

# Computer Networking: Concepts

## (CSE 3751)

### Experiment 5

#### Aim:

Implementation and understanding the use of DNAT and PAT with Cisco Packet Tracer

#### Objectives:

1. An overview on DAT (Dynamic Network Address Translation) and PAT (Port Address Translation).
2. Configuring and implementing DAT using a router to analyse the communication between PCs (in a private network) and public server.
3. Configuring and implementing PAT using a router to analyse the communication between PCs (in a private network) and a PCs in a public network.

#### Exercises:

1. Illustrate diagrammatically Inside Local, Inside Global, Outside Local, Outside Global address with an example network comprising of a private network with two pcs with a switch, two routers belonging to a public network and a public web server.
2. The list of private IP and the pool of public IP are as given below. Show the translation of each private IP to public IP using dynamic NAT based on the access to public address by the PCs in the order PC2, PC4, PC1 followed by PC3.

#### List of Inside Local Address

PC1 : 10.7.7.61

PC2 : 10.7.7.62

PC3 : 10.7.7.63

PC4 : 10.7.7.64

#### Pool of Inside Global Address

55.4.4.1

55.4.4.2

55.4.4.3

3. What are the advantages and disadvantages of dynamic NAT?
4. Show the port address translation table at the router of the following network.



5. Describe the function of following CLI commands:
  - (i) ip nat inside
  - (ii) ip nat outside
  - (iii) ip nat pool
  - (iv) ip nat inside source list ACL\_NUMBER pool NAME global configuration
  - (v) router(config)#ip nat pool pool-name start-ip end-ip {netmask netmask | prefix-length prefix-length}