Using Modeler for modeling computer networks

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Abstract

This paper deals with a computer network modeling tool, the Riverbed Modeler. Similar tools had been used in our educations, eg. OPNET IT Guru. OPNET now is part of Riverbed, and the Modeler is provided for free use in education. In this paper the use of Modeler will be presented in education and in research, as well. This tool can be used for protocols and problems in each OSI ISO layers. Equipments from different manufacturers can be investigated. The range and the topology of the network under consideration have also a lots of options to choose.

The main characteristics of Modeler are considered in this paper. In the modeling process numerous individual and global parameters and statistics can be chosen, the results provided by a discrete event simulation can be displayed as a scalar or a vector panel, there is a lot of output options, and the graphs of different scenarios can be compared easily. A complex example is discussed. Some differences between Modeler and the previous tool are outlined, as well.

Finally, some research capabilities of network modeling and queueing networks are considered.

Keywords: modeling, simulation, networks

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