CS4404 Disucssion Assignment 5

Compare and contrast proactive and reactive wireless routing protocols. In your opinion, what are the best circumstances to deploy either proactive or reactive wireless routing protocols?

In your responses to your peers, compare and contrast your answer to those of your peers.

Your Discussion should be a minimum of 200 words in length.

According to (Jatwani, n.d.), a mobile ad-hoc network is made for connecting mobile nodes wirelessly. These nodes are called dynamically in no particular order. There isn't a specific router in this network; all nodes can act as routers and pass data around. In such networks, routing protocols handle keeping and rebuilding paths between nodes. Picking the right routing protocol aims to maximize data flow, minimize lost packets, control extra work, and save energy.

**Reactive or Source-Initiated Routing Protocols**:

These protocols only set up paths when asked by the source. It involves finding routes and keeping them(Kalime & Sagar, 2021):

Finding Routes: Starting by sending route requests across the network until the source node gets one or more ways to the destination.

Keeping Routes: Makes sure the set path stays during data transfer, using route error and confirmation messages. Examples of reactive protocols are:

Dynamic Source Routing (DSR)

Adhoc On-Demand Distance Vector (AODV)

Temporally Ordered Routing Algorithm (TORA)

Signal Stability-Based Adaptive Routing (SSBR)

**Proactive Routing Protocols (Table-Driven):**

Proactive protocols keep updated route info at each node and spread it across the network to keep routes up-to-date. But, they keep info about all routes, even those not in use, which makes the network busier and increases data costs(Jatwani, n.d.). Examples of proactive protocols are:

Destination-Sequenced Distance Vector (DSDV)

Optimized Link State Routing (OLSR)

Cluster Head Gateway Switch Routing (CGSR)

Wireless Routing Protocol (WRP) Both types have pros and cons. Reactive protocols react to route needs, good for changing networks or when saving bandwidth matters. Proactive ones suit stable networks but can create more work by keeping route details always up-to-date.

**Reference**

Jatwani, R. (n.d.). *Routing Algorithm in MANET: A Survey*.

Kalime, S., & Sagar, K. v. (2021). A REVIEW: SECURE ROUTING PROTOCOLS FOR MOBILE ADHOC NETWORKS (MANETs). *Journal of Critical Reviews*, *7*, 8385–8393.