MANET multicast routing daemon for Linux

Multicast routing protocols have been an active research topic for more than two decades. The purpose of multicast routing is to minimize the network resources needed to distribute information to a group. Live TV-streaming over the Internet of popular events such as World Championship in cross country skiing is an example where multicast routing can be useful. Multicast ensure that only one copy of the data is transmitted over the sections of a routing path that is common to one or more destinations, the data is replicated as needed in routers on the way to the destinations.

Wireless P2P Technologies AB (WP2P) designs personal radios for hunters and outdoor tourism. Hence in wireless networks multicast is perceived to be a very important network service. These networks have much lower data rate than most wired networks, thus network resource optimization is a key element. A large portion of the communication in the low data-rate networks in a wildlife operation is group communication.

At WP2P we have an ongoing activity that study multicast in low data-rate wireless networks. However we see the need for advanced MANET multicast routing in many scenarios. This is a topic that has received some research attention but little practical implementation. We are looking for students that want to work with us on this topic. Possible activities can be to design a Linux routing daemon for MANET multicast protocols (ODMRP, HLANMAR, MAODV etc) based on available open source SW, or to modify existing multicast protocols to better support MANET multicast.

Modification can be done for Quagga (http://www.nongnu.org/quagga/) or for bird routing daemon (http://bird.network.cz) or for the custom made MANET routing daemon.

In this activity we can offer a short Project topic, a short/long Master Thesis topic or a combination of both with maximum engagement up to 6 months and compensation 50 000 SEK. We expect Master students with excellent C/C++ programming skills, knowledge of Unix based systems and willingness to learn how to develop embedded applications.

If this sounds interesting, don’t hesitate to contact us for more information. Please, refer to "Master Thesis" in the subject and attach your CV

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