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An embedded network traffic monitoring system for portable applications

Abstract

This study presents an enhanced Embedded Network Traffic Monitoring (ENTM) system capable of capturing and analyzing network traffic information on data networks. The system incorporates an enhanced packet probing subsystem for low end interfacing to data network. The packet analysis engine included a sophisticated memory managing scheme to tolerate considerable bursts in network traffic. Comparative experimental results showed that the ENTM system had performance comparable with well known third party tools. In order to demonstrate that resource constraints do not significantly degrade system performances, researchers implemented the packet probing subsystem on a desktop where memory and processing power were much larger. It was found that the ENTM system had only little degradation (0.5%) in performances compared to the desktop version. Requirements of low processing power and memory make the system suitable for low end and portable applications.

Keywords

Embedded operating system; ENTM; Network traffic monitoring; Performance comparison; Single board computer