

Table of Contents

Invited Talks

An Intelligent Decision Support System for Intrusion Detection and Response	1
<i>Dipankar Dasgupta, Fabio A. Gonzalez</i>	
Mathematical Models of the Covert Channels	15
<i>Alexander Grusho</i>	
Open Issues in Formal Methods for Cryptographic Protocol Analysis	21
<i>Catherine Meadows</i>	
Future Directions in Role-Based Access Control Models	22
<i>Ravi Sandhu</i>	
Secure Networked Computing	27
<i>Vijay Varadharajan</i>	

Network Security Systems: Foundations, Models, and Architectures

Composability of Secrecy	28
<i>Jan Jürjens</i>	
Agent-Based Model of Computer Network Security System: A Case Study	39
<i>Vladimir I. Gorodetski, O. Karsayev, A. Khabalov, I. Kotenko, Leonard J. Popyack, Victor A. Skormin</i>	
Security Considerations and Models for Service Creation in Premium IP Networks	51
<i>Michael Smirnov</i>	
Secure Systems Design Technology	63
<i>Peter D. Zegzhda, Dmitry P. Zegzhda</i>	
A Privacy-Enhancing e-Business Model Based on Infomediaries	72
<i>Dimitris Gritzalis, Konstantinos Moulinos, Konstantinos Kostis</i>	
Applying <i>Practical</i> Formal Methods to the Specification and Analysis of Security Properties	84
<i>Constance Heitmeyer</i>	
Modeling Software Tools Complex for Evaluation of Information Systems Operation Quality (CEISOQ)	90
<i>Andrey Kostogryzov</i>	
Analyzing Separation of Duties in Petri Net Workflows	102
<i>Konstantin Knorr, Harald Weidner</i>	

Intrusion Detection: Foundations and Models

Information Security with Formal Immune Networks 115
Alexander O. Tarakanov

BASIS: A Biological Approach to System Information Security 127
*Victor A. Skormin, Jose G. Delgado-Frias, Dennis L. McGee,
 Joseph V. Giordano, Leonard J. Popyack, Vladimir I. Gorodetski,
 Alexander O. Tarakanov*

Learning Temporal Regularities of User Behavior for Anomaly Detection 143
Alexandr Seleznyov, Oleksiy Mazhelis, Seppo Puuronen

Investigating and Evaluating Behavioural Profiling
 and Intrusion Detection Using Data Mining 153
Harjit Singh, Steven Furnell, Benn Lines, Paul Dowland

Access Control, Authentication, and Authorization

Typed MSR: Syntax and Examples 159
Iliano Cervesato

TRBAC^N: A Temporal Authorization Model 178
Steve Barker

The Set and Function Approach to Modeling Authorization
 in Distributed Systems 189
Tatyana Ryutov, Clifford Neuman

Fenix Secure Operating System: Principles, Models, and Architecture ... 207
Dmitry P. Zegzhda, Pavel G. Stepanov, Alexey D. Otavin

**Cryptography and Steganography: Mathematical Basis,
 Protocols, and Applied Methods**

Generalized Oblivious Transfer Protocols Based on Noisy Channels 219
Valeri Korjik, Kirill Morozov

Controlled Operations as a Cryptographic Primitive 230
Boris V. Izotov, Alexander A. Moldovyan, Nick A. Moldovyan

Key Distribution Protocol Based on Noisy Channel
 and Error Detecting Codes 242
Viktor Yakovlev, Valery Korjik, Alexander Sinuk

Dynamic Group Key Management Protocol 251
Ghassan Chaddoud, Isabelle Chrisment, André Schaff

SVD-Based Approach to Transparent Embedding Data
 into Digital Images 263
*Vladimir I. Gorodetski, Leonard J. Popyack, Vladimir Samoilov,
 Victor A. Skormin*

Fast Encryption Algorithm Spectr-H64 275
Nick D. Goots, Alexander A. Moldovyan, Nick A. Moldovyan

CVS at Work: A Report on New Failures upon Some Cryptographic Protocols	287
<i>Antonio Durante, Riccardo Focardi, Roberto Gorrieri</i>	
On Some Cryptographic Properties of Rijndael	300
<i>Selçuk Kavut, Melek D. Yücel</i>	
Author Index	313