ADVANCED COMPUTER NETWORK

PRACTICAL NO 6

027_Abhishek_Ojha

Practical No 6

Aim: Create network cloud and hosts.

Source Code:

CloudAndHosts.ned

```
package inet.examples.internetcloud.cloudandhosts;

import inet.networklayer.autorouting.ipv4.IPv4NetworkConfigurator;
import inet.nodes.inet.StandardHost;
import inet.nodes.internetcloud.InternetCloud;
import ned.DatarateChannel;


network CloudAndHosts
{
    parameters:
        int numSenders;

    types:
        channel C extends DatarateChannel
        {
            delay = 10ms;
            datarate = 5Mbps;
        }
    submodules:
        configurator: IPv4NetworkConfigurator {
            parameters:
                @display("p=61,163");
        }

        sender[numSenders]: StandardHost {
            @display("p=516,250");
        }
        recip: StandardHost {
            @display("p=320,102");
        }
        internet: InternetCloud {
            @display("p=516,102");
        }
    connections:
        recip.pppg++ <--> C <--> internet.pppg++;
        for i=0..numSenders-1 {
            sender[i].pppg++ <--> C <--> internet.pppg++;
        }
}
```

omnetpp.ini

```
[General]
network = CloudAndHosts
tkenv-plugin-path = ../../../etc/plugins

*.sender[*].numPingApps = 1
*.sender[*].pingApp[0].destAddr = "recip"
*.sender[*].pingApp[0].stopTime = 10000s
**.pingApp[*].sendInterval = 1000ms

**.internet.networkLayer.delayer.config = xmldoc("internetCloud.xml")

[Config simple]
description = "one host pings another"
**.numSenders = 1

[Config two_senders]
description = "two senders with 100ms sendInterval"
**.numSenders = 2
**.pingApp[*].sendInterval = 100ms

[Config ten_senders]
description = "ten senders"
**.numSenders = 10
```

internetCloud.xml

```
<internetCloud symmetric="true">
  <parameters name="good">
    <traffic src="sender[0]" dest="recip" delay="20ms+truncnormal(200ms,60ms)"
datarate="uniform(100kbps,1Mbps)" drop="uniform(0,1) &lt; 0.01" />
    <traffic src="sender[1]" dest="recip" delay="30ms+truncnormal(200ms,60ms)"
datarate="uniform(100kbps,1Mbps)" drop="uniform(0,1) &lt; 0.02" />
    <traffic src="sender[2]" dest="recip" delay="40ms+truncnormal(200ms,60ms)"
datarate="uniform(100kbps,1Mbps)" drop="uniform(0,1) &lt; 0.03" />
    <traffic src="sender[3]" dest="recip" delay="50ms+truncnormal(200ms,60ms)"
datarate="uniform(100kbps,1Mbps)" drop="uniform(0,1) &lt; 0.04" />
    <traffic src="sender[4]" dest="recip" delay="60ms+truncnormal(200ms,60ms)"
datarate="uniform(100kbps,1Mbps)" drop="uniform(0,1) &lt; 0.05" />
    <traffic src="sender[5]" dest="recip" delay="70ms+truncnormal(200ms,60ms)"
datarate="uniform(100kbps,1Mbps)" drop="uniform(0,1) &lt; 0.06" />
    <traffic src="sender[6]" dest="recip" delay="80ms+truncnormal(200ms,60ms)"
datarate="uniform(100kbps,1Mbps)" drop="uniform(0,1) &lt; 0.07" />
```

```
   <traffic src="sender[7]" dest="recip" delay="90ms+truncnormal(200ms,60ms)"
datarate="uniform(100kbps,1Mbps)" drop="uniform(0,1) &lt; 0.08" />
   <traffic src="sender[8]" dest="recip" delay="100ms+truncnormal(200ms,60ms)"
datarate="uniform(100kbps,1Mbps)" drop="uniform(0,1) &lt; 0.09" />
   <traffic src="sender[9]" dest="recip" delay="110ms+truncnormal(200ms,60ms)"
datarate="uniform(100kbps,1Mbps)" drop="uniform(0,1) &lt; 0.10" />
<!--
   <traffic src="**" dest="**" delay="10ms+truncnormal(100ms,20ms)"
datarate="uniform(100kbps,500kbps)" drop="uniform(0,1) &lt; uniform(0.01, 0.05)" />
-->
 </parameters>
</internetCloud>
```

Output: