

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Intel Corporation
Petitioner

v.

Qualcomm Incorporated
Patent Owner

Case IPR2018-01334¹
Patent 8,838,949

DECLARATION OF DR. MARTIN RINARD

I, Martin Rinard, do hereby declare:

1. I am making this declaration at the request of Qualcomm Incorporated (“Qualcomm” or “Patent Owner”) in the matter of the *Inter Partes* Review of U.S. Patent No. 8,838,949 (“the ’949 patent”).

¹ IPR2018-01335 and IPR2018-01336 have been consolidated with the instant proceeding.

2. I am being compensated for my work in this matter at my standard hourly rate of \$850 for consulting services. My compensation in no way depends on the outcome of this proceeding.

3. In preparing this Declaration, I considered the following materials:

- a. The '949 patent (Ex. 1001²) and its file history;
- b. Petitions for *Inter Partes* Review of U.S. Patent No. 8,838,949 filed in IPR2018-01334, -01335, -01336 (Paper 3 in each proceeding);
- c. The Declarations of Dr. Bill Lin (Exs. 1002, 1020, 1021);
- d. U.S. Patent Pub. No. 2006/0288019 to Bauer (Ex. 1009) (“Bauer”);
- e. U.S. Patent No. 7,356,680 to Svensson (Ex. 1010) (“Svensson”);
- f. Translation of Korean Patent Application Pub. No. 2002 0036354 A to Kim (Ex. 1012) (“Kim”);
- g. U.S. Patent Pub. No. 2007/0140199 to Zhao (Ex. 1013) (“Zhao”);
- h. U.S. Patent No. 7,203,829 to Lim (Ex. 1014) (“Lim”);
- i. The Board’s Institution Decisions in IPR2018-01334, -01335, and -01336 (Paper 10 in each proceeding);
- j. Lin Deposition Transcript (Ex. 2001);
- k. U.S. Provisional Patent Application No. 61/324,122 (Ex. 2002);
- l. *Qualcomm v. Apple*, Case No. 3:17-CV-1375-DMS-MDD, S.D. Cal., Transcript of Jury Trial:

² All citations to Petitioner’s exhibits herein refer to the exhibits listed in Petitioner’s Consolidated Exhibit List (Paper 14), as filed in IPR2018-01334.

- i. Day 2, Volumes 2-A and 2-B (Exs. 2003 and 2004, respectively),
- ii. Day 6, Volume 6-B (Ex. 2005),
- iii. Day 7, Volume 7-A (Ex. 2006); and
- m. Any other materials referenced herein.

I. Professional Background

4. Full descriptions of my educational background, professional achievements, qualifications, and publications are set forth more fully in my curriculum vitae, which is attached to this report as Appendix A. Here, I provide a summary of my background and qualifications.

5. I am currently a tenured Professor in the Department of Electrical Engineering and Computer Science and a member of the Computer Science and Artificial Intelligence Laboratory at the Massachusetts Institute of Technology (MIT). I hold an Sc.B. in Computer Science from Brown University and a Ph.D. in Computer Science from Stanford University. Before coming to MIT, I was an Assistant Professor at the University of California, Santa Barbara (UCSB). As a faculty member at MIT, I teach courses and perform research in a range of fields related to computer science. I have published over 175 papers in refereed workshops, conferences, and journals in the areas of programming languages, program analysis, distributed computing, parallel computing, compilers, computer security, mobile computing, and other areas of computer science. During my time

at MIT and UCSB, I have taught both undergraduate and graduate computer science courses on a variety of topics including computer systems, data structures and algorithms, compilers, operating systems, software engineering, program analysis, and programming languages.

6. I have received, among other awards, an Alfred P. Sloan Research Fellowship and a National Science Foundation Early Career Development Award. I have received multiple Best or Distinguished paper awards at top publication venues. In 2009 I was recognized as an ACM Fellow by the Association for Computing Machinery (ACM). According to the ACM, “The ACM Fellows serve as distinguished colleagues to whom the ACM and its members look for guidance and leadership as the world of information technology evolves.”

7. My research has been supported by many entities, including the United States National Science Foundation, the United States Department of Defense, including the Defense Advanced Research Projects Agency, the government of Singapore, the NASA Jet Propulsion Laboratory (JPL), as well as private entities such as SUN Microsystems, Microsoft, Samsung, and IBM. I have been a Principal Investigator or co-Principal Investigator on research grants and contracts totaling over \$50 million in research funding from a variety of government and private sources.

8. Before starting graduate school, I worked as a software engineer at two startup companies, Ikan Systems and Polygen Corporation. At Ikan Systems my responsibilities involved user interface design and implementation as well as programming language design and implementation. At Polygen Corporation my responsibilities involved a variety of tasks, including developing software to work with computerized representations of molecules and user interface implementation.

9. My Ph.D. thesis at Stanford was on the design, implementation, and evaluation of the Jade programming language. Jade programs executed, without modification, on a range of parallel computing platforms, including shared-memory multiprocessors and groups of computers that communicate using the Internet or specialized high-performance computing networks. Jade provided a unified model of data access in which Jade tasks specified the data objects that they accessed, and the Jade implementation was responsible for locating these objects at execution time. When a Jade task executed on a given processor, it may have needed to access objects stored both locally in the memory of the processor and remotely in the memories of other processors or computers participating in the computation. It was the responsibility of the Jade implementation to locate these objects in both local and remote memories and generate the communication required to implement the abstraction of a single unified object store. The Jade implementation therefore dealt extensively with communication protocols and

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.