

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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MICROSOFT CORPORATION, MICROSOFT MOBILE INC., SAMSUNG  
ELECTRONICS AMERICA, INC. AND SAMSUNG ELECTRONICS CO. LTD.

Petitioners

v.

FASTVDO LLC

Patent Owner

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U.S. Patent No. 5,850,482

Issued: December 15, 1998

Application No.: 08/633,896

Filed: April 17, 1996

Title: Error Resilient Method And Apparatus For Entropy Coding

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**DECLARATION OF DR. ROBERT L. STEVENSON IN SUPPORT  
OF PETITIONERS' PETITION FOR INTER PARTES REVIEW OF  
CLAIMS 1-3, 5-6, 12-14, 16-17, AND 28 OF U.S. PATENT NO. 5,850,482**

MICROSOFT CORP. ET AL.  
EXHIBIT 1005

1. I, Dr. Robert L. Stevenson, declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

2. I have been hired by Klarquist Sparkman, LLP, counsel for Microsoft Mobile Inc. and Microsoft Corporation (“Microsoft”), and Samsung Electronics America, Inc. and Samsung Electronics Co. Ltd. (“Samsung,” collectively “Petitioners”) as an expert witness in the above-captioned proceeding (the “IPR”). I have been asked to provide my opinion regarding U.S. Patent No. 5,850,482 (“the 482 patent”).

## **I. BACKGROUND AND QUALIFICATIONS**

3. My Curriculum Vitae is attached to this Declaration as Exhibit A.

### **A. Educational Background**

4. I have earned a Bachelor's degree in Electrical Engineering from the University of Delaware and a Ph.D. degree in Electrical Engineering from Purdue University. My Ph.D. research was on communications and signal processing.

### **B. Professional History**

5. I am presently a Professor in the Department of Electrical Engineering and in the Department of Computer Science and Engineering at the University of

Notre Dame. I first joined the faculty at the University of Notre Dame as an Assistant Professor in the Department of Electrical Engineering in 1990. I was granted tenure and promoted to the rank of Associate Professor in August 1996. I attained the rank of Professor in the Department of Electrical Engineering in August 2002, and I continue to serve in that capacity. I have served concurrently as a Professor in the Department of Computer Science and Engineering at the University of Notre Dame since January 2003.

6. I spent the summer of 1992 at the Air Force Research Lab in Rome, New York and I spent the summer of 1993 at the Intel® Corporation in Hillsboro, Oregon. Several leading computing companies, including Intel®, Sun Microsystems®, and Apple® Computer have supported my research at Notre Dame. During the past 20 years, I have published over 150 technical papers related to the field of image processing and digital systems.

7. I am a member of the Institute of Electronics and Electrical Engineers, The International Society for Optical Engineering, and the Society for Imaging Science and Technology. I am a member of the academic honor societies Eta Kappa Nu, Tau Beta Pi, and Phi Kappa Phi.

8. For the past 20 years my work has focused on the design of techniques, hardware, and software for the processing of digital signals using digital computing devices. As an academic researcher I attempt to develop novel

ideas for systems, then publish and present those ideas to the technical community. My success as an academic is directly related to the insights and techniques which provide the basis for new generations of products. My early work on digital techniques for printing and image capture devices led to significant interaction with companies developing desktop computers products in the early 1990's as they tried to incorporate those ideas into their products.

9. My interaction with Apple's Imaging Group focused on various imaging devices such as digital cameras, scanners, and printers and how to best support those devices on desktop computers. At Intel, I worked in Intel's Architecture Lab at the time the MMX multimedia instructions were being incorporated into the Pentium processor. My work there dealt with developing video compression techniques for CD-ROM's and network communications that were well matched to the Pentium architecture. I also gave a series of talks on how advanced communication and video processing techniques could be better supported on the Pentium platform. Similarly, my interaction with Sun Microsystem's group examined how advanced signal processing techniques could be best implemented using Sun's new Visual Instruction Set on the Sparc architecture.

10. I have also received significant support for my research from several U.S. Department of Defense Agencies. The Air Force Research Laboratory has

funded my work to develop advanced parallel processing algorithms which exploited an ad-hoc network of mixed computers to achieve significant computational advantages over their previously implemented techniques. Other Department of Defense agencies have supported my work in image and video enhancement.

11. I have published 33 journal articles, written 9 book chapters, edited the proceedings of 15 conferences, and presented 109 papers at professional conferences.

12. I am an inventor of U.S. Patent No. 6,081,552, "Video Coding Using a Maximum *A Posteriori* Loop Filter," June 27, 2000.

13. If asked, I will testify regarding my qualifications, background and experience in the field of data compression, encoding and decoding.

14. I am being compensated at a rate of \$600 per hour for my study and testimony in this reexamination. I am also being reimbursed for reasonable and customary expenses associated with my work and testimony. My compensation is not contingent on the outcome of this Petition, the related litigation or the specifics of my testimony.

## II. STANDARDS

15. As part of my work in connection with this matter, I have studied the 482 patent, including the written description, figures, and claims. I have also

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