

Research paper on eigrp

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EIGRP (Enhanced Interior Gateway Routing Protocol)

SISCO is the leading manufacturer of networking equipments. Its products include switches and routers. A router refers to a three-layer gateway device used in the joining of multiple networks together. The development of the routers has been going on due to the unending research done by the producers. EIGRP is an enhanced version of the routers which has been developed by the SISCO Company. Unlike the previous designs, EIGRP is an improved network protocol that allows the routers to exchange information in a more efficient and cost effective manner (Pete, C., 2012). They are of different types including Distance-vector routing and Link-state routing protocols.

It evolved from the less efficient Interior Gateway Routing Protocol (IGRP). Although they can both apply wireless and wired Internet Protocol (IP) layers to join multiple networks together, EIGRP is more dynamic. Apart from being able to use IP Networks, EIGRP can be used with Novell Netware and Apple Talk networks. As a result, it becomes possible for it to make the use of the neighbors in querying the right route for the desired destination.

In order to efficiently perform its duties, it requires applying Diffusion Update Algorithms. Without this, it can not be able to determine the most efficient and cost effective route for the desired destination. The protocol address is obtained from the neighboring devices before the eventual discovery of their platforms. The data in the router is stored in the Route Tagging, Topography Table and the Routing Table (Lammle, T., 2007).

As an advanced distance-vector routing protocol, EIGRP has optimizations that enable it to minimize the amount of routing instability experienced after

the use of the bandwidth and topography changes in the router. The routers which can support the use of this device automatically redistribute route information to the neighbors of the EIGRP. This is done through the conversion of 24 bit IGRP metric from the 32 bit IGRP metric. The optimization in the operations of this router is achieved as a result of the Diffusing Update Algorithm (DUAL) it encompasses. This feature provides a loop-free operation and guarantees a mechanism for fast convergence. One of the most important features of EIGRP is the packet types it has. They include update; hello and acknowledgement and update. Hello packets do not require the use of acknowledgement. They are suitable for the multicast discovery and recovery of the neighbor. On the other hand, query and reply packets are mainly released in a case a destination lacks a feasible successors. Meanwhile, update packets are used for accessing new destinations. Meaning, they are used in the building of a new topology especially if a new neighbor is discovered in the network (Pete, C., 2012). Conclusively, EIGRP is actually an advanced technology. Unlike its predecessors, it is innovative. Its improvements make it be efficient and effective to use at all the times. Moreover, it is easy to use and configure. Its numerous enhancements make it be simple to configure. In the long run, it gains popularity because of its ability to be used along side AppleTalk, Internetwork Packet Exchange (IPX) and IPv4. Its modular architecture puts it in a better position for any adaptations in the future.

References

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