

DEBAGNIK
KAR



KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY (KIIT)

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KIIT School of Electronics
Engineering

1804373
ETC-06

WCN Lab Report (EC-3094)

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02	Design and simulation of an IEEE 802.3 Ethernet Local Area Network (LAN) and observation of the TCP window using NS2 Simulator.	7-		
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04	Design, configuration and simulation of multiple VLANs implemented using CISCO routers & switches and analysis of traffic in network using CISCO Packet Tracer.			
05	Design, configuration and simulation of wired and wireless (heterogeneous) network using CISCO networking devices and analysis of traffic in network using CISCO Packet Tracer.			
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Experiment Number	01
Date of Experiment	15/12/2020
Date of Submission	12/01/2020
Name of student	Debagnik Kar
Roll Number	1804373
Section	ETC-06

Aim of the Experiment :-

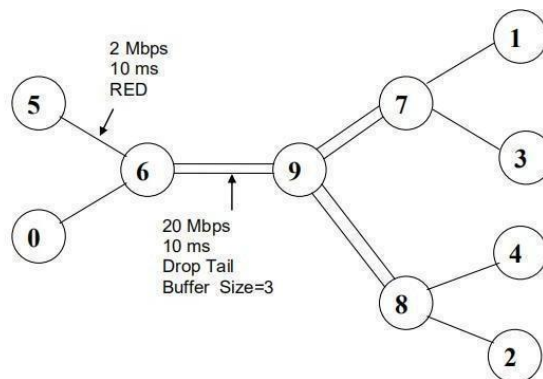
The aim of the experiment is simulation and calculation of throughput for a star connected network with 2 TCP and 1 UDP connection (using NS2 simulator).

Software Requirement :-

- Network Simulator 2
- Tracegraph

Problem statement :-

Simulate and analyze the results for the following star connected network of 10 nodes with 2 TCP and 1 UDP connection (using NS2 Simulator).



In this network of 10 nodes (node '0' through '9'), two FTP applications are running over TCP at nodes n(0) & n(1). Another CBR application is running over UDP at node n(2). The destinations of node 0, 1, 2 are 3, 4, and 5 respectively. The rest of the nodes are the intermediate routers. All the links are full duplex. Schedule: All the TCP connections start at 0.5 second and stop at 10.5 second. The UDP connection start at 1 sec and stops at 10 sec. Simulation time is from 0.5 sec to 11 sec.

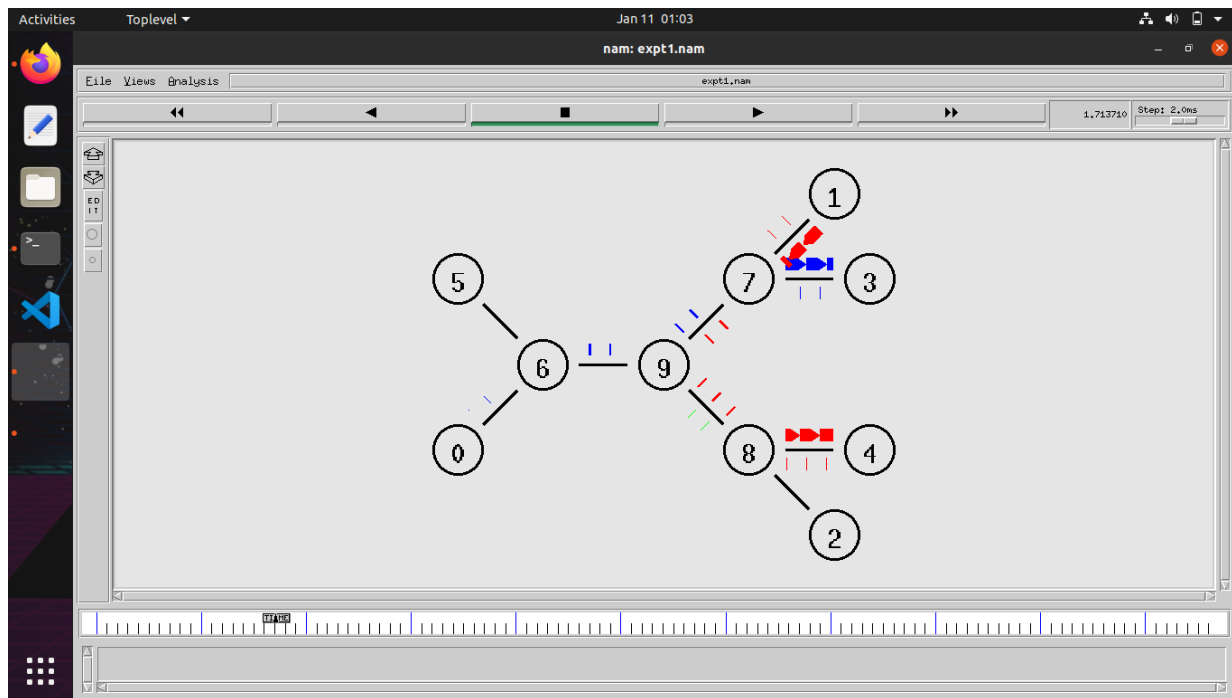
Observation :-

Fig 1.1: NAM Simulation of the code

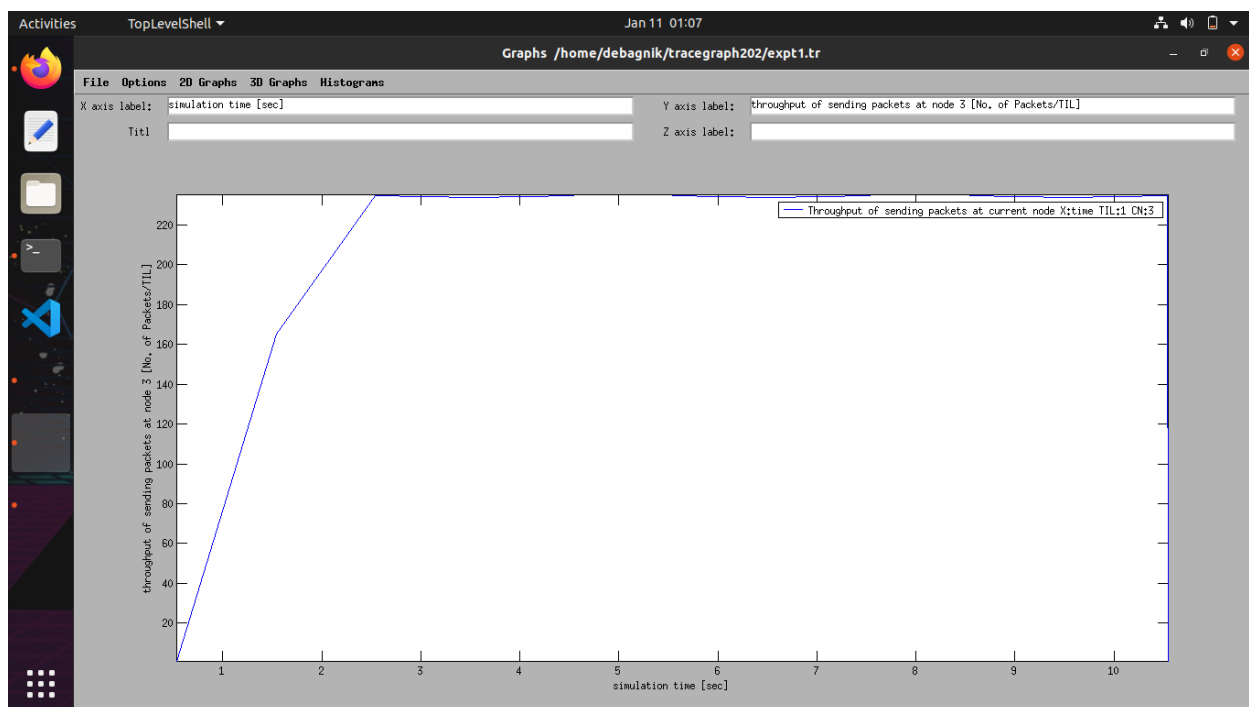


Fig 1.2: Throughput Diagram of sending packets at nodes 3

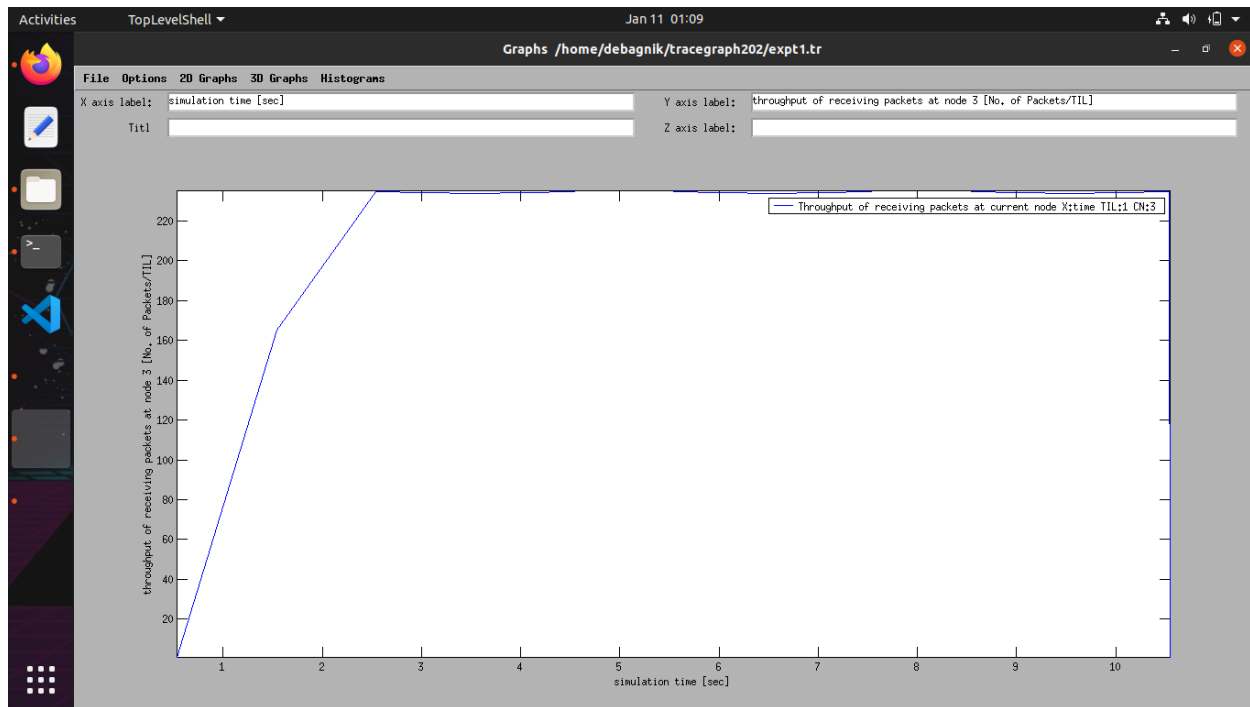


Fig 1.3: Throughput of receiving packets at current node

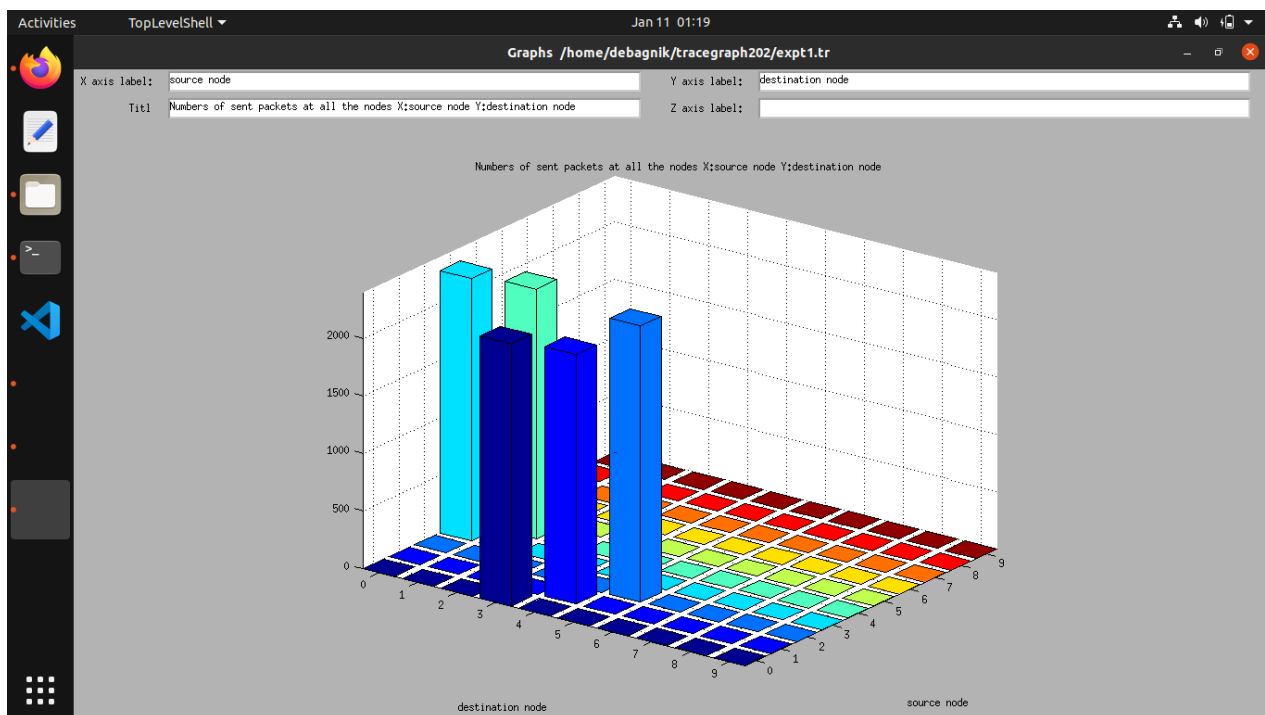


Fig 1.4: 3D diagram of number of packets at all the nodes

Conclusion :-

In this experiment we have constructed a star connected network and simulated with the help of NS2 software. After simulation both 2D and 3D graph have obtained and analyzed with the help of Trace Graph.