INTEGRATED ENERGY AWARE MECHANISM FOR ON-DEMAND ROUTING PROTOCOLS

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Abstract

Mobile Communication is the present trend in the world of networking. Ad hoc Networks is a special area of research in this field. These networks provide a relative new paradigm of wireless networking, which posses several formidable challenges for control, monitoring and management, due to the basically "infrastructure less" nature of these networks.

Ad Hoc Network is a special type of wireless network where all nodes co-operatively maintain network connectivity. It usually consists of battery-operated computing devices which cooperate with each other to transmit packet from a source to destination. The availability of each node is equally important for the enforcement of this kind of cooperation. The failure of a single node can greatly affect the network performance. Since mobile nodes are usually battery-operated, one of the major reasons of node failure is battery exhaustion. In order to maximize the life-time of a mobile node, it is important to reduce the energy consumption of a node while transmitting packet.

In this paper we introduce a mechanism involving integration of load balancing approach and transmission power control approach to maximize the life span of Ad Hoc network. This mechanism is applied on AODV and DSR to make them energy aware ad hoc on-demand distance vector routing protocol (EA-AODV) and energy aware dynamic source routing protocol (EA-DSR). Using JAVA, XML, and ACTION SCRIPT 2.0. a simulator is developed for simulating AODV,DSR EA-AODV and EA-DSR protocols.