FACULTY OF ENGINEERING & TECHNOLOGY

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Topics Covered

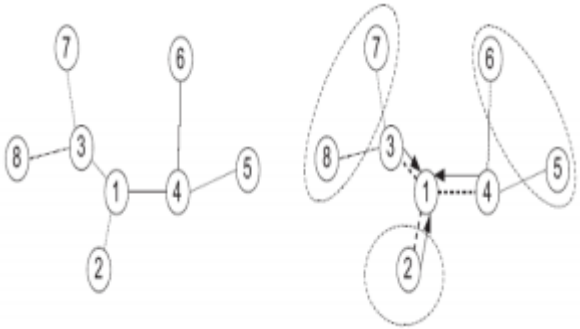
Hierarchical State Routing (HSR)
Source Tree Adaptive Routing Protocol (STAR)
Destination sequenced distance vector routing (DSDV)
Optimized Link State Routing (OLSR)

Hierarchical State Routing (HSR)

The characteristic feature of Hierarchical State Routing (HSR) is multilevel clustering and logical partitioning of mobile nodes. The network is partitioned into clusters and a cluster-head elected as in a cluster-based algorithm. In HSR, the cluster-heads again organize themselves into clusters and so on.

Source Tree Adaptive Routing Protocol (STAR)

m routing approach (ORA). LORA makes Routing information updates are exchanged among nodes only to reflect an altering change. In STAR protocol each node is required to send an update message to its neighbors during initialization and also send update messages about new destinations, chances of routing loops, costs of paths. Every node broadcasts its sourcetree information to wireless links used by the node in its preferred path to destinations.



Destination sequenced distance vector routing (DSDV)

Destination sequenced distance vector routing (DSDV) is adapted from the conventional Routing Information Protocol (RIP) to ad hoc networks routing. It adds a new attribute, sequence number, to each route table entry of the conventional RIP. [9]Using the newly added sequence number, the mobile nodes can distinguish stale route information from the new and thus prevent the formation of routing loops. [8]The improvement is made include freedom from loops in routing tables. Every mobile node in the network maintains a routing table for all possible destinations within the network and the number of hops to each destination node.

Optimized Link State Routing (OLSR)

OLSR is a proactive link state routing protocol designed for MANET and VANET, which uses hello and topology control (TC) messages to discover and then disseminate link state information throughout the mobile ad-hoc network Individual nodes use this topology information to compute next hop destinations for all nodes in the network using shortest hop forwarding paths.

1) OLSR is a routing protocol that follows a proactive strategy, which increases the suitability for ad hoc networks with nodes of high mobility generating frequent and rapid topological changes, like in VANETs [4], [5].
2) 2) Using OLSR, the status of the links is immediately known. Additionally, it is possible to extend the protocol information that is exchanged with some data of quality of the links to allow the hosts to know in advance the quality of the network routes.
3) 3) The OLSR protocol is well suited for high density networks, where most of the communication is concentrated between a large number of nodes (as in VANETs) [5].