Abstract

At this current of time, the world Internet users are growing rapidly. IPv4 which have 32 bits address format, cannot handle the increasing of address allocation. Therefore, Internet Engineering Task Force (IETF), released a new internet protocol standard, IPv6. The main advantage of IPv6 are, bigger address format than IPv4, 128 bits.Because of the Internet infrastructure, still use IPv4, it is not possible to change IPv4 with IPv6 immediately. Therefore, a variety of transition IPv4 to IPv6 technique appear. One of them is Configured Tunnel. With Configured Tunnel, IPv6 site can communicate with another IPv6 site, although separated by IPv4 only supported infrastructure.

In this research, configured tunnel was implemented in Unmanaged network, a small scale network that just consist of one subnet. The problem that have been analyzed are, application throughput comparison between IPv4 and IPv6. File sharing and web application compatibility. The result are, IPv6 has a lower throughput than IPv4, because it has a bigger header size and tunneling process. For file sharing, Server Message Block protocol in Windows XP doesn't support IPv6, while NFSv4 protocol already support it. To make it run properly in IPv6 environment, web application must could using IPv6 address format.

Keywords: IPv4, IPv6, configured tunnel, application compatibility