Fifth International Conference
"Mathematical Methods, Models, and Architectures
for Computer Networks Security"
(MMM-ACNS-2010)
and
First International Workshop
"Scientific Analysis and Policy Support for Cyber Security"
(SA&PS4CS-2010)

September 8-11, 2010, St. Petersburg, Russia
http://comsec.spb.ru/mmm-acns10/
http://www.comsec.spb.ru/saps4cs10/

Sponsors

1. European Office of Aerospace Research and Development USAF, USA
2. Office of Naval Research Global, USA
3. Russian Foundation for Basic Research

Organizers

- Institution of the Russian Academy of Sciences St.Petersburg Institute for Informatics and Automation of RAS (SPIIRAS)
- St. Petersburg Scientific Center of the Russian Academy of Sciences
- Binghamton University (State University of New York)

Title and scope

The previous International Conferences "Mathematical Methods, Models and Architectures for Computer Networks Security" (MMM-ACNS-2001 (http://space.iias.spb.su/mmm-acns01/), MMM-ACNS-2003 (http://space.iias.spb.su/mmm-acns03/), MMM-ACNS-2005 (http://space.iias.spb.su/mmm-acns05/) and MMM-ACNS-2007 (http://www.comsec.spb.ru/mmm-acns07/) organized by St. Petersburg Institute for Informatics and Automation, Binghamton University (SUNY) and supported by the European Office of Aerospace Research and Development USAF, Office of Naval Research Global, and Russian Foundation for Basic Research were successful. These conferences demonstrated the high interest of the international scientific community to the theoretical and practical aspects of the computer network and information security.

The goals of **MMM-ACNS-2010 Conference** (http://www.comsec.spb.ru/mmm-acns10/) to bring together leading researchers from academia and governmental organizations as well as practitioners to advance the states of the art and practice in the area of computer networks and information security with a focus on novel theoretical aspects of computer network security, facilitate personal interactions and discussions on various aspects of information technologies in conjunction with computer network and information security problems arising in large-scale computer networks.

The MMM-ACNS-2010 Conference will be carried out together with the **First International Workshop "Scientific Analysis and Policy Support for Cyber Security" (SA&PS4CS-2010)** (http://www.comsec.spb.ru/saps4cs10/) dedicated to the methods of scientific analysis and policy support for response to cyber intrusions and attacks.

Topics of interest

Papers offering novel research contributions to the theoretical aspects of the computer network and information security are solicited for submission for **MMM-ACNS-2010**.

Papers may present theory, technique, and applications on topics including but not restricted to:

- Adaptive security
- Anti-malware techniques: detection, analysis, prevention
- Anti-phishing, anti-spam, anti-fraud, anti-botnet techniques
- Authentication, Authorization and Access Control
- Computer and network forensics
- Covert channels
- Critical infrastructure protection
- Data and application security
- Data mining, machine learning, and bio-inspired approaches for security
- Deception systems and honeypots
- Denial-of-service attacks and countermeasures
- Digital Rights Management
- eCommerce, eBusiness and eGovernment security
- Formal analysis of security properties
- Information warfare
- Internet and web security
- Intrusion prevention, detection, and response
- Language-based security
- Network survivability
- New ideas and paradigms for security
- Operating system security
- Security and privacy in pervasive and ubiquitous computing
- Security event processing and predictive security monitoring
- Security for cloud computing
- Security for large-scale systems and critical infrastructures
- Security of emerging technologies: sensor, wireless/mobile, peer-to-peer and overlay networks
- Security of autonomous agents and multi-agent systems
- Security modeling and simulation
- Security policies
- Security protocols
- Security verification
- Self-protecting and healing
- Software protection
- Trusted computing
- Trust and reputation management
- Vulnerability assessment, risk analysis and risk management

The main topics of the SA&PS4CS'2010 are detection, discrimination, and attribution of various activities of malefactors and response to cyber intrusions and attacks including national level information operations as well as identifying emergent cyber technologies supporting social and political activity management and trans-national distributed computing management.

Objectives of the MMM-ACNS-2010 Conference

The main objectives of the MMM-ACNS-2010 Conference are to discuss state-of-the-art in mathematical methods and models for computer networks and information security to promote a better understanding of recent achievements and trends in the computer network security, as well as making use of recent achievements in the area of advanced information technologies for computer network and information assurance.

Security assurance of resident information and computer networks' software is one of the important problems of the modern computer science and information technology. The problem importance is confirmed by ever increasing multiplicity and diversity of threads and vulnerabilities of computer networks, permanently increasing significance and value of information itself, and by potentially devastating consequences of successful attacks on integrity, resource availability and information

confidentiality. Unauthorized access to computer network facilities and network resources, especially in global networks participating in real-time control operations, may be truly disastrous.

There are several reasons for the complexity of the problem under study. The growing size of the network, its interconnectivity, large number of users, increasing number of vulnerable targets within the network (communication protocols, operating systems, servers, applications, etc.), and the appearance of effective and previously unknown types of attacks are among them.

An additional objective of the conference is to bring together researchers and developers from academia, industry and governmental organizations to exchange ideas in a broad range of topics among researchers, security system developers and users from research and commercial perspective.

Since the scope of the conference covers areas presenting specific interest for basic and applied research organizations, information about the conference will be distributed among the corresponding organizations in Russia and worldwide. So far preliminary agreement to participate in the conference is received from leading Russian Institutions doing basic and applied research in Computer Science, Telecommunication and Computer Security and from companies developing relevant industrial applications. MMM-ACNS-2010 program and agenda will be finalized after paper reviewing and selecting procedure by **May 23, 2010**.

Objectives of the SA&PS4CS-2010 Workshop

Cyber security is receiving a significant international attention given recent network attacks involving Russia, Estonia, USA, China and many other countries.

The Workshop aims to bring together researchers and practitioners involved in multiple disciplines concerning scientific analysis and policy support for cyber security to exchange ideas and to learn the latest developments in this important field.

We are planning to invite researchers from the Human Behavior, Network Security, Artificial Intelligence (mainly in the fields of intelligent data analysis, adversarial planning and game theory) and Autonomous Agents communities (mainly software agent technology) to integrate their respective technologies and develop a research agenda to detect and analyze attacks by Cyber Militias, detect and analyze the mechanisms used by Bot Armies, detect and block intrusions.

This Workshop could promote internationally shared understanding of the technically supportable indications and warnings for various types of intrusions and attacks, from the isolated to the highly coordinated, and from the forensic to strategic.

The Workshop is planned on the last day of MMM-ACNS-2010.

Submitting a paper

The MMM-ACNS-2010 welcomes original papers from academic, government, and industry contributors on mathematical approaches and models, state-of-the-art techniques, and novel applications in the above proposed areas. All submissions will be subjected to a thorough review by at least three reviewers.

Draft versions of original full papers up to 12 A4 pages in English using at least 11-point fonts with reasonable margins, including abstract (up to 300 words) and keywords (5 to 8), should be submitted by
March 7, 2010
or sooner through the upload facilities at the MMM-ACNS-2010 web site http://www.comsec.spb.ru/mmm-acns10/ .

Only electronic submissions in PDF format will be considered.

Authors must also indicate the conference track to which the paper is submitted.

The Program Committee will make the final selection based on peer reviewers' evaluation.

The primary focus is on high-quality original unpublished research, case studies and implementation experiences.

Notification of acceptance/rejection will be disseminated by **May 2, 2010**.

Camera-ready versions of accepted papers (see below) are due **May 23, 2010**.

The speakers of **the SA&PS4CS-2010 Workshop** will be personally invited. Camera ready papers for the SA&PS4CS-2010 should be submitted by **June 13, 2010**.

Invited Speakers

- **Herve Debar** (Institut Telecom - Telecom SudParis, France)
- **Dieter Gollmann** (Technical University of Hamburg-Harburg, Germany)
- **Greg Morrisett** (School of Engineering and Applied Sciences, Harvard University, USA)
- **Bart Preneel** (Electrical Engineering Department, Katholieke Universiteit Leuven, Belgium)
- **Pierangela Samarati** (University of Milan, Italy)
- **Ravi Sandhu** (University of Texas at San Antonio, Institute for Cyber Security, USA)

Proceedings

Program Committee plans to publish the **MMM-ACNS-2010 Proceedings** in Springer series "Lecture Notes in Computer Science" (LNCS). The final decision will be made by Springer after finalizing the reviewing process. Instructions for authors will be provided at the MMM-ACNS-2010 web site (http://www.comsec.spb.ru/mmm-acns10/).

Camera ready paper submission can be uploaded through the MMM-ACNS-2010 web site at http://www.comsec.spb.ru/mmm-acns10/.

The Proceeding of the SA&PS4CS-2010 Workshop also will be prepared.

Conference Languages

The working language of MMM-ACNS-2010 is English.

The working languages of SA&PS4CS-2010 Workshop are English and Russian. Presentations will be simultaneously translated.

Conference Co-Chairmen
- Corresponding Member of the Russian Academy of Sciences, Prof. **R.M. Yusupov**, Director of the Institution of the Russian Academy of Sciences St.Petersburg Institute for Informatics and Automation of RAS (SPIIRAS)
- Dr. **Robert L. Herklotz**, Program Manager: Information Operations and Security, US Air Force Office of Scientific Research

Program Committee

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Chairman

R.M. Yusupov, Director of the Institution of the Russian Academy of Sciences St.Petersburg Institute for Informatics and Automation of RAS (SPIIRAS)

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Location of the Conference and Workshop

According to the preliminary agreement, the MMM-ACNS-2010 conference and the SA&PS4CS-2010 Workshop will take place in the historical building "Palace of Grand Prince Vladimir Romanov," now "House of Scientists," located in the heart of St. Petersburg, address: 26, Dvortsovaya emb., St. Petersburg, 191186, Russia.

This venue allows the conference organizers to arrange for the conference itself, as well as for the associated events (informal discussions, reception, breaks, etc.).

Contact us

Program Committee Co-Chairman

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