ABSTRACT

At early of 1970's Internet Protocol was developed (previous versions of IP were succesfully defined and replaced to reach IPv4, and now IPv4 were deployed all over the world), IPv4 has limited address space, about 4.3 billion and due to the exponential growth of the internet, IPv4 is about to face depletion on address space at 2008. A new successor has been developed, called Internet Protocol version 6 (IP version 5 is assigned to stream protocol). IPv6 has a number of advantages over IPv4 that will support future internet growth. IPv6 has a larger address space than IPv4, integrated ipsec protocol that will provide secure communication, and simplify IP configuration and administration. There is no D day for this replacement. It will take a long time period for migrating from IPv4 to IPv6. It needs transition mechanism to keep the internet always connected while some parts of it is migrating from IPv4 to IPv6. Network Address and Protocol Translation can help this transition period go smoothly. Enabling communication between IPv4 and IPv6 with header translation.