

Table of Contents

Session 1. Model-Based Security I

Model-Based Refinement of Security Policies in Collaborative Virtual Organisations	1
<i>Benjamin Aziz, Alvaro E. Arenas, and Michael Wilson</i>	
Automatic Conformance Checking of Role-Based Access Control Policies via Alloy	15
<i>David Power, Mark Slaymaker, and Andrew Simpson</i>	
Security Validation of Business Processes via Model-Checking	29
<i>Wihem Arzac, Luca Compagna, Giancarlo Pellegrino, and Serena Elisa Ponta</i>	

Session 2. Tools and Mechanisms

On-Device Control Flow Verification for Java Programs	43
<i>Arnaud Fontaine, Samuel Hym, and Isabelle Simplot-Ryl</i>	
Efficient Symbolic Execution for Analysing Cryptographic Protocol Implementations	58
<i>Ricardo Corin and Felipe Andrés Manzano</i>	
Predictability of Enforcement	73
<i>Nataliia Bielova and Fabio Massacci</i>	

Session 3. Web Security

SessionShield: Lightweight Protection against Session Hijacking	87
<i>Nick Nikiforakis, Wannes Meert, Yves Younan, Martin Johns, and Wouter Joosen</i>	
Security Sensitive Data Flow Coverage Criterion for Automatic Security Testing of Web Applications	101
<i>Thanh Binh Dao and Etsuya Shibayama</i>	
Middleware Support for Complex and Distributed Security Services in Multi-tier Web Applications	114
<i>Philippe De Ryck, Lieven Desmet, and Wouter Joosen</i>	

Session 4. Model-Based Security II

Lightweight Modeling and Analysis of Security Concepts	128
<i>Jörn Eichler</i>	
A Tool-Supported Method for the Design and Implementation of Secure Distributed Applications	142
<i>Linda Ariani Gunawan, Frank Alexander Kraemer, and Peter Herrmann</i>	
An Architecture-Centric Approach to Detecting Security Patterns in Software	156
<i>Michaela Bunke and Karsten Sohr</i>	

Session 5. Security Requirements Engineering

The Security Twin Peaks	167
<i>Thomas Heyman, Koen Yskout, Riccardo Scandariato, Holger Schmidt, and Yijun Yu</i>	
Evolution of Security Requirements Tests for Service-Centric Systems	181
<i>Michael Felderer, Berthold Agreiter, and Ruth Breu</i>	
After-Life Vulnerabilities: A Study on Firefox Evolution, Its Vulnerabilities, and Fixes	195
<i>Fabio Massacci, Stephan Neuhaus, and Viet Hung Nguyen</i>	

Session 6. Authorization

Authorization Enforcement Usability Case Study	209
<i>Steffen Bartsch</i>	
Scalable Authorization Middleware for Service Oriented Architectures	221
<i>Tom Goovaerts, Lieven Desmet, and Wouter Joosen</i>	
Adaptable Authentication Model: Exploring Security with Weaker Attacker Models	234
<i>Naveed Ahmed and Christian D. Jensen</i>	

Session 7. Ideas

Idea: Interactive Support for Secure Software Development	248
<i>Jing Xie, Bill Chu, and Heather Richter Lipford</i>	

Idea: A Reference Platform for Systematic Information Security Management Tool Support	256
<i>Ingo Müller, Jun Han, Jean-Guy Schneider, and Steven Versteeg</i>	
Idea: Simulation Based Security Requirement Verification for Transaction Level Models	264
<i>Johannes Loinig, Christian Steger, Reinhold Weiss, and Ernst Haselsteiner</i>	
Author Index	273