25th USENIX Security Symposium August 10–12, 2016 Austin, TX

Message from the Program Co-Chairs
Wednesday, August 10
Low-Level Attacks
Flip Feng Shui: Hammering a Needle in the Software Stack
One Bit Flips, One Cloud Flops: Cross-VM Row Hammer Attacks and Privilege Escalation
PIkit: A New Kernel-Independent Processor-Interconnect Rootkit
Verification and Timing
Verifying Constant-Time Implementations
Secure, Precise, and Fast Floating-Point Operations on x86 Processors
ÜBERSPARK: Enforcing Verifiable Object Abstractions for Automated Compositional Security Analysis of a Hypervisor
Software Attacks
Undermining Information Hiding (and What to Do about It)
Poking Holes in Information Hiding.
What Cannot Be Read, Cannot Be Leveraged? Revisiting Assumptions of JIT-ROP Defenses
Password and Key-Fingerprints
zxcvbn: Low-Budget Password Strength Estimation
Fast, Lean, and Accurate: Modeling Password Guessability Using Neural Networks

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Post-quantum Key Exchange—A New Hope Erdem Alkim, Ege University; Léo Ducas, Centrum voor Wiskunde en Informatica; Thomas Pöppelmann, Infineon Technologies AG; Peter Schwabe, Radboud University	327
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Hardware I
Defending against Malicious Peripherals with Cinch
Making USB Great Again with USBFILTER
Micro-Virtualization Memory Tracing to Detect and Prevent Spraying Attacks
Web Security
Request and Conquer: Exposing Cross-Origin Resource Size
Trusted Browsers for Uncertain Times
Tracing Information Flows Between Ad Exchanges Using Retargeted Ads
Cyber-Physical Systems
Virtual U: Defeating Face Liveness Detection by Building Virtual Models from Your Public Photos 497 Yi Xu, True Price, Jan-Michael Frahm, and Fabian Monrose, <i>The University of North Carolina at Chapel Hill</i>
Hidden Voice Commands.
FlowFence: Practical Data Protection for Emerging IoT Application Frameworks
Low-Level Attacks and Defenses
ARMageddon: Cache Attacks on Mobile Devices
DRAMA: Exploiting DRAM Addressing for Cross-CPU Attacks
An In-Depth Analysis of Disassembly on Full-Scale x86/x64 Binaries
Machine Learning and Data Retrieval Systems
Stealing Machine Learning Models via Prediction APIs
Florian Tramèr, École Polytechnique Fédérale de Lausanne (EPFL); Fan Zhang, Cornell University; Ari Juels, Cornell Tech; Michael K. Reiter, The University of North Carolina at Chapel Hill; Thomas Ristenpart, Cornell Tech

Oblivious Multi-Party Machine Learning on Trusted Processors
Thoth: Comprehensive Policy Compliance in Data Retrieval Systems
Crypto Attacks
Dancing on the Lip of the Volcano: Chosen Ciphertext Attacks on Apple iMessage655 Christina Garman, Matthew Green, Gabriel Kaptchuk, Ian Miers, and Michael Rushanan, <i>Johns Hopkins University</i>
Predicting, Decrypting, and Abusing WPA2/802.11 Group Keys
DROWN: Breaking TLS using SSLv2
All Your Queries Are Belong to Us: The Power of File-Injection Attacks on Searchable Encryption
Malware
Investigating Commercial Pay-Per-Install and the Distribution of Unwanted Software
Measuring PUP Prevalence and PUP Distribution through Pay-Per-Install Services
UNVEIL: A Large-Scale, Automated Approach to Detecting Ransomware
Towards Measuring and Mitigating Social Engineering Software Download Attacks

Friday, August 12

Network Security II
Specification Mining for Intrusion Detection in Networked Control Systems
Optimized Invariant Representation of Network Traffic for Detecting Unseen Malware Variants
Authenticated Network Time Synchronization
Hardware II
fTPM: A Software-Only Implementation of a TPM Chip
Sanctum: Minimal Hardware Extensions for Strong Software Isolation
Ariadne: A Minimal Approach to State Continuity
Cyber-Physical Systems II
The Million-Key Question—Investigating the Origins of RSA Public Keys893 Petr Švenda, Matúš Nemec, Peter Sekan, Rudolf Kvašňovský, David Formánek, David Komárek, and Vashek Matyáš, <i>Masaryk University</i>
Fingerprinting Electronic Control Units for Vehicle Intrusion Detection
Lock It and Still Lose It—On the (In)Security of Automotive Remote Keyless Entry Systems
Distributed Systems
OBLIVP2P: An Oblivious Peer-to-Peer Content Sharing System
AuthLoop: End-to-End Cryptographic Authentication for Telephony over Voice Channels
You Are Who You Know and How You Behave: Attribute Inference Attacks via Users' Social Friends and Behaviors
Web Measurements
Internet Jones and the Raiders of the Lost Trackers: An Archaeological Study of Web Tracking from 1996 to 2016

Hey, You Have a Problem: On the Feasibility of Large-Scale Web Vulnerability Notification
You've Got Vulnerability: Exploring Effective Vulnerability Notifications
Proofs
Mirror: Enabling Proofs of Data Replication and Retrievability in the Cloud
ZKBoo: Faster Zero-Knowledge for Boolean Circuits
The Cut-and-Choose Game and Its Application to Cryptographic Protocols
Android
On Demystifying the Android Application Framework: Re-Visiting Android Permission Specification Analysis
Practical DIFC Enforcement on Android
Screen after Previous Screens: Spatial-Temporal Recreation of Android App Displays from
Memory Images
Harvesting Inconsistent Security Configurations in Custom Android ROMs via Differential Analysis1153 Yousra Aafer, Xiao Zhang, and Wenliang Du, Syracuse University
Privacy
Identifying and Characterizing Sybils in the Tor Network
k-fingerprinting: A Robust Scalable Website Fingerprinting Technique
Protecting Privacy of BLE Device Users
Privacy in Epigenetics: Temporal Linkability of MicroRNA Expression Profiles