

Comparison between A²ODV and AODV in Multi-Agent systems

Eng. Tarek Al Skaif*

Dr. Mhd. Aiman Al Akkad

Dr. Salem Marzouk

Abstract

Mobile Ad hoc network attracted significant interests resulting in many routing protocol proposals. In this paper we will introduce the concept of Ad hoc networks (MANET), Multi Agent Systems (MAS), and routing issues related to Ad hoc structure. We will talk also about the ability of integrity between MANET and MAS, then we introduce the improved A²ODV (Advanced Ad hoc On demand Distance Vector) routing protocol and its benefits in MAS. Finally, the article shows the new results of A²ODV compared to the traditional AODV in MAS using our special simulator environment.

Keywords: On-demand (reactive) routing, proactive routing, reactive routing, congestion, AODV routing protocol.

For the abstract in Arabic see pages (301-311).

*Department of Computer Engineering and Automation, FMEE - Damascus University

References:

- [1] D. Azzedine Boukerche, "Algorithms and Protocols for Wireless and Mobile Ad hoc Networks" , John Wiley & Sons, Inc., Hoboken, New Jersey, simultaneously in Canada, 2009.
- [2] [Joseph P. Macker](#), [William Chao](#), [Ranjeev Mittu](#), and [Myriam Abramson](#), "Multi-Agent Systems in Mobile Ad hoc Networks", 2006.
- [3] Changling Liu and J rg Kaiser, "A Survey of Mobile Ad hoc network Routing Protocols" , University of Magdeburg, 2005.
- [4] [Romit RoyChoudhury](#), [S. Bandyopadhyay](#), and [Krishna Paul](#), "*A distributed mechanism for topology discovery in ad hoc wireless networks using mobile agents*",IEEE Press Piscataway, NJ, USA,2000.
- [5] C. Perkins, E. Belding-Royer, and S. Das. Ad hoc On-Demand Distance Vector (AODV) Routing. Request for Comments 3561, February 2007. Available at <http://www.ietf.org/rfc/rfc3561.txt>.
- [6] Mhd. A. Al Akkad, and T. AlSkaif, "A²ODV: Advanced Ad hoc on-Demand Distance Vector", ISTU in Dec. 2010.