

ABSTRACTION

Data and computer communication still simple and slow when TCP/IP protocol firstly designed and implemented. Development internet technology cause number of user that connect to Internet has been increased rapidly. TCP/IP protocol (IPv4) that has been used over twenty years can't handling Internet networks anymore. IETF issue a new protocol standard IPng (Internet Protocol New Generation) which later known with name Internet Protocol version 6. IPv6 will use for contend lack of address in IPv4 besides complete the other functions.

Automatic 6to4 Tunnel mechanism defines a method for assigning an interim unique IPv6 address prefix that currently has at least one globally unique IPv4 address, used for encapsulation mechanism for transmitting IPv6 packets using such a prefix over global IPv4 network. The motivation for this method is to allow isolated IPv6 domains or hosts, attached to an IPv4 network which has no native IPv6 support to communicate with other such IPv6 domains or hosts with minimal manual configuration, before they can obtain native IPv6 connectivity.

This paper will explain how Automatic 6to4 Tunnel mechanism work, implementation 6to4 Tunnel in Local Area Network with network performance test in that system base on analyze of delay for ICMP, FTP and throughput for Iperf applications. In order to get more accurate result 6to4 tunnel will be implemented in various traffic load. Performance of Automatic 6to4 Tunnel network will be compared with other network which use IPv4 or IPv6 protocol.

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