Figure (17) shows that the highest value of the delay in the case of AODV (40 nodes), the middle value of the delay in the case of AODV (20 nodes) and the least value of the delay in the case of AODV (10 nodes).

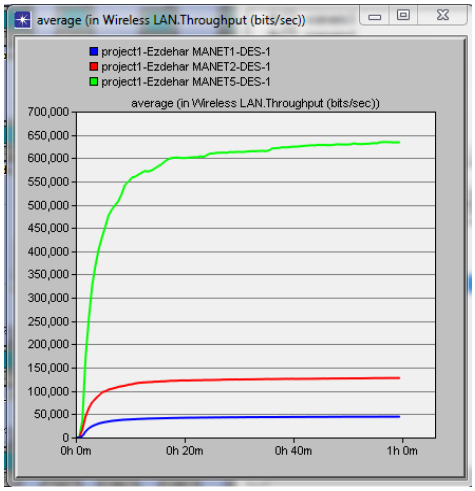

Figure 18: Average in MANET Throughput: (MANET1 – MANET 2 - MANET 5) scenarios with AODV

Figure (18) shows that the highest value of the throughput in the case of AODV (40 nodes), the middle value of the throughput in the case of AODV (20 nodes) and the least value of the throughput in the case of AODV (10 nodes).

9. Comparison between DSR and AODV

Table 2: Comparison between DSR and AODV

Nodes	*Parameters*	*DSR*	*AODV*
10	Delay (sec)	0.010	0.0014
10	Throughput (bit/sec)	13800	45000
20	Delay (sec)	0.029	0.0015
20	Throughput (bit/sec)	14000	130000
40	Delay (sec)	0.0075	0.0017
40	Throughput (bit/sec)	330000	640000

10. Conclusion

In this paper, we studied the performance of two MANET reactive routing protocols, AODV and DSR, from the above simulation the performance throughput and delay are analyzed for 10, 20 and 40 mobile nodes .For DSR MANET routing protocol, from above it is observed analysis that throughput is more in 40 nodes than 10 and 20, also the delay is less for 10 nodes than 20.This paper discusses the simulation model for the variable network size we found that the AODV throughput and delay increasing by increasing the number of mobile nodes. In all the three scenarios of small, medium and large networks AODV gives considerably less delay and higher throughput as compared to DSR. In mobile nodes networks AODV is a good choice in very large network for minimal delay and higher throughput.

11. Future Work

In our research we recognized that, deploying a MANET security is one of the important features that should be considered. A wireless MANET involves greater security problem as compared to wired networks because of its characteristics. Some of the aspects in this study are still under observation as the performance is still to be compared by other routing protocols with more metrics like jitter and packet loss.

References

[1] Manpreet Kaur and Jyoti Kohli, " Routing for Mobile Ad-hoc Network towards Quality of Services "Lovely University, Phagwara,2013.
[2] http://. en.wikipedia.org/wiki/Multimedia.
[3] www.webopedia.com/TERM/V/videoconferencing
[4] Shiva Prakash, Rajeev Kumar, Brijesh Nayak and Manindar Kumar Yadav, A Highly Effective and Efficient Route Discovery & Maintenance in DSR , Department of Computer Science and Engineering, Madan Mohan Malaviya Engineering College, Gorakhpur, India, 4 Apr 2011
[5] http: // .en.wikipedia.org/.../Ad_hoc_On Demand_ Distance_Vector
[6] David Oliver Jorg, "Performance Comparison of MANET Routing Protocols in Different Network Sizes", Computer Networks & Distributed Systems, University of Berne, Switzerland, 2003.
[7] J. Broch, D. A. Maltz, D. B. Johnson et.al.", A Performance Comparison of Multi-Hop Wireless Network Routing Protocols," Proceedings of the Fourth Annual ACM/IEEE International Conference on Mobile Computing and Networking (MobiCom'98), October 25-30, 1998, USA,pp.25-30.
[8] Rachit Jain1, Laxmi Shrivastava "Study and Performance Comparison of AODV & DSR on the basis of Path Loss Propagation Models" International Journal of Advanced Science and Technology 32, July, 2011
[9] http:// www.startimes.com/?t=14690508
[10] Jarmo Prokkola "OPNET - Network Simulator", VTT Technical Research Centre of Finland, 2008.