SIT-MTECH-05-015

Design and Implementation of VS Routing in Linux Kernel
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The performance of a high speed router is limited by factors such as IP table lookup in large routing table, memory bandwidth,memory size, power dissipation capability and the backbone switch. A new Virtual Space based routing algorithm,proposed in [4], has a self guiding property at each node in the network to overcome the problems mentioned for a router. Implementation of this routing schemein the Linux operating system earlier was done by shailendra. We are extending the work by modularizing the routing scheme in the Linux operating system. Implemented the VS control plane functionality , which includes both dynamic cost mechanism and vs hello packet. Dynamic cost provides the routing scheme the ability of load balancing , avoidance of congestion, better throughput. Hashing mechanism is used to store the packet next hop interface , which works as a fast path computation. Hello packet provides routing scheme quicker failure recovery and one hop away node's load. This protocol is designed and implemented in Linux. Application programming interface has been provided to access the VS routing scheme control parameters from an application.