Testbed Documentation

V1.0 - 14.07.2013

1. Start netbooks & login with user Maniac
2. Connect to the chosen ad-hoc network
3. The Nexus7 nodes (marsala, trento, messina, & roma) provide a working txtinfo plugin for the maniac api and the strategies. The txtinfo plugin is not working if default olsr (with default config) is started.
   The config file *olsrd-0.6.5.4/files/conf.default.full* is an edited version on all netbooks with working txtinfo.

   Therefore in the folder olsrd-0.6.5.4 start olsrd provide the config and the interface:

   ```
   sudo ./olsrd –f files/olsrd.conf.default.full –i eth1
   ```

   On success a list with links/neighbors comes up.
   That's done for the 4 nodes mentioned above.
   To check if txtinfo plugin is working: **echo "/all" | nc localhost 2006**
4. To provide multihop, Asanga created a folder maniac-scripts.
   In that folder you can check if any mac-address packets are dropped by:

   ```
   sudo ./control-flow show
   ```

   After a restart, the list should be empty. (Also watch out after restarts of olsrd!)
   Each node has its own script to easily set up the network, so:

   ```
   ./sudo ./topology-netbookname  (e.g. topology-messina)
   ```

   In the olsrd terminal the links will slowly start changing to the new topology.
5. The Backbones don't need a working txtinfo plugin, so the std config is fine for them:

   ```
   sudo olsr –i eth1
   ```

   Also apply the maniac-scripts to the backbones.
6. To start the backbone software, check where a Backbone.jar can be found (usually home)

   Backbone Sender:

   e.g.
   ```
   java  -jar Backbone.jar "eth1" false  "192.168.1.200" 50 3000 2 150 200
   ```

   - eth1 - the interface
   - Backbone is not a receiver (false)
   - 192.168.1.200 – destination of packets (finalDestination)
   - 50 – amounts of packets to send
   - 5000 – milliseconds delay between new advertisements
   - 2 – HopCount
   - 150 - fine
   - 300 - initialBudget

   Backbone Receiver:

   e.g.
   ```
   java  -jar Backbone.jar "eth1" true
   ```

   - Set the 2nd argument to true (isReceiver)

7. To start the Nexus7 nodes, go into the folder Nexus7 in that folder there is the generic.txt which will tell the software, who is a backbone.

To start:

e.g. **java –jar Backbone.jar eth1 de.fu_berlin.maniac.strategies.slowstartStrategy**

- eth1 - the interface
- **de.fu_berlin.maniac.strategies.slowstartStrategy –** (none = default strategy) else: quick & dirty build-in strategies that this node can behave like:

Current build-in strategies:

Default (provide no argument)

de.fu_berlin.maniac.strategies.slowstartStrategy

Winning an auction has priority. To win auctions at the lowest possible price: start with a low bid, get higher (in this implementation *2) every time the data packet is won. If an auction is lost, go back to 75%.

AuctionParameters(Half the price, same fine)
SelectWinner(lowest Price)

de.fu_berlin.maniac.strategies.cheap10Strategy

Send Bids ~ 10% of the price.
AuctionParameters(same price as advert, same fine as advert)
SelectWinner(lowest Price)

de.fu_berlin.maniac.strategies.cheap50Strategy

Send Bids ~ 50% of the price.
AuctionParameters(same price as advert, same fine as advert)
SelectWinner(lowest Price)

de.fu_berlin.maniac.strategies.cheapRandomStrategy

Send Bids : Random Values in the Price-Range
AuctionParameters(same price as advert, same fine as advert)
SelectWinner(lowest Price)