

Table of Contents

Part I: Network Measurement

High-Performance Network Traffic Processing Systems Using Commodity Hardware	3
<i>José Luis García-Dorado, Felipe Mata, Javier Ramos, Pedro M. Santiago del Río, Victor Moreno, and Javier Aracil</i>	
Active Techniques for Available Bandwidth Estimation: Comparison and Application	28
<i>Alessio Botta, Alan Davy, Brian Meskill, and Giuseppe Aceto</i>	
Internet Topology Discovery	44
<i>Benoit Donnet</i>	
Internet PoP Level Maps	82
<i>Yuval Shavitt and Noa Zilberman</i>	
Analysis of Packet Transmission Processes in Peer-to-Peer Networks by Statistical Inference Methods	104
<i>Natalia M. Markovich and Udo R. Krieger</i>	

Part II: Traffic Classification and Anomaly Detection

Reviewing Traffic Classification	123
<i>Silvio Valenti, Dario Rossi, Alberto Dainotti, Antonio Pescapè, Alessandro Finamore, and Marco Mellia</i>	
A Methodological Overview on Anomaly Detection	148
<i>Christian Callegari, Angelo Coluccia, Alessandro D'Alconzo, Wendy Ellens, Stefano Giordano, Michel Mandjes, Michele Pagano, Teresa Pepe, Fabio Ricciato, and Piotr Żuraniewski</i>	
Changepoint Detection Techniques for VoIP Traffic	184
<i>Michel Mandjes and Piotr Żuraniewski</i>	
Distribution-Based Anomaly Detection in Network Traffic	202
<i>Angelo Coluccia, Alessandro D'Alconzo, and Fabio Ricciato</i>	

Part III: Quality of Experience

From Packets to People: Quality of Experience as a New Measurement Challenge	219
<i>Raimund Schatz, Tobias Hoßfeld, Lucjan Janowski, and Sebastian Egger</i>	

Internet Video Delivery in YouTube: From Traffic Measurements to Quality of Experience	264
<i>Tobias Hoßfeld, Raimund Schatz, Ernst Biersack, and Louis Plissonneau</i>	
Quality Evaluation in Peer-to-Peer IPTV Services	302
<i>Mu Mu, William Knowles, Panagiotis Georgopoulos, Steven Simpson, Eduardo Cerqueira, Nicholas Race, Andreas Mauthe, and David Hutchison</i>	
Cross-Layer FEC-Based Mechanism for Packet Loss Resilient Video Transmission	320
<i>Roger Immich, Eduardo Cerqueira, and Marilia Curado</i>	
Approaches for Utility-Based QoE-Driven Optimization of Network Resource Allocation for Multimedia Services	337
<i>Lea Skorin-Kapov, Krunoslav Ivesic, Giorgos Aristomenopoulos, and Symeon Papavassiliou</i>	
Author Index	359