

4th International Conference on Network and System Security



NSS 2010
NETWORK & SYSTEM SECURITY

Melbourne, Australia

September 1-3, 2010

<http://www.anss.org.au/nss2010>



NSS 2010 Call For Papers

While the attack systems have become more easy-to-use, sophisticated, and powerful, interest has greatly increased in the field of building more effective, intelligent, adaptive, active and high performance defense systems which are distributed and networked. We will focus our program on issues related to **Network and System Security**, such as authentication, access control, availability, integrity, privacy, confidentiality, dependability and sustainability of computer networks and systems. The aim of this conference is to provide a leading edge forum to foster interaction between researchers and developers with the network and system security communities, and to give attendees an opportunity to interact with experts in academia, industry and governments.

NSS 2010 will be in technical co-sponsorship with the IEEE and the IEEE Computer Society Technical Committee on Scalable Computing.

NSS 2010 will be held in Melbourne, Australia. Since 2002, Melbourne has been consistently ranked in the top three 'World's Most Livable Cities' by The Economist.

Topics of interest include, but not limited to:

- Active Defense Systems
- Adaptive Defense Systems
- Benchmark, Analysis and Evaluation of Security Systems
- Biometric Security
- Distributed Access Control and Trust Management
- Distributed Attack Systems and Mechanisms
- Distributed Intrusion Detection/Prevention Systems
- Denial-of-Service Attacks and Countermeasures
- High Performance Security Systems
- Identity Management and Authentication
- Implementation, Deployment and Management of Security Systems
- Intelligent Defense Systems
- Internet and Network Forensics
- Key Distribution and Management
- Large-scale Attacks and Defense
- RFID Security and Privacy
- Security Architectures in Distributed Network Systems
- Security for Critical Infrastructures
- Security in P2P systems
- Security in Cloud and Grid Systems
- Security in E-Commerce
- Security and Privacy in Wireless Networks
- Secure Mobile Agents and Mobile Code
- Security Protocols
- Security Simulation and Tools
- Security Theory and Tools
- Standards and Assurance Methods
- Trusted Computing
- Viruses, Worms, and Other Malicious Code
- World Wide Web Security

Submission Guidelines

To submit your paper, please go to <http://www.anss.org.au/nss2010> and follow the link "Submit Your Paper". Submitted papers must not substantially overlap with papers that have been published or that are simultaneously submitted to a journal or a conference with proceedings. Papers must be clearly presented in English, must not exceed 8 pages, including tables, figures, references and appendixes, in IEEE CS proceedings 8.5" x 11" Two-Column Format, with Portable Document Format (.pdf). Papers will be selected based on their originality, timeliness, significance, relevance, and clarity of presentation. Submission of a paper should be regarded as a commitment that, should the paper be accepted, at least one of the authors will register and attend the conference to present the work.

The publication will be IEEE Computer Society Proceedings (EI, ISTP, and INSPEC indexed). Selected best papers will be published in *The Computer Journal* (Oxford), *Computers & Security* (Elsevier), and *Concurrency and Computation: Practice & Experience* (Wiley). All journals are SCI and EI indexed.

General Chairs

Wanlei Zhou, Deakin University, Australia
Ahmad-Reza Sadeghi, Ruhr-University Bochum, Germany

Program Chairs

Yang Xiang, Central Queensland University, Australia
Pierangela Samarati, University of Milan, Italy
Jiankun Hu, RMIT University, Australia

Workshop Chairs

Zesheng Chen, Indiana Uni-Purdue Uni Fort Wayne, USA
Haining Wang, College of William and Mary, USA

Publicity Chair

Laurent Lefevre, INRIA, University of Lyon, France
Wen Tao Zhu, Chinese Academy of Sciences, China
Muhammad Khurram Khan, King Saud University, Saudi Arabia

PC Members (Please see NSS 2010 website)

Important Dates

Workshop Proposal Due: April 30, 2010
Submission Deadline: **May 10, 2010 (UTC/GMT time 23:59, firm)**
Authors Notification: June 7, 2010
Final Manuscript Due: June 21, 2010

Website and Contact Information

Please see NSS 2010 website at <http://www.anss.org.au/nss2010>
Further questions, please email ieee.nss@gmail.com

NSS 2010 Program

Tuesday 31 August 2010

14:00-18:30	Registration (Registration Desk)
18:30-20:30	Welcome Reception (Tonic Bar)

Wednesday 1 September 2010 Morning

08:30-09:00	Opening and Welcome (Conference Hall 1 & 2) <i>Prof Wanlei Zhou (NSS/HPCC 2010 General Chair, Deakin University, Australia)</i> <i>TBD (HPCC 2010 Program Chair, TBD, TBD)</i> <i>TBD (NSS 2010 Program Chair, TBD, TBD)</i>		
09:00-10:00	ICDKE 2010 Keynote Address: TBD (Conference Hall 1 & 2) Speaker: <i>Gora Datta (CAL2CAL Corporation, USA)</i> Chair: <i>Dr Hua Wang (University of Southern Queensland, Australia)</i>		
10:00-10:30	Morning Tea (venue)		
10:30-12:30	Session 1C: NSS 2010 (Conference Hall 2)	Session 1D: NSS 2010 (M12)	Session 1F: ICDKE 2010 (M15)

Session 1C: NSS 2010 (Conference Hall 2) – Distributed Intrusion Detection/Prevention Systems Session Chair: *TBD (TBD, TBD)*

A Framework for Monitoring SIP Enterprise Networks

Mohamed Nassar, Radu State, and Olivier Festor

A Flexible and Efficient Alert Correlation Platform for Distributed IDS

Sebastian Roschke, Feng Cheng, and Christoph Meinel

Monitoring Heavy-Hitter Flows in High-Speed Network Concurrently

Fengyu Wang, Bin Gong, Shanqing Guo, and Xiaofeng Wang

Session 1D: NSS 2010 (M12) – Distributed Access Control and Trust Management Session Chair: *TBD (TBD, TBD)*

Dynamic Trust Model for Federated Identity Management

Hao Gao, Jun Yan, and Yi Mu

Securing Emergency Response Operations Using Distributed Trust Decisions

Peter Danner, Daniel Hein, and Stefan Kraxberger

Trust-Involved Access Control in Collaborative Open Social Networks

Hua Wang and Lili Sun

Router and Link Admittance Control in the Optimized Link State Routing Protocol Version 2 (OLSRv2)

Thomas Clausen and Ulrich Herberg

Session 1F: ICDKE 2010 (M15) – Modeling Session Chair: *TBD (TBD, TBD)*

Cluster Based Rule Discovery Model for Enhancement of Government's Tobacco Control Strategy

Shamsul Huda, John Yearwood, and Ron Borland

Specifying Usage Control Model with Object Constraint Language

Min Li and Hua Wang

A Query Processing Strategy for Conceptual Queries Based on Object-Role Modeling

Antônio Rosado and João M.P. Cardoso

The Enablers and Implementation Model for Mobile KMS in Australian Healthcare

Heng-Sheng Tsai and Raj Gururajan

Wednesday 1 September 2010 Afternoon

12:30-13:30	Lunch (venue)		
13:30-14:30	HPCC 2010 Keynote Address: HPCC with Grids and Clouds (Conference Hall 1 & 2) Speaker: <i>Professor Geoffrey Charles Fox (Indiana University Bloomington, USA)</i> Chair: <i>TBD (TBD, TBD)</i>		
14:30-15:00	Afternoon Tea (venue)		
15:00-17:30	Session 2C: NSS 2010	Session 2D: NSS 2010	Session 2F: ICDKE 2010
			Session 2G: BFSCS 2010

	(Conference Hall 2)	(M12)	(M15)	(M16)
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Session 2C: NSS 2010 (Conference Hall 2) – Denial-of-Service Attacks and Countermeasures
Session Chair: TBD (TBD, TBD)

Information-Theoretic Detection of Masquerade Mimicry Attacks
Juan E. Tapiador and John A. Clark
 CALD: Surviving Various Application-Layer DDoS Attacks That Mimic Flash Crowd
Sheng Wen, Weijia Jia, Wei Zhou, Wanlei Zhou, and Chuan Xu
 A Novel Threat Assessment Method for DDoS Early Warning Using Network Vulnerability Analysis
Qiang Liu, Jian-ping Yin, Zhi-ping Cai, and Ming Zhu
 Adaptive Clustering with Feature Ranking for DDoS Attacks Detection
Lifang Zi, John Yearwood, and Xin-Wen Wu
 An Improved Wavelet Analysis Method for Detecting DDoS Attacks
Liang Fu Lu, Mao Lin Huang, Mehmet A. Orgun, and Jia Wan Zhang

Session 2D: NSS 2010 (M12) – Security and Privacy in Wireless Networks
Session Chair: TBD (TBD, TBD)

RF-DNA Fingerprinting for Airport WiMax Communications Security
McKay D. Williams, Sheldon A. Munns, Michael A. Temple, and Michael J. Mendenhall
 Energy Friendly Integrity for Network Coding in Wireless Sensor Networks
Anya Apavatjirut, Wassim Znaidi, Antoine Fraboulet, Claire Goursaud, Cédric Lauradoux, and Marine Minier
 A Novel Anonymization Technique to Trade Off Location Privacy and Data Integrity in Participatory Sensing Systems
Manzur Murshed, Tishna Sabrina, Anindya Iqbal, and Kh Mahmudul Alam
 A Dynamic Mutual RFID Authentication Model Preventing Unauthorized Third Party Access
Matthieu-P. Schapranow, Alexander Zeier, and Hasso Plattner
 Agent-Based Trusted On-Demand Routing Protocol for Mobile Ad Hoc Networks
Islam Tharwat A. Halim, Hossam M.A. Fahmy, Ayman M. Bahaa El-Din, and Mohamed H. El-Shafey

Session 2F: ICDKE 2010 (M15) – Algorithms
Session Chair: TBD (TBD, TBD)

A Smoothing Evolutionary Algorithm with Circle Search for Global Optimization
Yuping Wang and Lei Fan
 The PU-Tree: A Partition-Based Uncertain High-Dimensional Indexing Algorithm
Yi Zhuang
 An Improved PageRank Algorithm: Immune to Spam
Bing-Yuan Pu, Ting-Zhu Huang, and Chun Wen
 The Convergences of Multisplitting Parallel Methods for Non-Hermitian Positive Definite Systems
Chuan-Long Wang and Yan-Ping Wang

Session 2G: BFSCS 2010 (M16)

Session Chairs: A/Prof Dat Tran and A/Prof Xu Huang (University of Canberra, Australia)

Face Gender Recognition Based on 2D Principal Component Analysis and Support Vector Machine
Len Bui, Dat Tran, Xu Huang, and Girija Chetty
 Password Entropy and Password Quality
Wanli Ma, John Campbell, Dat Tran, and Dale Kleeman
 Protecting from Attacking the Man-in-Middle in Wireless Sensor Networks with Elliptic Curve Cryptography Key Exchange
Xu Huang, Pritam Gajkumar Shah, and Dharmendra Sharma
 Secure Communication in 802.11 Networks with a Novel Protocol Using Quantum Cryptography
Xu Huang, Shirantha Wijesekera, and Dharmendra Sharma
 Scalar Multiplication of a Dynamic Window with Fuzzy Controller for Elliptic Curve Cryptography
Xu Huang, John Campbell, and Frank Gao
 Digital Video Tamper Detection Based on Multimodal Fusion of Residue Features
Girija Chetty, Monica Biswas, and Rashmi Singh

Thursday 2 September 2010 Morning

09:00-10:00	NSS 2010 Keynote Address: TBD (Conference Hall 1 & 2) Speaker: <i>Prof Mohammed Atiquzzaman (University of Oklahoma, USA)</i> Chair: <i>TBD (TBD, TBD)</i>
10:00-10:30	Morning Tea (venue)

10:30-12:30	Session 3C: NSS 2010 (Conference Hall 2)	Session 3D: NSS 2010 (M12)	Session 3F: ICDKE 2010 (M15)	Session 3G: APWCS 2010 (M16)
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Session 3C: NSS 2010 (Conference Hall 2) – Benchmark, Analysis and Evaluation of Security System

Session Chair: TBD (TBD, TBD)

Luth: Composing and Parallelizing Midpoint Inspection Devices

Ion Alberdi, Vincent Nicomette, and Philippe Owezarski

Analysis of Credential Stealing Attacks in an Open Networked Environment

A. Sharma, Z. Kalbarczyk, R. Iyer, and J. Barlow

Business Process-Based Information Security Risk Assessment

Kobra Khanmohammadi and Siv Hilde Houmb

Automatic Generation of Assertions to Detect Potential Security Vulnerabilities in C Programs That Use Union and Pointer Types

Shamsul Kamal Ahmad Khalid, Jacob Zimmermann, Diane Corney, and Colin Fidge

Session 3D: NSS 2010 (M12) – World Wide Web Security

Session Chair: A/Prof Chris Leckie (The University of Melbourne, Australia)

Towards Identify Anonymization in Large Survey Rating Data

Xiaoxun Sun and Hua Wang

Validating Denial of Service Vulnerabilities in Web Services

Suriadi Suriadi, Andrew Clark, and Desmond Schmidt

HTTPSLock: Enforcing HTTPS in Unmodified Browsers with Cached Javascript

Adonis P.H. Fung and K.W. Cheung

Ignorant Experts: Computer and Network Security Support from Internet Service Providers

Patryk Szewczyk and Craig Valli

Comparative Analysis of HTTP Anomaly Detection Algorithms: DFA vs N-Grams

Li Lin, Christopher Leckie, and Chenfeng Zhou

Session 3F: ICDKE 2010 (M15) – System Approach

Session Chair: TBD (TBD, TBD)

Systematic Clustering-Based Microaggregation for Statistical Disclosure Control

Md Enamul Kabir and Hua Wang

Hybrid Wrapper-Filter Approaches for Input Feature Selection Using Maximum Relevance and Artificial Neural Network Input Gain Measurement Approximation (ANNIGMA)

Shamsul Huda, John Yearwood, and Andrew Strainieri

Credit Spread Option Pricing by Dynamic Copulas

Ping Li and Guangdong Huang

An Approach to Specify Knowledge in Multi-agent Systems Using Petri Nets

Eder Mateus Nunes Gonçalves

Session 3G: APWCS 2010 (M16)

Session Chairs: A/Prof Xun Yi (Victoria University, Australia), Prof Masahiro Mambo (University of Tsukuba, Japan), and Prof Lynn Batten (Deakin University, Australia)

Certificateless Proxy Signature and Its Extension to Blind Signature

Raylin Tso and Xun Yi

A Novel Approach to Dynamic ID-Based Remote User Authentication Scheme for Multi-server Environment

Min-Hua Shao and Ying-Chih Chin

A Rights Management Approach to Securing Data Distribution in Coalitions

Farzad Salim, Nicholas Paul Sheppard, and Reiheneh Safavi-Naini

Security Analysis of Yang et al.'s Practical Password-Based Two-Server Authentication and Key Exchange System

Xun Yi

Thursday 2 September 2010 Afternoon

12:30-13:30	Lunch (venue)
13:30-14:30	HPCC 2010 Keynote Address: Big Science on DEISA and PRACE - A European HPC Ecosystem (Conference Hall 1 & 2) Speaker: <i>Prof Wolfgang Gentzsch (DEISA Distributed European Infrastructure for</i>

	<i>Supercomputing Applications, Germany</i> Chair: <i>TBD (TBD, TBD)</i>			
14:30-15:00	Afternoon Tea (<i>venue</i>)			
15:00-17:30	Session 4C: NSS 2010 (Conference Hall 2)	Session 4D: NSS 2010 (M12)	Session 4F: ICDKE 2010 (M15)	

Session 4C: NSS 2010 (Conference Hall 2) – Identity Management and Authentication
Session Chair: TBD (TBD, TBD)

The Mobile Phone as a Multi OTP Device Using Trusted Computing
Mohammed Alzomai and Audun Jøsang
 Fingerprint Reference Point Determination Based on Orientation Features
Shan Juan Xie, Sook Yoon, Hui Gong, Jinwook Shin, and Dong Sun Park
 A Three-Factor Authenticated Key Agreement Scheme for SIP on Elliptic Curves
Eun-Jun Yoon and Kee-Young Yoo
 Breaking Tor Anonymity with Game Theory and Data Mining
Cynthia Wagner, Gerard Wagener, Radu State, Thomas Engel, and Alexandre Dulaunoy
 A Node-based Trust Management Scheme for Mobile Ad-Hoc Networks
Raihana Ferdous, Vallipuram Muthukkumarasamy, and Abdul Sattar

Session 4D: NSS 2010 (M12) – Viruses, Worms, and Other Malicious Code
Session Chair: TBD (TBD, TBD)

Overcoming Reputation and Proof-of-Work Systems in Botnets
Andrew White, Alan Tickle, and Andrew Clark
 Computational Intelligence Utilisation in Simulation of Congestion Control in TCP/IP Edge Network
Reginald Lal and Andrew Chiou
 Global Detection of Flooding-Based DDoS Attacks Using a Cooperative Overlay Network
Thaneswaran Velauthapillai, Aaron Harwood, and Shanika Karunasekera
 Identifying Legitimate Clients under Distributed Denial-of-Service Attacks
Steven Simpson, Adam T. Lindsay, and David Hutchison
 Getting the Real-Time Precise Round-Trip Time for Stepping Stone Detection
Ping Li, Wanlei Zhou, and Yini Wang

Session 4F: ICDKE 2010 (M15) – Knowledge Discovery
Session Chair: TBD (TBD, TBD)

Exploratory Study to Explore the Role of ICT in the Process of Knowledge Management in an Indian Business Environment
Abdul Hafeez-Baig, Raj Gururajan, Heng Sheng Tasi, and Prema Sankaran
 Resource Selection from Distributed Semantic Web Stores
Ahmad Ali Iqbal, Maximilian Ott, and Aruna Seneviratne
 Spatio-temporal Knowledge Discovery in Very Large METOC Data Sets
D. Marks, E. Ioup, J. Sample, M. Abdelguerfi, and F. Qaddoura
 Privacy-Preserving Protocols for String Matching
Yonglong Luo, Lei Shi, Caiyun Zhang, and Ji Zhang

Thursday 2 September 2010 Evening

18:30-21:30	Conference Banquet (Melbourne Aquarium)
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Friday 3 September 2010 Morning

09:00-10:00	NSS 2010 Keynote Address: TBD (Conference Hall 1 & 2) Speaker: <i>Prof Matthew Warren (Deakin University, Australia)</i> Chair: <i>TBD (TBD, TBD)</i>			
10:00-10:30	Morning Tea (<i>venue</i>)			
10:30-12:30	Session 5C: NSS 2010 (Conference Hall 2)	Session 5D: NSS 2010 (M12)	Session 5F: ICDKE 2010 (M15)	Session 5G: IDCS 2010 Keynote Address by <i>Prof Rajkumar Buyya</i> (<i>Conference Hall 1</i>)

Session 5C: NSS 2010 (Conference Hall 2) – Security Protocols

Session Chair: TBD (TBD, TBD)

Efficient Proof of Validity of Votes in Homomorphic E-Voting

Kun Peng and Feng Bao

DIPLOMA: Distributed Policy Enforcement Architecture for MANETs

Mansoor Alicherry and Angelos D. Keromytis

Efficient Ideal Threshold Secret Sharing Schemes Based on EXCLUSIVE-OR Operations

Chunli Lv, Xiaoqi Jia, Lijun Tian, Jiwu Jing, and Mingli Sun

A Software Watermarking Algorithm Based on Stack-State Transition Graph

*Xu Jinchao and Zeng Guosun***Session 5D: NSS 2010 (M12) – Internet and Network Forensics****Session Chair: TBD (TBD, TBD)**

Network Forensics in MANET: Traffic Analysis of Source Spoofed DoS Attacks

Yinghua Guo and Matthew Simon

Forensic Analysis of DoS Attack Traffic in MANET

Yinghua Guo and Ivan Lee

The Design of Real-Time Adaptive Forensically Sound Secure Critical Infrastructure

Ray Hunt and Jill Slay

Command Evaluation in Encrypted Remote Sessions

*Robert Koch and Gabi Dreo Rodosek***Session 5F: ICDKE 2010 (M15) – Database and Applications****Session Chair: TBD (TBD, TBD)**

A Purpose Based Access Control in XML Databases System

Lili Sun, Hua Wang, Raj Jururajin, and Sri Sriprakash

An Efficient and Effective Duplication Detection Method in Large Database Applications

Ji Zhang

Fast IPTV Channel Switching Using Hot-View and Personalized Channel Preload over IEEE 802.16e

Chih-Lun Chou, Gwo-Jiun Horng, and Sheng-Tzong Cheng

A Pivot-Based Distributed Pseudo Facial Image Retrieval in Manifold Spaces: An Efficiency Study

*Yi Zhuang***Friday 3 September 2010 Afternoon**

12:30-13:30	Lunch (venue)			
13:30-14:30	Panel Session: Services, Security, and Privacy in Cloud Computing (Conference Hall 1 & 2) Chair: <i>TBD (TBD, TBD)</i> Panellists: <i>TBD (TBD, TBD)</i> <i>TBD (TBD, TBD)</i> <i>TBD (TBD, TBD)</i> <i>TBD (TBD, TBD)</i> <i>TBD (TBD, TBD)</i>			
14:30-15:00	Afternoon Tea (venue)			
15:00-17:30	Session 6C: NSS 2010 (Conference Hall 2)	Session 6D: NSS 2010 (M12)	Session 6F: ICDKE 2010 (M15)	

Session 6C: NSS 2010 (Conference Hall 2) – Implementation, Deployment and Management of Security Systems**Session Chair: TBD (TBD, TBD)**

Security-Oriented Workflows for the Social Sciences

Richard O. Sinnott and Sardar Hussain

Risk-Aware Framework for Activating and Deactivating Policy-Based Response

Wael Kanoun, Nora Cuppens-Boulahia, Frédéric Cuppens, and Samuel Dubus

An Efficient and High Scalable Key Distribution Scheme for Mobile Ad Hoc Network through Mining

Traffic Meta-data Patterns

Ahmad Jabas, Wael Abdulal, and S. Ramachandram

Improving Fuzz Testing Using Game Theory

Sheila Becker, Humberto Abdelnur, Jorge Lucángeli Obes, Radu State, and Olivier Festor

A View Based Access Control Model for SPARQL

Session 6D: NSS 2010 (M12) – Security Theory and Tools

Session Chair: TBD (TBD, TBD)

Digging into Anonymous Traffic: A Deep Analysis of the Tor Anonymizing Network

Abdelberi Chaabane, Pere Manils, and Mohamed Ali Kaafar

Reasoning about Relation Based Access Control

Alessandro Artale, Bruno Crispo, Fausto Giunchiglia, Fatih Turkmen, and Rui Zhang

Novel Multi-bit Bitwise Adaptive Embedding Algorithms with Minimum Error for Data Hiding

Rong-Jian Chen, Yu-Cheng Peng, Jun-Jian Lin, Jui-Lin Lai, and Shi-Jinn Horng

Organizing Access Privileges: Maximizing the Availability and Mitigating the Threat of Insiders' Knowledgebase

Qussai Yaseen and Brajendra Panda

New Families of 2D & 3D Arrays for Sub-image Watermarking

Oscar Moreno, Andrew Tirkel, Ron van Schyndel, and Udaya Parampalli

Session 6F: ICDKE 2010 (M15) – System Architecture and Framework

Session Chair: TBD (TBD, TBD)

OntoPsic: Leveraging the Knowledge in the Treatment and Diagnosis of Telepsychiatry

da Costa Dias, Ryan Ribeiro de Azevedo, Cleyton Rodrigues, Eric Rommel Galvão Dantas, Guilherme Ataíde Dias, and Roberto Souto Maior de Barros

Five Criteria for Web-Services Security Architecture

R. G. Addie and Alan Colman

A Two-Step Mutual Authentication Protocol Based on Randomized Hash-Lock for Small RFID Networks

Kaleb Lee

vESP: A Video-Enabled Enterprise Search Platform

Pål Halvorsen, Dag Johansen, Bjørn Olstad, Tomas Kupka, and Sverre Tennøe

PROCEEDINGS

**2010 Fourth International Conference on
Network and System Security**

—— NSS 2010 ——

**1–3 September 2010
Melbourne, Australia**

Edited by
**Yang Xiang
Pierangela Samarati
Jiankun Hu
Wanlei Zhou
Ahmad-Reza Sadeghi**



Los Alamitos, California
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2010 Fourth International Conference on Network and System Security

NSS 2010

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Message from the NSS 2010 Program Chairs

A warm welcome to the 4th International Conference on Network and System Security (NSS 2010) and to Melbourne, Australia.

NSS has been a premier conference that has brought together researchers and practitioners from academia, industry, and governments around the world to advance the theories and technologies of network and system security, such as authentication, access control, availability, integrity, privacy, confidentiality, dependability, and sustainability of computer networks and systems. The goal of NSS is to establish an international forum for researchers and practitioners to present their excellent ideas and experiences in all system fields of network and system security. NSS 2010 features new results, challenging research questions, novel approaches, and innovative directions in network and system security.

NSS 2010 is the fourth event in a series of highly successful events on network and system security. Previously held were the 3rd International Conference on Network and System Security (NSS 2009, Gold Coast, Australia, October 2009), the 2nd IFIP International Workshop on Network and System Security (NSS 2008, Shanghai, China, October 2008), and the 1st IFIP International Workshop on Network and System Security (NSS 2007, Dalian, China, September 2007), respectively.

In response to the call for papers, we received 131 submissions from 44 countries in the world. These papers were evaluated on the basis of their originality, significance, correctness, relevance, and technical quality. Each paper was reviewed by at least three members of the program committee. Based on these evaluations, of the papers submitted, 33 regular papers and 21 short papers were selected for presentation at the conference, representing 25.2% of acceptance for regular papers.

We would like to thank the Program Committee members and additional reviewers from all around the world for their efforts in reviewing the large number of papers. We appreciate the dedication and professionalism all of the associated conference/workshop chairs. We would like to extend our sincere thanks to the NSS Steering Committee and to the General Chairs, Professor Wanlei Zhou and Professor Ahmad-Reza Sadeghi. They provided us with invaluable guidance throughout the process of paper selection and program organization. We also thank Georgi Cahill, the Conference Secretariat, for her professional organization.

We would also like to take this opportunity to thank all of the authors for their submissions to NSS 2010 and associated conference/workshops. Many of you have travelled some distance to participate in the conference.

Last but not least, we would like to express our gratitude to all of the organizations who have supported our efforts to bring the conference to fruition. We are grateful to Deakin University, Central Queensland University, and the IEEE Computer Society TCSC for their sponsorships and assistance.

Welcome to Melbourne and enjoy!

Yang Xiang, *Deakin University, Australia*

Pierangela Samarati, *University of Milan, Italy*

Jiankun Hu, *RMIT University, Australia*

September 2010

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