Abstract

This paper proposes a Random early detection algorithm based on fuzzy logic Principles. The main target of using the fuzzy logic is to reduce the number of lost packets which are sent by a sender using RED algorithm in queue-buffer router of the network topology. The function of fuzzy logic is to dynamically tune the maximum drop probability (maxp) parameter of the RED algorithm. To realize this target, a two-input-single-output fuzzy logic is implemented. The inputs of the fuzzy logic are average queue size, the difference in average queue size. To estimate the performance of the FLRED: simple network topology with FTP is suggested. In this research, the opnet modeler 14. 5 has been used. The simulation results show that the FLRED algorithm is better than traditional RED algorithm as far as the number of lost packets is concerned.

References

Applying Fuzzy Logic Principles to Improve the Performance of the Random Early Detection Algorithm


Index Terms

Computer Science   Fuzzy Systems

Keywords
Active queue management (AQM)   Congestion Control   Fuzzy logic Random early detection (FLRED)
Random early detection algorithm (RED).