

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF VIRGINIA  
RICHMOND DIVISION

THE TRUSTEES OF COLUMBIA  
UNIVERSITY IN THE CITY OF NEW  
YORK,

*Plaintiff*

v.

SYMANTEC CORPORATION,

*Defendant*

Civil Action No. 3:13-cv-00808-JRS

**CONTAINS MATERIALS  
DESIGNATED HIGHLY  
CONFIDENTIAL OUTSIDE  
COUNSEL ONLY**

**EXPERT REPORT OF DR. TRENT JAEGER REGARDING INVALIDITY OF U.S.  
PATENT NOS. 7,487,544 & 7,979,907**

	MIMESweeper Publications
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### III. BASIS FOR OPINIONS

#### A. Qualifications

10. My experience and education are detailed in my curriculum vita, which is attached as Appendix 2 to this report.

11. I am currently a Professor in the Department of Computer Science and Engineering at The Pennsylvania State University. I am Co-Director of the Systems and Internet Infrastructure Security (SIIS) Lab in the Department of Computer Science and Engineering. As the name indicates, the SIIS Lab focuses on computer security research. I am also Chair of the Association of Computing Machinery's (ACM's) Special Interest Group on Security, Audit, and Control (SIGSAC). SIGSAC is among the largest organizations of computer security research in the world.

12. I received my B.S. in Chemical Engineering from California State Polytechnic University, Pomona. I received my M.S.E. in Computer Science from the University of Michigan in 1993. Subsequently, in 1997, I received a Ph.D. in Computer Science and Engineering from the University of Michigan, Ann Arbor. My thesis research was on the development of security mechanisms to control the execution of downloaded executables. A downloaded executable is a computer program that is sent from one computer to another, as email attachments are. My paper entitled, "Support for the File System Security Requirements of Computational E-Mail Systems" was published in the Proceedings of the 2nd ACM Conference on Computer and Communications Security in 1994. This paper examined the security challenges in controlling the executables delivered as email attachments.

13. In addition, I have been working in the software field for over 25 years and in computer and network security for over 20 years. From 1986 to 1991, I worked for Electronic

Data Systems in its Artificial Intelligence Services group, where I worked on various projects that leveraged artificial intelligence (AI) theory and techniques. At the University of Michigan, I also took several courses in AI, including a course devoted to machine learning. I passed the AI qualifying exam.

14. After pursuing research on applying AI techniques to the design of software processes, I switched focus to computer and network security for my thesis work. After graduating from the University of Michigan, I continued working in the area of computer and network security at IBM Research between 1996 and 2005. In 2005, I moved to The Pennsylvania State University, where my research focus has been computer and network security. I have published over 100 refereed conference and journal papers related to computer and network security. I have authored the book *Operating Systems Security*, which examines how operating system designs control the executables that they run. This book has been used in computer security courses in universities around the world. I have developed and taught several classes on computer security, for graduate and undergraduate students.

**B. Materials Considered**

15. As part of my preparation for writing this report, I reviewed the materials listed in Appendix 1.

**C. Level of Ordinary Skill in the Art**

16. I understand that a person having ordinary skill in the art is a hypothetical person who analyzes the prior art without the benefit of hindsight. I further understand that a person of ordinary skill in the art is presumed to be one who thinks along the lines of conventional wisdom in the art and is not one who undertakes to innovate, whether by extraordinary insights or by patient and often expensive systematic research. I understand a person of ordinary skill is also a person of ordinary creativity, not an automaton.

17. I understand that the hypothetical person of ordinary skill is presumed to have knowledge of all references that are sufficiently related to one another and to the pertinent art, and to have knowledge of all arts reasonably pertinent to the particular problem that the claimed invention addresses.

18. In my opinion, a person of ordinary skill in the art at the time of the alleged invention would be a person with a Master's degree in computer science, computer engineering, or a similar field, or a Bachelor's degree in computer science, computer engineering, or a similar field, with approximately two years of industry experience relating to computer security. Additional graduate education might substitute for experience, while significant experience in the field of computer programming and computer security might substitute for formal education.

19. I understand that Columbia contends a person of ordinary skill in the art is a person with an undergraduate degree in computer science or mathematics, and one to two years of experience in the field of computer security. [Declaration of Professor Douglas C. Szajda (Dkt. No. 106-1) ¶ 21] My opinions discussed below would remain the same under either definition of a person of ordinary skill.

20. I meet the criteria I describe above, as well as the criteria proposed by Columbia, and consider myself a person with at least ordinary skill in the art pertaining to the '544 and '907 patents. I would have been such a person at the time of alleged invention of the '544 and '907 patents.

#### IV. LEGAL STANDARDS

21. In this section I describe my understanding of certain legal standards. I have been informed of these legal standards by Symantec's attorneys. I am not an attorney and I am relying only on instructions from Symantec's attorneys for these legal standards.

  
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Dr. Trent Jaeger

10/17/2014  
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Date