ABSTRACT

Translation as one of IPv4 to IPv6 transition method very likely implemented in future. Translation has benefit than other transition methods like practically connect IPv4 only-network with IPv6 only-network without do many modification at client and server side. But, in its realization, Translation is not developed at wide purpose to answer needs of many users yet.

In this Final Project, Method with dynamic addressing was built to support NAT-PT as one of translation implementations for serve many user in network. Dynamic addressing tools which selected are DHCP for IPv4 only-network and DHCPv6 for IPv6 only-network. In this Final Project IPv4 network side contain of IPv4 Host, DNS, and FTP at the same time IPv6 network side contain of IPv6 Host, DNSv6, and FTPv6. Several things which want to be known in this implementation is how NAT-PT works to connect network with different IP version, performance comparison of network when accessing FTP in network with same IP version and network with different IP version, dynamic addressing comparison with DHCP and DHCPv6, and also DHCP and DHCPv6 features which used when supporting NAT-PT. Performance parameter which used is throughput and DHCP parameter which be measured is average time when configuring client.

From analyze result which be done, NAT-PT connect the networks with translate IP header and change frame header. IPv4 network throughput at Ethernet was decreasing in the amount of 52.2% and at the same time IPv6 network gets as big as 50.75% when using NAT-PT. By observation, DHCPv6 have some different from DHCP like using link-local address and multicast address. Observation and measurement also show that DHCP process move faster than DHCPv6 when configuring client. In addition, measurement shown that IPv4 network performances at Ethernet is faster by 2.43% than IPv6 does.

Key words : NAT-PT, IPv6, Dynamic Addressing, Translation