

Guest Editorial: Intelligent Distributed Computing

Igor Kotenko

*Laboratory of Computer Security Problems, St. Petersburg Institute for Informatics
and Automation of the Russian Academy of Sciences (SPIIRAS),
39, 14 Liniya, St. Petersburg, 199178, Russia*

Intelligent distributed computing is an integrated research based on synergies between two main research and development directions intelligent computing and distributed computing. Now it is derived as from classical areas of artificial intelligence and distributed models and applications, as well as from new solutions inspired by computational intelligence, high-performance architectures, ephemeral and unreliable computing, multi-agent systems, swarm systems and many others.

The special issue is aimed to demonstrate some of the latest developments in the area of intelligent distributed computing. The issue focuses on problems related to theoretical and practical issues of *Distributed Denial of Service* (DDoS) attacks, designing a quadrocopter fail-safe algorithm, a Wi-Fi access based on an electronic identity infrastructure, and using mobile phones to monitor the status of patients.

The first paper, *Why would we get attacked? An analysis of attacker's aims behind DDoS attacks*, considers an integrate approach to analyze the motives and strategies of attackers that realize DDoS attacks. The suggested approach combines frameworks of several crime opportunity theories. To estimate the reasons for selecting a victim, the authors make use of socio-cultural, economic and political aspects.

The second paper, *Design of a quadrocopter with PID-controlled fail-safe algorithm*, investigates an approach of choosing a configuration of a quadrocopter for emergency landing, including situation when only two of four engines working.

In the next paper, *Supporting Authorize-then-Authenticate for Wi-Fi access based on an electronic identity infrastructure*, the authors analyzes an authorization mechanism (before authentication) in services exploiting the eIDAS Network, which allows mutual recognition of citizen's electronic identities (eIDs) across European countries and providers. The authors present a Wi-Fi access scenario, in which the service provider has to implement access control decisions before the person is authenticated through the eIDAS Network. The paper proposes a model that specifies this authorization mechanism and its implementation.

Finally, in the last paper, *The use of mobile phones to monitor the status of patients with Parkinson's disease*, the authors study an approach for monitoring the status of patients with Parkinson's disease. The approach is based on distributed data processing mechanisms, including mobile phones, a server and separate modules for doctors. An apparatus of fuzzy logic is used to accumulate data, and neural networks to classify the state of patients.

We would like to express my deep appreciation of the papers written by all the authors and my thankfulness to all reviewers who have carefully analyzed these papers and contributed to improve their quality. My special gratitude goes to Prof. Ilsun You, Editor in Chief of the JoWUA, for his invaluable

help throughout this special issue preparation.

Igor Kotenko
Guest Editor
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Author Biography



Igor Kotenko graduated with honors from St.Petersburg Academy of Space Engineering and St. Petersburg Signal Academy. He obtained the Ph.D. degree in 1990 and the National degree of Doctor of Engineering Science in 1999. He is Professor of computer science, Chief scientist and Head of the Laboratory of Computer Security Problems of St. Petersburg Institute for Informatics and Automation. He is the author of more than 500 refereed publications, including 14 textbooks and monographs. Igor Kotenko has a high experience in the intelligent and distributing computing research, including computer network security, artificial intelligence, integrated information and telecommunication systems. He participated as a head or principal researcher in many projects on developing new technologies in area of intelligent and distributing computing.