FACULTY OF ENGINEERING & TECHNOLOGY

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Topics Covered

Proactive Protocol
Wireless routing protocol (WRP)
Global state routing protocol (GSR)

Proactive Protocol

With wireless devices increasing in popularity and ad-hoc wireless networks getting larger, scalable routing protocols are needed. Recent advances in portable computing and wireless technologies are opening up exciting possibilities for the future of wireless mobile computing. An ad-hoc network is a self-configuring infrastructure less network of mobile devices connected by wireless. The network topology in a ad-hoc network usually changes with time. Therefore, there are new challenges for routing protocols in ad-hoc network

Proactive Protocol

In routing protocol, each node in a network maintains one or more routing tables which are updated regularly. [11]Each node sends a broadcast message to the entire network if there is a change in the network topology. However, it incurs additional overhead cost due to maintaining up-to-date information and as a result; throughput of the network may be affected but it provides the actual information to the availability of the network. Destination Sequenced Distance Vector (DSDV) protocol, Wireless Routing protocol (WRP), Hierarchical State Routing (HSR) protocol, Source Tree Adaptive Routing Protocol (STAR), Optimized Link State Routing (OLSR), Global state routing protocol (GSR) are the examples of Proactive protocol.

Wireless routing protocol (WRP)

The Wireless Routing Protocol (WRP)[2] is a table-based distance-vector routing protocol. Each node in the network maintains a Distance table, a Routing table, a Link-Cost table and a Message Retransmission list. WRP uses an enhanced version of the distance-vector routing protocol, which uses the Bellman-Ford algorithm to calculate paths. The DT contains the network view of the neighbors of a node. It contains a matrix where each element contains the distance and the penultimate node reported by a neighbor for a particular destination. The RT contains the up-to-date view of the network for all known destinations.

Global state routing protocol (GSR)

Global State Routing (GSR) [4] is similar to DSDV, It takes the idea of link state routing but improves it by avoiding flooding of routing messages. In this algorithm, each node maintains a Neighbor list, a Topology table, a Next Hop table and a Distance table. Neighbor list of a node contains the list of its neighbors.