UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.

Petitioner

v.

Fintiv, Inc.

Patent Owner

Case No. IPR2020-00019 U.S. Patent No. 8,843,125

DECLARATION OF DR. CLIFFORD NEUMAN

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I, Dr. Clifford Neuman., declare as follows:

I. INTRODUCTION

1. I have been retained by Apple Inc. ("Apple") as an independent expert consultant in this proceeding before the United States Patent and Trademark Office ("PTO"). I am not an employee of Apple or any affiliate or subsidiary of Apple.

2. I have been asked to consider whether certain references teach or suggest the features recited in certain claims of U.S. Patent No. 8,843,125, which I refer to herein as the '125 patent.

3. My opinions and the bases for my opinions are set forth below.

4. I am being compensated at my ordinary and customary consulting rate (\$650 per hour) for my work, plus reimbursement for any reasonable expenses. My compensation is based solely on the amount of time that I devote to activity related to this case and is in no way contingent on the nature of my findings, the presentation of my findings in testimony, or the outcome of this or any other proceeding. I have no other financial interest in this proceeding.

II. EDUCATION BACKGROUND, PROFESSIONAL EXPERIENCE, AND OTHER QUALIFICATIONS

5. I received a Ph.D. in Computer Science in 1992 and an M.S. in Computer Science in 1988 from the University of Washington, and a B.S. in Computer Science and Engineering in 1985 from the Massachusetts Institute of Technology. 6. Since receiving my doctorate, I have devoted my professional career to the research, design, development, study, and teaching of numerous aspects of computer systems. I have studied, taught, practiced, and researched in the field of computer science for over thirty years.

7. I am currently an Associate Professor of Computer Science Practice in the Department of Computer Science at the University of Southern California (USC), where I have taught since 1992. I am also the Director of the Center for Computer Systems Security and Associate Director of the Informatics Program at USC and a Research Scientist at USC's Information Sciences Institute.

8. I teach and have taught numerous courses at USC, including advanced courses in computer science for upper-level undergraduates and graduate students, on topics such as distributed systems and computer and network security.

9. As part of my research at USC, I have worked in a number of areas, including research in distributed computer systems with emphasis on scalability and computer security, especially in the areas of authentication, authorization, policy, electronic commerce, and protection of cyber-physical systems and critical infrastructure such as the power grid. I have worked on the design and development of scalable information, security, and computing infrastructure for the Internet. I am also the principal designer of the Kerberos system, an encryption-based authentication system used among other things as the primary authentication

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