Contents

SEQUOIA: Scalable Policy-Based Access Control for Search Operations in Data-Driven Applications ................................................. 1
  Jasper Bogaerts, Bert Lagaisse, and Wouter Joosen

A Voucher-Based Security Middleware for Secure Business Process Outsourcing ............................................................. 19
  Emad Heydari Beni, Bert Lagaisse, Ren Zhang, Danny De Cock,
  Filipe Beato, and Wouter Joosen

LASARUS: Lightweight Attack Surface Reduction for Legacy Industrial Control Systems ..................................................... 36
  Anhtuan Le, Utz Roedig, and Awais Rashid

Exploring the Relationship Between Architecture Coupling and Software Vulnerabilities ................................................. 53
  Robert Lagerström, Carliss Baldwin, Alan MacCormack,
  Dan Sturtevant, and Lee Doolan

Natural Language Insights from Code Reviews that Missed a Vulnerability: A Large Scale Study of Chromium ....................................... 70
  Nuthan Munaiah, Benjamin S. Meyers, Cecilia O. Alm, Andrew Meneely,
  Pradeep K. Murukannaiah, Emily Prud’hommeaux,
  Josephine Wolff, and Yang Yu

Idea: Optimized Automatic Sanitizer Placement .................................................. 87
  Gebrehiwet Biyane Welearegai and Christian Hammer

FPRandom: Randomizing Core Browser Objects to Break Advanced Device Fingerprinting Techniques ........................................ 97
  Pierre Laperdrix, Benoit Baudry, and Vikas Mishra

Control What You Include!: Server-Side Protection Against Third Party Web Tracking ...................................................... 115
  Dolière Francis Somé, Nataliia Bielova, and Tamara Rezk

Idea-Caution Before Exploitation: The Use of Cybersecurity Domain Knowledge to Educate Software Engineers Against Software Vulnerabilities ................................................. 133
  Tayyaba Nafees, Natalie Coull, Robert Ian Ferguson,
  and Adam Sampson
Defeating Zombie Gadgets by Re-randomizing Code upon Disclosure .......................... 143
   Micah Morton, Hyungjoon Koo, Forrest Li, Kevin Z. Snow, Michalis Polychronakis, and Fabian Monrose

KASLR is Dead: Long Live KASLR ................................................................. 161
   Daniel Gruss, Moritz Lipp, Michael Schwarz, Richard Fellner, Clémentine Maurice, and Stefan Mangard

JTR: A Binary Solution for Switch-Case Recovery .............................................. 177
   Lucian Cojocar, Taddeus Kroes, and Herbert Bos

A Formal Approach to Exploiting Multi-stage Attacks Based on File-System Vulnerabilities of Web Applications ......................................................... 196
   Federico De Meo and Luca Viganò

A Systematic Study of Cache Side Channels Across AES Implementations .................. 213
   Heiko Mantel, Alexandra Weber, and Boris Köpf

Idea: A Unifying Theory for Evaluation Systems ................................................. 231
   Giampaolo Bella and Rosario Giustolisi

Author Index  ..................................................................................................... 241
Engineering Secure Software and Systems
9th International Symposium, ESSoS 2017, Bonn, Germany, July 3-5, 2017, Proceedings
Bodden, E.; Payer, M.; Athanasopoulos, E. (Eds.)
2017, X, 241 p. 63 illus., Softcover
ISBN: 978-3-319-62104-3