Deep Routing Simulation

Investigator: Alan Herbert

Supervisor: Barry Irwin

What is Deep Routing Simulation?

It is a simulation of routing data on a large scale network.

What can it be used for?

Traffic Monitoring,
Denial of Service Simulation,
Disaster Simulation.

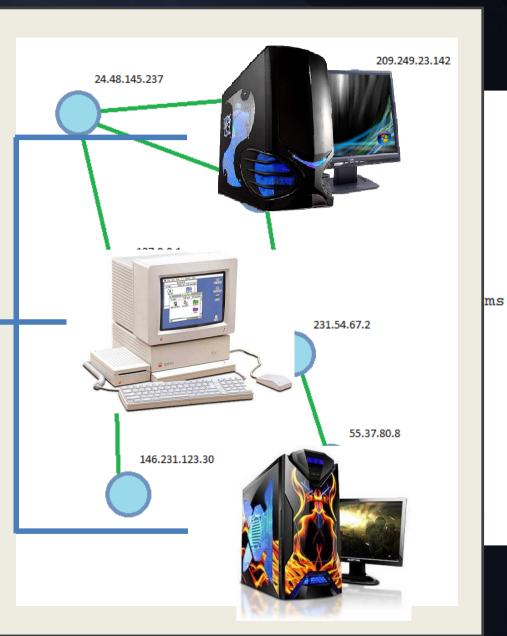
Who has done research on this topic?

ISEAGE by State University Information Assurance Center

NS-3 by Sun Microsystems and the UCB Daedelus and Carnegie Mellon Monarch projects

Approach

```
traceroute to 24.48.145.23 (24.48.145.237)
   main2-249-97.iad. Novemet (209.249.97
   core1-main2-oc3-1/1 above.net (209.24
  sjc-iad-oc12-1.s above.net (207.1)6.
  sl-qw8-sj-0-1.serin link
  sl-bb12-sj-6-0 som ntlink.
  sl-bb10-sj-8-(.sh:intl;//k.et (144.232
                     (brint)
   sl-bb10-rlv-6
                            nk/net
   sl-bb6-dc-0 0 sprin link.net
    gip-dc-2-fda -0.gip.ne (20
                             atm.q<del>ip.net</del>
                           -0-333-atm.gip.ne
                            (204.59 2 198)
                           5.66.224.90)
                           (134.222 228
16
                           .net (205.171.17
                           .net (205.171.17
                 09.247.10.45) net (205.171.5.
                    211.125.90] ...net (205.171.24
20
        core-0 ____et.gwest.net (205.171.5.
       edge-04.idet.gwest.net (205.171.21
    205.171.45.150 (205.171.45.150) 296.8
    Adelphia-pvc55-t3-gw.aibusiness.net (20
   surf4-145-237.pbc.adelphia.net (24.48.
```



Timeline

Goal 1: Create Proof of Concept
Objective: Load arbitrary route data
from a Unix Traceroute into
the system and simulate that
route on a Network.

Goal 2: Expand and go Large Scale
Objective: Include possible use of a
database and write more
robust, functional code.

Goal 3: Implement Threading
Objective: Make use of threads within the system as to use CPU more effectively.

