The Optimal Parameters to Obtain 802.11 System Performance with DSDV Routing Scheme Using NS2

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ABSTRACT

Due to the development of wireless networks, IEEE 802.11 access scheme is a hot topic in the recent researches of wireless networks. IEEE 802.11 system supports two mobile structures: Ad-hoc and Infrastructure.Transmission interferences (such as terrain, fog, and manual obstruction) are the basic issues of IEEE 802.11 systems and make the LOS connection between two communication nodes to be more difficult. DSDV routing scheme is one of routing schemes for Ad-hoc networks. This paper discusses the performance impacts which are the critical parameters in IEEE 802.11 systems.

Keywords : Ad-hoc ; DSDV ; 802.11

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REFERENCES

[1]. IEEE Std 802.11-1997 Information Technology- telecommunications And Information exchange Between Systems-Local And Metropolitan Area Networks-specific Requirements-part 11: Wireless Lan Medium Access Control (MAC) And Physical Layer (PHY) Specifications [2]. Frederico Cali, Marco Conti, and Znrico Gregori, “ Dynamic Tuning of the IEEE 802.11 Protocol to Achieve a Theoretical Throughput Limit ”, IEEE/ACM Transactions on Networking, Vol. 8, No. 6, pp. 785-799, December 2000.

[3]. Frederico Cali, Marco Conti, and Znrico Gregori, “ IEEE 802.11 Protocol Design and Performance Evaluation of an Adaptive Backoff Mechanism ”, IEEE Journal on Selected Areas in Communications, Vol. 18, No. 9, pp. 1774-1786, September, 2000.

[4]. J.F. Kuros, M. Schwartz, and Y. Yemini, “ Multiple Access Protocols and Time Constraint Communications ”, ACM Computing Surveys, Vol. 16, pp. 43-70, 1984.

[5]. J.H. Kim, and J.K. Lee, “ Throughput and Packet Delay Analysis of IEEE 802.11 MAC Protocols for Wireless LANs ”, Proc. MDMC ’96, Seoul, Korea, pp. 530-535, 1996.

[6]. M. Nor, and J. Semarak, “ Performance of CSMA-CA MAC Protocol for Distributed Radio Local Area Network ”, in Proc. IEEE PIMRC ’95, pp. 912-916, September, pp. 27-29, 1995.

[7]. 唐政編著，802.11無線網路通訊協定與應用，文魁資訊股份有限公司 August 2004.

[8]. 柯志亨、程榮祥、謝錫?、黃文祥編著，計算機網路實驗， 學貫行銷股份有限公司 June 2005.

[9]. http://personales.upv.es/pmanzoni/pubs/docs/ISCC2001.pdf [10]. 戴江淮著，行動路由技術，博碩文化股份有限公司 February 2005
[11]. L.Buttyan and J.P.Hubaux, “ Stimulating cooperation in self-organizing mobile ad hoc networks, ” ACM Journal for Mobile Networks (MONET), Vol. 8, No. 5, Oct. 2003.
[12]. Sampo Naski, “ Performance of Ad hoc Routing Protocols:Characteristics and Comparison ”,Computer Communications and Networks, pp. 547-554, 2001.
[13]. Kevin Fall, and Kannan Varadhan, The ns Manual (formerly ns Notes and Documentation), November 1, 2006.
[14]. Savyasachi Samal, Mobility Pattern Aware Routing in Mobile Ad Hoc Networks, Master Thesis, Blcksburg, Virginia, May 2003.
[15]. Charles E. Perkins, Ad Hoc Networking, Addison-Wesley, 2001.
[16]. J. W. Dai, Chan-Chin Tai, and Lin-Fon Chjan, “ The System performance of Modified CSMA Communication Protocol without Capture Effect “ , The fifth symposium on computer and communication technology, pp. 3C.14-17, October 6, 2000.
[17]. J.W. Dai, and C.C. Tai, “ Capture effect on modified CSMA protocol (MCSMA) ”, Journal of Communications and Networks, Vol. 1, No. 1, pp. 31-41, March 1999.
[18]. Giuseppe Bianch, Luigi Fratta, Matteo Oliveri, “ Performance Evaluation and Enhancement of the CSMA/CA MAC Protocol for 802.11 Wireless LANs ”, Proceeding IEEE, pp. 392-396, 1996.