



Exploration of Networks Containing Malicious Hosts



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Περίληψη – Abstract

In distributed mobile computing environments one of the most pressing concerns is security. Two are the most important security threats: a malicious mobile process which can move along the network and a stationary harmful process which resides at a host. One of the most studied models for stationary harmful processes is the black hole which has been introduced by S. Dobrev, P. Flocchini, G. Prencipe and N. Santoro in 2001. A black hole is a harmful node in the network that destroys any mobile agent visiting that node without leaving any trace. The objective of the Black Hole Search problem is to identify the black hole without destroying too many agents and the main effort is to discover the minimal hypotheses under which it can be solved. The problem had been initially investigated in asynchronous networks and introduced later in synchronous networks where it has been studied under very weak models (e.g., using agents with only constant memory). We will present some main results and algorithmic techniques and we will discuss the case when the malicious host has byzantine behaviour and can also alter the memory of a visiting agent.

[Euripides Markou](#) received his B.Sc. (in Physics) from the University of Ioannina, Greece, in 1993 and his Ph.D. (in Theoretical Computer Science) from the National Technical University of Athens, Greece, in 2003. His advisor was Stathis Zachos. He has been a postdoctoral researcher at the Université du Québec en Outaouais, Gatineau, Canada (2003-2004), at the National and Kapodistrian University of Athens, Greece (2004-2006), at the Laboratoire Bordelais de Recherche en Informatique (LaBRI), Bordeaux, France (2006) and at McMaster University, Hamilton, Canada, (2006-2007) before joining the Department of Computer Science and Biomedical Informatics at the University of Central Greece (now University of Thessaly) in 2008.

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