SECURWARE 2012

The Sixth International Conference on Emerging Security Information, Systems and Technologies

August 19-24, 2012

Rome, Italy

SECURWARE 2012 Editors

Rainer Falk, Siemens AG - München, Germany

Petre Dini, Concordia University, Canada / China Space Agency Center - Beijing, China

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571

Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2012) by International Academy, Research, and Industry Association (IARIA)
Please refer to the Copyright Information page.

Printed by Curran Associates, Inc. (2012)

International Academy, Research, and Industry Association (IARIA)
412 Derby Way
Wilmington, DE 19810

Phone: (408) 893-6407
Fax: (408) 527-6351

petre@iaria.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

SECURWARE 1: SECURITY FRAMEWORKS, ARCHITECTURES AND PROTOCOLS

Generic, Secure and Modular (GSM) Methodology for Design and Implementation of Secure Mobile Applications 1
Feng Zhang, Ioannis Kounelis, Sead Muftic

Security Aspects for Large Scale Distributed Environments: The AutoBAHN Use Case 7
Giorgos Adam, Christos Bouras, Ioannis Kalligeros, Kostas Stamos, Ioannis Zaoudis

Identification and Implementation of Authentication and Authorization Patterns in the Spring Security Framework 14
Aleksander Dikanski, Roland Steinegger, Sebastian Abeck

Securityware: Towards an Architecture for User-Centric Approach 21
Ali Hammami, Noëmie Simoni

SECURWARE 2: SECURITY MANAGEMENT

Realtime-Aware Control Unit Network Attachment Module 29
Rainer Falk, Steffen Fries

Improving Online Account Security: Implementing Policy and Process Changes 35
Pankaj Goyal

FIELDS : Flow Intrusion Extrusion Largescale Detection System 42
Nicolas Grenèche, Quentin Narvor, Jérémy Briffaut, Christian Toinard

Towards Assisted Remediation of Security Vulnerabilities 49
Gabriel Serme, Anderson Santana De Oliveira, Marco Guarnieri, Paul El Khoury

Risk Identification for an Information Security Management System Implementation 57
Nor Aza Ramli, Normaziah Abdul Aziz

SECURWARE 3: MALWARE AND ANTI-MALWARE

A QTE-based Solution to Keylogger Attacks 62
Chien-Wei Hung, Fu-Hau Hsu, Shih-Jen Chen, Chang-Kuo Tso, Yan-Ling Hwang, Po-Ching Lin, Li-Pin Hsu

AWESOME - Automated Web Emulation for Secure Operation of a Malware-Analysis Environment 68
Martin Brunner, Christian Martin Fuchs, Sascha Todt

Preserving Continuity of Services Exposed to Security Incidents 72
Dariusz Caban, Tomasz Walkowiak

Accurate Retargetable Decompilation Using Additional Debugging Information 79
Jakub Kroustek, Peter Matula, Jaromír Koncický, Dušan Kolár

SECURWARE 4: SECURITY, TRUST AND PRIVACY MEASUREMENT

An Architecture Based on Agent-manager Model for Automated Data Collection of Security Metrics 85
Liniquer Kavrokov Vieira, Rodrigo Sanches Miani, Bruno Bogaz Zarpelão, Gean Breda, Leonardo Mendes

Experimental Evaluations of the Impact of High Availability on the Quality of Protection of Hybrid Clouds 92
Syed Naqvi, Michael Van De Borne, Arnaud Michot

Characterizing and Predicting Internet Users Hidden Behaviors with Markovian Models 98
Paulo Salvador, António Nogueira, Eduardo Rocha

An Empirical Study of Connections Between Measurements and Information Security 104
Rodrigo Sanches Miani, Michel Cukier, Bruno Bogaz Zarpelão, Gean Davis Breda, Leonardo De Souza Mendes

Semantic Matching of Security Policies to Support Security Experts 112
Othman Benammar, Hicham Elasri, Abderrahim Sekkaki

SECURWARE 5: INFORMATION SECURITY

Statistical Disclosure: Improved, Extended, and Resisted 119
Navid Emamdoost, Mohammad Sadeq Dousti, Rasool Jalili
Compacting Security Signatures for PIGA IDS 126
Pascal Berthomé, Jérémy Briffaut, Pierre Clairet
A Data Centric Security Cycle Model for Data Loss Prevention of Custodial Data and Company Intellectual Property 134
Mathew Nicho, Avinash Advani
Securing Policy Negotiation for Socio-Pervasive Business Microinteractions: Secure, Simple and Efficient Implementation of Policy Negotiation 142
Mitja Vardjan, Miroslav Pavleski, Jan Porekar

SECURWARE 6: SYSTEM SECURITY

ComSen: A Detection System for Identifying Compromised Nodes in Wireless Sensor Networks 148
Yi-Tao Wang, Rajive Bagrodia
Case Study of a Black Hole Attack on 6LoWPAN-RPL 157
Karishma Chugh, Aboubaker Lasebae, Jonathan Loo
Construction of Optimal 4-bit S-boxes by Quasigroups of Order 4 163
Hristina Mihajloska, Danilo Gligoroski
Analyzing the Impact of Security Protocols on Wireless LAN with Multimedia Applications 169
Thaier Hayajneh, Samer Khasawneh, Bassam Jamil, Awni Itradat
Author Index