



Romanian Association for  
Information Security Assurance

**PROCEEDINGS  
OF  
THE INTERNATIONAL CONFERENCE ON  
CYBERSECURITY AND CYBERCRIME**

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**CyberCon Romania  
2016**



# **THE INTERNATIONAL CONFERENCE ON CYBERSECURITY AND CYBERCRIME**

## **PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON CYBERSECURITY AND CYBERCRIME**

Volume III

A scientific conference organized by the  
**Romanian Association for Information Security Assurance**



**CyberCon Romania  
2016**



# THE INTERNATIONAL CONFERENCE ON CYBERSECURITY AND CYBERCRIME

**The International Conference on Cybersecurity and Cybercrime (IC3)** is an annual scientific conference, with the purpose to encourage the exchange of ideas about the evolution of cyberspace, information security challenges, and new facets of the phenomenon of cybercrime. The event provides the appropriate framework for students to present their research in this field.

**The Proceedings of the International Conference on Cybersecurity and Cybercrime** includes scientific papers reviewed by the *Editorial Board* that consists of experts from academic police structures and university departments, their work taking place under the guidance of the *Advisory Board*, composed of internationally recognized personalities from the academic field.

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**CyberCon Romania** brings together experts from public institutions, private companies, and universities, for raising the level of awareness and embodies the cybersecurity culture.

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**The Romanian Association for Information Security Assurance (RAISA)** is a professional, non-governmental, non-partisan political, nonprofit, and public benefit association.

Founded in 2012, the association started as an initiative with the aim of promoting and supporting information security activities in compliance with applicable laws and creating a community for the exchange of knowledge between the experts from the public, private, and academic environment. Its vision is to encourage the cybersecurity research and education, and to contribute to the creation and dissemination of knowledge and technology in this domain.

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# Security of Personal Data in Social Networking Services

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## Abstract

*In this world of technology, to keep your personal information confidential became something harder. Contributors to this are the social networks, which are some websites offering to find your friends, but for this they need some personal data. Having this data there and not knowing how to hide it from others who want to see it, you expose yourself to all sorts of crimes. This article presents what is a social networking service and how it evolved, potential threats to the security of personal data, measures to protect personal data on social networking services.*

**Keywords:** social networking service, baiting, doxing

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# An Analysis on Security of Electronic Transactions in E-commerce

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## Abstract

*E-commerce and online banking with its different terms (e-banking, internet banking, etc.) allows the conduction of financial transactions within the comfort of our homes and offices. Although the transactions are being processed from secure servers, there will always be computer criminals increasing the revenues up to levels comparable to that of a state. Yet, with countermeasures and security assessments carried out, we can have a safe online environment to perform our financial tasks way much faster, cheaper and convenient, without the concern of virtual attacks. This paper presents basic concepts on online banking, risks and a detailed description on modern online banking cybercrime.*

**Keywords:** security, cybercrime, modern threats

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# Cyber Attacks and Information Systems Threats

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## **Abstract**

*Life in 21st century is governed by internet and information systems. In every level of our society information systems are used to make our lives easier and improve our work and results. Information systems are used by corporations, business firms and, also, by regular people. Individuals rely on information systems, generally Internet-based, for conducting much of their personal lives: for socializing, study, shopping, banking, and entertainment. As internet and information systems are extending, many threats are appearing every day, hacking phenomenon is growing, in various forms and types of attacks, therefore, if you do not have a security plan in place your networks and data are vulnerable. In this article, you can find how to protect your personal computer, data, avoid any cyber threats and viruses and prevent the information system you are using from being compromised or damaged.*

**Keywords:** information systems, cyber-attacks, IT threats

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# Study on Malware Software

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## **Abstract**

*The purpose of this article is to present the principal types of information attacks. Being known that more than half of people use Internet, hackers' profit of this situation and develop methods to steal money, information, to destroy and access private computer systems. Especially all these attacks are looking for profit. Information attacks cause million dollars damages, and this situation is getting worse. The principal and most using information attacks are viruses, worm, trojan and spyware. All these attacks are included in one name Malware.*

**Keywords:** type of malware, cyberattacks, exploits

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# Cyber Attacks and Countermeasures

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## Abstract

*The evolution of cyber-attacks throughout time has been fast and diversified, raising numerous problems and creating high risks for the security of information systems, networks and personal computer devices. In comparison with the first cyber-attacks, nowadays we face complex and ingenious methods that represent a huge threat for online security in every domain, around the world.*

**Keywords:** cyber-attacks, cybercrime, security, information system

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# The Analysis of the Virtual Machine Security

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## Abstract

*Attackers and defenders of computer systems both strive to gain complete control over the system. To maximize their control, both attackers and defenders have migrated to low-level, operating system code. In these conditions we present the idea of using a virtual machine to share services and information over the Internet. In case of an attack the virtual machine resources will be affected while the real machine resources will be safe. In this paper, we assume the perspective of the attacker, who is trying to run malicious software over a virtual machine. We'll want to show that if we gain the full control over a virtual machine, we can't affect the real machine resources.*

**Keywords:** virtual machine, denial of service, malware, cybersecurity

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# The Principles of System Survivability

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## Abstract

*Nowadays, the society is growing increasingly dependent upon large-scale, highly distributed systems that operate in unbounded network environments. Unbounded networks, such as the Internet, have no central administrative control and no unified security policy. The number and nature of the nodes connected to such networks cannot be fully known. Despite the best efforts of security practitioners, no amount of system hardening can assure that a system that is connected to an unbounded network will be invulnerable to attack. Furthermore, organizations and individuals alike want their technology to survive attacks, failures, and accidents, but the technology in computer systems, software, and network infrastructure components changes frequently and is vulnerable to disruption. The discipline of survivability can help ensure that such systems can deliver essential services and maintain essential properties such as integrity, confidentiality, and performance, despite the presence of intrusions.*

**Keywords:** information system, survivability, SKiP

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# Cyber Terrorism - Serious Form of Cyber Criminality

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## Abstract

*Today's world is becoming increasingly dependent upon information technology, as computers have become integral parts of the daily lives of people all around the globe. However, while technology can deliver a great number of benefits, it equally sets forth new vulnerabilities that may be exploited in blood shedding purposes by persons with the necessary skills. Cyberterrorism is located at the cohesion of the real and virtual world, bringing together what each of the two has more damaging: ruthless terrorists unleashing unprecedented attacks through computers crimes against the world's nations. This article aims at clarifying how the Internet is altering the foreign political landscape, with particular emphasis on the evolution of the cyber terror phenomenon, its potential and implications, concluding with a number of directions of action.*

**Keywords:** terrorists, information warfare, cybercrime

## References

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# Cybersecurity Challenges for E-learning Systems

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## **Abstract**

*The e-learning systems consist of a platform that provides materials in order to be assimilated by the students. Today, the cybersecurity becomes a fundamental requirement for these systems. As e-learning increases in popularity and reach, the need to understand security will also increase. A risk analysis needs to be part of each e-learning project. This paper analyzes the security of the e-learning systems.*

**Keywords:** e-learning, vulnerabilities, MySQL

## **References**

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# Cybercrimes - A New Threat to the Society

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## Abstract

*The Internet has been a boon to business, science, education and just about any field you can think of, including crime. Just like every human invention, Internet has two sides to it, on the one hand it allows businesses to be more productive and scientists to share research data almost instantaneously, on the other hand it grants criminals an additional tool to commit crimes and get away with it. Because of its unique nature that transcends national borders and the anonymity that it allows for its users, Internet is perfect for those who wish to evade the law. In the modern society, the types of crimes stipulated by the law extend globally under a new form: cyber-crime. The evolution of this phenomenon is directly proportional with the development of the informational technology and communication, increasingly used by individuals. This article is trying to bring more awareness of the phenomenon of cyber-crime, by explaining the notion of this type of crime, the ways in which it manifests itself, because in order to protect ourselves we first have to know what we are protecting from.*

**Keywords:** cybercrime, threat, computer network

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As an author, you are kindly advised to follow the next instructions. Reading and understanding the requirements before submittal would ensure adherence to the International Conference on Cybersecurity and Cybercrime standards and would facilitate acceptance by the scientific reviewers.

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2. For papers writing it is recommended the use the text processor Microsoft Word and one of the template models found on the conference website. We will do the final formatting and all necessary format conversions of your paper.
3. The papers will be submitted using our online interface. Please do not send your papers by email.
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## **The Romanian Association for Information Security Assurance (RAISA)**

**The Romanian Association for Information Security Assurance (RAISA)** is a professional, non-governmental, non-partisan political, nonprofit, and public benefit association.

### **RAISA AIM**

The aim of the Romanian Association for Information Security Assurance is promoting and supporting information security activities in compliance with applicable laws.

### **RAISA VISION**

The vision of the Association is to promote research and education in information security field and to contribute to the creation and dissemination of knowledge and technology in this domain. RAISA has a strong representation at the national level, bringing together professors and researchers from top universities and Romanian institutions, PhD, master's, and license students, as well as companies in the IT segment.

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To achieve the stated purpose, the Romanian Association for Information Security Assurance proposes the following objectives:

- Collaboration with the academic community from Romania or abroad in order to organize conferences, scientific seminars and workshops for presenting the development and implementation of effective measures to improve information security.
- Collaboration with research centers, associations, and companies from Romania or abroad, to organize informative events in information technology security field.
- To perform specific programs for education and training of personnel involved in electronic information management (data processing, storage, security).
- To ensure the dissemination of notice relating to existing vulnerabilities and nationally and internationally newly identified threats; to provide solutions for data restoration and policies to prevent and combat incidents based on the information provided by suppliers of software solutions.
- To publish scientific journals for university staff, PhD students or master's students, researchers, students, and other professional categories in the field of information security and cybercrime.
- To grant awards, scholarships, or sponsorships to people with outstanding merits in the field of information security.

**Website:** [www.raisa.org](http://www.raisa.org)

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## RAISA Members Benefits

### RAISA MEMBERS

The Romanian Association for Information Security Assurance (RAISA) is an organization that consists of:

- **Founding members** - are individuals who have participated in the founding process of the Association, have agreed with the Statute of the Association at the date of establishment and are parts of the members' category, with all their rights. The founding members pay annual membership fee and have the right to deliberative vote during the General Assembly.
- **Members** - are individuals who have joined the Association after the date of establishment. The members pay annual membership fee and have all the rights, respecting the obligations stipulated in Statute of the Association. They have the right to deliberative vote during the General Assembly.
- **Honorary Members** - can be scientists, professors, cultural or religious personalities, valuable professionals, who have rendered outstanding services to the Association. They are exempted from contributions and their vote is advisory.
- **Collaborators/Volunteers** - anyone who wants to participate in Association activities without becoming a member. Their collaborations are on no-cost basis; they don't pay a membership fee and don't have the right to vote.

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- The possibility of promoting the events on RAISA media channels:
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  - [www.securitatea-informatiilor.ro](http://www.securitatea-informatiilor.ro)
  - [www.criminalitatea-informatica.ro](http://www.criminalitatea-informatica.ro)

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