

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

SANDVINE CORPORATION and SANDVINE INCORPORATED ULC,

PETITIONERS,

V.

PACKET INTELLIGENCE, LLC,

PATENT OWNER.

---

Case No. IPR2017-00450

U.S. Patent No. 6,771,646

---

**DECLARATION OF KEVIN C. ALMEROOTH, PH.D.**

## TABLE OF CONTENTS

I.	INTRODUCTION.....	1
II.	BACKGROUND AND QUALIFICATIONS.....	1
III.	COMPENSATION.....	9
IV.	MATERIALS REVIEWED .....	9
V.	CLAIM CONSTRUCTION .....	10
A.	Person of Ordinary Skill in the Art .....	10
B.	“Conversational Flow” .....	11
VI.	OVERVIEW OF BASIC NETWORK PRINCIPLES .....	14
A.	The OSI Model.....	22
B.	Data Encapsulation.....	24
C.	Prior Art Network Monitors .....	27
VII.	OVERVIEW OF ENGEL .....	29
A.	Dialog in Engel.....	29
B.	Engel’s “State” Disclosure .....	35
VIII.	OPINIONS REGARDING APPLICATION LEVEL DIALOGS AND APPLICATION-SPECIFIC SERVER STATISTICS .....	37
IX.	CONCLUSION .....	40

I, Kevin C. Almeroth, declare as follows:

## **I. INTRODUCTION**

1. My name is Kevin C. Almeroth. I have been retained by Skiermont Derby LLP, on behalf of Packet Intelligence LLC, and am submitting this declaration to offer my independent expert opinion concerning certain issues raised in the present Petition for *Inter Partes* Review (“Petition”), as well as similar Petitions submitted by Petitioners on related patents. Specifically, Petitioners filed seven (7) IPR Petitions: (1) IPR2017-00450 concerning U.S. Patent No. 6,771,646, (2) IPR2017-00451 concerning U.S. Patent No. 6,839,751, (3) IPR2017-00629 concerning U.S. Patent No. 6,954,789, (4) IPR2017-00630 concerning U.S. Patent No. 6,954,789, (5) IPR2017-00769 concerning U.S. Patent No. 6,651,099, (6) IPR2017-00862 concerning U.S. Patent No. 6,665,725, and (7) IPR2017-00863 concerning U.S. Patent No. 6,665,725 (collectively, the “Asserted IPRs” and “Challenged Patents”, respectively).

## **II. BACKGROUND AND QUALIFICATIONS**

2. I am currently a Professor in the Department of Computer Science at the University of California, Santa Barbara (UCSB). I also hold an appointment and am a founding member of the Computer Engineering (CE) Program. I am a founding member of the Media Arts and Technology (MAT) Program, and the Technology Management Program (TMP). I also served as the Associate Director

of the Center for Information Technology and Society (CITS) from 1999 to 2012. I have been a faculty member at UCSB since July 1997.

3. I hold three degrees from the Georgia Institute of Technology: (1) a Bachelor of Science degree in Information and Computer Science (with minors in Economics, Technical Communication, and American Literature) earned in June, 1992; (2) a Master of Science degree in Computer Science (with specialization in Networking and Systems) earned in June, 1994; and (3) a Doctor of Philosophy (Ph.D.) degree in Computer Science (Dissertation Title: Networking and System Support for the Efficient, Scalable Delivery of Services in Interactive Multimedia System, minor in Telecommunications Public Policy) earned in June, 1997.

4. In 1994, I began to research issues associated with the development and deployment of a one-to-many communication facility (called “multicast”) in the Internet (first deployed as the Multicast Backbone, a virtual overlay network supporting one-to-many communication). Some of my more recent research endeavors have looked at how to use the scalability offered by multicast to provide streaming media support for complex applications like distance learning, distributed collaboration, distributed games, and large-scale wireless communication. Multicast has also been used as the delivery mechanism in systems that perform local filtering (*i.e.*, sending the same content to a large number of users and allowing them to filter locally content in which they are not

interested). As part of this research, I have investigated how these applications are utilized by using network monitoring tools and packet traces to determine when users are joined to multicast sessions.

5. Starting in 1997, I worked on a project to integrate the streaming media capabilities of the Internet together with the interactivity of the web. I developed a project called the Interactive Multimedia Jukebox (IMJ). Users would visit a web page and select content to view. The content would then be scheduled on one of a number of channels, including delivery to students in Georgia Tech dorms delivered via the campus cable plant. The content of each channel was delivered using multicast communication.

6. In the IMJ, the number of channels varied depending on the capabilities of the server including the available bandwidth of its connection to the Internet. If one of the channels was idle, the requesting user would be able to watch their selection immediately. If all channels were streaming previously selected content, the user's selection would be queued on the channel with the shortest wait time. In the meantime, the user would see what content was currently playing on other channels, and because of the use of multicast, would be able to join one of the existing channels and watch the content at the point it was currently being transmitted.

# 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.