Basic Course Details: Cost 25K 35 – 40 Hours

Network Simulator (NS-2)

Introduction

- NS - 2 Installation & Configuration
- NS - 2 Basics
- NS - 2 Components
- Simulation of Various Protocols
  - TCP/IP, UDP, Application, Network Layers Protocols
- Wireless Network
  - Wireless Network creation
  - Wireless protocol Analysis
  - Protocol Comparison - AODV, DSDV, DSR
- Energy Model for Wireless Sensor Network
- Post Processing Methods
  - Trace File Analysis
- Plotting Graph using Xgraph
- NS-2 Extension
- C++ and Otcl Integration method
- New Agent Creation
- Timer Handler & Scheduling function
- New Packet structure creation
- Add new routing protocol in NS-2
- Add new Queue Model
- Write a new routing protocol for wireless network

Advance Course Details: 35K Hours: 45 to 50 hours

- Tool Command Language is used to create scenario code in ns2, AWK is a data driven programming language used to analysis trace file, and Xgraph/gnuplot is used to generate graph for results**.**
- Create node and its data flow scenario and visualized it in nam animator, later analysis throughput, delay, packet delivery ratio etc using AWK.
- Transmission Control Protocol create and visualize TCP current window using graph tools and compare and analysis various TCP such as Tahoa, reno, newreno, sack and some of high speed tcp such as highspeed, compound(windows vista having it), westwood etc.....
- Compare and analysis distance vector and link state routing protocol which is used in wire network router(RIP and OSPF).
- Simulate the WiFi in different radio propagation scenario and simulate it in indoor or outdoor scenario in some case simulate in factory scenari**o.**
- Mobile Adhoc Network scenario generation and compare the proactive and reactive routing protocol and generating scenario for best way to differentiate protocols functionality of each others.
- Generating different mobility models for MANET such as random, group mobility etc...
- Simulate Dedicated Short range Communication for Vehicular Adhoc Network and more real time knowledge of it. Generate road vehicle traffic scenario with real area map from Openstreetmap and simulate the data transmission over that generated road network model.
- Simulate and analysis the power consumptions and throughput over Wireless Sensor Network

This course also gives you facility of involving topics which you are interested in.