Load Balancing Algorithm Exploiting Overlay Techniques

Anton Dort-Golts, Olga Simonina

Networks Department, State University of Telecommunications, Saint-Petersburg, Russia
dortgolts@gmail.com, simonina@bk.ru

Abstract — In the article we propose network traffic load balancing mechanism, based on the identification of a single network- or transport-layer traffic flows. The principal idea of proposed algorithm is a dynamical observation of the distribution router links current load, with such routers combined in special overlay network. For the purpose of load balancing some single flows after reaching load threshold could be relocated to alternative routes. Proposed algorithm is able to make selective flow relocation taking into account QoS demands of each single flow.

Keyword— load balancing, P2P, overlay networks, traffic engineering, QoS.

Anton Dort-Golts. Received the Specialist degree in networks and telecommunication systems from State University of Telecommunication (SUT), St. Petersburg, Russia, in 2009. At present time he`s a PhD student at Networks Department, SUT, Saint-Petersburg, Russia. Currently works as an Assistant at Networks Department, SUT, Saint-Petersburg, Russia. Research interests include P2P networks, overlays, statistical traffic characteristics.

Olga Simonina received the PhD degree in networks and telecommunication systems from State University of Telecommunication, St. Petersburg, Russia, in 2005. In 2000–2003 worked at Department of Information Transmission, State University of Telecommunication as an Assistant Professor, since 2003 she has been working at Networks Department, State University of Telecommunication, as an Assistant Professor. In 2006 became an Associate Professor. Her current research interests cover quality of service, multiservice networks and overlay networks. She is an ITU-T expert (ID 04908).