



Experiment No 7

Aim: Study and installation of network simulators[NS2]

Theory: NS2, or Network Simulator 2, is a widely used open-source discrete event network simulator. It is primarily used for simulating and analyzing the behavior of computer networks. NS2 allows researchers and network engineers to model complex network scenarios and study the performance of various network protocols and algorithms in a controlled environment.

Some of its industrial applications include:

- Network Protocol Development
- Quality of Service (QoS) Testing
- Wireless Network Design
- Security and Intrusion Detection
- Routing and Traffic Management
- Education and Training
- Research and Development
- Capacity Planning

Overall, NS2 is a versatile tool that finds applications in a wide range of industries where computer networking and communication systems are essential for operations, research, and development. Its flexibility and open-source nature make it a popular choice for network simulation and analysis.

```
ubuntu@ubuntu-VirtualBox:~$ sudo apt-get install ns2
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following extra packages will be installed:
  libns2-dev
The following NEW packages will be installed:
  libns2-dev ns2
0 upgraded, 2 newly installed, 0 to remove and 73 not upgraded.
Need to get 202 kB of archives.
After this operation, 1,037 kB of additional disk space will be used.
Do you want to continue [Y/n]? y
Get:1 http://de.archive.ubuntu.com/ubuntu/ precise/universe libns2-dev amd64 1.34-4 [72.5 kB]
Get:2 http://de.archive.ubuntu.com/ubuntu/ precise/universe ns2 amd64 1.35-1 [121
9 kB]
Fetched 201 kB in 4s (502 kB/s)
Selecting previously unselected package libns2-dev.
(Reading database ... 185792 files and directories currently installed.)
Unpacking libns2-dev (from .../libns2-dev_1.34-4_amd64.deb) ...
Selecting previously unselected package ns2.
Unpacking ns2 (from .../ns2_1.35-1_amd64.deb) ...
Processing triggers for man-db ...

ubuntu@ubuntu-VirtualBox:~$ sudo apt-get install ns2
[ysudo] password for ubuntu:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following extra packages will be installed:
  libns2-dev
Suggested packages:
  gnuplot tclreadline
The following NEW packages will be installed:
  libns2-dev ns2
0 upgraded, 2 newly installed, 0 to remove and 73 not upgraded.
Need to get 7,182 kB of archives.
After this operation, 20.5 MB of additional disk space will be used.
Do you want to continue [Y/n]? y
Get:1 http://de.archive.ubuntu.com/ubuntu/ precise/main libns2-dev amd64 1.34-4 [72.5 kB]
Get:2 http://de.archive.ubuntu.com/ubuntu/ precise/universe libns2-dev amd64 1.34-4 [72.5 kB]
Get:3 http://de.archive.ubuntu.com/ubuntu/ precise/main ns2 amd64 1.35-1 [121,893 kB]
Get:4 http://de.archive.ubuntu.com/ubuntu/ precise/universe ns2 amd64 1.35-1 [121,893 kB]
72% [4 ns2 3,858 kB/5,878 kB downloaded]
```



Vidyavardhini's College of Engineering & Technology

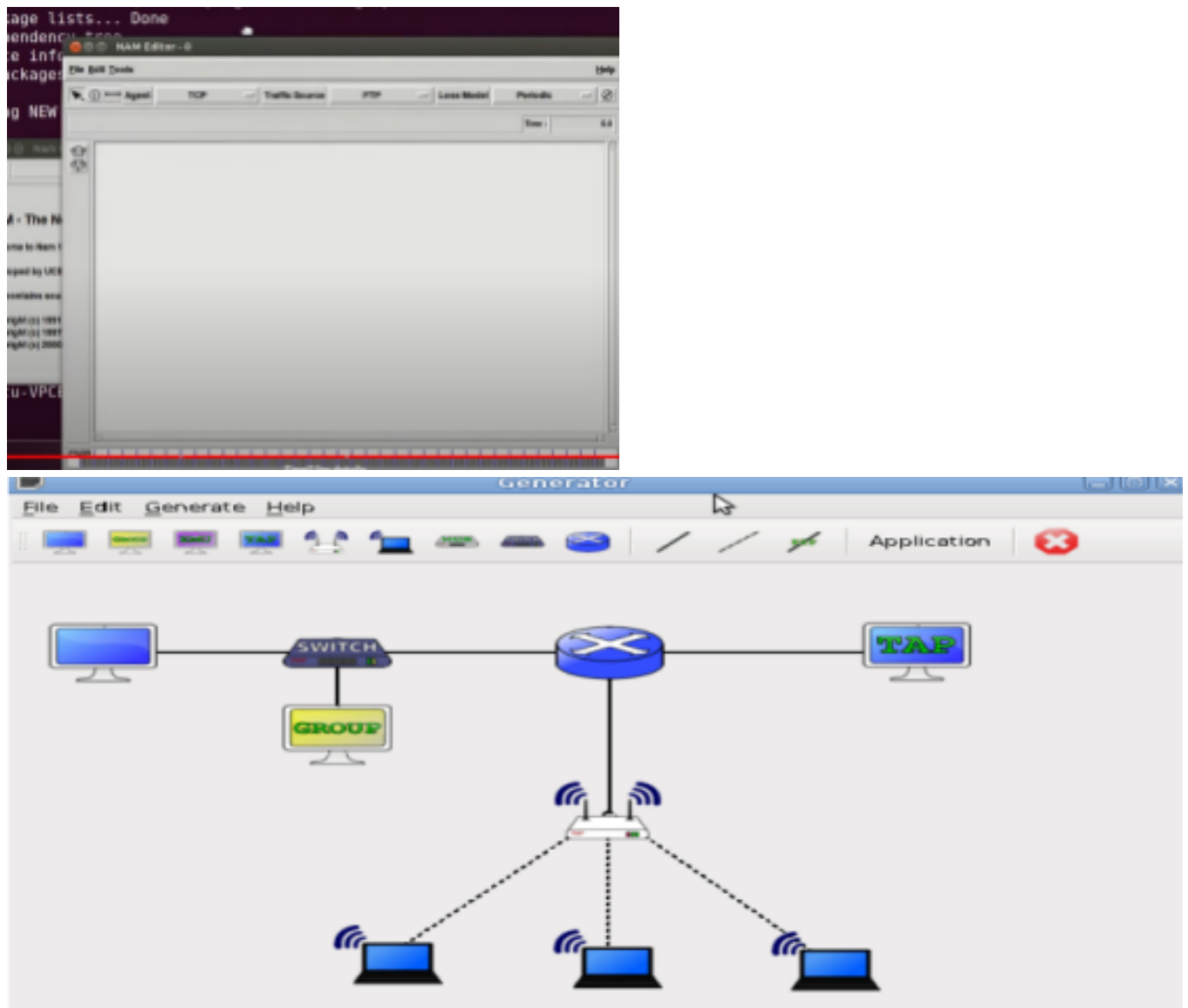
Department of Computer Engineering

Academic Year : 2023-24

```
ubuntu@ubuntu-VPCER3L1E:~$ sudo apt-get install xgraph
Reading package lists... Done
Building dependency tree
Reading state information... Done
Suggested packages:
  ygraph
The following NEW packages will be installed:
  xgraph
0 upgraded, 1 newly installed, 0 to remove and 73 not upgraded.
Need to get 90.4 kB of archives.
After this operation, 245 kB of additional disk space will be used.
Get:1 http://de.archive.ubuntu.com/ubuntu/ precise/universe xgraph amd64 12.1-15
[90.4 kB]
Fetched 90.4 kB in 0s (524 kB/s)
Selecting previously unselected package xgraph.
(Reading database ... 186265 files and directories currently installed.)
Unpacking xgraph (from .../xgraph_12.1-15_amd64.deb) ...
Processing triggers for man-db ...
Setting up xgraph (12.1-15) ...
ubuntu@ubuntu-VPCER3L1E:~$ ns
% exit
ubuntu@ubuntu-VPCER3L1E:~$
```

```
ubuntu@ubuntu-VPCER3L1E:~$ sudo apt-get install xgraph
Reading package lists... Done
Building dependency tree
Reading state information... Done
Suggested packages:
  ygraph
The following NEW packages will be installed:
  xgraph
0 upgraded, 1 newly installed, 0 to remove and 73 not upgraded.
Need to get 90.4 kB of archives.
After this operation, 245 kB of additional disk space will be used.
Get:1 http://de.archive.ubuntu.com/ubuntu/ precise/universe xgraph amd64 12.1-15
[90.4 kB]
Fetched 90.4 kB in 0s (524 kB/s)
Selecting previously unselected package xgraph.
(Reading database ... 186265 files and directories currently installed.)
Unpacking xgraph (from .../xgraph_12.1-15_amd64.deb) ...
Processing triggers for man-db ...
Setting up xgraph (12.1-15) ...
ubuntu@ubuntu-VPCER3L1E:~$
```

```
ubuntu@ubuntu-VPCER3L1E:~$ sudo apt-get install xgraph
Reading package lists... Done
Building dependency tree
Reading state information... Done
Suggested packages:
  ygraph
The following NEW packages will be installed:
  xgraph
0 upgraded, 1 newly installed, 0 to remove and 73 not upgraded.
Need to get 90.4 kB of archives.
After this operation, 245 kB of additional disk space will be used.
Get:1 http://de.archive.ubuntu.com/ubuntu/ precise/universe xgraph amd64 12.1-15
[90.4 kB]
Fetched 90.4 kB in 0s (524 kB/s)
Selecting previously unselected package xgraph.
(Reading database ... 186265 files and directories currently installed.)
Unpacking xgraph (from .../xgraph_12.1-15_amd64.deb) ...
Processing triggers for man-db ...
Setting up xgraph (12.1-15) ...
ubuntu@ubuntu-VPCER3L1E:~$ ns
% exit
ubuntu@ubuntu-VPCER3L1E:~$ nom
```



Conclusion: We have studied and installed Network Simulator (NS3).