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CN Lab - 8

DVR : -

In **DVR**, a router need not know the entire path to every network segment; it only requires to know the direction or vector in which to send the packet. The technique determines the direction (vector) and distance (hop count) to any network in the internetwork.

Distance vector routing algorithms periodically send all or parts of their routing table to their adjacent neighbours. The routers running a distance vector routing protocol will automatically send periodic updates even if there are no changes in the network.

A router can verify all the known routes and alters its local routing table on the basis of the updated information received from neighbouring routing. This process is referred to as “routing by rumour” because the routing information that a router has of the network topology is based on the perspective of the routing table of the neighbour router.

RIP and IGRP is a commonly used distance vector protocol that uses hop counts or its routing metrics.

LSR :-

In **link-state routing**, each router attempt to construct its own internal map of the network topology. At the initial stage of start-up, when a router becomes active, it sends the messages into the network and collects the information from the routers to which it is directly connected. It also provides information

about whether the link to reach the router is active or not. This information is used by other routers to build a map of network topology. Then the router uses the map to choose the best path.

The link state routing protocols respond swiftly to the network changes. It sends triggered updates when a network change occurs and sends periodic updates at long time intervals such as 30 minutes. If the link alters state, the device detected the alteration generates and propagate an update message regarding that link to all routers. Then each router takes a copy of the update message and update its routing table and forwards the message to all neighbouring router.

This flooding of the update message is needed to ensure that all routers update their database before creating an update routing table that reflects the new technology. OSPF protocol is the example link state routing.