

Flooding

- A static algorithm in which every incoming packet is sent out on every outgoing line except the one it arrived on.
- This results in every message eventually being delivered to all reachable parts of the network.
- Some of the important utilities of flooding are:
 - Flooding is highly robust, and could be used to send emergency messages (e.g., military applications).
 - Can be useful for the distribution of important information to all nodes (e.g., routing information).

One major problem of this algorithm is that it generates a large number of duplicate packets on the network. A solution is to use selective flooding. In selective flooding the routers do not send every incoming packet out on every output line. Instead, a packet is sent only on some selected lines.

Distance Vector Routing

- A dynamic routing algorithm. It was also used in the Internet under the name RIP
- When a node detects link cost change, it updates the distance table and notifies neighbors
- Each router advertises its distance vector every 30 seconds (or whenever its routing table changes) to all of its neighbors

Hierarchical Routing

- As networks grow in size, the router routing tables grow proportionally. More bandwidth is needed to send status reports. At certain point network may grow so large where it is no longer feasible for every router to have an entry for every other router. Hence, Routing has to be done hierarchically.
- In hierarchical routing, the routers are divided into regions and each router knows all the details about how to route packets to destinations within its own region but knows nothing about the internal structure of other regions.
- For huge networks, a two-level hierarchy may be insufficient; it may be necessary to group the regions into clusters, the clusters into zones, the zones into groups, & so on.