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Abstract

In the mobile Ad Hoc networks (MANET) are anticipated to be deployed in different scenarios having the complex mobility of nodes. Generally a variable mobility nature is predictable to have an important impact on the performance of the routing protocols in Ad Hoc networks. In the present work an attempt has been made to give an analysis on the mobility models used in an Ad Hoc network. Using simulation, it further pertains to study the metrics used in support of

performance procedures for mobile Ad Hoc network protocols, we have compared the performance of two routing protocol AODV and DSR by using the mobility model and change the node density with varying number of the source node. DSR and AODV both protocol use On-Demand route detectionidea but the inner method which they use to find the route is much different for both protocols. We have analyzed the performance of protocols for changeable network load and mobility.

References

- Ahmed F,Sajjadur R M, Performance Investigation on Two classes of MANET Routing Protocols Across various Mobility models With QoSConstrants. Intern. J Computer Networks & Communication, 2011; 3(2): 197-215.
- Yao Ye, CaiWandong, TianGuangli. Research on the Link Topology Lifetime Of Mobility Model in Ad Hoc Network. NSWCTC'09, Wuhan, China, April, 2009, vol(2) 103-107
- Arafatur MRFA, NaeemJ,Sharif MMA. A simulation based performance comparison of routing protocol on mobile Ad-Hoc Network. Intern. Conference on Computer and Communication Engineering, Kuala Lumpur, Malaysia. 2010:11-13.
- Xavier P. C. , Christian B. , Hannes H. . Toward a mobility metric for comparable & reproducible results in Ad Hoc networks research. Mobile Computing and Communications Review, 2003, 7(4): 58-60.
- Xiaoyan Hong, Mario Gerla, Guangyu Pei and Ching-Chuan Chiang, "A Group Mobility Model for Ad Hoc Wireless Networks" MSWiM 99 Scat WA USA Copyright ACM 1999 I-581 13-I 73-9/99/08 .
- Mehdi SABEUR, Ghazi AL SUKKAR, Badii JOUABER, Djamal ZEGHLACHE, "Mobile Party: A Mobility Management Solution for Wireless Mesh Network", Third IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob 2007), 0-7695-2889-9/07 $25. 00 © 2007
- Michael Gerharz, Christian de Waal, Matthias Frank, et al. . Link stability in mobile wireless Ad Hoc networks. 27th Annual IEEE Conference on Local Computer Networks, Tampa, USA, 2002, pp: 30-39.
- V. Vetriselvi, "Trace Based Mobility Model for Ad Hoc Networks" Third IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob 2007)0-7695-2889-9/07 $25. 00 © 2007
- Sherry Y. Chen, DimitriosKatsaros, AlexandrosNanopoulos, YannisManolopoulos, "Wireless Information Highways", Idea Group Inc, 2005.
- F. Bai, A. Helmy, "A Survey of Mobility Modeling and Analysis in Wireless Adhoc Networks" in Wireless Ad Hoc and Sensor Networks, Kluwer Academic Publishers, 2004.
- Nils Aschenbruck, ElmarGerhards-Padilla, and Peter Martini," A survey on mobility models for performance analysis in tactical mobile networks", JTIT, 2/2008, pp: 54-61.
- N. Aschenbruck, E. Gerhards-Padilla, M. Gerharz, M. Frank, and P. Martini, "Modelling mobility in disaster area scenarios", in Proc. 10th ACM IEEE Int. Symp. Model. Anal. Simul. Wirel. Mob. Syst. MSWIM, Chania, Greece, 2007.
- F. Bai, N. Sadagopan, and A. Helmy, "IMPORTANT: a framework to

systematically analyze the impact of mobility on performance of routing protocols for adhoc networks", in Proc. IEEE INFOCOM, San Francisco, USA, 2003, pp. 825–835.

- Santosh Kumar, S. C. Sharma, BhupendraSuman," Mobility Metrics Based Classification & Analysis of Mobility Model for Tactical Network", International journal of next- generation networks (IJNGN) Vol. 2, No. 3September 2010, pp. 39-51.
- C. Bettstetter, G. Resta, and P. Santi, "The node distribution of the random waypoint mobility model for wireless Ad Hoc networks", IEEE Trans. Mob. Comp. , vol. 2, no. 3, pp. 257–269, 2003.
- C. Bettstetter and C. Wagner, "The spatial node distribution of the random waypoint mobility model", in Proc. 1st German Worksh. Mob. Ad-Hoc Netw. WMAN'02, Ulm, Germany, 2002, pp. 41–58.
- V. Davies. Evaluating mobility models within an Ad Hoc network. Master's thesis, Colorado School of Mines, 2000.
- C. Chiang. Wireless Network Multicasting. PhD thesis, University of California, Los Angeles, 1998.
- E. Royer, P. M. Melliar-Smith, and L. Moser. An analysis of the optimum node density for Ad Hocsmobile networks. In Proceedings of the IEEE International Conference on Communications (ICC), 2001.
- X. Hong, M. Gerla, G. Pei, and C. Chiang. A group mobility model for Ad Hoc wireless networks. In Proceedings of the ACM International Workshop on Modeling and Simulation of Wireless and Mobile Systems (MSWiM), August 1999.
- V. Tolety. Load reduction in Ad Hoc networks using mobile servers. Master's thesis, Colorado School of Mines, 1999.
- J. Heidemann and N. Bulusu et al. , " Effects of detail in wireless network Simulation", In Proceedings of the SCS Multiconference on Distributed simulation", January 2001, pp 3-11.
- M. Sanchez. Mobility models. http://www. disca. upv. es/misan/mobmodel. htm. Accessed on May 13, 2001.
- Sanchez and P. Manzoni. A java based simulator for adhocnetworks. http://www. scs. org/confernc/wmc99/errata/websim/w408/w408. html. Accessed on May 13,2001.
- Aziz S. R. A. , Endut N. A. , Abdullah S. and Daud M. N. M. , Performance evaluation of AODV, DSR and DYMO routing protocol in MANET, CSSR 2009;8(9), 14 – 15.
- C. Bettstetter, H. Hartenstein and X. Perez-Costa, "Stochastic Properties of the Random-Waypoint Mobility Model," Wireless Networks, Vol. 10, No. 5, pp. 555-567, 2004.
- S. Basagni, I. Chlamtac, V. Syrotiuk, and B. Woodward. "A Distance Routing Effect Algorithm for Mobility (DREAM). " ACM/IEEE International Conference on Mobile Computing and Networking (MOBICOM'98), pages 76-84, 1998.
- D. Johnson, and D. Maltz. Dynamic Source Routing in Ad Hoc Wireless Networks, pages 153-181, Kluwer
- Academic Publishers, 1996.
- S. Lee, M. Gerla, and C. Chiang, "On - Demand Multicast Routing Protocol. " IEEE Wireless Communications&Networking
- Conference (WCNC'99), 1999.
- C. E. Perkins and E. M. Royer, Ad-hoc on-demand distance vector routing, in: Proc. of 2nd IEEE Workshop on Mobile Computing Systems and Applications (1999).

- C. E. Perkins, E. M. Royer and S. R. Das, Ad Hoc on-demand distance vector (AODV) routing, IETF MANET Working Group, Internet-Draft (March 2000).
- Chen, B. , and Chang, C. , H. , (2003), "Mobility Impact on Energy Conservation of Ad Hoc Routing Protocol", White Papers, Published at Tufts University, May, 2003.
- Wang, L. , Shu, Y. , Dong, M. , Zhang, L. , and Yang, W. , W. , (2001), "Adaptive Multipath Source Routing in Ad Hoc Networks", IEEE International Conference on Communications, ICC 2001.
- Jayakumar, G. , and Ganapathy, G. , (2007), "Performance Comparison of Mobile Ad-hoc Netwrok Routing Protocol ", International Journal of Computer Science and Netwrok Security (IJCSNS), VOL. 7 No. 11, Nov. 2007.
- Comparative Performance Analysis of DSDV, AODVand DSR Routing Protocols in MANET using NS2 AsmaTuteja ,Rajneesh GujralMullana,) Sunil Thalia ,2010 International Conference on Advances in Computer Engineering.
- Analyzing the Impact of Entity Mobility Models on the Performance of Routing Protocols in the MANET Liu Tie-yuan CHANG LiangGuTian-long 2009 Third International Conference on Genetic and Evolutionary Computing.
- R. Asokan, A. M. Natarajan. An approach for reducing the end-to-end delay and increasing network lifetime in mobile Ad Hoc networks. International journal of information technology. 2007, 4(2): 121-128 .

Index Terms

Computer Science Mobile Networks

Keywords

Ad-hoc Network Performance Mobility Models Routing Protocols Aodv Dsr