

the real world. The mobile networking environment in NS-2 includes support for each of the paradigms and protocols.

4.1.1 Architectural View of NS

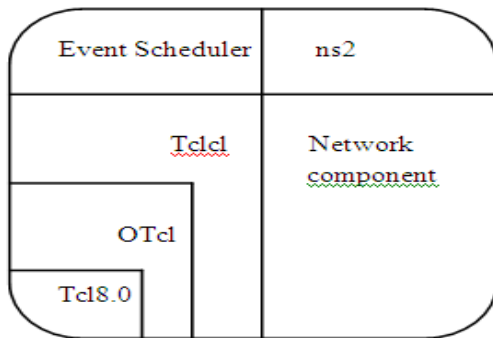


Figure 3: Architecture of Network Simulator

Figure 3 shows the general architecture of NS. In this figure a general user can be thought of standing at the left bottom corner, designing and running simulation in the TCL using the simulator object in the OTcl library. The event schedulers and the most of the network components are implemented in the C++ and available to OTcl through an OTcl linkage that is implemented using Tclcl. The whole thing together makes NS, which is a OO extended TCL interpreter with network simulator libraries. [47]

4.1.2 Simulation Scenario

For simulations, using uniform distribution, 10, 20, 30, 40, 50 nodes were distributed randomly in the network field with 500m × 500m dimensions. Then two selected protocols are implemented with two different mobility models using packet delivery ratio (PDR) performance parameter.

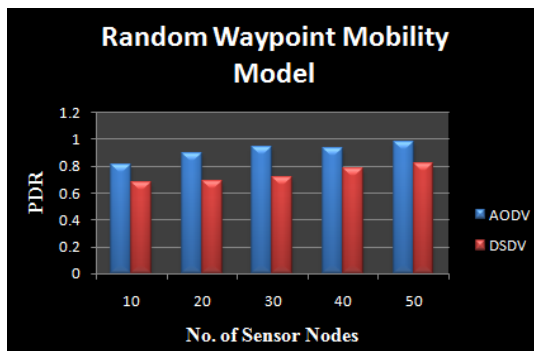


Figure 4: PDR with Random Waypoint Model

The figure 4 shows that the AODV protocol is giving high packet delivery ratio than DSDV with increasing node densities in Random Waypoint Model.

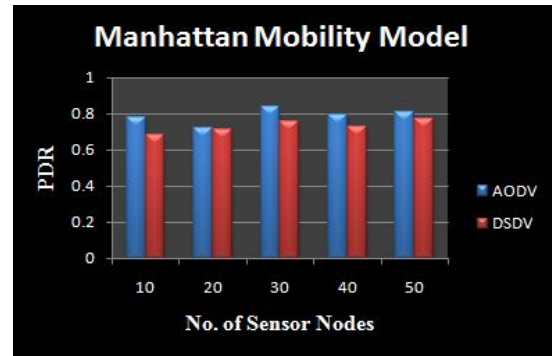


Figure 5: PDR with Manhattan Model

In figure 5 also the AODV protocol gives better performance than DSDV in Manhattan Model.

5. Conclusion

In this paper, we have evaluated the impotence of mobility on routing protocols with two different mobility model in WSNs.

We used two different protocols for the performance analysis and the impact of this method over the selected protocols. We analyzed the performance of the protocols on the basis of Packet Delivery Ratio. PDR of AODV is better than the DSDV. On the basis of performance results, we can conclude that impact of mobility depends upon the selection of routing protocol and nature of mobility models.

In future more wide research is necessary to further increase the life time of network, develop new routing algorithms, and the efficient usage of energy in sensor network using the mobility.

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