

DECLARATION OF JAMES L. OLIVIER

1. My name is James L. Olivier. I am over the age of twenty-one (21) years, of sound mind and capable of making the statements set forth in this Declaration. I am competent to testify to matters set forth herein. All the facts and statements contained herein are within my personal knowledge and they are, in all things, true and correct.

Education and Experience

2. My experience and education are detailed in my curriculum vitae, which is attached as *Appendix 1* to this declaration.

3. I earned a Bachelor's of Science Degree in Electrical Engineering, a Master's Degree in Electrical Engineering, and a Ph.D. degree in Electrical Engineering, all from The Ohio State University. I received my Bachelor's Degree in Electrical Engineering from The Ohio State University in 1983. I received my Master's Degree in Electrical Engineering from The Ohio State University in 1985. My main area of study was computer design and software engineering. I received my Ph.D. in Electrical Engineering along with a minor in Computer Science, Microelectronics, Semiconductor Fabrication, and Discrete Mathematics from The Ohio State University in 1988.

4. My area of expertise is telecommunications and data communications.

5. I have been working in the field of coding and encryption theory since my academic career began. I have been associated and actively involved with the coding and encryption theory and its application to data communications as a developer and system designer for the last 25 years. A more detailed account of my work experience and other qualifications is listed in my Curriculum Vitae attached as Appendix 1 to this report. Cases in which I have testified as an expert either at a trial, hearing, or deposition during the previous five years are listed in Appendix 2 to this report

6. I personally have studied, conducted research and worked in the field of coding and encryption theory since my graduated school days at the Ohio State University. My Ph.D. dissertation was based on coding theory and was titled “Concurrent Error Detection in Arithmetic Processors using GAN Codes”, in which I developed new codes for use in Arithmetic Processors such as microprocessors. In order to pursue this research, I took a number of advanced classes in both coding theory and in the advanced mathematics used in coding theory which is known as Discrete Mathematics. I eventually received a minor in Discrete Mathematics along with my Ph.D. studies. I have published papers on

coding theory and continued my work in coding theory for arithmetic processors while at General Motor Research Laboratory.

7. I have been in the development of communication equipment since my work at AT&T Bell Laboratory. Later at DSC, I was the Senior Manager of the ATM systems engineering group developing ATM packet switches for Motorola's Cellular Switches. At Samsung, I was a Principal Engineer for wireless broadband services over UMTS. At Marconi I worked on a number of systems for the access market, such as DSL modems, and DSLAMs. At Navini Networks I was responsible for layer 2 and layers 3 network protocols for their CDMA broadband modems. All of these systems make use of coding theory to improve the reliability and security of data transfers.

8. I am familiar with the knowledge and capabilities of one of ordinary skill in the art in the area of secure transactions. Specifically, I am familiar with the understandings of one of ordinary skill in the art prior to and during the period in which U.S. Patent No. 6,105,013 (hereinafter "the '013 Patent was allegedly invented, and my testimony herein when referring to one of ordinary skill, and what was known in the art, refers to that period.

Materials Considered

9. I considered the following materials when determining the opinions expressed in this Declaration¹:

U.S. Patent No. 6,105,013 (filed Mar. 10, 1998) (issued Aug. 15, 2000) (“’013 Patent”)
PETER L. HAWKES ET AL., INTEGRATED CIRCUIT CARDS, TAGS AND TOKENS, NEW TECHNOLOGY AND APPLICATIONS, (Peter L. Hawkes et al. eds., BSP Professional Books 1990) (“Hawkes”)
European Pat. Pub. 0588339 A2 (“Ishiguro”)
U.S. Patent No. 4,575,621 (filed Mar. 7, 1984) (issued Mar. 11, 1986) (“Dreifus”)
U.S. Patent No. 4,906,828 (filed May 31, 1988) (issued Mar. 6, 1990) (“Halpern”)
Don Lancaster, <i>BASIC Stamp Microcontroller</i> , Hardware Hacker, Selected Reprints, Vol. IV, (July 1993) (“Lancaster”)
Prosecution history for ‘013 Patent
Smart credit cards: the answer to cashless shopping IEEE Spectrum FEBRUARY 1984, S.B. Weinstein, pages 45 and 47

1 Documents not provided in connection with the IPR Petition are attached as Appendix 2.

The very smart card: a plastic pocket bank; IEEE SPECTRUM OCTOBER 1988, page 35, “To top things off, the card also serves as a clock, calculator, and notepad”.

RANDALL HYDE, THE ART OF ASSEMBLY LANGUAGE PROGRAMMING, PAGE 241 (2001)

Compensation

10. I am being compensated at a rate of 495.00 by the Petitioner for my assistance with its *Inter Partes* Review (IPR) and, specifically, for my time spent reviewing documents in association with the IPR and in preparing my testimony. Additionally, I am not, and have never been, an employee of USAA Federal Savings Bank, and my compensation is not dependent upon the outcome of this proceeding.

Technology Background: Smartcard Technology in the 1980s

11. SmartCards have been used to generate secure transactions since at least the mid-1980s. Smartcards are the size and shape of a typical credit card, and contains a programmable microprocessor embedded within a plastic card along with nonvolatile memory for securing transactions. Such transactions are point of

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