Abstract

This paper presents a novel approach to improve the performance of multimedia oriented systems by using Multi Objective Genetic Algorithm (MOGA) along with the concept of virtual deadline to efficiently schedule and optimize the real-time network packets thereby reducing the packets loss and delay.

MOGA along with virtual deadline is capable of outperforming the Dynamic Window Constraint Scheduling (DWCS) by servicing jobs with different request periods. Additionally, MOGA with virtual deadline yields better results than Virtual Deadline Scheduling (VDS) because the context switching time is less in the former. Eventually, an implementation of MOGA with virtual deadline as a schedule parameter in the Linux Kernel with the help of Wireshark, a network protocol analyzer that captures the real-time network packets, which produces better scheduling results than DWCS and VDS.

Reference

[1] Yuting zhang, Richard west and Xin qi, computer science department, Bostan University, Virtual deadline scheduler for Window constrained service guarantees, June 2006


Index Terms

Computer Science Multimedia Systems

Key words

Cross-over Mutation

Fitness value schedules

Virtual deadline multimedia systems

kernel level external module