## Table of Contents

Invited Talks	
How to Steal a Botnet and What Can Happen When You Do	1
A User-Mode-Kernel-Mode Co-operative Architecture for Trustable Computing	2
Cryptanalysis	
Security Evaluation of a DPA-Resistant S-Box Based on the Fourier Transform	3
Security Analysis of the GF-NLFSR Structure and Four-Cell Block Cipher	17
Algorithms and Implementations	
The RAKAPOSHI Stream Cipher	32
Design of Reliable and Secure Multipliers by Multilinear Arithmetic Codes	47
Hardware/Software Co-design of Public-Key Cryptography for SSL Protocol Execution in Embedded Systems	63
Public Key Cryptography	
Online/Offline Ring Signature Scheme	80
Policy-Controlled Signatures	91



Public Key Encryption without Random Oracle Made Truly Practical	107
Puwen Wei, Xiaoyun Wang, and Yuliang Zheng	101
A Public-Key Traitor Tracing Scheme with an Optimal Transmission Rate	121
, , ,	
Security Applications	
Computationally Secure Hierarchical Self-healing Key Distribution for Heterogeneous Wireless Sensor Networks	135
Enabling Secure Secret Updating for Unidirectional Key Distribution in RFID-Enabled Supply Chains	150
Shaoying Cai, Tieyan Li, Changshe Ma, Yingjiu Li, and Robert H. Deng	
Biometric-Based Non-transferable Anonymous Credentials	165
Software Security	
Secure Remote Execution of Sequential Computations	181
Architecture- and OS-Independent Binary-Level Dynamic Test	100
Generation	198
System Security	
Measuring Information Flow in Reactive Processes	211
Trusted Isolation Environment: An Attestation Architecture with Usage Control Model	226
Anbang Ruan, Qingni Shen, Liang Gu, Li Wang, Lei Shi, Yahui Yang, and Zhong Chen	
Denial-of-Service Attacks on Host-Based Generic Unpackers Limin Liu, Jiang Ming, Zhi Wang, Debin Gao, and Chunfu Jia	241
Network Security	
Predictive Pattern Matching for Scalable Network Intrusion	٠
Detection	254

Table of Contents	XIII
Deterministic Finite Automata Characterization for Memory-Based Pattern Matching	268
A LoSS Based On-line Detection of Abnormal Traffic Using Dynamic Detection Threshold	283
User-Assisted Host-Based Detection of Outbound Malware Traffic Huijun Xiong, Prateek Malhotra, Deian Stefan, Chehai Wu, and Danfeng Yao	293
Assessing Security Risk to a Network Using a Statistical Model of Attacker Community Competence	308
Short Papers I	
Using the (Open) Solaris Service Management Facility as a Building Block for System Security	325
IntFinder: Automatically Detecting Integer Bugs in x86 Binary Program	336
A Comparative Study of Privacy Mechanisms and a Novel Privacy Mechanism	346
Database Security	
Collusion-Resistant Protocol for Privacy-Preserving Distributed Association Rules Mining	359
GUC-Secure Join Operator in Distributed Relational Database  Yuan Tian and Hao Zhang	370
Trust Management	
TSM-Trust: A Time-Cognition Based Computational Model for Trust  Dynamics	385

## XIV Table of Contents

Bring Efficient Connotation Expressible Policies to Trust	206
Management	396
A User Trust-Based Collaborative Filtering Recommendation Algorithm	411
Applied Cryptography	
Fingerprinting Attack on the Tor Anonymity System Yi Shi and Kanta Matsuura	425
Proactive Verifiable Linear Integer Secret Sharing Scheme	439
A Multi-stage Secret Sharing Scheme Using All-or-Nothing Transform Approach	449
Digital Audio Watermarking Technique Using Pseudo-Zernike  Moments	459
Short Papers II	
An Image Sanitizing Scheme Using Digital Watermarking	474
Adaptive and Composable Oblivious Transfer Protocols	483
Discrete-Log-Based Additively Homomorphic Encryption and Secure WSN Data Aggregation	493
Author Index	503