

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT TRIAL & APPEAL BOARD**

In re Patent of: Peter Dickenson
U.S. Patent No.: 6,738,799
Issue Date: May 18, 2004
Appl. No.: 10/452,156
Filing Date: June 2, 2003
Title: Methods and Apparatuses for File Synchronization and
Updating Using a Signature List

DECLARATION OF PROFESSOR TODD C. MOWRY, Ph.D.

I, Prof. Todd C. Mowry, Ph.D., declare as follows:

I. Background and Qualifications

(1.) My name is Todd Mowry. I am a Professor at Carnegie Mellon University in the Computer Science Department. I have studied and practiced in the field of computer science for over 20 years, and have been a professor of computer science since 1993.

(2.) I received my Doctor of Philosophy (Ph.D.) degree in the field of Electrical Engineering from Stanford University in 1994. I received my Masters of Science (M.S.) degree in Electrical Engineering from Stanford University and my Bachelor of Science (B.S.) degree in Electrical Engineering from the University of Virginia.

(3.) Upon receiving my Ph.D. degree, I joined the faculty of the University of Toronto in the Department of Electrical and Computer Engineering and the

Department of Computer Science as an Assistant Professor. I relocated and was promoted to the rank of Associate Professor (initially without tenure) at Carnegie Mellon University in 1997, was promoted to tenured Associate Professor in 2002, and I was promoted to the rank of full Professor in 2008. I was the Associate Department Head for Faculty of the CS Department from 2009-2010.

(4.) Since becoming a faculty member in 1993, I supervised the research of 11 Ph.D. dissertations in the field of computer science, and along with my graduate students, published over 60 technical publications in scientific journals or conferences in the field of computer science and 20 technical reports published at Carnegie Mellon University and the University of Toronto. In addition to Ph.D. dissertations, I have also supervised several graduate student's Master's theses.

(5.) As part of my research, I have developed new techniques for efficiently keeping replicas of data up-to-date, similar to the goal of U.S. Patent No. 6,738,799 ("the '799 patent"). For example, in my S3 project, I published a number of papers in top research conferences on keeping replicated data up-to-date in a client-server environment distributed across the Internet. An exemplary list of publications relevant to this topic, which also highlight my familiarity with the concept of keeping replicated data up-to-date in a client-server environment (*i.e.* the underlying concept of the '799 patent) is provided below:

- a. Amit Manjhi, Charles Garrod, Bruce M. Maggs, Todd C. Mowry, Anthony Tomasic. Holistic Query Transformations for Dynamic Web

Applications. In Proceedings of the 2009 IEEE 25th International Conference on Data Engineering (ICDE), March-April 2009.

- b. Charles Garrod, Amit Manjhi, Anastasia Ailamaki, Bruce Maggs, Todd Mowry, Christopher Olston, and Anthony Tomasic. Scalable Query Result Caching for Web Applications. In Proceedings of the 34th International Conference on Very Large Databases (VLDB), August 2008.
- c. Amit Manjhi, Phillip B. Gibbons, Anastassia Ailamaki, Charles Garrod, Bruce M. Maggs, Todd C. Mowry, Christopher Olston, Anthony Tomasic, and Haifeng Yu. Invalidation Clues for Database Scalability Services. In Proceedings of the 2007 IEEE 23rd International Conference on Data Engineering (ICDE), pages 316-325, April 2007.
- d. Amit Manjhi, Anastassia Ailamaki, Bruce M. Maggs, Todd C. Mowry, Christopher Olston, and Anthony Tomasic. Simultaneous Scalability and Security for Data-Intensive Web Applications. In Proceedings of the 2006 ACM SIGMOD International Conference on Management of Data, pages 241-252, June 2006.
- e. Christopher Olston, Amit Manjhi, Charles Garrod, Anastassia Ailamaki, Bruce M. Maggs, and Todd C. Mowry. A Scalability Service for Dynamic Web Applications. In Proceedings of the Second Biennial Conference on Innovative Data Systems Research (CIDR), pages 56-69, January 2005.

(6.) I am a member of several professional organizations including the Institute of Electrical and Electronics Engineers (IEEE) and the Association of Computing Machinery (ACM). I am the incoming Editor-in-Chief of ACM Transactions on Computer Systems (TOCS). I received a Sloan Research Fellowship and the TR35 Award from MIT's Technology Review.

(7.) I have served as a consultant for Intel Corporation, Silicon Graphics, Inc., SandCraft, Inc., and IBM.

(8.) A copy of my latest *curriculum vitae* (C.V.) is attached to this declaration as Appendix A.

II. Description of the Relevant Field and the Relevant Timeframe

(9.) I have carefully reviewed the '799 patent as well as the patents and applications referenced in the section of the '799 patent entitled "Related U.S. Application Data."

(10.) For convenience, all of the information that I considered in arriving at my opinions is listed in Appendix B. This includes Oracle's first petition for *inter partes* review against the '799 patent (IPR2013-00073), including the declaration of Prof. Grimshaw submitted therewith, the Patent Owner's preliminary response filed in that proceeding (Ex. 1009), and the Patent Office's decision instituting *inter partes* review based on Oracle's first petition (Ex. 1010).

(11.) Based on my review of these materials, I believe that the relevant field for purposes of the '799 patent is basic distributing computing or file systems, particularly file synchronization in such systems. I have been informed that the relevant timeframe is on or before May 2, 1999.

(12.) As described in Section I above, I have extensive experience in computer science. Based on my experience, I have a good understanding of the relevant field in the relevant timeframe.

III. The Person of Ordinary Skill in the Relevant Field in the Relevant Timeframe

(13.) I have been informed that “a person of ordinary skill in the relevant field” is a hypothetical person to whom an expert in the relevant field could assign a routine task with reasonable confidence that the task would be successfully carried out. I have been informed that the level of skill in the art is evidenced by prior art references. The prior art discussed herein demonstrates that a person of ordinary skill in the field, at the time the ‘799 patent was effectively filed, was aware of server polling mechanisms and techniques for replicating or synchronizing files between two computers.

(14.) Based on my experience, I have an understanding of the capabilities of a person of ordinary skill in the relevant field. I have supervised and directed many such persons over the course of my career. Further, I had those capabilities myself at the time the patent was filed.

IV. The ‘799 Patent

(15.) The ‘799 describes a way to synchronize files between two computers using an update file. According to the abstract of the patent, this is done by “[a] server generat[ing] an update file for transmission to a client that permits the client

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