Lecture Notes in Computer Science 4846

Commenced Publication in 1973
Founding and Former Series Editors:
Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

Editorial Board

Iliano Cervesato (Ed.)

Advances in Computer Science – ASIAN 2007

Computer and Network Security

12th Asian Computing Science Conference
Doha, Qatar, December 9-11, 2007
Proceedings

Springer

Volume Editor

Iliano Cervesato
Carnegie Mellon University
Doha, Qatar
E-mail: iliano@cmu.edu

Library of Congress Control Number: 2007939450

CR Subject Classification (1998): F.3, E.3, D.2.4, D.4.6-7, K.6.5, C.2

LNCS Sublibrary: SL 1 – Theoretical Computer Science and General Issues

ISSN 0302-9743
ISBN-10 3-540-76927-7 Springer Berlin Heidelberg New York
ISBN-13 978-3-540-76927-9 Springer Berlin Heidelberg New York

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India
Printed on acid-free paper SPIN: 12195626 06/3180 5 4 3 2 1 0

Preface

The ASIAN conference series provides a forum for researchers throughout Asia to present cutting-edge results in yearly-themed areas of computer science, to discuss advances in these fields, and to promote interaction with researchers from other continents. Accordingly, the conference moves every year to a different center of research throughout Asia: previous editions were held in Tokyo, Kunming (China), Bangkok, Mumbai, Hanoi, Penang (Malaysia), Phuket (Thailand), Manila, Kathmandu, Singapore, and Pathumthani (Thailand) where ASIAN was initiated by AIT, INRIA and UNU/IIST in 1995. The 12th edition took place in Doha, Qatar, during December 9–11, 2007.

Each year, the conference focuses on a different theme at the cutting edge of computer science research. The theme of ASIAN 2007 was "Computer and Network Security". It has been a tradition of ASIAN to invite three of the most influential researchers in the focus area, one from Asia, one from Europe and one from the Americas, to discuss their work and their vision for the field. This year's distinguished speakers were Andrei Sabelfeld (Chalmers University, Sweden), Joshua Guttman (MITRE, USA) and Kazuhiko Kato (University of Tsukuba, Japan).

Following the call for paper, ASIAN 2007 received 112 submissions, of which 65 were eventually reviewed. Of these, the Program Committee selected 15 regular papers and 10 short papers. This volume contains the abstracts of the invited talks and the revised versions of the regular papers and the short papers. I wish to thank the members of the Program Committee and the external reviewers for doing an excellent job at selecting the contributed papers under severe time pressure. *EasyChair* proved an egregious platform for smoothly carrying out all aspects of the program selection and finalization.

The conference was held in Doha, Qatar, where Carnegie Mellon University recently established a branch campus with the goal of promoting the same high standards of research and education for which its original campus in Pittsburgh, USA, is internationally recognized. Carnegie Mellon Qatar is located in Education City, a 2,500-acre campus which provides state-of-the-art research and teaching facilities to branches of five of the world's leading universities. It is part of an unprecedented commitment of resources made by the Qatari leadership to position Qatar as a world-class center of education and research.

Many people were involved in the organization of this conference. In particular, I wish to thank the General Chair, Kazunori Ueda, for his support, and the Steering Committee for endorsing the candidacy of Doha for this year's edition of ASIAN. This conference would not have been possible without the hard work of the many people who relentlessly handled the local arrangements, especially Thierry Sans and Kara Nesimiuk. We greatly appreciate the generous support

of our sponsors, Carnegie Mellon University in Qatar and QCERT. Finally we are grateful to the authors, the invited speakers and the attendees who made this conference an enjoyable and fruitful event.

September 2007 Iliano Cervesato

Conference Organization

Steering Committee

Philippe Codognet (French Embassy, Japan)
Joxan Jaffar (National University, Singapore)
Mitsu Okada (Keio Univerity, Japan)
R.K. Shyamasundar (Tata Institute of Fundamental Research, India)
Kazunori Ueda (Waseda University, Japan)

General Chair

Kazunori Ueda (Waseda University, Japan)

Program Chair

Iliano Cervesato (Carnegie Mellon University, Qatar)

Program Committee

Michael Backes (Saarland University, Germany)
Anupam Datta (Stanford University, USA)
Mourad Debbabi (Concordia University, Canada)
Sven Dietrich (CERT, USA)
Masami Hagiya (University of Tokyo, Japan)
Yassine Lakhnech (VERIMAG, France)
Ninghui Li (Purdue University, USA)
Catherine Meadows (Naval Research Lab, USA)
R. Ramanujam (Institute of Mathematical Sciences, India)
Takamichi Saito (Meiji University, Japan)
Dheeraj Sanghi (IIT Kanpur, India)
Thierry Sans (Carnegie Mellon University, Qatar)
Andre Scedrov (University of Pennsylvania, USA)
Vitaly Shmatikov (University of Texas-Austin, USA)
Duminda Wijesekera (George Mason University, USA)
Yuqing Zhang (Chinese Academy of Sciences, China)
Jianying Zhou (Institute for Infocomm Research, Singapore)

Local Organization

Thierry Sans (Carnegie Mellon University, Qatar)

External Reviewers

Kumar Avijit
Vishwas B.C.
Adam Barth
A. Baskar
Justin Brickell
Judicaël Courant
Shruti Dubey
Markus Dürmuth
Jason Franklin
Yoshinobu Kawabe
Dilsun Kaynar
Ken Mano
Azzam Mourad
Hadi Otrok
Iosif Radu
Arun Raghavan
Arnab Roy
Hideki Sakurada
Mohamed Saleh
Satyam Sharma
S.P. Suresh
Yasuyuki Tsukada

Table of Contents

Session 6: Short Papers on Network Security

Session 7: Safe Execution