Abstract

Congestion an major problem in today’s internet traffic had solution with TCP/IP congestion control mechanism. The active queue management (AQM) schemes stabilized the queue oscillations. Earlier RED AQM technique maintained the queue stability in which parameter setting was difficult. Hence a intelligent technique to stabilize the queue in the rapid growing traffic in internet was required. This paper proposes new unsupervised artificial neural network architecture with competitive learning mechanism. Learning vector quantization (LVQ) stabilizes the queue and reduces the queue oscillation. The results are compared with the Kohonen RED (KRED) and Modified Kohonen RED (MKRED) and prove that the proposed LVQ architecture stabilizes queue and maintain the queue delay.

References

- Wu-chang Feng, “Improving internet congestion control and queue management algorithms.”
An Intelligent Active Queue Management Technique for congestion control

- Emmanuel Lochin and Bruno Talavera &quot;Managing network congestion with a Kohonen-based RED queue&quot; ICC 2008 proceedings
- Arijit Ganguly and Pasi Lassila &quot;A study of TCP-RED congestion control using ns2&quot;
- Dina Goren-Bar, Tsvi Kuflik, Dror Lev &quot;supervised learning for automatic classification of documents using self-organizing maps&quot;
- Vincent Cheung and Kevin Cannons &quot;An introduction to neural networks&quot;
- Chrysostomos Koutsimanis and Pan Gan Park &quot;Active Queue Management – A router based control mechanism&quot;

Index Terms

Computer Science Communications

Keywords

Active Queue Management Random Early Detection Neural Networks Kohonen Self Organizing Map Learning Vector Quantization