**NS3-DCE setup**

We have installed the following setup on Ubuntu 14.04.

Steps:

Before we install ns3 and dce, a few libraries need to be installed as pre-requisites.

The following list of packages are for Ubuntu 14.04 release.

For (Mac/CentOs – please refer - <https://www.nsnam.org/wiki/Installation>)

For Ubuntu/Debian 1 :

* apt-get install gcc g++ python
* apt-get install gcc g++ python python-dev
* apt-get install qt4-dev-tools libqt4-dev
* apt-get install mercurial
* apt-get install bzr
* apt-get install cmake libc6-dev libc6-dev-i386 g++-multilib
* apt-get install gdb valgrind
* apt-get install gsl-bin libgsl0-dev libgsl0ldbl
* apt-get install flex bison libfl-dev
* apt-get install tcpdump
* apt-get install sqlite sqlite3 libsqlite3-dev
* apt-get install libxml2 libxml2-dev
* apt-get install libgtk2.0-0 libgtk2.0-dev
* apt-get install vtun lxc
* apt-get install uncrustify
* apt-get install doxygen graphviz imagemagick
* apt-get install texlive texlive-extra-utils texlive-latex-extra texlive-font-utils texlive-lang-portuguese dvipng
* apt-get install python-sphinx dia
* apt-get install libboost-signals-dev libboost-filesystem-dev
* apt-get install python-pygraphviz python-kiwi python-pygoocanvas libgoocanvas-dev ipython
* apt-get install openmpi-bin openmpi-common openmpi-doc libopenmpi-dev
* apt-get install cvs
* apt-get install unrar
* apt-get install p7zip-full
* apt-get install autoreconf
* apt-get install git
* apt-get install libssl-dev
* apt-get install libdb-dev
* apt-get install ncurses-devel

Now we install ns3 using bake module.

Bake – Tool for installing ns-3.

First, we need to download bake.

* hg clone http://code.nsnam.org/bake

Add bake to your path

* export BAKE\_HOME=`pwd`/bake
* export PATH=$PATH:$BAKE\_HOME
* export PYTHONPATH=$PYTHONPATH:$BAKE\_HOME

After successfully downloading bake, use bake to install the missing packages, download build and install ns3.

* bake.py check

You should have seen something like:

> Python - OK

> GNU C++ compiler - OK

> Mercurial - OK

> CVS - OK

> GIT - OK

> Bazaar - OK

> Tar tool - OK

> Unzip tool - OK

> Unrar tool - OK

> 7z data compression utility - OK

> XZ data compression utility - OK

> Make - OK

> cMake - OK

> patch tool - OK

> autoreconf tool - OK

> Path searched for tools: /usr/lib64/qt-3.3/bin

/usr/lib64/ccache /usr/local/bin /usr/bin/bin/usr/local/sbin /usr/sbin

/sbin /user/dcamara/home/scripts/user/dcamara/home/INRIA/Programs/bin

/user/dcamara/home/INRIA/repos/llvm/build/Debug+Asserts/bin

Before downloading and building ns-3 you need to configure bake to inform it which are the modules you want added to ns-3, the standard distribution for example.

* bake.py configure -e ns-|version|

(In our implementations, we have used ns-3.25. The latest release is ns-3.36)

To download and build the ns3 modules:

* bake.py download
* bake.py build

To execute any script in the above folder, execute the binary file using the waf command

* ./waf –-run (binary file name)
* Eg: ./waf –-run tcp-bulk-send
* (dce-iperf.cc is the filename and tcp-bulk-send is the binary created, after compiling the program.)

References:

1. ns3 - <https://www.nsnam.org/wiki/Installation>
2. DCE - https://www.nsnam.org/docs/dce/release/1.8/manual/singlehtml/index.html