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Abstract

This paper presents a study of throughput performance of voice and video traffic based on simulative and analytical methods in IPv4/IPv6 networks. This research aims to find out what Internet protocol performs better in terms of throughput under congested circumstances in IPv4/IPv6 networks. In doing so three different network loads in both scenarios are considered.

In the context of network load, the importance of varying network load is realized while configuring and simulating the network models. For instance, a medium network load, high network load then a worst possible network load are considered to understand the impact on the performance of throughput in IPv4/IPv6 networks. The network topology scenarios are partially meshed on the implication with a small ISP domain as this is an ideal choice of IP domain corresponded to a realistic network topology. Two network models are defined which allow us to compare the obtained results. In addition, IPv4 network model is used and extended in terms of configuring IPv6 network model as. The simulation has been carried out using Optimized Network Engineering Tool (OPNET). This paper shows that analytical and simulative approaches produce same results in terms of throughput performance for video/voice traffic. From Internet Protocol performance perspective, IPv6 experiences more throughput than IPv4.

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Index Terms

Computer Science

Networks

Keywords

Throughput

Video

Voice

IPv6

OPNET