Advanced Computer Network

PRACTICAL NO 6

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**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:**

