List of Experiments and Examples in NetSim Lite

Experiments

1. Data traffic types and network performance measures
2. Throughput and Bottleneck Server Analysis
3. Simulating Link Failure
4. Delay and Little's Law
5. M/D/1 and M/G/1 Queues
6. Understand the events involved in NetSim DES (Discrete Event Simulator) in simulating flow of one packet from a Wired node to a Wireless node
7. Wi-Fi: UDP Download Throughput
8. Multi-AP Wi-Fi Networks: Channel Allocation
9. Wi-Fi Multimedia Extension (IEEE 802.11 EDCA)
10. Wi-Fi Throughput variation with distance
11. How many downloads can a Wi-Fi access point simultaneously handle?
12. The OSPF weight setting problem and the performance comparison of the OSPF vs. RIP
13. Understand the working of OSPF and SPF
14. Understand working of ARP and IP Forwarding within a LAN and across a router
15. Simulate and study the spanning tree protocol
16. Introduction to TCP connection management
17. Reliable data transfer with TCP
18. Mathematical Modelling of TCP Throughput Performance
19. TCP Congestion Control Algorithms
20. Understand the working of TCP BIC Congestion control algorithm, simulate, and plot the TCP congestion window
21. Understanding VLAN operation in L2 and L3 Switches
22. Understanding Access and Trunk Links in VLANs
23. Understanding the working of Public IP Address and Network Address Translation (NAT).
24. Understand the working of basic networking commands - Ping, Route Add/Delete/Print, ACL

Examples

1. MAC Throughput and Efficiency comparison of 802.11 Legacy vs. HT protocols
2. 802.11n MIMO
3. 802.11 Rate Adaptation
4. Wi-Fi: Effect of Bandwidth in Wi-Fi 802.11ac
5. Wi-Fi: Effect of AP STA Distance on throughput
6. Wi-Fi: Effect of Pathloss Exponent
7. Wi-Fi: Effect of Transmitter Power
8. Peak UDP and TCP throughput 802.11ac and 802.11n
9. Subnetting in NetSim
10. Different OSPF Control Packets
11. Configuring Static Route
12. Queuing and buffer overflow in routers
13. TCP Window Scaling
14. An enterprise network comprising of different subnets and running various applications
15. Access Control Lists (ACLs)