

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DELL INC., EMC CORPORATION, HEWLETT-PACKARD
ENTERPRISE CO., HP ENTERPRISE SERVICES, LLC, and TERADATA
OPERATIONS, INC.

Petitioners

v.

REALTIME DATA LLC
Patent Owner

Case IPR2017-00176
&
Case IPR2017-00806
[consolidated]
Patent No. 7,161,506

**DECLARATION OF KENNETH A. ZEGER, PH.D., IN SUPPORT OF
PATENT OWNER'S RESPONSE**

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I, Kenneth A. Zeger, Ph.D., a resident of San Diego, California, declare as follows:

I. Introduction

A. Engagement

1. I have been retained by Patent Owner Realtime Data LLC (“Realtime” or “Patent Owner”) through Zunda LLC to provide my opinions with respect to their Response to the Petitions for *Inter Partes* Review in IPR2017-00176 and IPR2017-00806 (the “Dell Petition” and “Teradata Petition,” respectively) as to U.S. Patent 7,161,506. Zunda LLC is being compensated for my time at the rate of \$690 per hour for time spent on non-deposition tasks and for deposition time. I have no interest in the outcome of this proceeding and the payment of my fees is in no way contingent on my providing any particular opinions.

2. As a part of this engagement, I have also been asked to provide my technical review, analysis, insights, and opinions regarding the Declarations of Dr. Charles D. Creusere (“Creusere Declaration(s),” Ex. 1002 in both proceedings) with respect to challenged claims 104 and 105, as well as the Dell and Teradata Petitions, which rely on the Creusere Declarations.

3. The statements made herein are based on my own knowledge and opinions.

B. Background and Qualifications

4. I received a Bachelor's degree in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology in 1984.

5. I received a Master of Science degree in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology in 1984.

6. I received a Master of Arts degree in Mathematics from the University of California, Santa Barbara, CA in 1989.

7. I received a Ph.D. degree in Electrical and Computer Engineering from the University of California, Santa Barbara, CA in 1990.

8. I am currently a Full Professor of Electrical and Computer Engineering at the University of California, San Diego (UCSD). I have held this position since 1998, having been promoted from Associated Professor after two years at UCSD. I have been an active member of the UCSD Center for Wireless Communications for 20 years. I teach courses full-time at UCSD in the fields of Electrical and Computer Engineering, and specifically in subfields including communications, information theory, and data compression at the undergraduate and graduate levels. Prior to my employment at UCSD, I taught and conducted research as a faculty member at the University of Illinois, Urbana-Champaign for four years, and at the University of Hawaii for two years.

9. My twenty-plus years of industry experience includes consulting work for the United States Department of Defense as well as for private companies such as Xerox, Nokia, MITRE, ADP, and Hewlett-Packard. The topics upon which I provide consulting expertise include data communications for wireless networks, digital communications, information theory, computer software, and mathematical analyses.

10. I have authored approximately 75 peer-reviewed journal articles, the majority of which are on the topic of communications, information theory, or signal processing. I have also authored over 110 papers at various conferences and symposia over the past thirty-plus years, such as the: IEEE International Conference on Communications; IEEE Radio and Wireless Symposium; Wireless Communications and Networking Conference; IEEE Global Telecommunications Conference; International Symposium on Network Coding; IEEE International Symposium on Information Theory; UCSD Conference on Wireless Communications; International Symposium on Information Theory and Its Applications; Conference on Advances in Communications and Control Systems; IEEE Communication Theory Workshop; Conference on Information Sciences and Systems; Allerton Conference on Communications, Control, and Computing; Information Theory and Its Applications Workshop; Asilomar Conference on

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