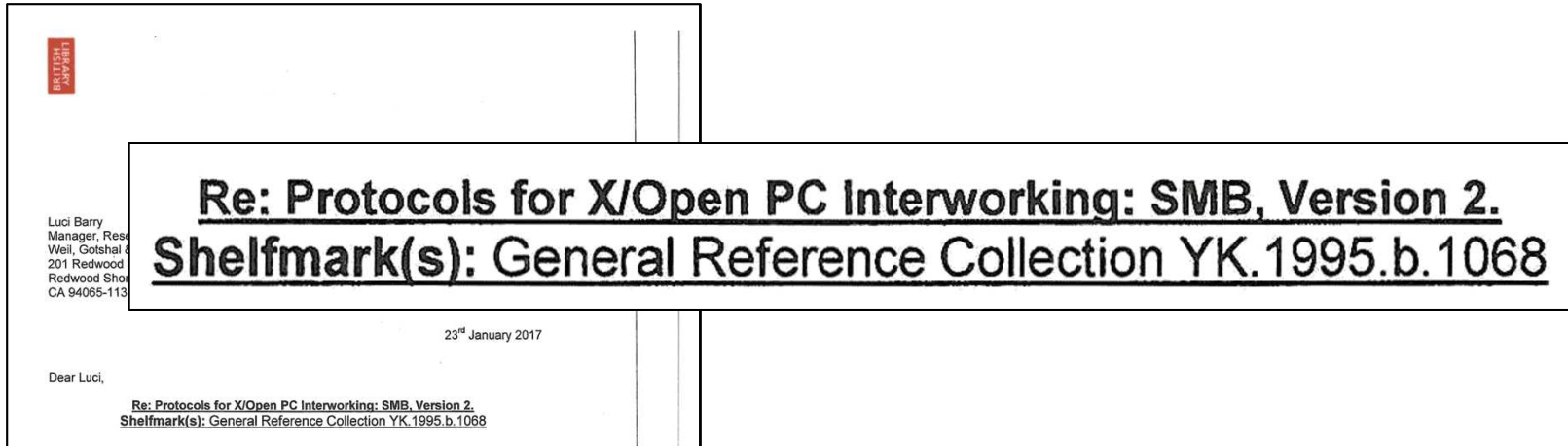
superseded by the 1994 record but I could not locate the 1992 record. If the 1994 record were the only source for the date of cataloging work at the British Library, it would be my opinion that the British Library copy of the *Protocols for X/Open PC interworking: SMB, Version 2* would have been available for public access **no later than September 1994**, six months after the British Library modified the record originally created by the National Library of Scotland.

DECLARATION OF INGRID HSIEH-YEE, Ph.D

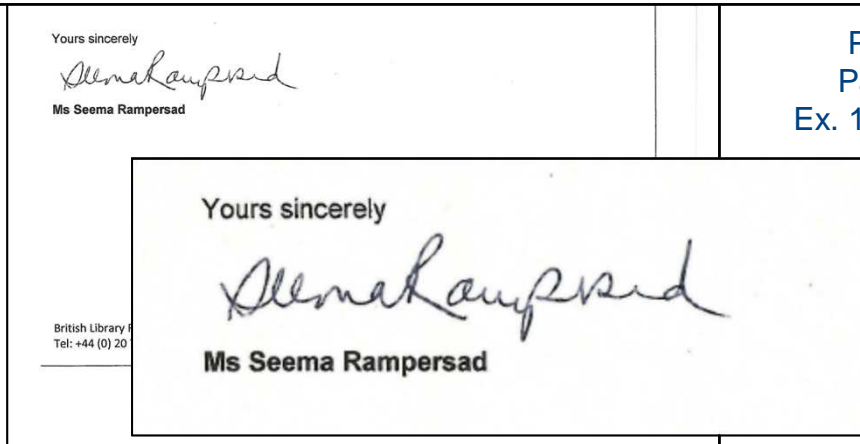
INTEL EX. 1409.001

Paper 42 (205 Reply) at 15 (citing Ex. 1409 (Dr. Hsieh-Yee Declaration)); Paper 1 (699 Petition) at 45 (citing Ex. 1094 (Dr. Hsieh-Yee Declaration)). Ex. 1409 for the 205 IPR and Ex.1094 for the 699 IPR are identical.

Rampersad letter confirms SMB was publicly available in British Library



According to our records, this item was receipted and catalogued by The British Library on the **29th of October 1992** and would have been available for public use from that date.



Paper 1 (205 Petition) at 1 (citing Ex. 1074 (Rampersad Letter));
Paper 29 (699 Reply) at 26 (citing Ex. 1403 (Rampersad Letter)).
Ex. 1074 for the 205 IPR and Ex. 1403 for the 699 IPR are identical.

Motion to Exclude Should be Denied

*All citations refer to the docket for Case IPR2018-00226 unless otherwise noted.

Petitioner's arguments are the same for IPR2018-00226 and IPR2018-00234.



Motion to Exclude: Disputes

1. Admissibility of Stephens Declaration
2. Exhibits 1227 and 1230 Are Admissible

Motion to Exclude: Disputes

1. Admissibility of Stephens Declaration

- a. Stephens Declaration provides factual statements related to IPRs and Litigation
- b. Stephens Declaration does not waive privilege
- c. PO's complaints about discovery are irrelevant to the admissibility of the Stephens Declaration

Alacritech accused Microsoft or Linux protocol stack in Wistron's server under the 205 Patent

Case 2:16-cv-00692-JRG Document 1 Filed 06/30/16 Page 1 of 88 PageID #: 1

IN THE UNITED STATES DISTRICT COURT

ALACRITECH

v.
WISTRON
corporation,
Taiwanese
CORPORATION

1(a) *An apparatus comprising: a host computer having a protocol stack and a destination memory, the protocol stack including a session layer portion, the session layer portion being for processing a session layer protocol; – Defendants make, use, sell, offer for sale, and/or import*

COMPLAINT FOR PATENT INFRINGEMENT

In this action for patent infringement under 35 U.S.C. § 271, Plaintiff Alacritech Inc. ("Alacritech"), by and through its undersigned counsel, complains and alleges as follows against

Defendants
InfoComm
based on
information

%20SV7220G2_150413.pdf ("SV7220G2 Datasheet"). The SV7220G2 Server comprises a host computer that has destination memory and a protocol stack (e.g., of the server's Microsoft Windows or Linux operating system) including a session layer portion for processing a session

1.
Box 20307,
2.
business at 176, Zhongshan Road, Section 1, Taipei 11409, Taiwan, R.O.C.

3. Wiyynn Corporation is a Taiwanese corporation and a subsidiary of Wistron Corporation, with its principal place of business at 8F, 90, Section 1, Xintai 5th Road, Xizhi District, New Taipei City 22102, Taiwan, R.O.C.

1

INTEL EX. 1444.001

Paper 54 (205 Opp. to Motion to Exclude) at 5; Ex. 1444.013
(Alacritech's Complaint against Wistron)

PO admits that Intel's components are just part of Defendants' accused systems

address a motion to intervene at all, discuss much less support a finding that Intel, as the manufacturer of a component in some of the complex accused systems at issue in this litigation, has a right to intervene. 296 U.S. 53 (1935); 458 F.3d 1335 (Fed. Cir. 2006).

products were themselves accused of infringement – whereas here Alacritech has accused Defendants' server systems, which Intel does not manufacture, assemble, or sell. *Cf. Honeywell*

complex products, not the suppliers of discrete components of the accused systems. While Intel's components are certainly part of *some* of Defendants' accused products, these components are not the "exclusive" devices upon which Alacritech's patent claims are read. *Id.*

INTEL EX. 1417.001

Paper 54 (205 Opp. to Motion to Exclude) at 5-6; Ex. 1417 at 11-12 (Alacritech Opp. to Intel's Mot. to Intervene)

Stephens provides statements based on his personal knowledge

PETITIONER'S RESTRICTED - ATTORNEYS' EYES ONLY	
UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE PATENT TRIAL AND APPEALS BOARD	
INTEL CORP., CAVIUM, LLC, and Petitioner v. ALACRITECH, INC. Patent Owner	
Case Nos. IPR2018-00226 (U.S. Patent No. 7,811,000) IPR2018-00234 (U.S. Patent No. 7,811,000) IPR2018-00401 (U.S. Patent No. 7,811,000)	
DECLARATION OF GARLAND STEPHENS	
<p>¹ Cavium, LLC (formerly Cavium, Inc.), which filed a Petition in Case IPR2018-00400, and Dell Inc., which filed a Petition in Case IPR2018-00401, have been joined as a petitioner in this proceeding.</p> <p>² Cavium, LLC (formerly Cavium, Inc.), which filed a Petition in Case IPR2018-00403, and Dell Inc., which filed a Petition in Case IPR2018-00401, have been joined as a petitioner in this proceeding.</p> <p>³ Cavium, who filed a Petition in Case IPR2018-00401, and Dell Inc., who filed a Petition in Case IPR2018-01352, have been joined as a petitioner in this proceeding.</p>	<p>3. I am lead counsel for Petitioner Intel in IPR2017-01391, IPR2017-01392, IPR2017-01393, IPR2017-01405, IPR2017-01406, IPR2017-01409, IPR2017-01410, IPR2018-00226, IPR2018-0234, and IPR2018-01352 (collectively, the “pending IPRs”). I was also lead counsel for Petitioner Intel in IPR2017-01395, IPR2017-01402 and IPR2017-01559, which were not instituted (collectively, the “non-instituted IPRs”).</p> <p>4. I am also lead counsel for Intel in the pending district court cases captioned <i>Alacritech, Inc. v. Dell Inc.</i>, <i>Alacritech, Inc. v. Tier 3, et al.</i>, and <i>Alacritech, Inc. v. Wistron Corporation, et al.</i> (the “Alacritech litigation”).</p>
INTEL EX. 1414.001	Paper 54 (205 Opp. to Motion to Exclude) at 6; Ex. 1414.002 (Stephens Decl.)

Stephens Declaration is not hearsay



CODE OF FEDERAL REGULATIONS

Title 37

Patents, Trademarks, and
Copyrights

Revised as of July 1, 2018

Containing a codification of documents
of general applicability and future effect

As of July 1, 2018

Published by the Office of the Federal Register
National Archives and Records Administration
as a Special Edition of the Federal Register

§ 42.53 Taking testimony.

(a) *Form.* Uncompelled direct testimony must be submitted in the form of an affidavit. All other testimony, in-

Paper 54 (205 Opp. to Motion to Exclude) at 6-7

Stephens Declaration is appropriate testimony for an attorney



CODE OF FEDERAL REGULATIONS

Title 37

Patents, Trademarks, and Copyrights

Revised as of July 1, 2018

Containing a codification of documents of general applicability and future effect

As of July 1, 2018

Published by the Office of the Federal Register
National Archives and Records Administration
as a Special Edition of the Federal Register

§ 11.307 Practitioner as witness.

(a) A practitioner shall not act as advocate at a proceeding before a tribunal in which the practitioner is likely to be a necessary witness unless:

(1) The testimony relates to an uncontested issue;

(2) The testimony relates to the nature and value of legal services rendered in the case; or

Paper 54 (205 Opp. to Motion to Exclude) at 6-7

Motion to Exclude: Disputes

1. Admissibility of Stephens Declaration

- a. Stephens Declaration provides factual statements related to IPRs and Litigation
- b. Stephens Declaration does not waive privilege
- c. PO's complaints about discovery are irrelevant to the admissibility of the Stephens Declaration

Documents on Intel's privilege log are work product and common interest privileged

Parties have common interest for all post-litigation communications between defendant and party who partially indemnifies defendant, including about scope of indemnity.

Am. Eagle Outfitters, Inc. v. Payless ShoeSource, Inc., CV 07-1675 ERK VVP, 2009 WL 3786210, at *4 (E.D.N.Y. Nov. 12, 2009)

Paper 54 (205 Opp. to Motion to Exclude) at 10.

Common interest can occur prior to addressing indemnification obligations

“Union Bank overlooks the fact that even during the time period when **Chicago Title had not yet agreed to indemnify** Gallagher and First American, it already had a common interest in defeating Union Bank’s claim to have a security interest in the Home under the Third Deed of Trust because **it was potentially responsible for that indemnification.**”

Gallagher v. Union Bank, N.A., D058896, 2012 WL 2866689, at *11 (Cal. App. 4th Dist. July 13,2012)

Paper 63 (205 Supp. Br.) at 6-7.

No requirement that joint defense agreement be in writing

“The common interest doctrine does not require a written agreement ... nor does it require that both parties to the communications at issue be co-parties in litigation.”

Am. Mgt. Services, LLC v. Dept. of the Army, 703 F.3d 724, 733 (4th Cir. 2013)

Joint defense agreements are protected by work product and common interest privilege

“The Court agrees with Citizens Financial that the JDA is work product” and it “has properly asserted the joint-defense privilege.”

DataTreasury Corp. v. Wells Fargo & Co., 2:06CV72, 2007 WL 9636837, at *2-3 (E.D. Tex. June 26, 2007)

Appropriate to rely on common interest privilege in context of RPI dispute

“There is nothing surreptitious about separate entities, as either third parties, or separate parties to a legal action, proclaiming shared interests to protect communications that are relevant to advance the interests of the entities possessing the common interest.”

Petroleum Geo-Services Inc. v. WesternGeco LLC, IPR2014-00689,
Paper 101 at 45-46 (P.T.A.B. Dec. 15, 2015)

Paper 54 (205 Opp. to Motion to Exclude) at 10.

Motion to Exclude: Disputes

1. Admissibility of Stephens Declaration

- a. Stephens Declaration provides factual statements related to IPRs and Litigation
- b. Stephens Declaration does not waive privilege
- c. PO's complaints about discovery are irrelevant to the admissibility of the Stephens Declaration

Documents PO claims “undoubtedly exist” either do not exist or are not responsive

Case No. IPR2018-00226
U.S. Patent No. 7,124,205

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PA
INTEL CORP
U
PATENT OWNER'

The privilege log includes only 12 documents, spanning from October 13, 2016 to July 27, 2017, without addressing, for example, any documents showing the *actual* payment of litigation costs and expenses and the *actual* controller of *the decision making process*. These documents undoubtedly exist, and have been authorized by the Board for production. *See* Ex. 2400 and Paper 36 (“[W]e limit the scope of

Paper 51 (205 Motion to Exclude) at 7-8

¹ Cavium LLC (formerly Cavium, Inc.), which filed a Petition in Case IPR2018-00400, and Dell Inc., which filed a Petition in Case IPR2018-01306, have been joined as petitioners in this proceeding.

1 PETITIONER'S RESTRICTED
ATTORNEYS' EYES ONLY

Motion to Exclude: Disputes

1. Admissibility of Stephens Declaration
- 2. Exhibits 1227 and 1230 Are Admissible**

Exhibit 1227: Opposing party's statement showing TOE was not accepted in the industry

EE Times - New ASIC drives Alacritech into storage Page 1 of 2

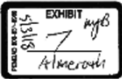
EE Times Connecting the Global Electronics Community

The company did get Broadcom, Microsoft and others to license its TOE technology, "but it never went anywhere," said Alacritech founder and chief executive Larry Boucher.

"We only had limited fringe of people trying to get performance out of Windows systems [with TOE]," said Boucher.

"Broadcom drives [TOE] hard to differentiate itself from Intel [in Ethernet chips]," Boucher said. "IBM aligned with Intel [in not supporting TOE and Chimney], and HP and Dell are both promoters of Chimney, but it's all marketing because it's difficult to see how Chimney does anything useful," he said, noting Alacritech still has licensing revenue for the technology.

Broadcom drives [TOE] hard to differentiate itself from Intel [in Ethernet chips], Boucher said. "IBM aligned with Intel [in not supporting TOE and Chimney], and HP and Dell are both promoters of Chimney, but it's all marketing because it's difficult to see how Chimney does anything useful," he said, noting Alacritech still has licensing revenue for the technology.



https://www.eetimes.com/document.asp?doc_id=1258325&print=yes 5/2/2018 INTEL EX. 1227.001

Paper 54 (205 Opp. to Motion to Exclude) at 14-15; Ex. 1227.001 (EE Times Article)

Exhibits 1227 is admissible under FRE 807

Strong circumstantial guarantees of trustworthiness	The declarant is still PO's CEO. PO could have challenged the statements with a declaration from Mr. Boucher if they were not true
Evidence of a material fact	PO's commercial technology was not successful
More probative than any other evidence	PO's CEO admitted the technology was not commercially successful
Admitting the statements are in the interests of justice	<ul style="list-style-type: none">If untrue, PO could readily provide evidence to that effect;Exhibit used in the earlier IPRs (e.g., IPR2017-01391, Paper41 at 21-22).

Paper 54 (205 Opp. to Motion to Exclude) at 15.

Exhibit 1230: Shows TOE was not accepted in the industry

Why Are We Deprecating Network Performance Features (KB4014193)? Ask Premier F... Page 1 of 7

5. In Windows 8 / Windows Server 2012, we changed the operating system to disable this functionality by default. There was not a customer pushback on this.
6. The industry in general has decided this is not a necessary feature. For example, the Linux kernel has never implemented this capability, although some specific network card drivers did implement it, generally poorly. You do not need to take my word for this – the Wikipedia article on TCP Offload covers it sufficiently.

Thus, the end result of all of this is that the TCP Chimney deprecation in Windows 10 Creators Update is really not a new thing, because disabling it by default was a signal of the future direction. Furthermore, there are no current mainstream network cards that implement this feature, and customers are not reporting a need for this functionality. So, although deprecation of a feature is something customers generally need to be aware of and plan for, in this case, that's not a real life concern.

<https://blogs.technet.microsoft.com/askpfeplat/2017/06/13/why-are-we-deprecating-network...>

<https://blogs.technet.microsoft.com/askpfeplat/2017/06/13/why-are-we-deprecating-network...> 5/2/2018

INTEL EX. 1230.001

Paper 54 (205 Opp. to Motion to Exclude) at 14-15; Ex. 1230.003
(Microsoft.com Article)

Exhibits 1230 is admissible under FRE 807

Strong circumstantial guarantees of trustworthiness	Article was published by Microsoft on the Microsoft website regarding a Microsoft product (Windows) and remains available
Evidence of a material fact	PO's commercial technology was not successful
More probative than any other evidence	Microsoft removing the feature from Windows
Admitting the statements are in the interests of justice	<ul style="list-style-type: none">• Exhibit used in the earlier IPRs (e.g., IPR2017-01391, Paper41 at 21-22);• PO could have submitted evidence to the contrary but did not

The 205 and 948 Petitions are Not Time-Barred Under 35 USC § 315(b)

*All citations refer to the docket for Case IPR2018-00226 unless otherwise noted.

Petitioner's arguments are the same for IPR2018-00226 and IPR2018-00234.



Time-bar under 35 USC § 315(b): Disputes

1. Intel is the sole real party in interest
2. Intel is not in privity with Defendants
3. Intel does not “fully defend” Dell
4. The facts do not justify application of the equitable doctrines of real party in interest and privity
5. The time-bar does not apply to Cavium’s joined Petition

Alacritech accused Intel of infringing patents on December 13, 2016

Case 2:16-cv-00693-JRG-RSP Document 94 Filed 12/13/16

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF
MARSHALL DIVISION

ALACRITECH, INC.,

Plaintiff,

v.

CENTURYLINK, INC., et al.,

Defendants.

Civil Action

JURY TRIAL

ANSWER AND COUNTERCLAIM
INTEL CORPORATION'S COMPLAINT IN

Plaintiff Alacritech, Inc. ("Alacritech") responds to Defendant Intel Corporation's ("Intel") Complaint in Intervention as follows. Any allegations denied by Alacritech and not admitted should be deemed denied.

PARTIES

1. Alacritech admits that Intel purports to seek relief for patent infringement in its Complaint in Intervention. Alacritech denies the truth of the allegations of Paragraph 1 of the Complaint in Intervention.

2. Alacritech is without knowledge or information concerning the truth of the allegations of Paragraph 2 of the Complaint in Intervention, and therefore denies them.

3. Alacritech admits the allegations of Paragraph 3 of the Complaint in Intervention.

4. Alacritech admits that it has brought patent claims against Defendant Dell, Inc. ("Dell") in this action under 35 U.S.C. §§ 101 et seq, and that this Court has subject matter jurisdiction over those claims pursuant to 28 U.S.C. §§ 1331 and 1338(a). Alacritech is without

1

INTEL EX. 1412.001

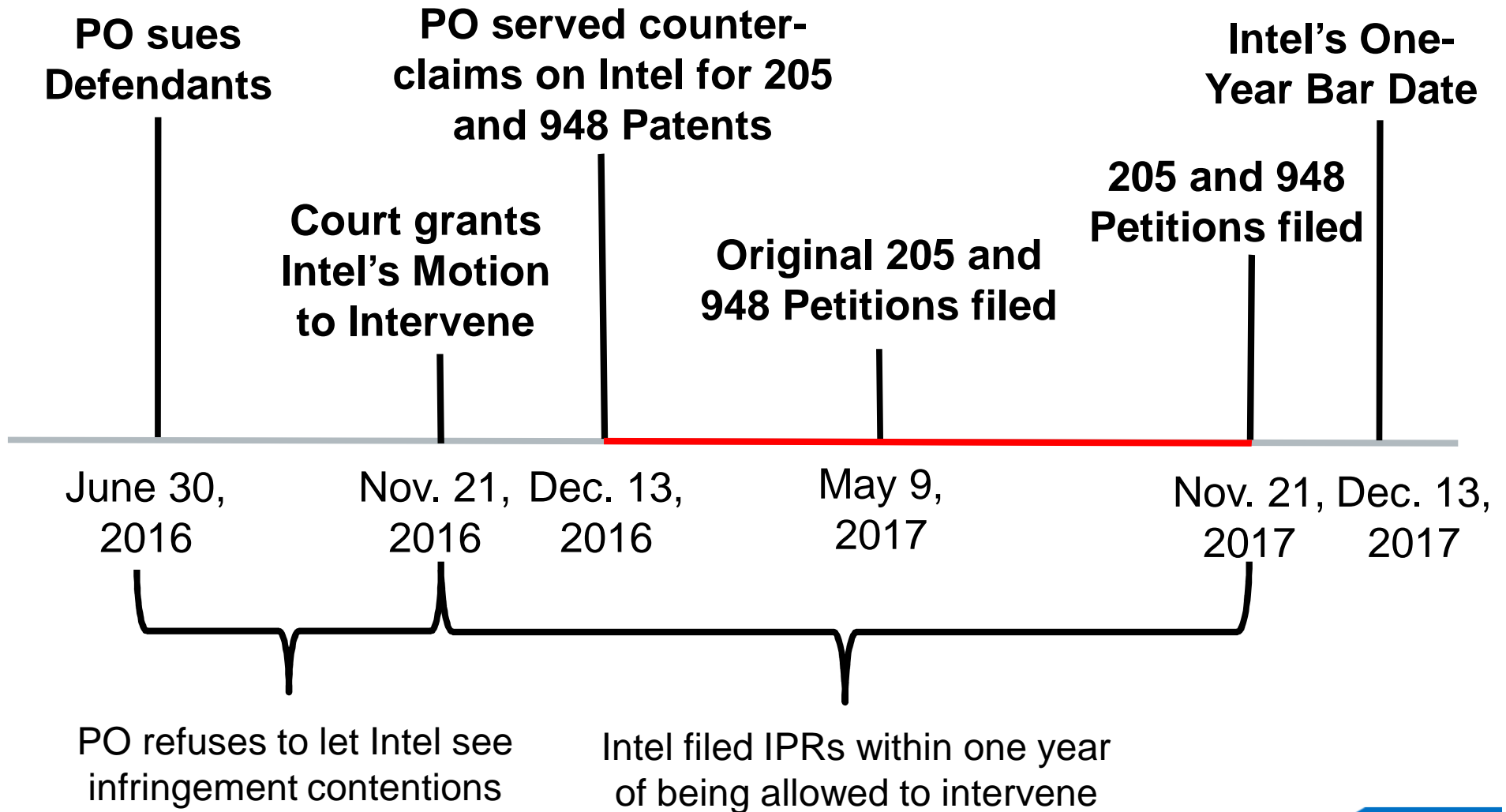
NATURE OF THE ACTION

3. This is a civil action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*

4. Intel has infringed and continues to infringe, has contributed to and continues to contribute to the infringement of, and has actively induced and continues to actively induce others to infringe the following Alacritech patents: U.S. Patent Numbers 7,124,205; 7,237,036; 7,337,241; 7,673,072; 7,945,699; 8,131,880; 8,805,948; and 9,055,104 (collectively, the "Asserted Patents"). Alacritech is the legal owner by assignment of the Asserted Patents, which

Paper 42 (205 Reply) at 16;
Ex. 1412.008.

Intel filed the 948 and 205 Petitions within one year of being accused of infringement



Intel is the sole real party in interest for the Petition

“To decide whether a party other than the petitioner is the real party in interest, the Board seeks to determine whether some party other than the petitioner is the ‘party or parties at whose behest the petition has been filed.’”

Wi-Fi One, LLC v. Broadcom Corp., 887 F.3d 1329, 1336 (Fed. Cir. 2018) (citations omitted) (emphasis added).

Intel's lead in-house and outside attorney testified Defendants exercised no role in Intel's IPRs

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEALS BOARD

INTEL CORP. and CAVIUM, LLC
Petitioner

v.

ALACRITECH, INC.
Patent Owner

Case Nos.
IPR2018-00226 (U.S. Patent)
IPR2018-00234 (U.S. Patent)

DECLARATION OF S. CHRISTOPHER M. STEPHENS
PETITIONER'S OPPOSITION TO PATENT
ADDITIONAL DISCLOSURE

¹ Cavium, LLC, which filed a Petition in Case II, is a petitioner in this proceeding.

² Cavium, LLC, which filed a Petition in Case III, is a petitioner in this proceeding.

INTEL EX. 1301.001

3. Neither Defendants nor their respective counsel, directed, controlled, requested or suggested that Intel file any of these Petitions. No agreement with the Defendants allows or provides any opportunity for Defendants to control the Petitions or directs, requests, suggests, or any way requires that Intel file any of these Petitions. Petitioner Intel did not authorize its counsel of record for the

5. Petitioner Intel has not received nor agreed to receive any reimbursement, payment, or other value from Defendants or Cavium (or any other non-party) related to the filing of the Petitions. All attorneys' fees and costs incurred in preparing and filing the Petitions have been borne by Petitioner Intel alone.

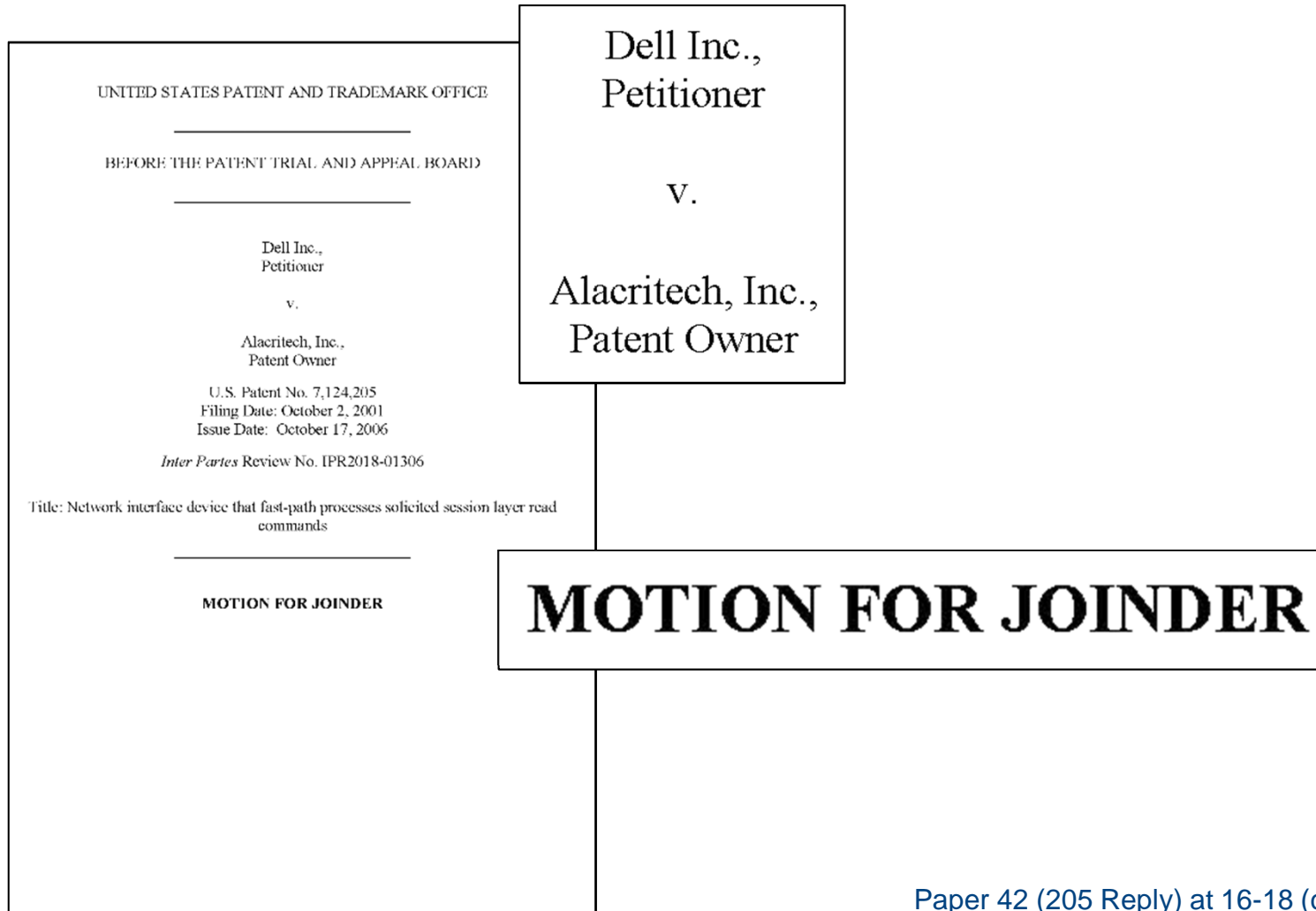
Paper 42 (205 Reply) at 17-18;
Ex. 1301 (Kyriacou Decl.); Ex. 1302 (Stephens Decl.);

Customer-supplier, indemnification, and joint defense relationship not sufficient for RPI

While Broadcom's interests regarding infringement were generally aligned with its customers, there was no evidence that Broadcom was "acting at the behest or on behalf of the D-Link defendants."

Wi-Fi One, LLC v. Broadcom Corp., 887 F.3d 1329, 1340-41 (Fed. Cir. 2018) (citations omitted).

Other parties in litigation filed motions to join IPRs where they perceived an interest



Paper 42 (205 Reply) at 16-18 (citing IPR2018-01306, Paper 3 (Motion for Joinder).

Intel has no obligation to indemnify (or control the defense of) any Defendant on 205 or 948 Patents

PO's allegations in litigation are not directed exclusively to components supplied by Intel (e.g. operating systems)

PETITIONER'S RESTRICTED - ATTORNEYS' EYES ONLY

UNITED STATES PATENT

BEFORE THE PATENT

INTEL CORP., CA

AL

IPR2018-00226
IPR2018-00234
IPR2018-00401

DECLARATION OF GARLAND STEPHENS

¹ Cavium, LLC (formerly Cavium, Inc.), which filed a Petition in Case IPR2018-00400, and Dell Inc., which filed a Petition in Case IPR2018-01306, have been joined as a petitioner in this proceeding.

² Cavium, LLC (formerly Cavium, Inc.), which filed a Petition in Case IPR2018-00403, and Dell Inc., which filed a Petition in Case IPR2018-01307, have been joined as a petitioner in this proceeding.

³ Cavium, who filed a Petition in Case IPR2018-00401, and Intel Corp., who filed a Petition in Case IPR2018-01352, have been joined as petitioners in this proceeding.

INTEL EX. 1414.001

Paper 42 (205 Reply) at 17-18, 23; Ex. 1414, ¶¶ 5, 10 (Stephens Decl.); Paper 63 (205 Supp. Brief) at 2, 6; Paper 54 (205 Opp. to Motion to Exclude) at 4-6; Ex. 1417 at 11-12; Ex. 1444.013, -.067.

PO admits that Intel's components are just part of Defendants' accused systems

address a motion to intervene at all, discuss much less support a finding that Intel, as the manufacturer of a component in some of the complex accused systems at issue in this litigation, has a right to intervene. 296 U.S. 53 (1935); 458 F.3d 1335 (Fed. Cir. 2006).

products were themselves accused of infringement – whereas here Alacritech has accused Defendants' server systems, which Intel does not manufacture, assemble, or sell. *Cf. Honeywell*

complex products, not the suppliers of discrete components of the accused systems. While Intel's components are certainly part of *some* of Defendants' accused products, these components are not the “exclusive” devices upon which Alacritech's patent claims are read. *Id.*

Paper 42 (205 Reply) at 23; Paper 63 (205 Supp. Brief) at 6; Paper 54 (205 Opp. to Motion to Exclude) at 5-6; Ex. 1417 at 11-12.

Microsoft or Linux protocol stack in Wistron's server is accused under 205 Patent

1(a) *An apparatus comprising: a host computer having a protocol stack and a destination memory, the protocol stack including a session layer portion, the session layer portion being for processing a session layer protocol;* – Defendants make, use, sell, offer for sale, and/or import

COMPLAINT FOR PATENT INFRINGEMENT

In this action for patent infringement under 35 U.S.C. § 271, Plaintiff AlarisTech Inc.

%20SV7220G2_150413.pdf ("SV7220G2 Datasheet"). The SV7220G2 Server comprises a **host computer** that has destination memory and a **protocol stack (e.g., of the server's Microsoft Windows or Linux operating system)** including a session layer portion for processing a session

Corporation, with its principal place of business at 8F, 90, Section 1, Xintai 5th Road, Xindi District, New Taipei City 22102, Taiwan, R.O.C.

1

INTEL EX. 1444.001

Paper 63 (205 Supp. Brief) at 2;
Paper 54 (205 Opp. to Motion to Exclude) at 5;
Ex. 1444.013

Microsoft or Linux protocol stack in Wistron's server is accused under 948 Patent

17(a) *An apparatus for network communication, the apparatus comprising: a host computer running a protocol stack including an Internet Protocol (IP) layer and a Transmission Control Protocol (TCP) layer, the protocol stack adapted to establish a TCP connection for an*

[%20SV7220G2_150413.pdf](#) ("SV7220G2 Datasheet"). A SV7220G2 Server comprises a host computer that runs a protocol stack with TCP and IP layers (e.g., the TCP/IP stack of the server's Microsoft Windows or Linux operating system) that establishes a TCP connection for an application layer running above the TCP layer, defined by source and destination IP addresses

Paper 63 (205 Supp. Brief) at 2;
Paper 54 (205 Opp. to Motion to Exclude) at 5;
Ex. 1444.067.

Microsoft or Linux protocol stack in Dell's server is accused under 205 Patent

1(a) *An apparatus comprising: a host computer having a protocol stack and a destination memory, the protocol stack including a session layer portion, the session layer portion being for processing a session layer protocol;* – Dell makes, uses, sells, offers for sale, and/or imports

PowerEdge-C6320-Spec-Sheet.pdf ("PowerEdge C6320 Spec Sheet"). The C6320 Server comprises a host computer that has destination memory and a protocol stack (e.g., of the server's Microsoft Windows or Linux operating system) including a session layer portion for processing a session layer protocol, such as iSCSI. *See, e.g., PowerEdge C6320 Spec Sheet; "Introduction*

Paper 63 (205 Supp. Brief) at 2;
Paper 54 (205 Opp. to Motion to Exclude) at 4;
Ex. 1416.013.

Microsoft or Linux protocol stack in Dell's server is accused under 948 Patent

17(a) *An apparatus for network communication, the apparatus comprising: a host computer running a protocol stack including an Internet Protocol (IP) layer and a Transmission Control Protocol (TCP) layer, the protocol stack adapted to establish a TCP connection for an*

Sheet"). A C6320 Server comprises a host computer that runs a protocol stack with TCP and IP layers (e.g., the TCP/IP stack of the server's Microsoft Windows or Linux operating system) that establishes a TCP connection for an application layer running above the TCP layer, defined by

Paper 63 (205 Supp. Brief) at 2;
Paper 54 (205 Opp. to Motion to Exclude) at 5;
Ex. 1416.083.

Defendants do not possess effective control of IPRs

“ “[T]he evidence, as a whole, must show that the unnamed party possessed effective control [of the IPR] from a practical standpoint.”

Google v. Seven Networks, IPR2018-01047, Ex. 1056 at 11 (PTAB Dec. 3, 2018) (citing *Gonzalez v. Banco Cent. Corp.*, 27 F.3d 751, 759 (1st Cir. 1994)).

PO overextends reasoning of recent Federal Circuit case law

PO's sweeping generalization would “run afoul of ‘the general rule that a litigant is not bound by a judgment to which she was not a party’ except in discrete and limited circumstances.”

Unified Patents, Inc. v. Realtime Adaptive Streaming, LLC,
IPR2018-00883, 2018 WL 6504233, at *6 (PTAB Oct. 11, 2018)
(citing *Taylor*, 553 U.S. at 898).

Time-bar under 35 USC § 315(b): Disputes

1. Intel is the sole real party in interest
2. **Intel is not in privity with Defendants**
3. Intel does not “fully defend” Dell
4. The facts do not justify application of the equitable doctrines of real party in interest and privity
5. The time-bar does not apply to Cavium’s joined Petition

Privity and collateral estoppel do not apply because Intel is a party in the litigations



FEDERAL REGISTER

Vol. 77
No. 157

Part V

Department of Commerce

Patent and Trademark Office
37 CFR Part 42
Office Patent Trial Practice Guide; Rule

The privity analysis turns on “nonparty preclusion” and whether the relationship between the parties “is sufficiently close such that both should be bound by the trial outcome and related estoppels.”

Office Patent Trial Practice Guide, 77 Fed. Reg.
48756, 48759 (Aug. 14, 2012);
Taylor v. Sturgell, 553 U.S. 880 (2008)

Alacritech has provided no separate analysis for privity

It is improper to “comingle privity and real party in interest challenges in IPR proceedings.”

Applications in Internet Time, LLC v. RPX Corp., 897 F.3d 1336, 1365 n.7 (Fed. Cir. 2018) (Reyna, J., concurring)

Taylor factors do not apply because Intel is a party in the underlying litigations

Rule against nonparty preclusion is subject to six exceptions:

- (1) An agreement between the parties to be bound;
- (2) Pre-existing substantive legal relationships between the parties;
- (3) Adequate representation by the named party;
- (4) The non-party's control of the prior litigation;
- (5) Where the non-party acts as a proxy for the named party to relitigate the same issues; and
- (6) Where special statutory schemes foreclose successive litigation by the non-party (e.g., bankruptcy and probate).

Taylor v. Sturgell, 553 U.S. 880 at 894–95 (2008)

Defendants are all represented by their own attorneys in litigation

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Attorneys for Defendants Wistron Corporation, Wivynn Corporation, and SMS Infocomm Corporation

Paper 42 (205 Reply) at 23;
Paper 54 (205 Opp. to Motion to Exclude) at 23; Paper 63 (205 Supp. Brief) at 4-5; Ex. 1413 at .005-.007.

Defendants each served their own damages and non-infringement reports with their own experts

The image displays two overlapping legal documents from the Eastern District of Texas, Marshall Division. Both documents are marked "RESTRICTED - ATTORNEYS' EYES ONLY".

Left Document (Intel Ex. 1447.004):
 Title: REBUTTAL EXPERT REPORT OF DR. MARK JONES
 Case No. 2:16-cv-692-RWS
 Plaintiff: ALACRTECH, INC.
 Defendant: CENTURY INK, INC., et al.
 Dated: [Redacted]

Right Document (Intel Ex. 1447.008):
 Title: EXPERT REPORT OF STEPHEN L. BECKER, Ph.D.
 Case No. 2:15-cv-682
 Plaintiff: ALACRTECH INC., a California corporation
 Defendant: WESTON CORPORATION, a Taiwanese corporation; WESTWIN CORPORATION, a Taiwanese corporation; MAS IPOEDEM CORPORATION, a Texas corporation
 Date: November 23, 2017

Paper 42 (205 Reply) at 23; Paper 63 (205 Supp. Br.) at 5; Paper 54 (205 Opp. to Motion to Exclude) at 5; Ex. 1414, § 10; Ex. 1447.

Defendants do not adequately represent Intel's interests

Alacritech served separate infringement contentions for all parties

Case 2:16-cv-00693-JRG-RSP Document 82 Filed 11/17/16 Page 1 of 21 PageID #: 1878

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS MARSHALL DIVISION	
ALACRITECH, INC., Plaintiff,	Case No. 2:16-cv-693-JRG
v.	LEAD CASE
CENTURYLINK COMMUNICATIONS LLC, et al. Defendants.	JURY TRIAL DEMANDED
ALACRITECH, INC., Plaintiff,	Case No. 2:16-cv-692-JRG
v.	JURY TRIAL DEMANDED

address a motion to intervene at all, discuss much less support a finding that Intel, as the manufacturer of a component in some of the complex accused systems at issue in this litigation, has a right to intervene. 296 U.S. 53 (1935); 458 F.3d 1335 (Fed. Cir. 2006).

Paper 42 (205 Reply) at 23;
Paper 54 (205 Opp. to Motion to Exclude) at 5-6; Ex. 1414, ¶ 10;
Ex. 1417.015-.016 (Alacritech Opposition to Motion to Intervene).

INTEL EX. 1417.001

Intel is entitled to litigate whether its products infringe without losing its one year bar date

“[T]he standards for the privity inquiry must be grounded in due process.”

WesternGeco LLC v. ION Geophysical Corp., 889 F.3d 1308, 1319 (Fed. Cir. 2018)

Paper 63 (205 Supp. Brief) at 3-4.

Time-bar under 35 USC § 315(b): Disputes

1. Intel is the sole real party in interest
2. Intel is not in privity with Defendants
3. **Intel does not “fully defend” Dell**
4. The facts do not justify application of the equitable doctrines of real party in interest and privity
5. The time-bar does not apply to Cavium’s joined Petition

Dell attorneys handled infringement allegations against Dell products

NOTICE REGARDING RESOLUTION OF DELL'S JOINDER TO INTEL'S MOTION TO STRIKE ALACRITECH'S INFRINGEMENT CONTENTIONS

Case 2:16-cv-00001-Document 1-1 Filed 08/04/16 Page 1 of 1 PageID #: 2272

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DISTRICT

ALACRITECH, INC.,
Plaintiff,
v.
CENTURY LINK, INC., et al.,
Defendants.

NOTICE REGARDING RESOLUTION OF DELL'S JOINDER TO INTEL'S MOTION TO STRIKE ALACRITECH'S INFRINGEMENT CONTENTIONS

The parties have met and conferred regarding Dell's Motion to Strike Alacritech's Infringement Contentions and amended infringement contentions, specifically amended below, to Dell in conformance with the Court's Order striking Alacritech's infringement contentions. The parties are hearing on Dell's Joinder scheduled for August 7, 2016. Alacritech has agreed to provide additional charts, product family, or service, and/or an expert declaration addressing the alleged material differences between the accused products or services by August 22 (for systems with Broadcom, Emulex, or Mellanox component(s) affecting the manner in which the accused product or method meets the asserted claim limitations and August 25 (for systems with Intel and Cavium/QLogic component(s)). Alacritech also agreed to provide clarification regarding how its infringement theories apply to products sold with each different operating system or to products sold with no operating system, whether through interrogatory response, expert declaration, or as part of its amended infringement contentions.

Alacritech has agreed to provide additional charts for each accused product, product family, or service, and/or an expert declaration addressing the alleged material differences between the **accused products or services** by August 22 (for systems with Broadcom, Emulex, or Mellanox components) affecting the manner in which the accused product or method meets the asserted claim limitations and August 25 (for systems with Intel and Cavium/QLogic components). Alacritech also agreed to provide clarification regarding **how its infringement theories apply to products sold with each different operating system or to products sold with no operating system**, whether through interrogatory response, expert declaration, or as part of its amended infringement contentions.

Paper 63 (205 Supp. Brief) at 4-5; Ex. 1460.001.

Dell attorneys managed Dell's discovery obligations

<p>Case 2:16-cv-00803-RW</p> <p>ALACRITECH, INC.</p> <p>v.</p> <p>CENTURYLINK CO. LLC, et al.</p> <p>REGARDING PRODUCTION AND DISCOVERY IN Dkt. 125. DEFENDANT</p> <p>INTEL EX. 1458.001</p>	<table border="1"> <thead> <tr> <th>Category</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Alacritech's Motion to Strike Defendants' Invalidity Contentions (Dkt. 124)</td> <td>Resolved. Dell has confirmed that it will not assert defenses based on §§ 102 or 103 based on uncharted art without leave of the Court or agreement of the parties. Alacritech withdraws its motion without prejudice.</td> </tr> <tr> <td>Category 1. Identification of accused products and services.</td> <td>Resolved in part. The parties have resolved their dispute with respect to identification of relevant products. There remains a dispute regarding identification of relevant services.</td> </tr> <tr> <td>Category 2. Technical documents and source code.</td> <td>Resolved in part. The parties have resolved their dispute with respect to source code based on Dell's representation that it does not have relevant source code within its possession, custody, or control. The parties' dispute regarding the production of source code documents and source code will be resolved by the court in Dkt. 11.</td> </tr> <tr> <td>Category 3. Evidence and contentions re: differences material to infringement</td> <td>Disputed.</td> </tr> <tr> <td>Category 4. Evidence and contentions re: Dell's non-infringement defenses.</td> <td>Disputed.</td> </tr> </tbody> </table>	Category	Status	Alacritech's Motion to Strike Defendants' Invalidity Contentions (Dkt. 124)	Resolved. Dell has confirmed that it will not assert defenses based on §§ 102 or 103 based on uncharted art without leave of the Court or agreement of the parties. Alacritech withdraws its motion without prejudice.	Category 1. Identification of accused products and services.	Resolved in part. The parties have resolved their dispute with respect to identification of relevant products. There remains a dispute regarding identification of relevant services.	Category 2. Technical documents and source code.	Resolved in part. The parties have resolved their dispute with respect to source code based on Dell's representation that it does not have relevant source code within its possession, custody, or control. The parties' dispute regarding the production of source code documents and source code will be resolved by the court in Dkt. 11.	Category 3. Evidence and contentions re: differences material to infringement	Disputed.	Category 4. Evidence and contentions re: Dell's non-infringement defenses.	Disputed.	<table border="1"> <thead> <tr> <th>Category</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Category 5. Evidence and contentions re: Dell's affirmative defenses.</td> <td>Resolved in part. Dell has confirmed that it has produced the universe of evidence within its possession, custody, or control relating to its asserted prior-art-based invalidity defenses and provided its contentions relating to such art in Defendants P.R. 3-3 disclosure (Invalidity Contentions). Based thereon, the only remaining dispute(s) relate to the sufficiency of Dell's production and interrogatory response regarding its non-art-based invalidity and other defenses.</td> </tr> <tr> <td>Category 6. Remedies-related evidence (e.g., financial information and non-infringing alternatives)</td> <td>Disputed.</td> </tr> </tbody> </table>	Category	Status	Category 5. Evidence and contentions re: Dell's affirmative defenses.	Resolved in part. Dell has confirmed that it has produced the universe of evidence within its possession, custody, or control relating to its asserted prior-art-based invalidity defenses and provided its contentions relating to such art in Defendants P.R. 3-3 disclosure (Invalidity Contentions). Based thereon, the only remaining dispute(s) relate to the sufficiency of Dell's production and interrogatory response regarding its non-art-based invalidity and other defenses.	Category 6. Remedies-related evidence (e.g., financial information and non-infringing alternatives)	Disputed.
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Category 6. Remedies-related evidence (e.g., financial information and non-infringing alternatives)	Disputed.																			

Paper 63 (205 Supp. Brief) at 4-5; Ex. 1458.002-.003.

Intel does not control Dell's attorneys

PETITIONER'S RESTRICTED - ATTORNEYS' EYES ONLY

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE

and '948 Patent are still asserted after Alacritech's final claim election. Dell, Wistron and CenturyLink ("Defendants") are all represented by their own counsel in the Alacritech litigation and Intel does not exercise control over those attorneys, but does collaborate with them in a typical joint defense arrangement.

DECLARATION OF GARLAND STEPHENS

¹ Cavium, LLC (formerly Cavium, Inc.), which filed a Petition in Case IPR2018-00400, and Dell Inc., which filed a Petition in Case IPR2018-01306, have been joined as a petitioner in this proceeding.

² Cavium, LLC (formerly Cavium, Inc.), which filed a Petition in Case IPR2018-00403, and Dell Inc., which filed a Petition in Case IPR2018-01307, have been joined as a petitioner in this proceeding.

³ Cavium, who filed a Petition in Case IPR2018-00401, and Intel Corp., who filed a Petition in Case IPR2018-01352, have been joined as petitioners in this proceeding.

INTEL EX. 1414.001

Paper 63 (205 Supp. Brief) at 5; Ex. 1414.004.

Intel intervened in the case to defend allegations against its own products

Case 2:16-cv-00893-JRG-RSP Document 71 Filed 10/31/16 Page 1 of 20 PageID #: 1757

ALACRITECH
corporation,
Plaintiff
v.
TIERRA, ET AL
WESTRON C
DELL INC.,
Defendants.

Ethernet cards and controllers, including Intel's 82599 Ethernet Controller. Further, Intel has agreed to defend and partially indemnify Dell as to Alacritech's allegations based on Intel components incorporated into the accused Dell products. As such, Intel has a substantial, direct

JURY TRIAL DEMANDED

INTEL CORPORATION'S MOTION TO INTERVENE

Alacritech Ex. 2051, Page 1

Paper 63 (205 Supp. Brief) at 5-6; Ex. 2051.

Intel filed a declaratory judgment on all patents asserted against Intel components

Case 2:16-cv-00693-JRG-RSP Document 71-1 Filed

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF CALIFORNIA
MARSHALL DIVISION

ALACRITECH, INC., A California corporation,

Plaintiff,

v.

TIER 3, ET AL.,

WISTRON CORPORATION ET AL., 2:16

DELL INC., A Delaware corporation. 2:16

Defendants. 2:16

and JUR

INTEL CORPORATION,

Intervenor.

INTEL CORPORATION'S COMPLAINT

Pursuant Federal Rule of Civil Procedure 24(c), Intel hereby alleges for its Complaint in Intervention as follows:

PARTIES

1. Intel seeks a declaratory judgment of non-

Declaratory Judgment Act, 28 U.S.C. §§ 2201 (a) and 2202

2. Intel is a Delaware corporation with its wo

California. Intel designs, manufactures, and sells network systems.

3. Upon information and belief, Plaintiff and

Inc., is a California corporation with its principal place of

1

COUNT 1

DECLARATORY JUDGMENT REGARDING U.S. PATENT NO. 7,124,205

12. Intel incorporates by reference the allegations in paragraphs 1-12.

13. A valid and justiciable controversy has arisen and exists between Intel and Alacritech regarding the 205 Patent.

14. By making, using, selling, offering to sell, marketing, licensing or importing its products, Intel does not directly or indirectly infringe any claim of the 205 Patent.

15. Dell does not directly or indirectly infringe any claim of the 205 Patent by making, using, selling, offering to sell, marketing, licensing or importing products that incorporate Intel networking technology.

Paper 63 (205 Supp. Brief) at 5-6; Ex. 2505.

Dell's products might or might not infringe for additional reasons unrelated to Intel products

Case 2:16-cv-00693-JRG-RSP Document 82 Filed 11/17/16 Page 1 of 21 PageID #: 1878

address a motion to intervene at all, discuss much less support a finding that Intel, as the manufacturer of a component in some of the complex accused systems at issue in this litigation, has a right to intervene. 296 U.S. 53 (1935); 458 F.3d 1335 (Fed. Cir. 2006).

ALACRIT
CEN
LLC
ALACRIT
v.
WINSTRON CORPORATION, et al.,
Defendants.
ALACRITECH, INC.,

SUBJECT MATTER DEMANDS
MEMBER CASE

complex products, not the suppliers of discrete components of the accused systems. While Intel's components are certainly part of some of Defendants' accused products, these components are not the "exclusive" devices upon which Alacritech's patent claims are read. *Id.*

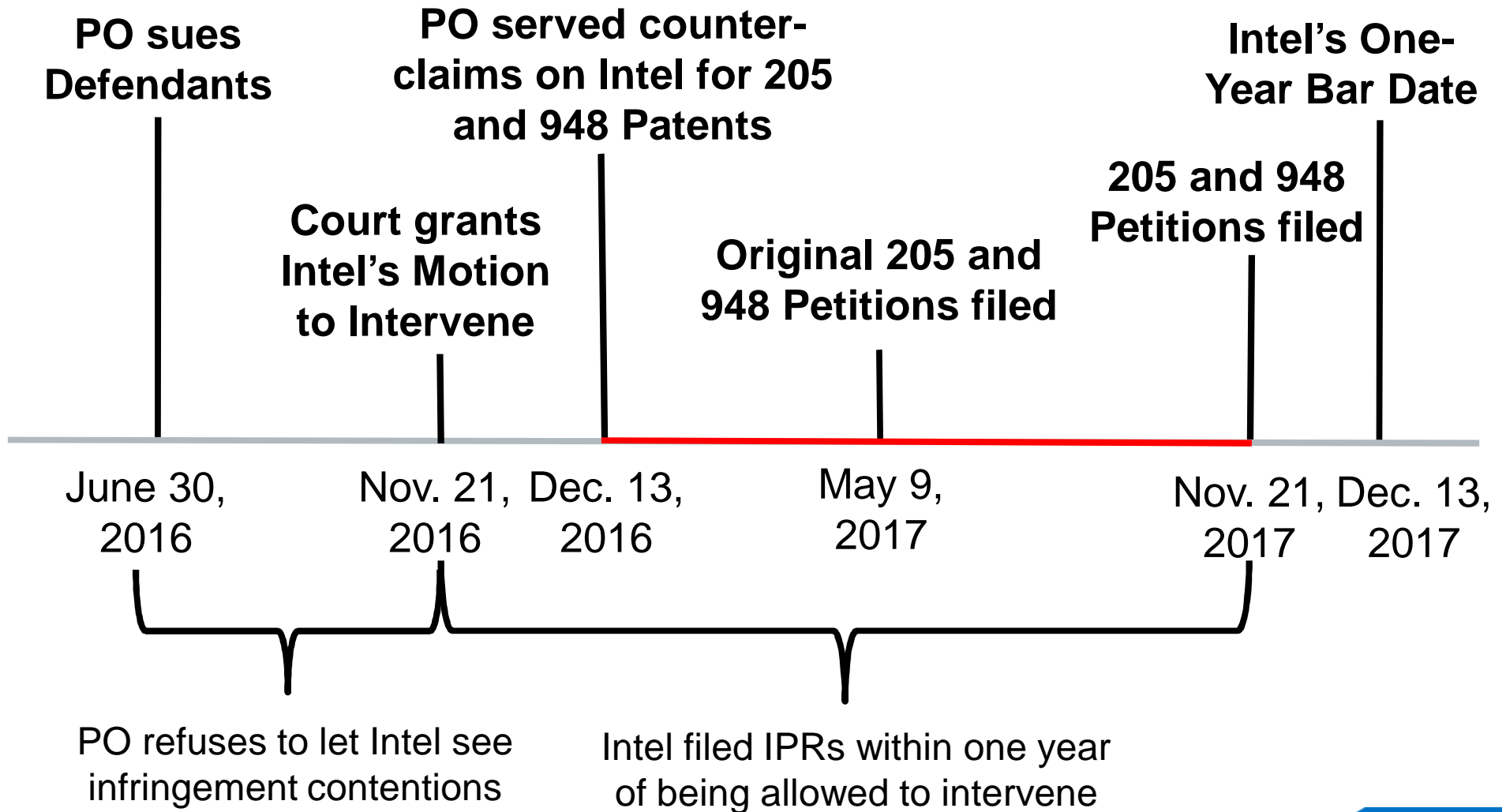
INTEL EX. 1417.001

Paper 63 (205 Supp. Br.) at 6; Ex. 1417 at 11-12.

Time-bar under 35 USC § 315(b): Disputes

1. Intel is the sole real party in interest
2. Intel is not in privity with Defendants
3. Intel does not “fully defend” Dell
4. **The facts do not justify application of the equitable doctrines of real party in interest and privity**
5. The time-bar does not apply to Cavium’s joined Petition

Facts do not justify application of equitable doctrines of RPI and privity



Paper 42 (205 Reply) at 16, 24; Paper 63 (205 Supp. Br.) at 6-7.

Demonstrative Exhibit – Not Evidence



Original 205 and 948 Petitions nearly identical to current 205 and 948 Petitions

Trials@uspto.gov
571-272-7822

Paper 7
Entered: June 5, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

to the fact pattern presented here. Specifically, although the present Petition is directed to the same claims as the earlier petition in IPR2017-01402, the Petition here is based on the *identical* prior art combinations presented in that earlier petition. Unlike in *General Plastic* and similar cases, Petitioner

Before STEPHEN J. BOUDREAU, Administrative Patent Judge.

BOUDREAU, Administrative Patent Judge.

DECISION
Institution of *Inter Partes* Review
35 U.S.C. § 314

Paper 63 (205 Supp. Brief) at 6 (citing Paper 7 (Institution Decision) at 12).

205 and 948 Petitions re-filed to address evidentiary issues

Trials@uspto.gov
571-272-7822

Paper 7
Entered: June 5, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Board's decision in IPR2017-01402 prior to filing the present Petition, we determine that this factor also has little relevance in the context of the present matter, in which Petitioner has simply re-filed to address an evidentiary issue raised in the first matter that resulted in the previous non-institution of the first matter. Likewise, *General Plastic* factor 5 has

Before STEPHEN
CHARLES J.
BOUDREAU

DECISION
Institution of *Inter Partes* Review
35 U.S.C. § 314

Paper 63 (205 Supp. Brief) at 6 (citing Paper 7 (Institution Decision) at 13).

All parties agreed to be estopped to same extent as Petitioner in exchange for stay

Case 2:16-cv-00693-RWS-RSP Document 449 Filed 12/04/17 Page 1 of 10 PageID #: 31548

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

5. If this motion is granted, each of the Intervenor and Defendants **agree to be estopped** to the same extent for each IPR as the party who filed that IPR.

and
INTEL CORPORATION, CAVIUM, INC.,
Intervenor.

STIPULATION AND JOINT MOTION TO
STAY LITIGATION PENDING IPR PROCEEDINGS

INTEL EX. 1413.001

Paper 42 (205 Reply) at 17; Paper 63 (205 Supp. Br.) at 6-7; Ex. 1413.003 (Stipulation and Joint Motion to Stay Litigation Proceeding).

No serial petitioning by parties in Alacritech litigations

Trials@uspto.gov
571-272-7822

Paper 7
Entered: June 5, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

owner. That is particularly the case here, where the typical hallmarks of abusive, strategic serial petitioning are absent.

Case IPR2018-00226
Patent 7,124,205 B2

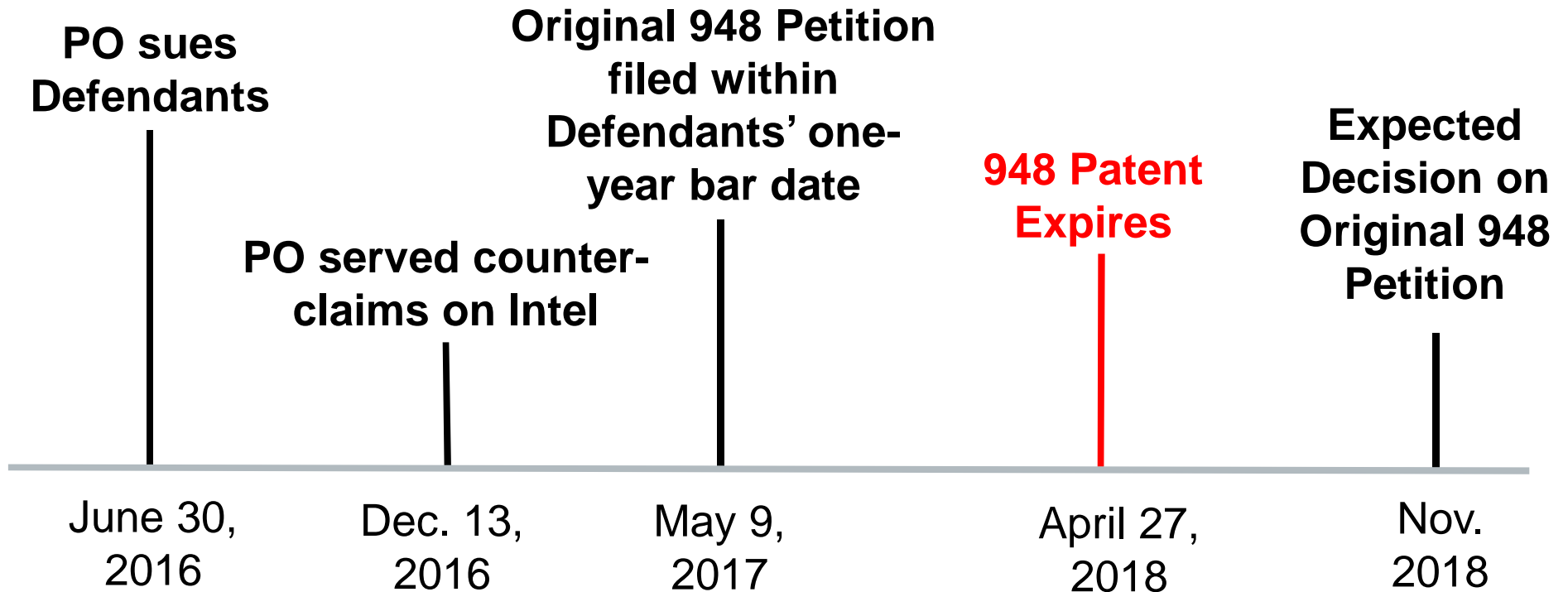
Before STEPHEN C. SIU, DANIEL N. FISHMAN, and
CHARLES J. BOUDREAU, *Administrative Patent Judges*.

BOUDREAU, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
35 U.S.C. § 314

Paper 42 (205 Reply) at 16
(citing Paper 7 (Institution Decision) at 14).

PO did not lose any opportunity to amend claims in the 948 Patent



Time-bar under 35 USC § 315(b): Disputes

1. Intel is the sole real party in interest
2. Intel is not in privity with Defendants
3. Intel does not “fully defend” Dell
4. The facts do not justify application of the equitable doctrines of real party in interest and privity
5. **The time-bar does not apply to Cavium’s joined Petition**

One-year bar of 35 USC § 315(b) does not apply to Cavium's joined Petition

“ARM’s Petition is accompanied by a Motion for Joinder, as discussed further below. The provisions of 35 U.S.C. § 315(b) do not apply to a request for joinder. 35 U.S.C. § 315(c). Thus, ARM’s Petition is not barred under 35 U.S.C. § 315(b).”

ARM Ltd. v. AMD, Inc., IPR2018-01148, Paper 16 at 4 (PTAB Dec. 12, 2018) (emphasis added).



The 699 Petition is Not Time-Barred Under 35 USC § 315(b)

IPR2018-00401
U.S. Patent No. 7,945,699

RIMÖN_{PC}

LAW FIRM EVOLVED



Time-bar under 35 USC § 315(b): Disputes

1. **Cavium is the sole real party in interest for its Petition**
2. Cavium is not in privity with Defendants
3. The facts do not justify application of the equitable doctrines of real party in interest or privity
4. The time-bar does not apply to Intel's joined Petition

Alacritech accused Cavium of infringement on February 24, 2017

Case 2:16-cv-00693-JRG-RSP Document 94 Filed 12/13/16 Page 1 of 139 PageID #: 2233

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

ALACRITECH, INC.,

Plaintiff,

v.

CENTURYLINK, INC., *et al.*,

Defendants.

ANSWER AND COUNTER

INTEL CORPORATION'S COMPLAINT

Plaintiff Alacritech, Inc. ("Alacritech") responds to the ("Intel") Complaint in Intervention as follows. Any admissions that should be deemed denied.

PARTIES

1. Alacritech admits that Intel purports to be a party to the infringement in its Complaint in Intervention. Alacritech does not dispute Paragraph 1 of the Complaint in Intervention.

2. Alacritech is without knowledge or information to dispute the truth of the allegations of Paragraph 2 of the Complaint in Intervention.

3. Alacritech admits the allegations of Paragraph 3 of the Complaint in Intervention.

4. Alacritech admits that it has brought parties to this action.

Alacritech ("Dell") in this action under 35 U.S.C. §§ 101 et seq, and that this Court has subject matter jurisdiction over those claims pursuant to 28 U.S.C. §§ 1331 and 1338(a). Alacritech is without

1

INTEL EX. 1412.001

NATURE OF THE ACTION

3. This is a civil action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*

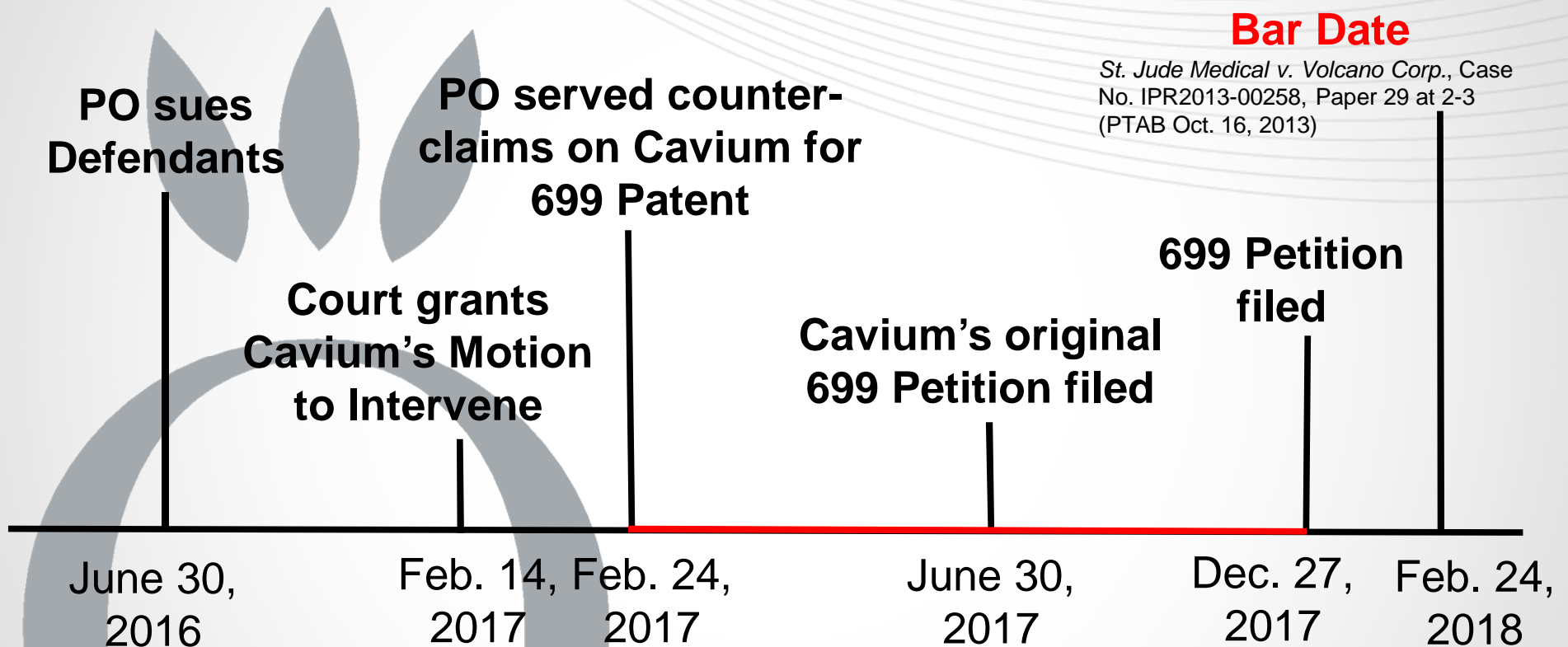
4. Cavium has infringed and continues to infringe, has contributed to and continues to contribute to the infringement of, and has actively induced and continues to actively induce others to infringe the following Alacritech patents: U.S. Patent Nos. 7,124,205; 7,237,036; 7,337,241; 7,673,072; 7,945,699; 8,131,880; 8,805,948; and 9,055,104 (collectively, the "Asserted Patents"). Alacritech is the legal owner by assignment of the Asserted Patents, which

Paper 29 (699 Reply) at 20;
Ex. 1427.008.

Cavium filed the 699 Petition within one year of being accused of infringement

Cavium's One-Year Bar Date

St. Jude Medical v. Volcano Corp., Case No. IPR2013-00258, Paper 29 at 2-3 (PTAB Oct. 16, 2013)



Cavium filed IPRs within one year of being allowed to intervene.

Paper 29 (699 Reply) at 20-21.

RIMON_{PC}

LAW FIRM EVOLVED

There is no evidence Defendants benefit from 699 Petition

Pursuant to the Court's June 7, 2017 Order (Dkt. 267), Alacritech hereby gives notice that it has further reduced the number of asserted claims to 16 total claims (with no more than 5 per patent) as to all Defendants/Intervenors, as follows:

U.S. Patent No. 7,124,205: claims 1, 22

U.S. Patent No. 7,237,036: claims 1-4

U.S. Patent No. 7,337,241: claims 1, 9, 12

U.S. Patent No. 7,673,072: claims 1, 15,

U.S. Patent No. 8,131,880: claims 32, 41

U.S. Patent No. 8,805,948: claims 17, 22

Alacritech ***dropped*** the 699 Patent ***before*** Cavium filed its 699 Petition—it is no longer asserted

The question is whether the non-party is a “***clear*** beneficiary,” not a speculative one. *Applications in Internet Time, LLC v. RPX Corp.*, 897 F.3d 1336, 1351 (Fed. Cir. 2018) (emphasis added).

Paper 29 (699 Reply) at 20-21; Paper 51 (Cavium Supp. Br.) at 2; Ex. 1426.

RIMON_{PC}

LAW FIRM EVOLVED

Defendants filed motions to join where they perceived an interest

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Dell Inc.,
Petitioner

v.

Alacritech, Inc.,
Patent Owner

U.S. Patent No. 7,124,205
Filing Date: October 2, 2001
Issue Date: October 17, 2006

Inter Partes Review No. 2018-00336

Title: Network interface device that fast-path processes solicited session layer read commands

MOTION FOR JOINDER

Dell Inc.,
Petitioner

v.

Alacritech, Inc.,
Patent Owner

MOTION FOR JOINDER

Paper 29 (699 Reply) at 19.

Alacritech concedes that it has ***no*** evidence that:

(1) Cavium filed its petition at another defendant's "behest."
Applications in Internet Time, LLC v. RPX Corp., 897 F.3d 1336, 1351 (Fed. Cir. 2018).

(2) Or that another defendant exercises any control over Cavium's petition.

Aruze Gaming Macau, Ltd. v. MGT Gaming, Inc., IPR2014-01288, Paper 13, at 11 (PTAB Feb. 20, 2015).

Paper 51 (Cavium Supp. Br.) at 2-3; Paper 52 (Intel Supp. Br.) at 1-2.

RIMON_{PC}

LAW FIRM EVOLVED

Customer-supplier, indemnification, and joint defense relationship not sufficient for RPI

While Broadcom's interests regarding infringement were generally aligned with its customers, there was no evidence that Broadcom was "acting at the behest or on behalf of the D-Link defendants."

Wi-Fi One, LLC v. Broadcom Corp., 887 F.3d 1329, 1340-41 (Fed. Cir. 2018) (citations omitted).

Paper 29 (Intel Reply) at 19; Paper 51 (Cavium Supp. Br.) at 3; Paper 52 (Intel Supp. Br.) at 3.

RIMON_{PC}

LAW FIRM EVOLVED

Time-bar under 35 USC § 315(b): Disputes

1. Cavium is the sole real party in interest for its Petition
2. **Cavium is not in privity with Defendants**
3. The facts do not justify application of the equitable doctrines of real party in interest and privity
4. The time-bar does not apply to Intel's joined Petition

Taylor factors do not apply because Cavium is a party in the underlying litigations

Rule against nonparty preclusion is subject to six exceptions:

- 1) An agreement between the parties to be bound;
- 2) Pre-existing substantive legal relationships between the parties;
- 3) Adequate representation by the named party;
- 4) The non-party's control of the prior litigation;
- 5) Where the non-party acts as a proxy for the named party to relitigate the same issues; and
- 6) Where special statutory schemes foreclose successive litigation by the non-party (e.g., bankruptcy and probate).

Taylor v. Sturgell, 553 U.S. 880 at 893–95 (2008)

RIMON_{PC}

LAW FIRM EVOLVED

Paper 29 (699 Reply) at 22;
Paper 51 (Cavium Supp. Br.) at 3.

Defendants are all represented by their own attorneys in litigation

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*Attorneys for Defendants Wistron Corporation,
Wiwynn Corporation, and SMS Infocomm
Corporation*

Paper 52 (Intel Supp. Br.) at 4-5; Paper 41 (205
Opp. to Motion to Exclude) at 23; Ex. 1413 at 5-7.

Cavium has no obligation to indemnify because 699 Patent no longer asserted

There is no legal relationship because 699 Patent is not asserted

Case 2:16-cv-00693-RWS-RSP Document 374 Filed 10/06/17 Page 1 of 5 PageID #: 29008

UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS MARSHALL DIVISION	
ALACRITECH, INC., Plaintiff,	Case No. 2:16-cv-693-RWS-RSP
v.	LEAD CASE
CENTURYLINK COMMUNICATIONS LLC, et al.	JURY TRIAL DEMANDED
Defendants.	
INTEL CORPORATION, Intervenor.	
ALACRITECH, INC., Plaintiff,	Case No. 2:16-cv-692-
v.	JURY TRIAL DEMANDED
WISTRON CORPORATION, et al.,	MEMBER CASE
Defendants.	
INTEL CORPORATION, Intervenor.	
ALACRITECH, INC., Plaintiff,	Case No. 2:16-cv-RWS-
v.	JURY TRIAL DEMANDED
DELL INC.,	MEMBER CASE
Defendant,	
INTEL CORPORATION AND CAVIUM INC., Intervenors.	

ALACRITECH'S NOTICE OF REDUCTION IN ITS ASS

INTEL EX. 1426.001

Pursuant to the Court's June 7, 2017 Order (Dkt. 267), Alacritech hereby gives notice that it has further reduced the number of asserted claims to 16 total claims (with no more than 5 per patent) as to all Defendants/Intervenors, as follows:

U.S. Patent No. 7,124,205: claims 1, 22

U.S. Patent No. 7,237,036: claims 1-4

U.S. Patent No. 7,337,241: claims 1, 9, 12

U.S. Patent No. 7,673,072: claims 1, 15, 17

U.S. Patent No. 8,131,880: claims 32, 41

U.S. Patent No. 8,805,948: claims 17, 22

Paper 29 (699 Reply) at 20-21, 23;
Ex. 1426.

Dell does not adequately represent Cavium's interests

Case 2:16-cv-00693-JRG-RSP Document 109 Filed 01/13/17 Page 1 of 17 PageID #: 3008

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

ALACRITECH, INC., A California corporation,)	
Plaintiff,)	2:16-cv-00693-JRG (LEAD CASE)
v.)	2:16-cv-00692-JRG
TIER 3, ET AL., WISTRON CORPORATION)	2:16-cv-00695-RWS
ET AL., DELL INC., A Delaware corporation,)	JURY TRIAL DEMANDED
Defendants.)	

Cavium moved to intervene in Dell litigation because Dell did not adequately represent Dell's interests

4. Cavium's Interests Cannot Be Adequately Represented By Its Customer

Cavium is in a better position to defend its interests than its customer, Dell, based on its greater knowledge of its own products Dell purchased and its substantial financial interest as an indemnitor. Under Fifth Circuit law, the intervenor's burden to show inadequate representation

Paper 29 (699 Reply) at 23;
Ex. 2055 at 10.

Time-bar under 35 USC § 315(b): Disputes

1. Cavium is the sole real party in interest for its Petition
2. Cavium is not in privity with Defendants
3. **The facts do not justify application of the equitable doctrines of real party in interest and privity**
4. The time-bar does not apply to Intel's joined Petition

RPI and Privity are Equitable Doctrines Constrained by Due Process

The RPI and privity inquiries “take[] into account both equitable and practical considerations.” *AIT*, 897 F.3d at 1349, 1351.

“[T]he standards for the privity inquiry must be grounded in due process.” *WesternGeco LLC v. ION Geophysical Corporation*, 889 F.3d 1308, 1319 (2018).

RIMON_{PC}

LAW FIRM EVOLVED

Paper 51 (Cavium Supp. Br.) at 4-5.

RPI and Privity are Equitable Doctrines Constrained by Due Process

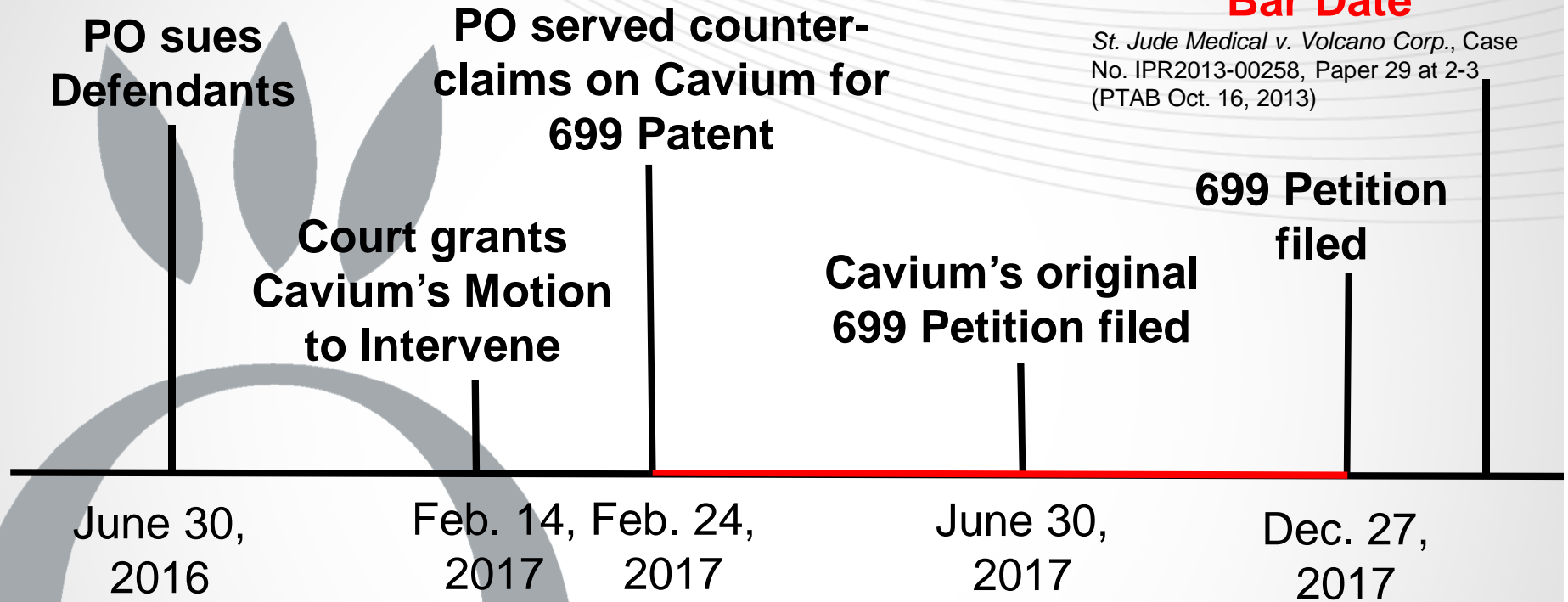
- Alacritech chose to sue Cavium's customers and not name Cavium. Ex. 1427.
- Cavium timely intervened to defend its products. Ex. 1310 at Ex. B.
- Cavium's filed its first Petition less than one year after Alacritech served its Complaint against Defendants. Ex. 1427.008.
- Cavium and Dell are paying their own costs and attorneys' fees in the district court action. Ex. 1500 at ¶ 5 (Harnois Declaration).
- Dell is neither paying for Cavium's IPR and Cavium alone made the decision to file. Ex. 1500 at ¶ 3 (Harnois Declaration).
- Alacritech dropped the '699 Patent before Cavium filed its Petition. Ex. 1426; Ex. 2512.
- Cavium has no indemnification obligations concerning the '699 Patent.

Ex. 1426.

Cavium filed the 699 Petition within one year of being accused of infringement

Cavium's One-Year Bar Date

St. Jude Medical v. Volcano Corp., Case No. IPR2013-00258, Paper 29 at 2-3 (PTAB Oct. 16, 2013)



Cavium filed IPRs within one year of being allowed to intervene

RIMON_{PC}

LAW FIRM EVOLVED

Paper 29 (699 Reply) at 20-21; Paper 51 (Cavium Supp. Br.) at 2-5.

Original 699 Petition Nearly Identical to Current 699 Petition

Trials@uspto.gov
571-272-7822

Paper 8
Entered: June 5, 2018

UNITED STATES
BEFORE

Board's decision in IPR2017-01711 prior to filing the present Petition, we determine that this factor also has little relevance in the context of the present matter, in which Petitioner has simply re-filed to address an evidentiary issue raised in the first matter that resulted in the previous non-institution of the first matter. Likewise, *General Plastic* factor 5 has

Before STEPHEN C. SIU, DANIEL N. FISHMAN, and
CHARLES J. BOUDREAU, *Administrative Patent Judges*.

SIU, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Cavium, Inc. ("Petitioner") requests *inter partes* review of claims 1–3, 6, 7, 10, 11, 13, 16, and 17 of U.S. Patent No. 7,945,699 B2 ("the '699

Paper 29 (699 Reply) at 23-24 (citing
Paper 8 (Institution Decision) at 9); Paper
52 (Intel Supp. Br.) at 6.

All parties agreed to be estopped to the same extent in exchange for stay

Case 2:16-cv-00693-RWS-RSP Document 449 Filed 12/04/17 Page 1 of 10 PageID #: 31548

5. If this motion is granted, each of the Intervenor and Defendants **agree to be**

estopped to the same extent for each IPR as the party who filed that IPR.

ALACRITECH, I

v.

TIER 3, ET AL., WISTRON CORPORATION,
ET AL., DELL INC.,

) 2:16-cv-00692-RWS-RSP

Defendants

) 2:16-cv-00695-RWS-RSP

and

INTEL CORPORATION, CAVIUM, INC.,

Intervenor.

STIPULATION AND JOINT MOTION TO
STAY LITIGATION PENDING IPR PROCEEDINGS

INTEL EX. 1413.001

Paper 29 (699 Reply) at 23; Paper 51 (Cavium
Supp. Br.) at 5; Ex. 1413.003 (Stipulation and
Joint Motion to Stay Litigation Proceeding).

No serial petitioning by parties to the Alacritech litigations

Trials@uspto.gov
571-272-7822

Paper 7
Entered: June 5, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

owner. That is particularly the case here, where the typical hallmarks of abusive, strategic serial petitioning are absent.

ALACRITECH, INC.,
Patent Owner.

Case IPR2018-00226
Patent 7,124,205 B2

Before STEPHEN C. SIU, DANIEL N. FISHMAN, and
CHARLES J. BOUDREAU, *Administrative Patent Judges*.

BOUDREAU, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
35 U.S.C. § 314

Paper 29 (699 Reply) at 24 (citing Paper 8
(Institution Decision) at 10).

“[T]he rationale behind § 315(b) ...
is to prevent successive challenges
to a patent” *WesternGeco*, 889 F.3d at 1319.

Paper 51 (Cavium Supp. Br.) at 5.

Public Policy Concern

Imparting a customer's earlier time bar on an intervening supplier would encourage litigation tactics.

RIMÖN_{PC}

LAW FIRM EVOLVED

Paper 51 (Cavium Supp. Br.) at 5.

Time-bar under 35 USC § 315(b): Disputes

1. Cavium is the sole real party in interest for its Petition
2. Cavium is not in privity with Defendants
3. The facts do not justify application of the equitable doctrines of real party in interest and privity
4. **The time-bar does not apply to Intel's joined Petition**

One-year bar of 35 USC § 315(b) does not apply to Intel's joined Petition

“ARM’s Petition is accompanied by a Motion for Joinder, as discussed further below. ***The provisions of 35 U.S.C. § 315(b) do not apply to a request for joinder.*** 35 U.S.C. § 315(c). Thus, ARM’s Petition is not barred under 35 U.S.C. § 315(b).”

ARM Ltd. v. AMD, Inc., IPR2018-01148, Paper 16 at 4 (P.T.A.B. Dec. 12, 2018)
(emphasis added); Paper 29 (699 Reply) at 22 n.11.

RIMON_{PC}

LAW FIRM EVOLVED



Intel Corp. v. Alacritech, Inc.

IPR2018-00226, -00234, -00401

March 4, 2019

