IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA

SIGHTSOUND TECHNOLOGIES, LLC, Plaintiff, Counter-Defendant v. APPLE INC. Defendant, Counter-Plaintiff.	Civil Action No. 2:11-cv-01292-DWA Senior District Judge Donetta W. Ambrose

PLAINTIFF SIGHTSOUND TECHNOLOGIES, LLC'S, EXPERT REPORT
OF DR. J. DOUGLAS TYGAR REGARDING INFRINGEMENT

Confidential—Outside Attorney Eyes Only
Source Code
Information Subject to Protective Order

April 22, 2012
Date

Dr. Douglas J. Tygar

I. Introduction

1. This report gives the opinions, and their underlying bases and reasons, about which I may testify at trial on behalf of SightSound Technologies, LLC ("SightSound"). This report further includes information regarding my comparison of certain claims in the asserted patents to certain methods that were constructed, operated, practiced or used by Defendant Apple Inc. ("Apple"). I reserve the right to respond to assertions made by Defendant's expert witnesses or fact witnesses and to testify in rebuttal to evidence that Apple may present during trial.

2. I have been retained by the plaintiff SightSound Technologies, LLC ("SightSound"), to serve as an expert in this case. I expect to testify at trial regarding the matters set forth in this report if asked about these matters by the Court or the parties' attorneys.

3. I live in Berkeley, California.

4. I am a tenured, full Professor at the University of California, Berkeley ("UC Berkeley"), with a joint appointment in the Department of Electrical Engineering and Computer Science (Computer Science Division) and the School of Information. Prior to joining UC Berkeley in 1998, I was a tenured faculty member in the Computer Science Department at Carnegie Mellon University, where I was initially appointed as an assistant professor in 1986.

5. I am an expert in software engineering, computer security, electronic commerce, and cryptography. Since 1986, I have regularly taught courses in software engineering, electronic commerce, and computer security, at the undergraduate, Master's, and Ph.D. level at both UC Berkeley and Carnegie Mellon University.

6. I have also co-written three books that address networking technology and security for networking technology, and one of those books has been translated into Japanese. I have helped design the DETER networking testbed supported by the U.S. National Science

Foundation and the U.S. Department of Homeland Security that is a widely used framework for testing networking. Further, I led the team that designed the SWOON overlay network used to test mobile networking in that environment.

7. I helped design the security standards for the U.S. Postal Service's Information Based Indicia Program (cryptographic postal indicia) which gives postage payment information for physical mail. I also helped design the NetBill system at CMU which was an early electronic payment system that was licensed by CyberCash, and was influential in setting standards for on electronic payment.

8. Among my awards are the National Science Foundation Presidential Young Investigator Award and the Kyoto Fellowship.

9. I was the co-inventor of a major electronic commerce payment system called NetBill which has been patented, implemented, and licensed to a commercial company CyberCash. I am the UC Berkeley lead of the U.S. National Science Foundation Science and Technology Center TRUST, which studies issues associated with networking and security. The U.S. State Department chose my project at UC Berkeley to examine the security and networking issues, including load-balancing issues, for communications protocols and software to support Internet freedom and allow users to bypass national firewalls in countries such as China, Iran, and Syria.

10. I am also affiliated with the Intel Science and Technology Center SCRUB, which focuses on issues related to networking and security.

11. My complete and current *curriculum vitae* is attached to this report as Exhibit A. The cases for which I have testified as an expert witness at trial or by deposition in the past four years are listed and described in Exhibit B.

12. I am being compensated at my normal hourly rate of $500 per hour plus expenses for my work on this matter.

II. Summary Of Opinions

13. I understand that the patents in this case are U.S. Patent No. 5,191,573 and 5,191,573 C1 (collectively, "the '573 patent") and U.S. Patent No. 5,966,440 and 5,966,440 C1 (collectively, "the '440 patent"). I refer to the '573 and '440 patents collectively in my report as the asserted patents.

14. I have been informed that SightSound contends that the asserted patents are infringed by Apple's iTunes Store and the methods Apple employs and are used by Apple and Apple's customers in the sale of songs, movies, television shows, music videos and albums to iTunes customers.

15. As discussed more fully below, it is my opinion that Apple directly infringes and induces infringement of the following claims of the asserted patents

- Claims 1, 2, 4 and 5 of the '573 patent, and
- Claims 1, 11, 64 and 95 of the '440 patent.

16. If called as an expert witness, I expect to provide testimony concerning the infringement of these asserted claims.

17. My opinions are based on my general knowledge and experience, particularly my expertise in the fields of Internet architecture, media delivery systems, eCommerce systems, credit card processing technology, engineering development practices, software development and software engineering. My opinions are further based on documents and information that I have considered during the preparation of this report, such as the asserted patents and related prosecution and reexamination histories, the iTunes Apple TV, desktop and mobile clients, the

iTunes Store (which is publicly available via the iTunes clients), transactions processed through the iTunes Store (Exs. __–__), the claim construction orders in this litigation and in *SightSound.com, Inc. v. N2K, Inc.*, Case No. Civ. A. 98-CV-118 ("*N2K*"), *reprinted at* 185 F. Supp. 2d 445 (W.D. Pa. 2002), Apple's 30(b)(6) deposition transcripts; the transcript of Payam Mirrashidi's deposition; documents produced by Apple and portions of Apple's source code for the iTunes Store and the iTunes clients. A list of all the materials that I considered in forming my opinions is included in Exhibit C.

18. I also worked with Dr. Sarah Harris to assist me in the review of Apple's source code. Dr. Harris performed an initial review of Apple's source code, and I consulted with her on her findings, and then personally reviewed relevant portions of the code when necessary. Based on my own review after my conversations with Dr. Harris and the printouts, it is my opinion that the Apple source code confirms the opinions provided in this report.

III. The Asserted Patents

19. I expect to testify at trial regarding the background of the technology to which the '573 and '440 patents relate and the problems they solved. This testimony will be based on my review of the asserted patents and their prosecution histories and my own specialized knowledge of this field of technology, which I acquired through my education and professional experience.

20. On March 2, 1993, the United States Patent and Trademark Office ("PTO") issued United States Patent No. 5,191,573 to Mr. Hair. The '573 patent claims priority to an application, Serial No. 206,497, that was filed on June 13, 1988. The '573 patent underwent reexamination, and the PTO confirmed the validity of all six claims of the '573 patent by issuing a reexamination certificate, U.S. Patent No 5,191,573 C1, on November 30, 2010. No claims from the '573 patent were amended or cancelled during reexamination.

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.