VIDEO STREAMING PERFORMANCE MEASURE OVER DIGITAL POWER LINE

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ABSTRACT

Power-line networking is one of the several ways to connect the computers in your home. In-House power-line can be defined as a building equipped with numerous sensors, where (example: heating, air-conditioning, illumination) can be automatically and remotely controlled and supervised. These applications occur within a single building with both ends of the communications link within the same building. The building might be a house, an apartment block or an office building. The path over which the transfer of data occurs within these buildings is relatively short - typically it is less than 100 m between devices. This has been possible due to the relatively low power levels necessary to communicate over the comparatively short (cabling) distances within a building.

When the HomePlug AV specification is ratified, HomePlug will deliver a 200-megabits-per-second data rate, with expected throughput just shy of 100 mbps, which makes it ideal to transmit multiple streams of video throughout the home.

The purposes for this project is to introduce and implement digital power line communication network as an alternative way in LAN communication, to analyze video streaming in Direct LAN using power line and to measure the performance of video streaming over digital power line based on second objective.

This project will cover the transmitting data via the network to other terminal device plugged into or attached to the network. The terminal devices connect to the host, and then data will transfer across the power-line electrical supply to the internet. The output will come out with the mechanisms which control the terminal electrical device using digital power-line communications.

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INTRODUCTION

1.1 INTRODUCTION

For small office home office (SOHO) users and for home users, the costs of installing new wiring or cabling to support a LAN can be prohibitive. An alternative is to implement a “no new wires” LAN. This is normally either a Wireless (WLAN) or one that utilizes existing electrical mains wiring. In this project mains borne networks are referred to as DPLC LANs – Digital Power line Communications LANs.

Digital Power Line Communications (DPLC) is the usage of electrical power supply networks for communications purposes. In this case, electrical distribution grids are additionally used as a transmission medium for the transfer of various telecommunications services. The main idea behind DPLC is the reduction of cost and expenditure in the realization of new telecommunications networks.

The relative performance of the PLC LAN is a major consideration for home user and the small office user. The relative throughput and reliability of PLC LANs for broadcasting multimedia streams is investigated experimentally. Recent releases of Powerline Communications (PLC) devices have led to renewed interest in mains borne communications. HomePlug 1.0 standards compliant Powerline devices offer best-case speed of 14 Megabits per second.

Streaming Video is a sequence of "moving images" that are sent in compressed form over the Internet and displayed by the viewer as they arrive. Streaming media is