

# **EXHIBIT 1002**

**TO PETITIONER GOOGLE INC.'S  
PETITION FOR COVERED BUSINESS  
METHOD REVIEW OF  
U.S. PATENT NO. 8,118,221**

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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GOOGLE INC.  
Petitioner

v.

SMARTFLASH LLC  
Patent Owner

U.S. Patent No. 8,118,221

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Covered Business Method Review Case No. Unassigned

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**DECLARATION OF DR. JUSTIN DOUGLAS TYGAR**

I, Dr. Justin Douglas Tygar, declare as follows:

1. I have been retained as an expert witness on behalf of Google Inc. (“Google” or “petitioner”) in connection with the instant Covered Business Method (“CBM”) review petition.
2. I am being compensated for my time in connection with this CBM review at my standard consulting rate, which is \$500 per hour up to a maximum of \$5,000 per day. My compensation is not dependent on the substance of my opinions, my testimony, or the outcome of this CBM review.
3. I understand that the petition for CBM review involves U.S. Patent No. 8,118,221 (“the ’221 patent”), Ex. 1001.<sup>1</sup>
4. I have reviewed and am familiar with the ’221 patent, including claim 3 (the “challenged claim”). I have reviewed and am familiar with six patents related to the ’221 patent: U.S. Patent Nos. 7,334,720, 7,942,317, 8,033,458, 8,061,598, 8,336,772, and 8,794,516. I have reviewed and am familiar with the file histories for the ’221 patent and the six related patents.
5. I am familiar with the general state of the technology at issue in the ’221 patent as of October 25, 1999, its purported priority date.

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<sup>1</sup> All references to “Ex. \_\_\_” in this declaration refer to the Google Exhibits concurrently filed with Google’s CBM petition.

6. In preparing this declaration, I have considered each of the documents cited herein. I have also relied on my experience in the relevant art in connection with forming my opinions.

## **I. QUALIFICATIONS**

7. Since 1998, I have been a Full Professor at the University of California, Berkeley. I hold a professor position in two departments at U.C. Berkeley: the Department of Electrical Engineering and Computer Sciences (Computer Sciences Division) and the School of Information. Before joining U.C. Berkeley, I was a tenured professor at Carnegie Mellon University in Computer Science, where I had a faculty appointment since 1986. I received my Ph.D. in Computer Science from Harvard University in 1986. I have extensive research, teaching, and industry experience in the areas of computer security and electronic commerce, with a special research interest in digital rights management as it relates to those areas.

8. I have helped build a number of security and electronic commerce systems. Together with my colleague at Carnegie Mellon, Marvin Sirbu, I developed Netbill, a patented electronic payment system that was licensed to CyberCash (now part of Verisign). For the U.S. Postal Service, I designed the two dimensional “Information Based Indicia” postage indicia that have now become a widely used standard. Together with my graduate students, I

designed the architecture and a foundational operating system used on secure coprocessors, Dyad. Together with my graduate students, I designed Micro-Tesla, a light-weight cryptographic architecture that ultimately became a standard of the Internet Engineering Task Force and is widely used in sensor webs.

9. I served as chair of the Defense Department's ISAT Study Group on Security with Privacy and was a founding board member of the Association for Computing Machinery's Special Interest Group on Electronic Commerce.
10. I have written three books, including *Secure Broadcast Communication in Wired and Wireless Networks* (with Adrian Perrig), which has become a standard reference. My fourth book, *Adversarial Machine Learning*, is scheduled to be published by Cambridge University Press in 2015.
11. I have been an active researcher in the fields of computer security and electronic commerce continuously since 1982.
12. My complete *curriculum vitae* is submitted as Google Exhibit 1003.
13. My findings explained in this declaration are based on my years of education, research, and industry experience in computer security and e-commerce technologies, including as applied to digital rights management.

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