31332

Assignment B2

Aim :-

use network simulator NS2 to implement

1. Monitoring traffic for given topology
2. Analysis of CSMA & Ethernet protocols.
3. Networking Routing :- Shortest path routing AODV
4. Analysis of congestion control (TCP & UDP).

Requirement :-

NS2 Tool.

Theory

a) Monitory traffic for given topology

Algorithm.

1. Create a simulator object
2. Tell the simulator to use dynamic routing
3. Open the nam trace file
4. Define a 'finish' procedure.
5. Create seven nodes.
6. Create Link b/w nodes
7. Create a UDP agent & attack it to node n(0)
8. Create a CBR traffic source with traffic sink
9. Schedule events for CBR agent & net. dynamics
10. Run the simulator

Simulation workflow:-

The general process of creating a simulation can be divided into several steps

1. Topology definition:-

   To ease the creation of basic facilities &
   define their interrelationships. ns-B has a system
   of containers & helpers that facilitates this process

2. Model developement.:-

   Models are added to simulation
   eg: UDP, IPV4 point to point devices & links appln.
   Most of the time this is done using helpers.

3. Node & link config:-

   Models set their default values most of the time
   this is done using attribute system.

4. Performance Analysis:-

   After simulation is finished & data is available as
   a time stamped event trace this data can then
   be statistically analysed with tods like R to
   draw conclusion.

→ Graphicall Vizualization-

   Raw or processed data collected in a simulation can
   be graphed using tools like Gsraplot, matplotlib or
   XGraph.

The AD-HOC on demand distance vector (ADDV). The AD-HOC
on demand distance vector routing protcol enables multi
hop routing between participating mobile nodes wanting
to establish & maintain an AD-HOC network.

ADDV is based upon the distance vector algorithm.
The difference is that ADDV is reactive as to proactive protocols which when needed & do not require nodes to maintain routes to definations that are not actively used in communications.

Features of this protocol include loop freedom & that link breakage cause immediately notifications to be sent to the affect set of nodes, but only that set.

Route Table Management :-

Destination IP address :
IP address for destination node. Destination seq number for this destination.

Hop count :- No of hops to destination

Next hop : Neighbour, has been designated to forward packets to destination for this route entry.

Lifetime : The time for which the route is considered valid.

Active neighbour : Neighbour nodes that are actively using the route entry.

Req. buffer :- Make sure that a req is only processed once.

CONCLUSION :-

Thus from this assignment, we use network simulator NS2 & implemeted the given task & understood the concept of NS2.