BitTorrent enabled Ad hoc Network

Abstract

The android devices come with default setting of working with wifi only on access point and not in ad hoc mode. This setting can be undone with patches like wpa_supplicant file on Android and the device can be made to work on ad hoc mode and detect ad hoc wifi networks. Mobile ad hoc network is characterized as multi-hop wireless communications between mobile devices.

P2P file sharing and Ad-Hoc are based on the same paradigm: the P2P paradigm. Our motivation is to use ad hoc network for file sharing purposes and study how the two different literatures perform when combined together. In a way we are looking to provide services to the user without making use of any centralized server. This could also be termed as a cost cutting approach, getting the same resources without paying a penny.

Finding the requested file with constraints of mobile ad hoc network like mobility, scarcity of power and bandwidth offer a major challenge. MANET works with network and lower layer protocols while P2P works on application layer protocols. In P2P+MANET the cross layer design of protocols is a promising solution. We look at integrating the P2P file sharing/look-up and MANET protocols as proposed in [3]. We look into the functioning of these when coupled together from the implementation perspective. We further take into consideration a much optimized work as presented in [1]. P2P file sharing in Ad-Hoc network comes with restrictions as addressed in [1]. Throughput suffers over multi-hop. Solutions have been proposed to restrict the scope of neighbourhood for fast download and keeping low overhead in the same paper. Efficient utilization of the resources has also been considered by establishing few connections to the remote peers. We would be elaborating on what we took from the papers and the changes like positions being uploaded to a server and a location based routing protocol implemented at the server, that we would be adding to previous research.

References:

[1] *BitHoc: BitTorrent for Wireless Ad Hoc networks* Mohamed Karim SBAI, Chadi BARAKAT, Jaeyoung CHOI, Anwar AL HAMRA and Thierry TURLETTI Project-Team Plan`ete, INRIA Sophia Antipolis, France

[2] http://planete.inria.fr/bithoc/#Overview

[3] *Peer-to-peer File-sharing over Mobile Ad hoc Networks* Gang Ding and Bharat Bhargava Proceedings of the Second IEEE Annual Conference on Pervasive Computing and Communications Workshops (PERCOMW'04)

[4]Efficient Peer-to-Peer Data Dissemination in Mobile Ad-Hoc Networks Siddhartha K.Goel, Manish Singh, Dongyan Xu Department of Computer Sciences Purdue University West Lafayette, Baochun Li Department of Electrical and Computer Engineering University of Toronto Toronto, Ontario, Canada