

DSR Click Router Installation Instructions

Pervasive Communications lab

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This document describes the installation of the Click Modular router on successful re-compilation of the kernel. Make sure to boot in the re-compiled version before installing the Click modular router infrastructure.

- Download and install 1.2.4 version of Click from the website <http://www.pdos.lcs.mit.edu/click/>.
- Run the Install Script (install-dsr script) - this will install all the DSR router specific files in the relevant directories and take backups of basic files. It will also compile the userlevel version of the click with the DSR router functionality.
- The node has to be initialized with a particular IP Address before the router can be started. Each node SHOULD have a unique IP address. An example startup script is as follows:
 1. `ifconfig eth0 up` - This brings up the eth0 interface.
 2. `ifconfig tap0 up` - This brings up the tap0 interface.
 3. `ifconfig tap0 192.138.198.93 netmask 255.255.255.0` - This assigns a IP Address and netmask to the tap0 interface. This has to be a unique address. This address should be the address that is entered in the DSR router file that resides in the conf sub-directory in the click-1.2.4 directory.
 4. `iwconfig eth0 essid 'test' mode 'ad-hoc'` - This command assigns a particular essid to the ad hoc network and sets up the mode of operation of the wireless ethernet card to *adhoc*.

All these instructions are packaged in a script `configure-dsr` and is present in the `click-1.2.4` directory. This script has to be executed before starting the router.

The parameters that have to be passed to the script are interface, and ip address.

e.g. `./configure-dsr eth0 192.138.198.93` will configure the router to have the tap0 address `192.138.198.93` running on the eth0 interface.

- Before running the router, to ensure that the kernel tap is running, run the script `./click ../conf/test-tap.click` from the userlevel sub-directory.
- Once the kernel tap functionality is verified, and the node is initialized, the router has to be started using the following command in the userlevel sub-directory. `./click ../conf/dsr-router.click` This will start the DSR router.
- Once all the nodes have the router started, initiate ping packets from the source node to the destination node.