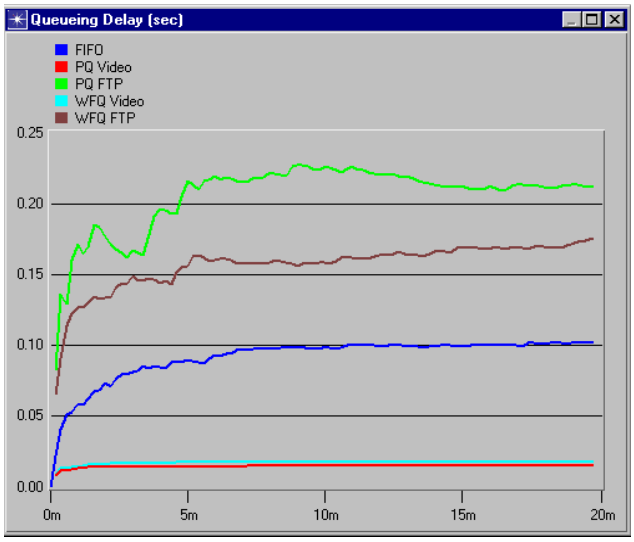
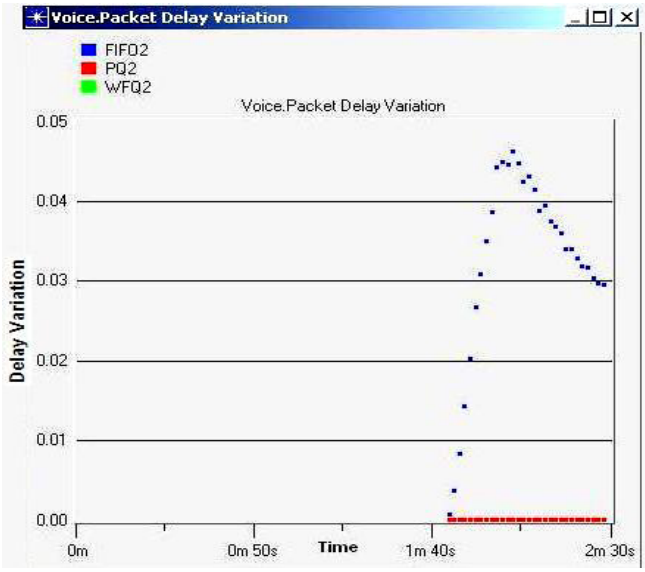
5.1 Parameters of the Simulation Setup

Parameters	*Value*
Network Dimension	1000m x 1000m
Mapping Type	Dynamic Mapping
Channel	Wireless Channel
Propagation Model	Radio Propagation model
Protocol	WEAC Protocol
Number of Nodes	150
Data rate	3 mbps
Node Placement	Uniformly Distributed Two nodes send video traffic to the base station and each other node sends 400 bps traffic to the base station.
Packet size	1500
Max. Packet in queue	50
Average Hop Delay	20ms
Control Packet T	20s

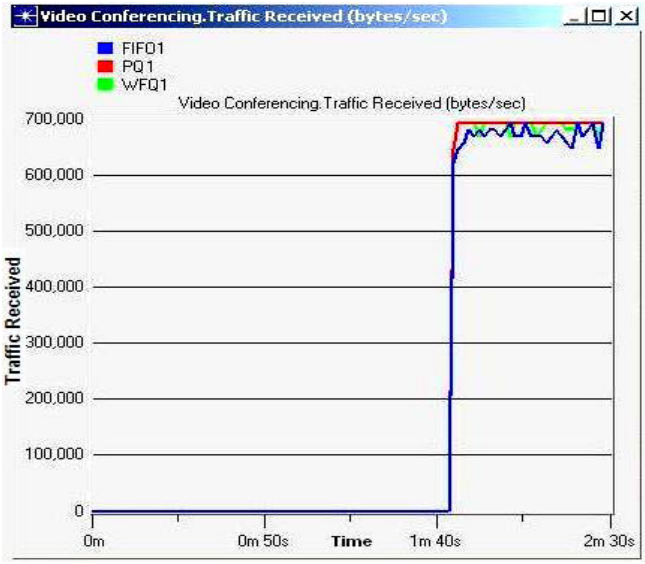
6. Results and Discussion



Priority Queuing delay



Voice Packet delay variation



Video Packet Delay

7. Conclusion and Future Scope

The result shows that priority queuing mechanism helps to improve video quality and reduces the time delay even in heavy video traffic. After mapping to the priority, four sample packets have been taken to check the delivery time based on the priority scheduled. A packet is delivered according to their priority and provides improved quality. This mechanism is used to provide the preference to urgent packets which are need to be transmitted immediately. This paper also explains various queuing models and their uses. Hence adding priority queuing mechanism to the protocol results in improved video streaming over mobile adhoc network during heavy video traffic. In future this paper can be extended for all 3G and 4G mobile adhoc network for video transmission with high quality video and priority based approach.

Reference

[1] Ji-An Zhao, Bo Li, Chi-Wah Kok and Ahmad Ishfaq, "Analysis of priority Based Scheduling of Real-Time Video Over 3G Wireless network" IEEE 2002.

[2] I.F. Akyildiz, T. Melodia, K.R. Chowdhury, (2007) "Wireless multimedia sensor networks: A survey," IEEE Wireless Communications 14, no. 6, pp. 32-39.
[3] M.H. Hajiesmaili, A. Khonsari, M.S. Talebi, (2012) "Content-aware rate allocation for efficient video streaming via dynamic network utility maximization," Journal of Network and Computer Applications Volume 35, Issue 6, pp. 2016–2027.
[4] J. Guo, L. Sun, R. Wang, (2012) " A Cross-layer and Attahiru Sule Alfa, "Matrix-Geometric Solution of Discrete Time MAP/PH/1 Priority Queue, "Naval Research Logistics, vol. 45, pp.23-50, 1998.
[5] JN Al-Karaki, AE Kamal , (2004) "Routing techniques in wireless sensor networks: a survey," Wireless Communications, IEEE, vol. 11, no. 6, pp. 6-28.
[6] P. Hurni,T. Braun, (2008) "Energy-Efficient Multipath Routing in Wireless sensor network, " Springer, vol. 5198, pp. 72-85.
[7] R. Stanojevic, R. Shorten and C. Kellet, "Adaptive tuning of drop-tail buffers for reducing queueing delays," IEEE Communications Letters, vol.10, no. 7, pp. 570-572, Jul 2006.
[8] Du Li; Qiu Zhen-Yu; Guo Yong-le, "An Improved Queue Management Algorithm in DiffServ Networks," Information and Computing Science, 2009. ICIC '09. vol.1, no., pp.123,126.
[9] J.C.R. Bennett and H. Zhang, "Hierarchical packet fair queuing algorithms," IEEE/ACM Trans. Networking 5 October (1997), pp. 675–689.
[10] S. Damodaran, K. M. Sivalingam, "Scheduling algorithms for multiple channel wireless local area networks," Computer Communications, Volume 25, Issue 14, 1 September 2002, Pages 1305-1314, ISSN 0140- 3664, DOI: 10.1016/S0140-3664(02)00034-8.
[11] A. Cobham, "Priority Assignment in Waiting Line Problems", Operations Research, 2 70-76, 1954.
[12] M. Katevenis, S. Sidiropoulos, and C. Courcoubetis, "Weighted round-robin cell multiplexing in a general-purpose" ATM switch chip," IEEE JSAC, Vol. 9, No. 8, pp. 1265-79, October 1991.