

Testing Procedures

Installation

Boot from the Ubuntu CD. When prompted at the command line, press `Enter`. When the boot menu appears, use the arrow keys to select the `install - start the installer directly` option and press `Enter`. Once the login dialog appears, press `Enter`, enter `cpe406` into the text box, enter `cpe406` into the password text box. Navigate to `Applications -> Accessories -> Terminal`, press `CTRL+C`, and enter `ubiquity`. Select your language and click `Forward`. Select your time zone and click `Forward`. Select your desired keyboard layout and click `Forward`. Select `Erase and use the entire disk` and click `Forward`. Enter `cpe406` for login name, enter `cpe406` for your password, and click `Forward`. Click `Install`. Once the installation has finished, click `Restart Now` on the dialog box.

Rebooting

When booting up after installation is complete, a menu will appear to configure the node. First, enter `1` to set the this node's number. Next, enter `2` to set the monitor node number. Finally enter `3` to start the graphical desktop.

Testing

The scripts referenced in the following sections can be found in `MeshKit/test/field-test/bin`.

Non-Monitor-Nodes

If monitor-node cannot see a node, execute `startmgr` on the node. The `startmgr` starts the network on which `rootconsole` (see next section) sends its commands.

If the monitor-node can see a node, but the node is not responding to its command, then execute `nodelisten` on the node. `nodelisten` listens for commands sent by `rootconsole` (see next section) and processes them.

To see which network interfaces are active, execute `ifconfig`.
To see all network interfaces, execute `iwconfig`.

Monitor-Node

Run `rootconsole` on the monitor-node to bring up the testing command interface. This interface will facilitate issuing commands to each node in a MESH (OLSRD, BATMAN, or 80211s).

Here is the usage information for this interface (in `field-test/bin/` there are python scripts that implement the following commands):

COMMANDS: (node numbers == number on stick in machines)

Following commands run against sideband network

```
batup          [spc delim target node numbers]
batdown        [spc delim target node numbers]
802up          [spc delim target node numbers]
802down        [spc delim target node numbers]
olsrup         [spc delim target node numbers]
olsrdown       [spc delim target node numbers]
heartbeatup    [spc delim target node numbers]
heartbeatdown  [spc delim target node numbers]
```

Following commands run against Mesh Network

```
uperf <target node number> (iperf tcp bandwidth test)
tperf <target node number> (iperf udp bandwidth test)
traceroute <target node number>
ping <target node number>
testconverge <target node number>
hello <# of acks expected> (every node up should
    acknowledge over mesh)
start <testname>
stop (saves results in local directory, file <testname>)
help (displays this menu)
exit (close console)
```