

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA**

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UNITED TO PROTECT DEMOCRACY et al.)	
)	
Plaintiffs,)	
v.)	Civil No. 17-02016 (RC)
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)	
PRESIDENTIAL ADVISORY COMMISSION ON ELECTION INTEGRITY et al.)	
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)	
Defendants.)	
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DECLARATION OF BRUCE SCHNEIER

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DECLARATION OF BRUCE SCHNEIER

I, Bruce Schneier, declare as follows:

1. I am a security technologist with expertise in how complex data systems can be secured against, or vulnerable to, hacking or other security breaches.
2. I have over 30 years of experience studying these issues as a scholar, engineer, consultant, writer, and public commentator.
3. I currently serve as Chief Technology Officer to IBM Resilient in Cambridge, MA. I am also currently a Lecturer at the John F. Kennedy School of Government at Harvard University, a Research Fellow in the Science, Technology, and Public Policy program at the Belfer Center for Science and International Affairs at the Kennedy School, and a Fellow in the Berkman Klein Center for Internet and Society at Harvard University. I currently serve as a board member for the Electronic Frontier Foundation, Access Now, and the Tor Project. I am also on the Advisory Board of the Electronic Privacy Information Center and VerifiedVoting.org.
4. I have authored or co-authored 14 books focusing on issues relating to cybersecurity and cryptology, including, most recently, *Data and Goliath: The Hidden Battles to Capture Your Data and Control Your World*. I have written hundreds of articles in scholarly and popular publications on these issues. I have also testified numerous times before the US Congress and national legislative bodies in other countries on issues relating to data security.
5. I publish a blog, Schneier on Security, and a related electronic newsletter, Crypto-Gram, that focus on issues relating to data security. They are regularly read by over 250,000 people.
6. I received a Bachelor of Science from University of Rochester in 1984. In 1986, I earned my Masters in Science in Computer Science from American University.
7. My CV is attached hereto as Exhibit A.
8. I am aware that on June 28, 2017, the Presidential Advisory Commission on Election Integrity sent letters to state election officials around the country seeking voter registration data (“the June 28 letters”). It is my understanding that the letter asked those officials to provide, to the extent they were “publicly available” under state law, “the full first and last names of all registrants, middle names or initials if available, addresses, dates of birth, political party (if recorded in your state), last four digits of social security number if available, voter history (elections voted in) from 2006 onward, active/inactive status, cancelled status, information regarding any felony convictions, information regarding voter registration in another state, information regarding military status, and overseas citizen information.”
9. It is my opinion that any effort to collect records for millions or hundreds of millions of voters along the lines described in the Commission’s June 28 letters would create very

serious security concerns. The magnitude and probability of any harm flowing from the collection of that data would depend in significant part on front-end decisions regarding the transmission, storage, and maintenance of that data.

10. Assembling a national database of voter registration data creates very serious security risks. These risks take a number of forms. Criminals seeking to engage in identity theft may target such a significant aggregation of data involving personal information, including even partial Social Security Number information. Any number of actors, including nation-states, may seek the information to interfere with future elections. They could do this, for example, by examining voter registration patterns to plan hacking attacks against individual registration databases or voting systems. They might also leak falsified or altered records obtained from the database in order to manufacture uncertainty or lack of confidence in election systems—for example, by purporting to show that ineligible voters are participating in elections or that identifiable individuals are voting multiple times. Foreign intelligence services may also seek the data to further their interests in maintaining large databases of personal information on Americans for counterintelligence or espionage purposes.
11. The fact that the underlying data exists in some “publicly available” form does not mitigate these harms. The efficiency of accessing one database with millions or hundreds of millions of voter records differs by orders of magnitude from any existing channels to access the underlying data in a piecemeal fashion.
12. Pointing out these data risks does not mean that any effort to collect this information is equally vulnerable to these attacks. To the contrary, the systems in place to manage the data will carry tremendous significance in assessing the nature and extent of the risks inherent in assembling such a database.
13. If asked to assess the risks posed by an effort to collect the data described in the Commission’s June 28 letters, there are several factors I would assess. First, I would assess the system in place for states to transmit the data to the Commission. This would include the transmission protocols and systems, as well as the Commission’s intake procedures. Second, I would assess the infrastructure in place for storing the information. This includes how the database is configured, the underlying IT infrastructure for the database, access control procedures, and any encryption measures. Risks here are not just confidentiality, but integrity as well. Third, I would assess the protocols in place for accessing and using the information by members of the Commission, its staff, or others who may be granted access. This includes auditing and logging. Fourth, I would assess the protocols in place for sharing or cross-referencing the data with other actors within or outside the federal government.
14. The questions outlined above represent the kinds of considerations that most security technologists or data security experts would deem significant in assessing the risks associated with an effort to collect the data described in the June 28 letters. Different experts will surely approach those considerations in distinct ways and may reach different conclusions about the security risks posed by any particular approach. Nonetheless, without information setting forth the Commission’s approach to the questions outlined

above, members of the public are not equipped to understand or assess the extent to which the Commission's data collection efforts put the public at risk.

Under penalty of perjury, I declare that the foregoing is true and correct to the best of my knowledge and belief.

A handwritten signature in black ink, appearing to read "Bruce Schneier", is written over a horizontal line.

Bruce Schneier

Executed this 4th day of October, 2017

Exhibit A

Bruce Schneier

Contact: schneier@schneier.com

Background

Bruce Schneier is an internationally renowned security technologist, called a security guru by the *Economist*. He is the author of 14 books—including the *New York Times* best-seller *Data and Goliath: The Hidden Battles to Collect Your Data and Control Your World*—as well as hundreds of articles, essays, and academic papers. His influential newsletter Crypto-Gram and blog Schneier on Security are read by over 250,000 people. Schneier is a fellow at the Berkman Klein Center for Internet and Society at Harvard University, a Lecturer in Public Policy at the Harvard Kennedy School, a board member of the Electronic Frontier Foundation and the Tor Project, and an advisory board member of EPIC and VerifiedVoting.org. He is also a special advisor to IBM Security and the Chief Technology Officer of IBM Resilient.

Professional Experience

2016+, Chief Technology Officer, IBM Resilient (formerly Resilient: an IBM Company) and special advisor to IBM Security, Cambridge, MA.

2014–2016, Chief Technology Officer, Resilient Systems, Inc. (formerly called Co3 Systems, Inc.), Cambridge, MA.

2006–2013, Chief Security Technology Officer, British Telecom, London, UK.

1999–2006, Chief Technology Officer, Counterpane Internet Security, Inc., Cupertino, CA.

1993–1999, President, Counterpane Systems, Oak Park, IL and Minneapolis, MN.

1991–1993, Member of Technical Staff, AT&T Bell Labs., Schaumburg, IL.

1990, Director of Operations, Intelligent Resources Information Systems, Inc., Chicago, IL.

1987–1990, Program Manager, Space and Naval Warfare Systems Command, Arlington, VA.

1984–1987, Electronics Engineer, Naval Electronics Systems Security Engineering Center, Washington, DC.

Academic Experience

2016+, Lecturer, John F. Kennedy School of Government, Harvard University.

2016+, Research Fellow in the Science, Technology, and Public Policy program at the Belfer Center for Science and International Affairs, Kennedy School of Government, Harvard University.

2013+, Fellow, Berkman Klein Center for Internet and Society, Harvard University.

Board Membership

2016+, Board Member, Tor Project, Cambridge, MA.

2013+, Board Member, Electronic Frontier Foundation, San Francisco, CA.

2004–2013, Board Member, Electronic Privacy Information Center, Washington DC.

Education

M.S. Computer Science, American University, 1986.

B.S. Physics, University of Rochester, 1984.

Books

Data and Goliath: The Hidden Battles to Capture Your Data and Control Your World, WW Norton & Company, 2015.

Carry On: Sound Advice from Schneier on Security, John Wiley & Sons, 2013.

Liars and Outliers: Enabling the Trust that Society Needs to Thrive, John Wiley & Sons, 2012.

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Beyond Fear: Thinking Sensibly about Security in an Uncertain World, Copernicus Books, 2003.

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The Electronic Privacy Papers: Documents on the Battle for Privacy in the Age of Surveillance (with David Banisar), John Wiley & Sons, 1997.

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The Twofish Encryption Algorithm (with John Kelsey, Doug Whiting, David Wagner, Chris Hall, and Niels Ferguson), John Wiley & Sons, 1996.

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Protect Your Macintosh, Peachpit Press, 1994

Applied Cryptography, John Wiley & Sons, 1994.

Academic Publications

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C. Hall and B. Schneier, "Remote Electronic Gambling," *13th Annual Computer Security Applications Conference*, ACM Press, December 1997, pp. 227–230.

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Selected Awards

Business Leader in Cybersecurity Award from Boston Global Forum, December 2015.

Named as one of the 20 top security influencers by *eSecurity Planet*, June 2015.

EPIC Lifetime Achievement Award, June 2015.

Named as one of the top ten information security bloggers of 2014 by the ISO 27001 and ISO 22301 blog, December 2014.

Named as an industry pioneer in information security by *SC Magazine*, December 2014.

Berkman Fellow at the Berkman Center for Internet and Society at Harvard University, 2013–2015 academic years.

Named one of the IFSEC 40: The Most Influential People in Security & Fire, January 2013.

Honorary Doctor of Science (ScD) from University of Westminster, London, December 2011.

CSO Compass Award, May 2010.

Named as one of the top 25 most influential people in the security industry by *Security* magazine, December 2008

Inducted into the Infosecurity Europe Hall of Fame, April 2008.

Computer Professionals for Social Responsibility (CPSR) Norbert Wiener Award, January 2008.

Electronic Frontier Foundation (EFF) Pioneer Award, March 2007.

Dr. Dobb's Journal Excellence in Programming Award, April 2006.

Named as one of the top five influential IT security thinkers by *SC* magazine, December 2005.

Infoworld CTO 25 Award, April 2005.

Secrets and Lies won a Productivity Award in the 13th Annual *Software Development Magazine* Product Excellence Awards, 2000.

Legislative Testimony

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