UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CAVIUM, INC.,
Petitioner

v.

ALACRITECH INC.,
Patent Owner

Case IPR2017-01732
Patent No. 7,673,072

PATENT OWNER'S EXHIBIT 2001

DECLARATION OF PAUL PRUCNAL, PH.D.

1. I have been retained on behalf of Alacritech, Inc. ("Alacritech" or "Patent Owner") for the above-captioned *inter partes* review (IPR) proceeding. I understand that this proceeding was filed by Cavium, Inc. ("Cavium") and involves U.S. Patent No. 7,673,072 ("the '072 Patent"), titled "Fast-path apparatus for transmitting data corresponding to a TCP connection." The '072 Patent is currently assigned to Alacritech. I have been retained to provide my opinions in support of Alacritech's Preliminary Response Pursuant to 35 U.S.C. § 313 and 37 C.F.R. § 42.107 pursuant to the legal standards set forth below. I am being compensated for my time at the rate of $650 per hour. I have no interest in the outcome of this proceeding.

2. In preparing this declaration, I have reviewed and am familiar with the following prior art references:

> ***Connery*** (Ex. 1043) is U.S. Patent No. 5,937,169, which issued on August 10, 1999 and is assigned to 3Com Corporation.

3. I have also considered all other materials cited and discussed herein, including all other materials cited and discussed in Intel's Petition for *Inter Partes* Review of U.S. Patent No. 7,673,072 (Case IPR2017-01705).

4. I have also considered the following:

No.	Short Name	Exhibit
2006	Claim Construction	Memorandum Opinion and Order on Claim Construction, Case No. 2:16-cv-00693-JRG-

	Order	RSP, *Dkt*. 362 (E.D. Tex., September 21, 2017)

5. The statements made herein are based on my own knowledge and opinion. This Declaration represents only the opinions I have formed to date. I may consider additional documents as they become available or other documents that are necessary to form my opinions. I reserve the right to revise, supplement, or amend my opinions based on new information and on my continuing analysis.

II. QUALIFICATIONS

6. My qualifications can be found in my Curriculum Vitae, which includes a complete list of my publications. (Ex. 2010).

7. I am a professor of Electrical Engineering at Princeton University, in Princeton, NJ. I received my undergraduate education at Bowdoin College, where I graduated summa cum laude in 1974 with an A.B. in Mathematics and Physics. I then graduated from Columbia University in 1976 with a M.S. in Electrical Engineering, and went on to receive an M.Phil. from Columbia University in 1978 in Electrical Engineering and a Ph.D. from Columbia University in 1979 in Electrical Engineering.

8. Upon graduation from Columbia in 1979, I joined Columbia University as an Assistant Professor of Electrical Engineering, and in 1984 I was promoted to Associate Professor. In 1988, I joined the faculty of Princeton University as an Associate Professor of Electrical Engineering. My responsibilities

included teaching and research. At that time, I also was the Founding Director of the New Jersey Advanced Technology Center for Photonics and Optoelectronic Materials. My responsibilities included leading a $10 million research center involving approximately thirty faculty members.

9. In 1990, I was promoted to the position of full Professor of Electrical Engineering at Princeton University. My teaching responsibilities have included courses in electronic circuits, signal processing, communications and fiber-optic networks. My broad research interests have included communications networks and switching, computer interconnects, and network security. I also head the Lightwave Communications Research Laboratory and the Center for Network Security and Access at Princeton University, through which much of my present research is conducted.

10. While at Princeton University, I received several awards and recognitions, including: (a) becoming a Fellow of the Institute for Electrical and Electronics Engineers (IEEE) where my fellow citation is, "For contributions to photonic switching and fiber-optic networks;" (b) becoming a Fellow of the Optical Society of America (OSA); (c) receiving the Rudolf Kingslake Medal and Prize from the Society of Photo-Optical Instrumentation Engineers (SPIE) for the most noteworthy original paper in Optical Engineering, titled, "Self-routing photonic switching with optically processed control;" (d) receiving the

international Gold Medal Award from the Faculty of Mathematics, Physics, and Informatics from Comenius University; (e) receiving the Princeton University Graduate Mentoring Award; (f) receiving the Lifetime Achievement Award for Excellence in Teaching from the Engineering Council at Princeton; (g) receiving the Walter Curtis Johnson Prize for Excellence in Teaching; (h) receiving the Princeton School of Engineering and Applied Science Distinguished Teacher Award; (i) receiving the President's Award for Distinguished Teaching at Princeton.

11. I am the author of the books, "Optical Code Division Multiple Access: Fundamentals and Applications" (2005) and "Neuromorphic Photonics (2017), both of which relate to networking. I am a co-author or contributor to approximately thirty additional book chapters, as well as over 300 peer-reviewed publications in peer-reviewed journals and conference proceedings including papers in the area of communications networks and packet switching.

12. In addition to the activities, education, and professional experience listed above, I have been involved in numerous research projects that contribute to my expertise relating to this report. My work in these projects have included, among other things, multiple access techniques for high-speed communication networks and fast packet switching techniques. More information on several of these research projects is provided below.

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