31201

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Assignment - B1

Problem Statement: Study of Network simulator tools to create a network with three nodes & establish a TCP connection b/w node 0 and node 1 such that node 0 will send TCP packet to node 2 via node 1.

Objective: To understand how to use network simulator to create simple network using ns2.

Theory

Network Simulators :

In Communication & computer network research, network simulation is a technique whereby a s/w program models the behaviour of a network either by calculating the behaviour of a network entities (routers, switches, nodes etc). Most simulators use discrete event simulation - the modelling of a systems in which state variable change.

-> Types of Network Simulators

1) Commercial & Open source simulators

-> Commercial : Don't provide source code of s/w & affiliated packages to users for free.

- Open Source

Can be accessed by anyone
Advantages → Flexible, rollout recent changes
Disadvantage → lack of proper Documentation

2) Simple and Complex

Complicated system allows user to specify everything about protocols used in network traffic.

NS2 Installation

1. Install NS2 Package.
2. login as Root to configure systems.
3. Copy ns-allinone-2.0.1 dir 2 in root.
4. Untar using Tar command
5. Install NS2 using linstall

run NS2

- Create Path.
  Path = $PATH:/root/ns-allinone/bin
- run ns2 using ns command.

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Test Cases

Input : ns - ns-simple.tcl

Output

	Result
CBR packet_size = 1000 CBR interval = 0.005000	Pass

Conclusion

I understood a network simulator concept its types & its importance in real time. I successfully implemented it & connected TCP using NS2