Multicast routing in mobile networking

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MULTICAST ROUTING IN MOBILE NETWORKING Multicast routing in mobile networking. (E. L. Madruga MAODV is a multicast routing protocol for ad hoc networks that dynamically constructs a shared multicast tree that connects the group members. MAODV also allows a non-member node, which may or may not be on the tree, to multicast data to all the group members. MAODV is the multicast extension of Ad hoc On-Demand Distance Vector (AODV) routing protocol, and it shares many similarities and packet formats with AODV. (E. L. Madruga)

Throughput rate of MAODV and AODV

With regard to throughput rate runned when the numbers of receivers are one and two, MAODV is higher than AODV. Its functions as a multicast routing protocol used specifically for wireless network. MAODV is the best in communicating from the sender to the receiver nodes. Packet delivery ratio for MAODV and AODV

This is the ratio between the packet of data that are actually delivered and those sent by the source. AODV been a multicast routing protocol it performs slightly better than MAODV in terms of packet delivery ratio. The ratio increase as the number of receivers decreases. These are very shocking a result since MAODV is designed to handle multiple receivers.

Packet delivery ratio for MAODV and FDQA

Magld (2007) This is a ratio measured against the pause time. It also used in measuring mobility. The results are expected because this is the testing a mobile ad hoc network environment. MAODV is seen to deliver more packets as long as time is not increased . It works better than AODV and FDQA. AODV and FDQA vary slightly overtime but they are much lower in terms of success

rather than MAODV.

Average latency for MAODV, FDQA and AODV.

This is my last simulation result that shows how the three protocols performed in terms of average end-to-end delay.

Average end-to-end delay vs. pause time.

Magld (2007) FDQA is designed to deal with one QoS requirement delay . FDQA has high end-to-end delay over time. In comparison to MAODV and AODV, which has lower latency in short, term . FDQA algorithm, this is based on Fanos algorithm. The simulation I have conducted is testing the effect change in the node delay that has the success ratio. I have also tested the node delay effect on the average message overhead. The result shows the node delay positively affects both FDQA and A0DV success ratios and it has much of an effect on average message overheads for FDQA.

Conclusion

MAODV and AODV are compared in relation to three parameters namely; Throughput, latency and packet delivery ratio. MAODV has performed slightly better but not in all of them. It has generally works better in a multicast ad hoc network environment than AODV does despite having same similarities. In comparing MAODV, AODV and FDQA I have found that MAODV has a higher performance that FDQA in relation to packet delivery ratio. FDQA algorithm has been designed to address this QoS specifically and FDQA is based on AODV, FDQA outperforms both MAODV and AODV in relation to latency.

There is no clear winner among the protocols in our case, since different mobility patterns seem to give different performance rankings of the

protocols.

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