

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. 7,337,241  
Title: FAST-PATH APPARATUS FOR RECEIVING DATA CORRESPONDING  
TO A TCP CONNECTION

---

**Petition For *Inter Partes* Review of U.S. Patent No. 7,337,241 Under  
35 U.S.C. §§ 311-319 and 37 C.F.R. §§ 42.1-.80, 42.100-.123**

***Mail Stop "PATENT BOARD"***  
Patent Trial and Appeal Board  
U.S. Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

**TABLE OF CONTENTS**

	<b>Page</b>
1. INTRODUCTION .....	1
2. REQUIREMENTS FOR PETITION FOR INTER PARTES REVIEW .....	1
2.1. Grounds for Standing (37 C.F.R. § 42.104(a)) .....	1
2.2. Notice of Lead and Backup Counsel and Service Information.....	1
2.3. Notice of Real-Parties-in-Interest (37 C.F.R. § 42.8(b)(1)).....	2
2.4. Notice of Related Matters (37 C.F.R. § 42.8(b)(2)).....	3
2.5. Fee for <i>Inter Partes</i> Review .....	14
2.6. Proof of Service.....	14
3. IDENTIFICATION OF CLAIMS BEING CHALLENGED (§ 42.104(B)) .....	14
4. STATEMENT OF NON-REDUNDANCY .....	15
5. BACKGROUND OF THE TECHNOLOGY.....	17
5.1. TCP/IP .....	17
5.2. Protocol Offload.....	21
5.3. Direct Memory Access (“DMA”) .....	22
6. OVERVIEW OF THE 241 PATENT.....	23
7. 241 PATENT PROSECUTION HISTORY .....	25
8. CLAIM CONSTRUCTION .....	25
8.1. Applicable Law .....	25
8.2. Construction of Claim Terms.....	25
8.2.1. “[first/second] mechanism” .....	26
8.2.2. “without an interrupt dividing”.....	28
8.2.3. “prepending” .....	30
9. THE CHALLENGED CLAIMS OF THE 241 PATENT ARE NOT ENTITLED TO A PRIORITY DATE OF OCTOBER 14, 1997 .....	30

9.1.	The 1997 Provisional does not contain a written description of “creating headers for the segments, by the interface device, from [the/a] template header,” and “prepending the headers to the segments” to create packets.....	30
10.	PERSON HAVING ORDINARY SKILL IN THE ART .....	33
11.	DESCRIPTION OF THE PRIOR ART .....	33
11.1.	U.S. Patent No. 5,937,169 (“Connery”).....	33
11.2.	Alacritech’s expert admits that almost all of the challenged limitations are found in the prior art .....	38
12.	CLAIMS 9-15, 17, AND 19-21 ARE UNPATENTABLE AS OBVIOUS OVER CONNERY IN VIEW OF THE KNOWLEDGE OF A POSA .....	39
12.1.	Claim 9 .....	39
12.1.1.	[9.P] A method for communicating information over a network, the method comprising: .....	39
12.1.2.	[9.1] obtaining data from a source in memory allocated by a first processor;.....	42
12.1.3.	[9.2] dividing the data into multiple segments; .....	47
12.1.4.	[9.3.1] prepending a packet header to each of the segments by a second processor, thereby forming a packet corresponding to each segment, .....	48
12.1.5.	[9.3.2] each packet header containing a media access control layer header, a network layer header and a transport layer header, wherein the network layer header is Internet Protocol (IP), the transport layer header is Transmission Control Protocol (TCP) and.....	52
12.1.6.	[9.3.3] the media access control layer header, the network layer header and the transport layer header are prepended at one time as a sequence of bits during the prepending of each packet header; and.....	54
12.1.7.	[9.4] transmitting the packets to the network. ....	57
12.2.	Claim 10 .....	58

12.2.1.	The method of claim 9, wherein each packet header is formed based upon a block of information created by the first processor.....	58
12.3.	Claim 11 .....	62
12.3.1.	[11.1] The method of claim 9, further comprising: receiving another packet from the network, the other packet containing a receive header including information corresponding to a network layer and a transport layer; and .....	62
12.3.2.	[11.2] determining, by the second processor, whether the other packet corresponds to the same TCP connection as the transmitted packets.....	64
12.4.	Claim 12 .....	66
12.4.1.	The method of claim 9, further comprising establishing a Transmission Control Protocol (TCP) connection by the first processor and using the connection to prepend the packet header to each of the segments by the second processor. ....	66
12.5.	Claim 13 .....	67
12.5.1.	The method of claim 9, further comprising creating a template header and forming each packet header based upon the template header. ....	67
12.6.	Claim 14 .....	68
12.6.1.	The method of claim 9, wherein obtaining data from the source in memory allocated by the first processor is performed by a Direct Memory Access (DMA) unit controlled by the second processor.....	68
12.7.	Claim 15 .....	70
12.7.1.	The method of claim 9, further comprising prepending an upper layer header to the data, prior to dividing the data into multiple segments. ....	70
12.8.	Claim 17 .....	72
12.8.1.	[17.P] A method for communicating information over a network, the method comprising: .....	72

12.8.2.	[17.1] providing, by a first mechanism, a block of data and a Transmission Control Protocol (TCP) connection;.....	72
12.8.3.	[17.2] dividing, by a second mechanism, the block of data into multiple segments; .....	75
12.8.4.	[17.3.1] prepending, by the second mechanism, an outbound packet header to each of the segments, thereby forming an outbound packet corresponding to each segment,.....	76
12.8.5.	[17.3.2] the outbound packet header containing an outbound media access control layer header, an outbound Internet Protocol (IP) header and an outbound TCP header, .....	77
12.8.6.	[17.3.3] wherein the prepending of each outbound packet header occurs without an interrupt dividing the prepending of the outbound media access control layer header, the outbound (IP) header and the outbound TCP header; and.....	78
12.8.7.	[17.4] transmitting the outbound packets to the network. ....	81
12.9.	Claim 19 .....	81
12.9.1.	The method of claim 17, further comprising creating a template header and using the template header to form each outbound packet header. ....	81
12.10.	Claim 20 .....	81
12.10.1.	The method of claim 17, wherein the TCP connection is passed from the first mechanism to the second mechanism. ....	81
12.11.	Claim 21 .....	84
12.11.1.	The method of claim 20, further comprising prepending an upper layer header to the block of data, prior to dividing the block of data into multiple segments.....	84
13.	CONCLUSION.....	84

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.