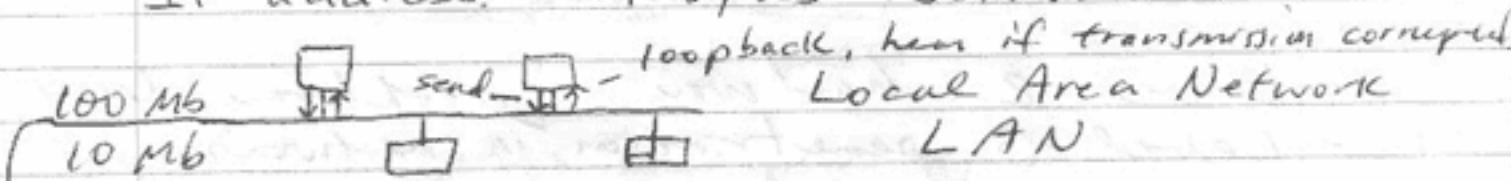


RMI - Remote Method Invocation.

- how to talk across the network.
- big topic, need to review Sockets & clients.

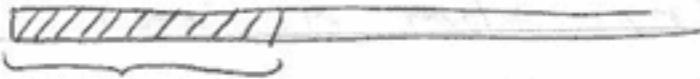
IP address. - 4 bytes - Software Address



back off - algorithm to retry sending
collisions at different times after a collision.

collisions - simultaneous data sends which cancel out data transmissions.
 generally not too frequent.

- all computers are listening, even to own echo. listening for own address - Mac. address



hardware address (MAC address)

- depends on type of hardware technology
- need only be unique in a particular LAN.
- machines keep table of hardware & software addresses.

router - keeps track of addresses for multiple LANs.

- routers keep track of the internet.
- if packet has no local addrs, then sent to router.

hops - transferring packets from one router to another - one LAN to another.
end-to-end communication: going from one router to another.

Level 2: hardware → software levels
IP - Level 3 penetration in network card
to determine further routing.
every computer has unique software address, not hardware coded

Level 4 - TCP - reliable delivery
- makes sure packets are all there.

TCP/IP - Ethernet ← delivery only.
- doesn't know contents.

Software Computer Address (IP)

Software Application Address

IP address → www.dvc.edu ← symbolic.

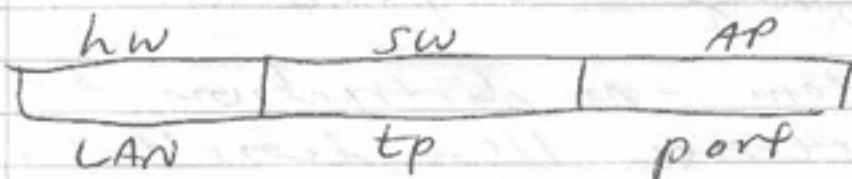
Network part	Computer part
128.2.2.5	

attached to local network only -
cannot move computer & keep the address.

Lec 15

Mon 3/12/01

Software Computer Address - IP
127.0.0.3



port number is a concept only address
integer so 32,000 possible. port #.
- different port numbers for sessions.
- some programs have already
taken port numbers by convention.

Well Known Ports:

http port 80
telnet " 25
ftp

First 1023 port #'s are already
taken by system applications.

For user, port # 1024 and above
are available.

so must have IP address + port #
to talk to another computer.

TCP/IP addressing scheme took over.

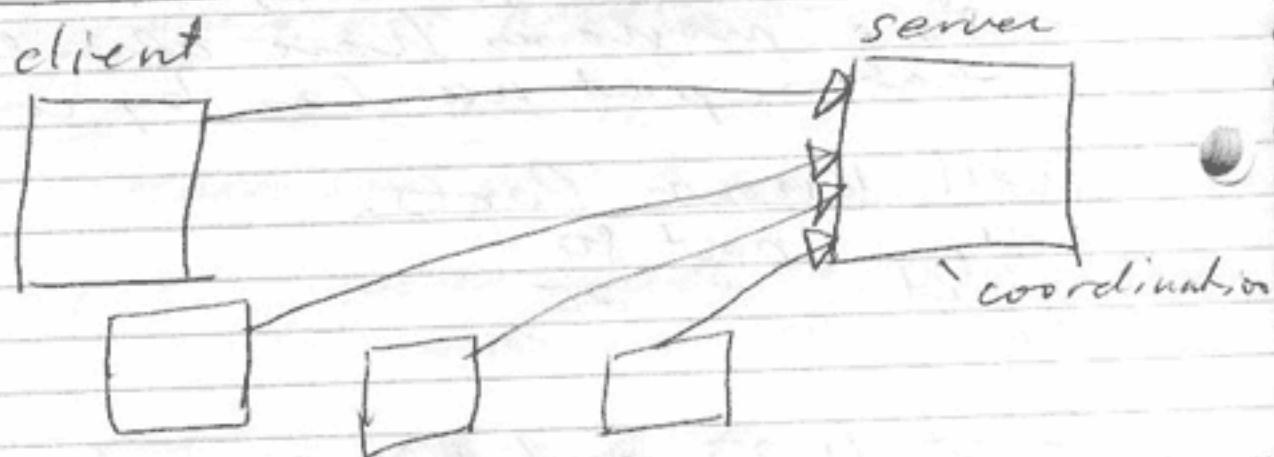
Lec 15

Mon 3/14/01

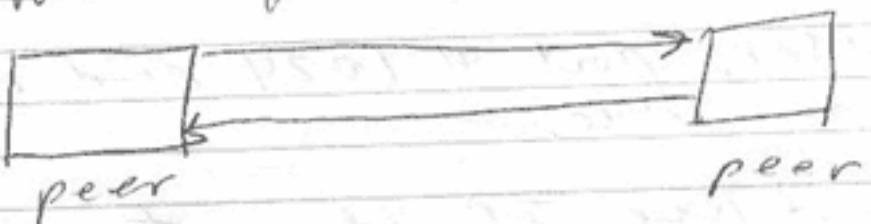
Java → socket level communication
↳ or any other app (c/c++)
- language independent.

File System - an abstraction for
data storage. User doesn't see hdd.

Sockets: assumes "client/server" model
as an abstraction.



- different from peer to peer communication



Socket defines how the server should
see the world.

Lee 15 Mon 3/12/01

import java.net, util, io

ServerSocket sListen = new ServerSocket
("localhost", 8000);

↓

↓

IP address

port #

in this case the own computer.

Socket sTalk

= sListen.accept();

// blocking call

// receives input

// call - on server.

// on the client:

Socket sTalk = new Socket

("localhost", 8000)

target IP

target port

- server assigns port #, not client.

read p 656 - 660.

- using Stream you can begin reading
and writing to the client.