CS8601 –MOBILE COMPUTING

UNIT 3

MOBILE NETWORK LAYER

3.6. HYBRID ROUTING PROTOCOLS(ZRP)

Combines the best features of both proactive & reactive routing protocols.

 Eg: ZONE ROUTING PROTOCOL (ZRP)

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It is Hybrid Protocol. Based on the concept of zones. A routing zone is defined for each node separately and zones of neighbouring nodes overlap. The routing zone has a radius expressed in hops.

 i.e., Zone radius: Number of hops

Key concept in ZRP to:

- Use a proactive routing scheme within a limited zone
- Use a reactive routing scheme for nodes beyond this zone.

Routing is divided into two parts:

Intrazone routing: 1st the packet is sent within the routing zone of the source node to reach the peripheral nodes.

Interzone routing: The packet is sent from the peripheral nodes towards the destination node.
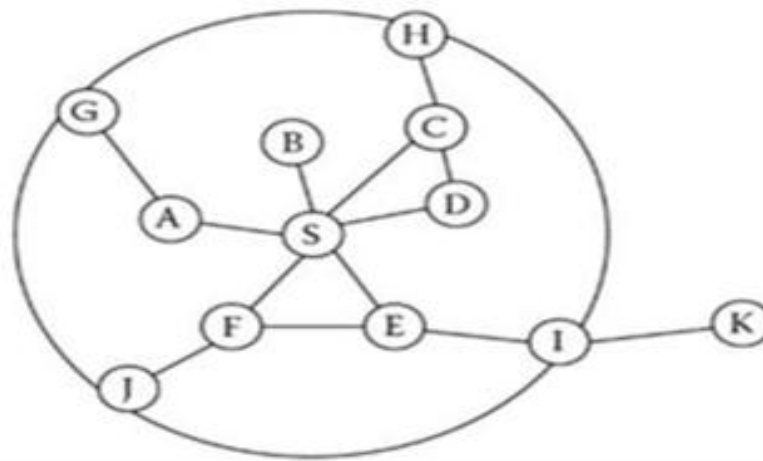
In the diagram the routing zone of S includes the nodes A-I, but not K.

- The nodes are divided into peripheral nodes and interior nodes.
- Peripheral nodes: Nodes whose minimum distance is less than the radius.
- Interior nodes - Nodes A-F
- Peripheral nodes - Nodes G-J
- Node K is outside the routing zone
- Within the zone table driven is used
- Outside the zone On demand Route Discovery is used

Procedure:

1. The source sends a Route Request packet (RREQ) to the border nodes of its zone, containing its own address, destination address and the unique sequence no.

2. Each border nodes checks its local zone for the destination.

3. If the destination is not a member of local zone, then the border node adds its own address to the route request packet and forwards the packet to its own border nodes.

4. When the destination node is reached in this process, a route reply (RREP) is sent on the reverse path back to the source.

5. The source saves the path which is mentioned in Route Reply to send data packets to the destination