

Adding multiple interfaces to NS2

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This document describes how to install ns2 on ubuntu 12.04 and how to add multiple interface support in it. No guarantee that this guide will help in other ubuntu versions i tried it on ubuntu 10.04 but it didn't work

Most of the content of this document is based on the post found in [2]

- First download ns-2.33 from this link (<http://sourceforge.net/projects/nsnam/files/allinone/ns-allinone-2.33/ns-allinone-2.33.tar.gz/download>)
- The code has some syntax error that are reported in [1] and can be solved as follows

– In ns-2.33/tools/ranvar.cc, line 219

Replace:

```
return GammaRandomVariable::GammaRandomVariable(1.0 + alpha_,  
beta_).value() * pow (u, 1.0 / alpha_);
```

By:

```
return GammaRandomVariable(1.0 + alpha_, beta_).value()  
* pow (u, 1.0 / alpha_);
```

– In mac/mac-802_Ext.h, line 65

Add:

```
#include <cstddef>
```

– In ns-2.33/mobile/nakagami.cc, Line no.

Replace

```

if (int_m == m) {
    resultPower = ErlangRandomVariable::
    ErlangRandomVariable(Pr/m, int_m).value();
} else {
    resultPower = GammaRandomVariable::
    GammaRandomVariable(m, Pr/m).value();
}
return resultPower;

```

By

```

if (int_m == m) {
    resultPower = ErlangRandomVariable(Pr/m, int_m).value();
} else {
    resultPower = GammaRandomVariable(m, Pr/m).value();
}
return resultPower;

```

- To be able to bind variables from TCL scripts to textitc code, go to the file ns-2.33/tcl/lib/ns-lib.tcl, inside the method create-aodv-agent after the line

```
set ragent [new Agent/AODV [$node node-addr] $node]
```

Add the following line

```
$ragent node $node
```

- In ns-allinone-2.33/ns2-2.33 directory run `sudo ./install`
- To add multiple interface support to ns2 download the following batch file (<http://www.mediafire.com/?au0dce1r3ct0x7t>) and place it in ns-allinone-2.33, then run the following command:

```
patch -p1 < multi-interface(ns-2.33).patch
```

- In ns-allinone-2.33/ns-2.33 directory run
 - `./configure`
 - `make clean`
 - `make`

– make install

- To make sure that it's working properly you can test using one of the TCL scripts found in this link (<http://www.mediafire.com/?avpbigc1ynyjj7d>). The tcl scripts having "mesh" word in their name are the scripts designed with multiple interfaces. Others are designed with single interfaces

References

- [1] Ramakrishna M, *Ns-2.34 installation in ubuntu 12.04*, 2012.
- [2] Mohit P. Tahiliani, *Revised: Adding multiple interface support in ns-2*, 2010.