

BitHoc: Tracker-less BitTorrent for Mobile Ad Hoc Networks *

**Amir Krifa, Mohamed Karim Sbai, Chadi
Barakat, Thierry Turletti**

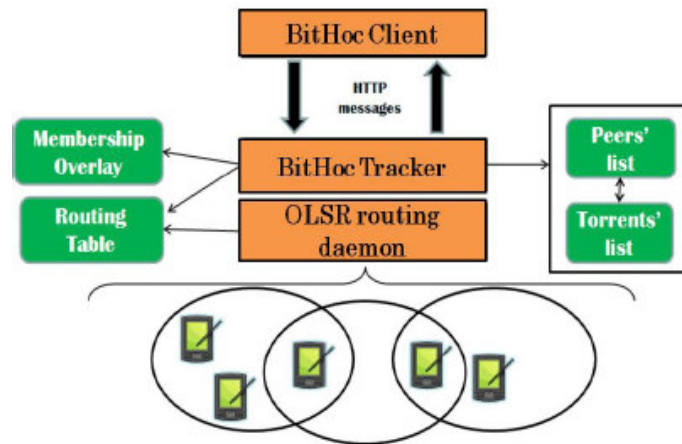
Planete Research Project, INRIA, France



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PerCom 2009 Demonstrations – One Minute Madness

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BitHoc's global architecture

Goal & Motivation

- Internet content sharing applications cannot directly be used in mobile environments'.
- Designing and implementing an open-source software solution for content sharing in mobile wireless ad hoc networks.
- Adapting BitTorrent to the wireless ad hoc network environment:
 - A global distributed membership tracking service.
 - Adapting the peer neighbor and piece selection strategies to account for the topology of the network and the scarcity and shared nature of resources.

Components deployed on handhelds:

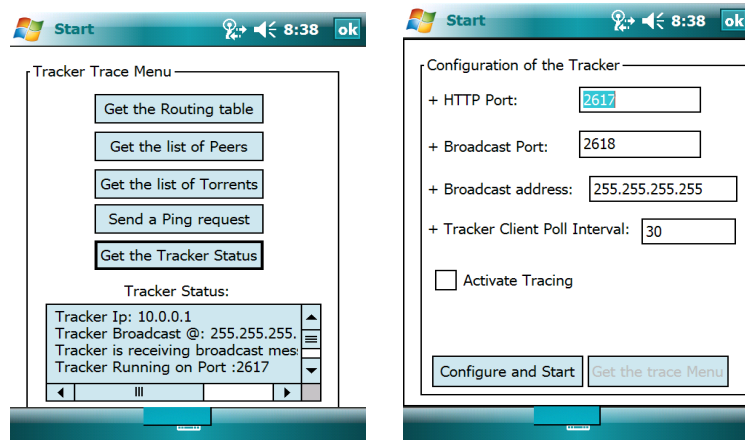
- **BitHoc tracker:** a fully distributed membership tracking service. It provides the BitHoc client with up-to-date information on Torrent members.
- **BitHoc client:** it organizes the data transfer between devices. It mainly decides of the neighbors with whom a peer exchanges pieces of content and the right piece to select. The used algorithms are adapted to the constraints of mobile wireless environments.
- **OLSR routing daemon**

Environment

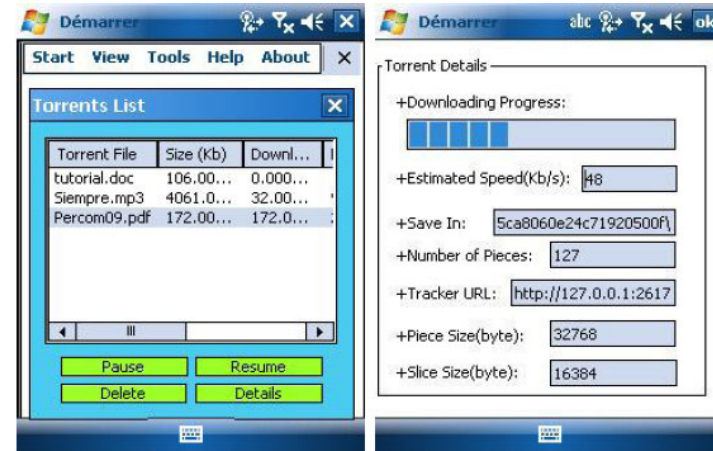


- 14 mobile devices including 7 PDAs and 7 smartphones (HP iPAQ 214, 614c) equipped with IEEE802.11b wireless cards
 - Windows mobile OS.
 - OLSR daemon ensures ad hoc routing.
 - BitHoc tracker and BitHoc client developed in C++ and installed in devices.
- BitHoc web site: <http://planete.inria.fr/bithoc/>

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BitHoc tracker screen shots



BitHoc client screen shots

Other features:

- Choosing between two versions: The classical BitTorrent and BitHoc.
- Configuring and personalizing the different parameters (addresses, ports, timers, etc ...) of the tracker and the client.
- Real time monitoring of sharing sessions.
- Logging and tracing of events.

Some results:

