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Call for Papers

Special Issue of Computer Networks on

"Traffic classification and its applications to modern networks"

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The evolution of the Internet in the last few years has been characterized by dramatic changes to the way users behave, interact and utilize the network. The research community and many network operators are responding to these changes by designing and deploying traffic measurement and classification architectures of increasing complexity. In fact, the observation of network traffic is at the core of many fundamental network research, operation and maintenance activities, such as the implementation of Quality of Service guarantees, traffic engineering, intrusion prevention and detection. However, the rapid introduction of new categories of applications such as network games and peer-to-peer, the increasing presence of malicious traffic, and the widespread use of encryption techniques, make the measurement, analysis and classification of Internet traffic a challenging task. The research community is therefore asked to tackle traffic classification issues by focusing on the design of novel algorithms capable of overcoming the limitations of packet inspection techniques, which are quickly becoming ineffective. Similarly, new distributed classification architectures and real-time traffic classification platforms must be defined to cope with current and future high-speed networks. Finally, the importance of preserving the users' privacy and the need to reduce the amount of traffic that is collected, stored and processed are increasingly seen as some of the major issues that are limiting the progress in this area of research.

Scope of Contributions

This issue is devoted to cutting-edge research achievements in the area of traffic classification, dealing with topics such as novel classification techniques, data privacy, distributed classification architectures, and emerging applications of traffic classifiers. We solicit papers that present original and unpublished work on topics including, but not limited to, the following:

- Traffic classification algorithms and techniques
- Platforms for on-line, real-time traffic classification
- Comparisons among traffic classification techniques
- Privacy-preserving classification techniques
- Identification and classification of encrypted traffic
- Impact of sampling on network traffic classification
- Applications of traffic classification
- Data-reduction techniques for traffic traces
- Anonymization tools and their effects on traffic classification
- Interfaces and architectures for the storage of traffic traces

Manuscript Submission

Prospective authors are invited to prepare their papers according to the "Guide to Authors" available at http://www.elsevier.com/locate/comnet, and submit to http://www.editorialmanager.com/comnet, choosing "Article Type: **SI-Traffic Classification**". Requests for further information may be addressed to the guest editors: `mellia@tlc.polito.it`, `pescape@unina.it` and `luca.salgarelli@ing.unibs.it`.

Important Dates

Manuscripts due:	May 1, 2008
Notification to authors:	September 10, 2008
Revised papers due:	October 15, 2008
Accepted, revised papers to production:	October 30, 2008
Publication:	late 2008/early 2009

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