IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: Stephen M. Curry, Donald W. Loomis, Michael L. Bolan	§ §	Attorney Docket No.: 109879-0001-801
United States Patent No.: 5,949,880	§	
Formerly Application No.: 08/978,798	§	Customer No. 28120
Issue Date: Sept. 7, 1999	§	
Filing Date: Nov. 26, 1997	§	Petitioner: Branch Banking and
Former Group Art Unit: 2766	§	Trust Company
Former Examiner: Gail O. Hayes	§	

For: Transfer of Valuable Information Between a Secure Module and Another Module

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Patent Trial and Appeal Board
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450

DECLARATION OF DR. VIJAY K. MADISETTI

I, Vijay K. Madisetti, hereby declare under penalty of perjury:

I.   QUALIFICATIONS

1.   I am a Professor of Electrical and Computer Engineering at Georgia Institute of Technology ("Georgia Tech") in Atlanta, GA.

2.   I received a Bachelor of Technology in Electronics and Electrical Communications Engineering from the Indian Institute of Technology (IIT) in 1984. I received my Ph.D. in Electrical Engineering and Computer Sciences (EECS) from the University of California, Berkeley in 1989. I am currently a full Professor at Georgia Tech, and I have been on the faculty of Georgia Tech since 1989. I have

authored or co-authored over 100 reference articles in the area of electrical engineering. I have also authored, co-authored, or edited several books in the areas of computer engineering, communications, signal processing, communications, and computer engineering, including VLSI Digital Signal Processors (1995) and The Digital Signal Processing Handbook (First & Second Editions) (1998, 2012).

3.   I have been active in research in the area of wireless and mobile communications, and computer engineering, including digital content (video/voice) delivery, and some of my recent peer-reviewed publications in this area include: (i) J. Kim and Vijay Madisetti, Adaptive Mobility Management in Wireless Networks, in Electronics Letters, July 1998, pp. 1453-1455; (ii) Mustafa Turkboylari & Vijay K. Madisetti, Effect of Handoff Delay on the System Performance of TDMA Cellular Systems, Proceedings of the Fourth IEEE Conference on Mobile and Wireless Communications Network 411-15 (Sept. 9-11, 2002); (iii) Loran A. Jatunov & Vijay K. Madisetti, Computationally-Efficient SNR Estimation for Bandlimited Wideband CDMA Systems, 5 IEEE Transactions on Wireless Communications, no. 12 (2006) at 3480-91; and (iv) Nimish Radia, Ying Zhang, Mallik Tatipamula & Vijay K. Madisetti, Next Generation Applications on Cellular Networks: Trends, Challenges, and Solutions, 100 Proceedings of the IEEE, no. 4 (April 2012) at 841-54.

4.   I served as a consultant for wireless technologies for Johns Hopkins' Applied Physics Laboratory between 2004 and 2005.

5.   I designed floating point chipsets, based on the MIL-STD-1750A family of microprocessors for secure weapons guidance, navigational, and GPS applications, used in several Department of Defense programs in the mid-1990s.

6.   I designed software applications for several commercial mobile phones in the early-2000 time frame for Ericsson, one of the world's leading mobile phone manufacturers. I am also familiar with various data messaging networks, such as Internet Protocol, SS7, USSD, GPRS, synchronous and asynchronous data, and UMTS.

7.   I have developed software for encryption for certain commercially available mobile phones in the early 2000 timeframe, specifically for the GSM A5 encryption standards, in collaboration with a leading international mobile phone and base station manufacturer.

8.   In conjunction with BPL Telecom (India), through a joint venture called Soft Networks (SN), LLC in Atlanta, in the late 1990s and early 2000s, I collaborated with BPL Telecom's engineers to support BPL Telecom's mobile and wireless services offerings in India, through design and development of micropayment services for mobile phones, design of smartphones, and telecom customer billing and fraud detection algorithms, which included establishment of secure sessions and privileged access to customer account and billing data.

9. In the past few years, I have provided services to content providers in the defense market in the area of security certification and accreditation of federal information systems, evaluating and designing security certification programs for defense contractors.

10. I was awarded the 2006 Frederick Emmons Terman Medal for my contributions to electrical engineering by the American Society of Engineering Education, and I also received Georgia Tech's Outstanding Doctoral Advisor Award in 2001.

11. I also have significant experience in designing and implementing chips and software systems using various source code languages, including C, assembly, and VHDL. In 2000, I published a book entitled Vijay K. Madisetti, VHDL: Electronics Systems Design Methodologies and Interactive Tutorial (2000), and I was also awarded the VHDL International Best Ph.D. Dissertation Advisor Award in 1997.

12. I am a Fellow of the Institute of Electrical and Electronics Engineering ("IEEE"), which signifies the highest professional standing in my research and educational community.

13. Attached as Appendix C is a true and correct copy of my curriculum vitae and a list of my recent testifying experience.

14.   I have been retained on behalf of Petitioner and real party in interest, Branch Banking and Trust Company ("Petitioner" or "BB&T"), to offer opinions regarding the understanding of a person of ordinary skill in the art (discussed below) as it relates to the identified patent assigned to Maxim Integrated Products, Inc. ("Maxim"), as well as other references presented to me by counsel for Petitioner.

15.   I am being compensated at a rate of $450 per hour for my services, exclusive of any third-party expert service fees. My compensation does not depend on the outcome of this Covered Business Method Patent Review or concurrent litigation between Petitioner and Maxim in the U.S. District Court for the Western District of Pennsylvania.

II.   MATERIALS CONSIDERED

16.   In developing my opinions below relating to Maxim's '880 Patent, I have considered the following materials:

- United States Patent No. 5,949,880 (the "'880 Patent") (Ex. 1001);

- United States Patent No. 5,949,880 File History (Ex. 1002);

- United States Patent No. 4,839,504, filed on July 17, 1987 and issued on June 13, 1989, to Nakano ("Nakano") (Ex. 1003);

- United States Patent No. 5,221,838, filed on October 20, 1992 , and issued on June 22, 1993, to Gutman *et al.* ("Gutman") (Ex. 1004);

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