Abstract

In the last few years, the exploit of ad hoc wireless networks has increased thanks to their commercial and military potential. An application of wireless ad hoc networks is Bluetooth technology, which allows wireless communication among different devices. As a military application, we can report the establishment of communications between groups of soldiers in a not safe territory. Additionally, ad hoc networks are useful in emergency operations, where no fixed infrastructure is feasible.

A mobile ad hoc network (MANET) represents a system of wireless mobile nodes that can self-organize freely and dynamically into arbitrary and temporary network topology. On one hand, they can be quick deployed anywhere at anytime as they eliminate the complexity of infrastructure setup. On the other hand, other problems arise, such as route errors or higher overhead, caused by the mobility of nodes.

The main goal of this master's thesis has been the improvement of the communication between MAC 802.11 protocol and DSR (Dynamic Source Routing) protocol, to run in the ns-2 network simulator.