

## Eric Osterweil

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CONTACT INFORMATION  
CITIZENSHIP

*E-mail:* [eoosterweil@verisign.com](mailto:eoosterweil@verisign.com)  
USA

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RESEARCH INTERESTS

I am primarily interested in the designs of Internet-scale security systems. In addition, I am interested in large scale distributed computing and parallel processing.

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EDUCATION

**University of California, Los Angeles**, Los Angeles, California USA  
Ph.D., Computer Science, August 2010

- Thesis Topic: the Measurable Security
- Advisors: Professor Lixia Zhang and Professor Dan Massey
- Area of Study: Internet Security

**New York University**, New York, New York USA  
Partial requirements for M.S., Computer Science, June 2002

**The Johns Hopkins University**, Baltimore, MD USA  
B.A., Computer Science, June 1997  
B.A., Physics, June 1997

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### AWARDS

Student Travel Award, SIGCOMM (SIGCOMM '09), Barcelona, Spain, August 2009

Student Travel Award, Internet Measurement Conference (IMC '08), Vouliagmeni, Greece, October 2008

UCLA Internet Research Lab Outstanding Achievement Award, 2007-2008

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### CONFERENCE / WORKSHOP PUBLICATIONS

Jiangzhe Wang, Chunyi Peng, Chiyu Li, Eric Osterweil, Ryuji Wakikawa, Pei-chun Cheng Lixia Zhang, "Implementing Instant Messaging Using Named Data" Proceedings of the Sixth Asian Internet Engineering Conference (AINTEC '10), November 2010

Eric Osterweil, Dan Massey, Lixia Zhang, "Deploying and Monitoring DNS Security (DNSSEC)" IEEE Computer Society, 25th Annual Computer Security Applications Conference (ACSAC 2009), December 2009

Eric Osterweil, Dan Massey, Lixia Zhang, "Managing Trusted Keys in Internet-Scale Systems" The Workshop on Trust and Security in the Future Internet (FIST '09), June 2009

Eric Osterweil, Michael Ryan, Dan Massey, Lixia Zhang, “Quantifying the Operational Status of the DNSSEC Deployment” Proceedings of the 6th ACM/USENIX Internet Measurement Conference (IMC’08), October 2008

He Yan, Eric Osterweil, Jon Hajdu, Jonas Acres, and Dan Massey, “Limiting Replay Vulnerabilities in DNSSEC” 4th IEEE ICNP Workshop on Secure Network Protocols (NPSec’08), October 2008

Eric Osterweil, Dan Massey, Lixia Zhang, “Observations from the DNSSEC Deployment” IEEE ICNP Workshop on Secure Network Protocols (NPSec), October 2007

Eric Osterweil, Vasileios Pappas, Dan Massey, Lixia Zhang, “Zone State Revocation for DNSSEC” LSAD ’07: Proceedings of ACM SIGCOMM Workshop on Large Scale Attack Defenses, August 2007

Eric Osterweil, Dan Massey, Batsukh Tsendjav, Beichuan Zhang, Lixia Zhang, “Security Through Publicity” HotSec ’06, co-located with the 15th USENIX Security Symposium (Security ’06), July 2006

Lewis Girod, Thanos Stathopoulos, Nithya Ramanathan, Jeremy Elson, Deborah Estrin, Eric Osterweil, and Tom Schoellhammer, “System for Simulation, Emulation, and Deployment of Heterogeneous Sensor Networks” Proceedings of the second ACM Conference on Embedded Networked Sensor Systems (SenSys), November 2004

Tom Schoellhammer, Eric Osterweil, Ben Greenstein, Mike Wimbrow, Deborah Estrin, “Lightweight Temporal Compression of Microclimate Datasets” Proceedings of the 29th Annual IEEE International Conference on Local Computer Networks, November 2004

JOURNAL AND  
MAGAZINE  
ARTICLES

Eric Osterweil, Dan Massey, Lixia Zhang, “The Design of Metrics for Quantifying the DNSSEC Deployment” Transactions on Networking, *To appear*

Hao Yang, Eric Osterweil, Dan Massey, Lixia Zhang “Deploying Cryptography in Internet-Scale Systems: A Case Study on DNSSEC” Transactions on Dependable and Secure Computing, Volume 7, Issue 2, 2010

Eric Osterweil, Lixia Zhang “Interadministrative Challenges in Managing DNSKEYs” IEEE Security and Privacy Volume 7, Issue 5, September / October, 2009

Szewczyk, R., Osterweil, E., Polastre, J., Hamilton, M., Mainwaring, A., and Estrin, D., “Habitat Monitoring with Sensor Networks” Communications of the ACM 47, 6, 34-40., June 2004

TECHNICAL  
REPORTS

Eric Osterweil, Dan Massey, Beichuan Zhang, Lixia Zhang, “Public Data: a New Substrate for Key Verification in DNSSEC” UCLA Computer Science Technical Report #100020, September 2010

Lewis Girod, Thanos Stathopoulos, Nithya Ramanathan, Eric Osterweil, Tom Schoellhammer, Deborah Estrin, “Tools for Deployment and Simulation of Heterogeneous Sensor Networks” CENS Technical Report #37, April 2004

## TALKS

“Network Path Problems in DNSSEC’s Deployment” Eric Osterweil, Dan Massey, Lixia Zhang, IETF 75 – dnsex, July 2009

“Availability Problems in the DNSSEC Deployment” Eric Osterweil, Dan Massey, Lixia Zhang, RIPE 58 Community Meeting, May 2009

“The State and Challenges of the DNSSEC Deployment” Eric Osterweil, Michael Ryan, Dan Massey, Lixia Zhang, NANOG 44 - DNSSEC BoF, October 2008

“SecSpider: Distributed DNSSEC Monitoring” Eric Osterweil, Michael Ryan, Dan Massey, Lixia Zhang, NANOG 44 - Tools BoF, October 2008

“Is an Internet PKI the Right Approach?” Eric Osterweil, Dan Massey, Lixia Zhang, UCLA Engineering Technology Forum, May 2008

“SecSpider: Distributed DNSSEC Monitoring and Key Learning” Eric Osterweil, 3rd OARC Workshop, November 2007

“BGP-Origins: A Public Space System” Eric Osterweil, NANOG 40, May 2007

“SecSpider: The DNSSEC Monitoring Project” Eric Osterweil, 2nd OARC Workshop, November 2006

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## MENTORING

Undergraduate Student: Michael Ryan, from 2007 to 2008.

- Student appeared as a co-author on IMC 2008 paper
- Student won an Honorable Mention in the CRA Outstanding Undergraduate Awards, 2008

Undergraduate Student: Ben Tuchsher, 2009

Undergraduate Student: Brendan Sheridan, 2009

Undergraduate Student: Dave Oko, 2009

Undergraduate Student: Xiaokui (Johnny) Schu, 2009

- Participant of UCLA Cross-disciplinary Scholars in Science and Technology (CSST) Summer Research Program, from University of Science and Technology of China
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## SERVICE

**Panelist:** National Science Foundation (NSF) (2011)

**Moderator:** NANOG Security BoF (2011)

**Reviewer:** Transactions on Networking (2010)

**External reviewer:** Security & Privacy (2010)

**External reviewer:** ICNP (2009), NPSec (2009)

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SYSTEMS AND  
SOFTWARE

**SecSpider:** The first (and largest) DNSSEC deployment monitoring project and pilot DNSKEY learning and verification site.

**Vantages:** A software suite to enhance DNSSEC through: peer-to-peer DNSKEY verification, an extensible DNSSEC-aware DNS C++ library, dnsfunnel to illustrate DNSSEC's PMTU problem, and more...

**Pound-Shell (lbsh):** A unix shell monitor that tracks all of the experimental data provenance of the commands you type and the files used and generated so you can reproduce your experiments and results without having to recall all of the details used to generate them.

**NATTT:** A lightweight daemon that created mapped-and-encapsulated IP traffic that could traverse NAT boxes to initiate connections to non-routable endpoints behind remote NAT boxes. Mapped non-routable IP addresses and external routable IP addresses using new DNS RR type.

**BGP-Origins:** A site that allowed users to use their PGP keys to attest for BGP prefixes and the proper origin that announced them.

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PROFESSIONAL  
EXPERIENCE

*Research Scientist, VeriSign Labs*  
(October 2010 to Present) - Dulles, VA USA

*Research Intern, Xerox PARC*  
(June 2008 to September 2008) - Palo Alto, CA USA

*Software Architect Consultant, Avaya*  
(May 2004 to December 2004) - Basking Ridge, NJ USA

*Senior Software Engineer, Center for Embedded Networked Systems (CENS), UCLA*  
(September 2002 to May 2004) - Los Angeles, California USA

*Software Architect/Technical Team Lead, Micromuse*  
(January 2001 to July 2002) - New York, New York USA

*Software Architect, iWon.com*  
(November 1999 to January 2001) - Irvington, New York USA

*Technical Lead, Thomson Financial*  
(June 1998 to November 1999) - New York, New York USA

*Engineer, RWD Technologies*  
(May 1997 to June 1998) - Columbia, Maryland USA

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REFERENCES

Provided upon request