Abstract

Network traffic prediction plays a vital role in the optimal resource allocation and management in computer networks. This paper introduces an ARIMA based model for the real time prediction of VBR video traffic. The methodology presented here can successfully addresses the challenges in traffic prediction such as accuracy in prediction, resource management and utilization. ARIMA application on a VBR video trace results in a component wise representation
of the trace which in turn used for prediction. A brief introduction of the classic prediction scheme of ALP along with a quantitative comparison of the ARIMA with ALP is also presented. Performance evaluation of the proposed method is carried out using RMSE. The prediction accuracy is improved by 23% and the error variance is reduced by 18%.

Reference

- A. Sang and S. Li, "A Predictability Analysis of Network Traffic", in Proc. INFOCOM, 2000, pp.342-351.
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Index Terms

Computer Science

Networks
Key words

Traffic prediction  ARIMA
ALP
VBR Video