

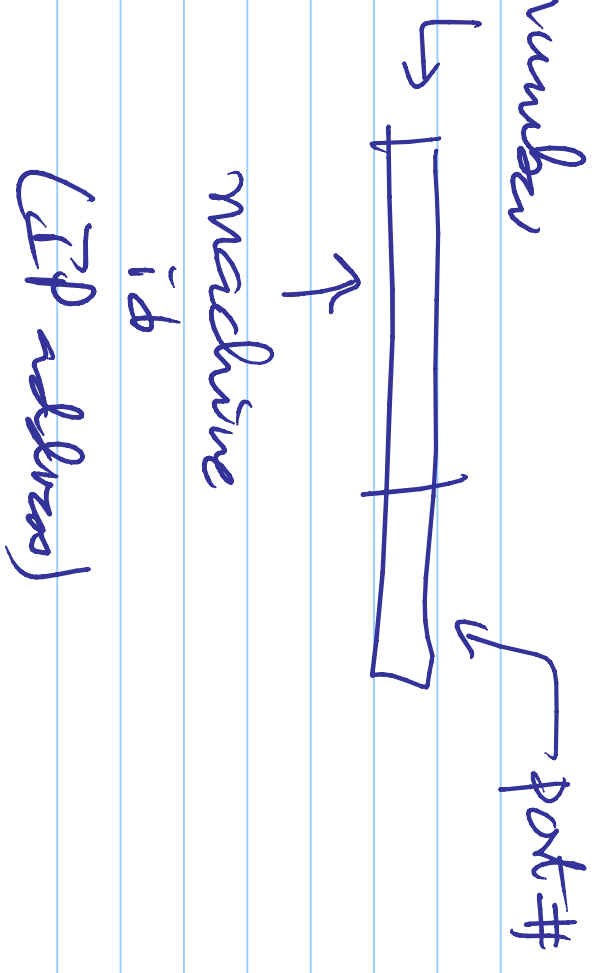
Implementing P2P

→ all on one machine

→ scattered across machines

↳ ports are located where  
they are created

Port name → number



Send ( $P_i$ , msg)

$\sum P \rightarrow$  local  $\rightarrow$  same as central implementation  
 $\rightarrow$  remote Pxt

↑  
messaging system for  
inter machine message

net send (IP, msg)

$\hookrightarrow$  netrcv (msg)

Send (P, msg)

{ P  $\rightarrow$  local  $\rightarrow$  local send

P  $\rightarrow$  not local

Operation

msg' = (port + Send + msg)

net send (IP, msg')

}

# Net message Service

→ netrcv (msg)  
[ msg' → port, DP, msg  
DP = send  
Send (port, msg) // this will be local

recv(p, msg)

{ p → local → ✓

p → not local ?

proxy = createPort()

msg' = p, recv, dummy <sup>proxy</sup>

netSend(IP, msg')

recv(proxy, msg)

}

netmsg server

netrcv (msg')

msg  $\rightarrow$  P, DP, msg

DP = Recv

get proxy from msg

start a thread to handle receive

Receive Thread

{ P, proxy ← local port ← global port }

recv(P, msg)

send(proxy, msg)

}

TCP-IP

↳ does not have a netmsg server

→ send works for remote ports

→ rcv works for only local ports

$\frac{1}{2}$  netmsg server →

reliability etc

→ local msgs are reliable

→ remote msgs are not

└─┬→ lost, garbled,  
not in sequence  
add transport protocol

└→ remote msgs are reliable