

Lesson 3

Info 341

Note Title

4/8/2008

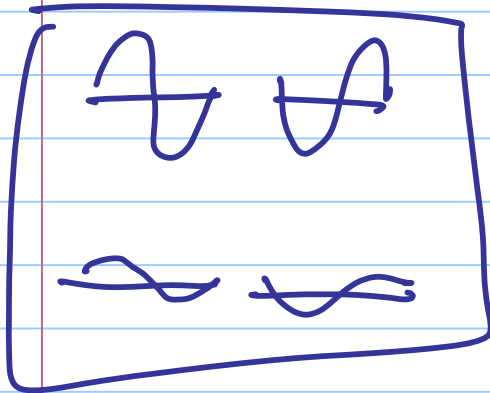
N:\temporary folders\knappix\n.iso

imgburn (free) (VISTA can burn
XP ISO images

(SU command)

OOTB)

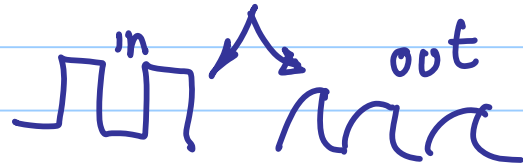
6^s one slide per page PPT is best

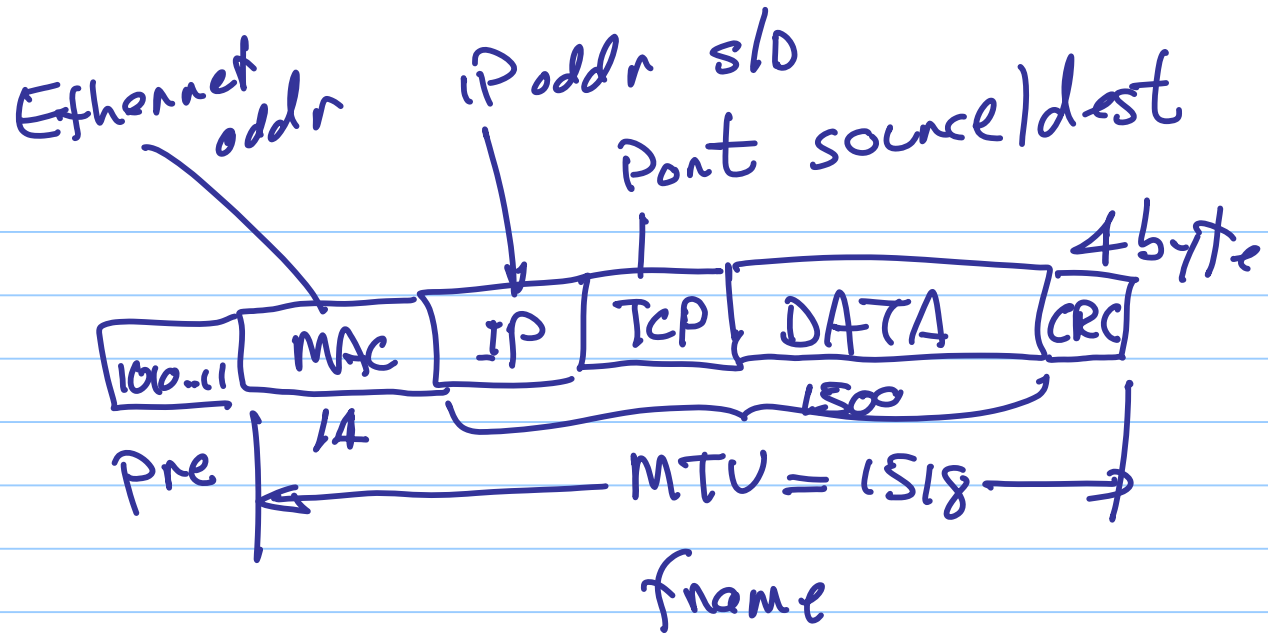


signaling
4 signals
2 bits each

noise

- cross talk
- attenuation/loss
- bandwidth





Gigabit Ethernet Jumbo Frame \approx 8000 bytes

Packet sniffers

Wireshark (free) Ethereal

tcpdump

tcpdump

snort (IDS)

Netmon

(airsnort)

Linux source

cd folder

./configure

make

sudo make install

fintr

parts

XCODE
Mac

Visual Studio
on PC

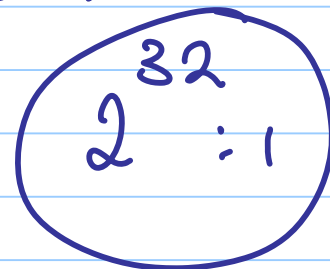
Checksum



checksum

32-bits

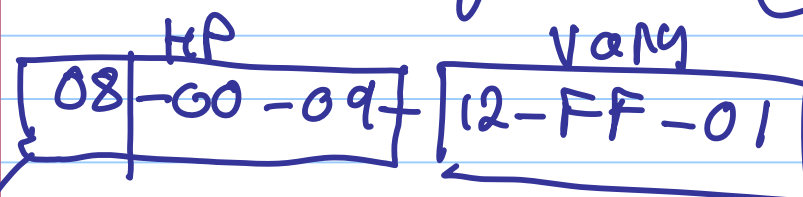
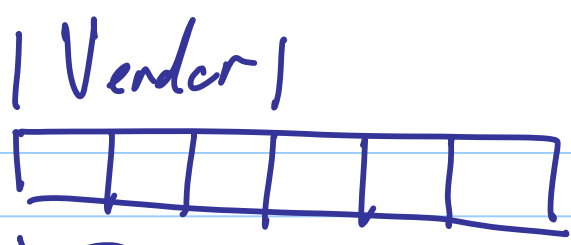
md5 creates a hash



file
~700MB

Verifies file has not
been tampered with

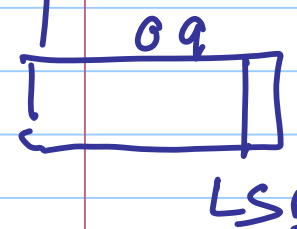
MAC unique



24 bits 24 bits
unicast

FF-FF-FF-FF-FF-FF
broadcast

2^{24}
 $\approx 16,700,000$



0009-000004
multicast

281474976710656

16,777,216

Building big networks

domain

layer 1 bits hub 4 collision

layer 2 frames bridge 7 broadcast

layer 3 packets router ∞ Internet

layer 7 data gateway 1 —

"Hubbing"

Client

Server

max 4 in a row

bits

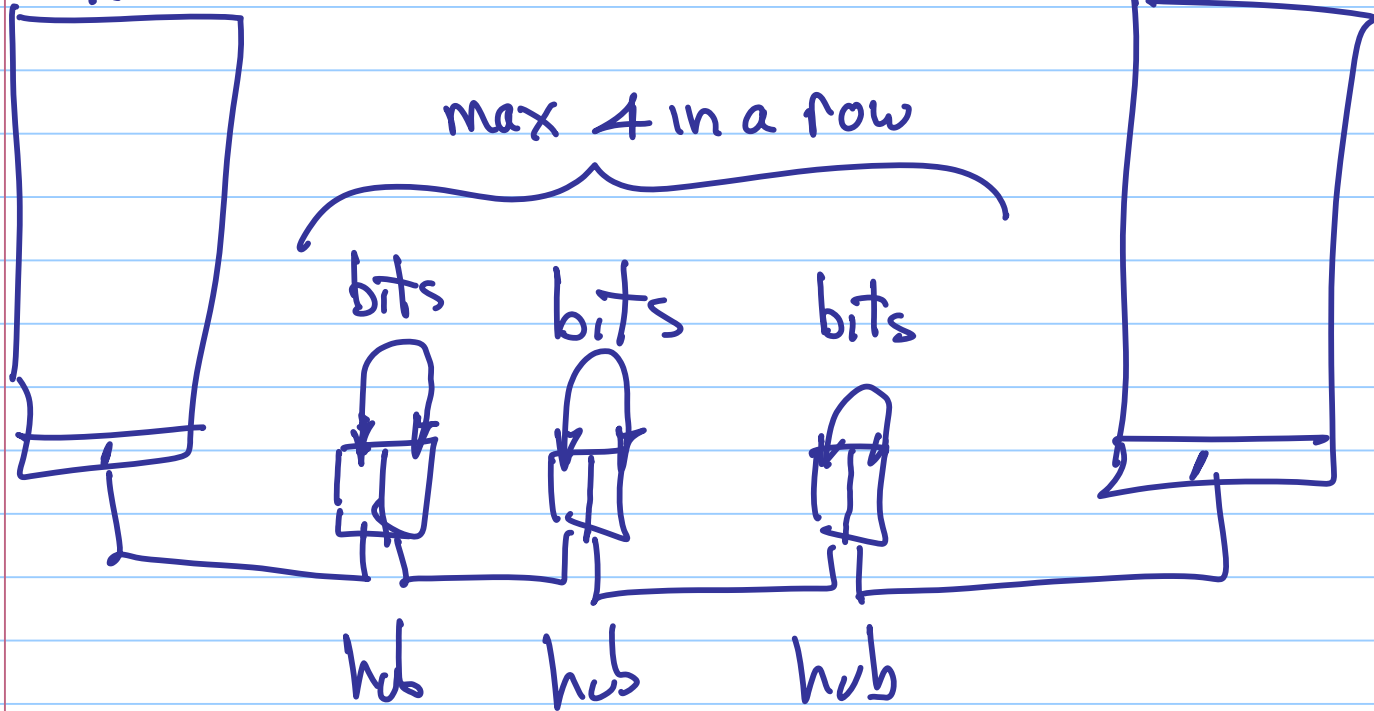
bits

bits

hub

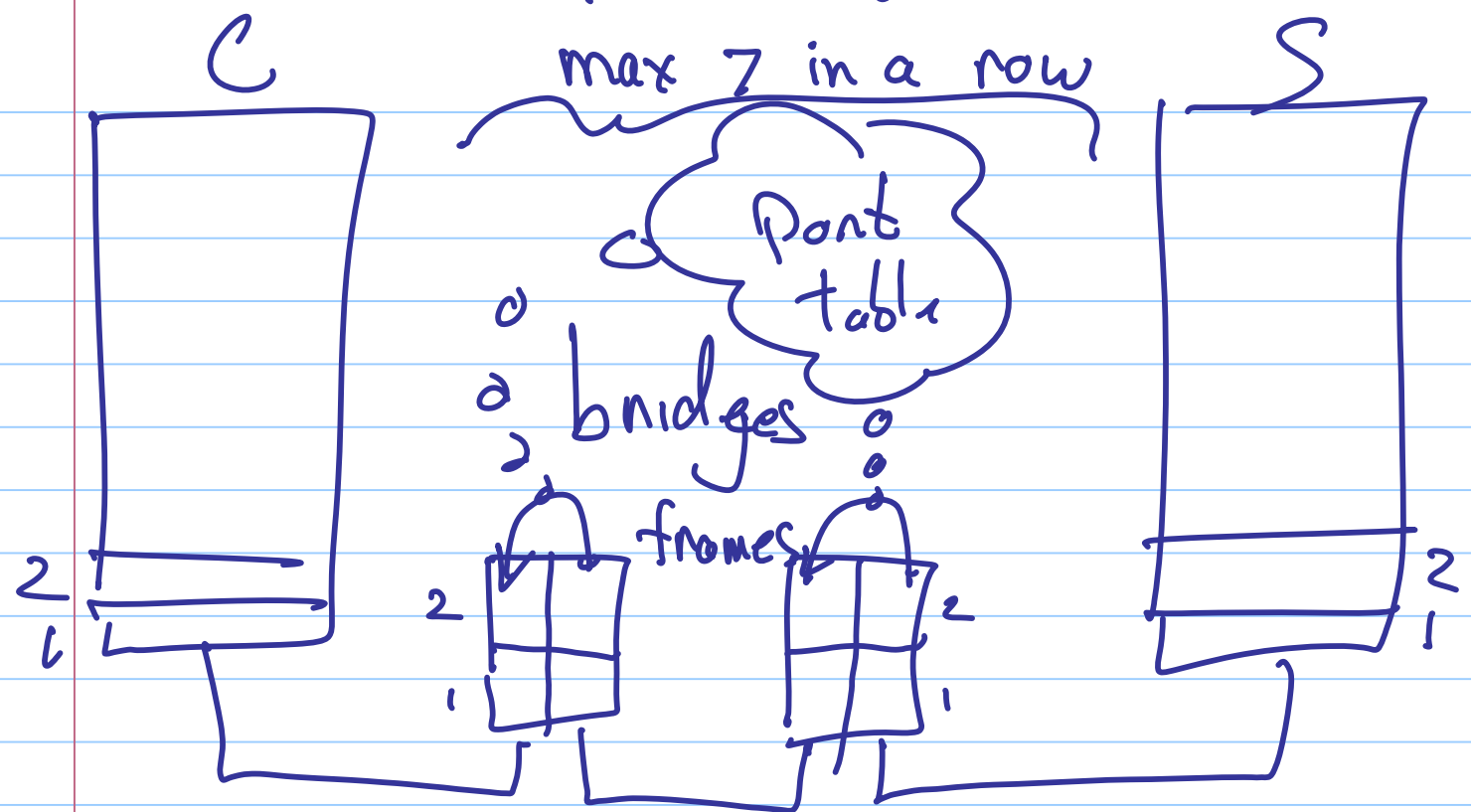
hub

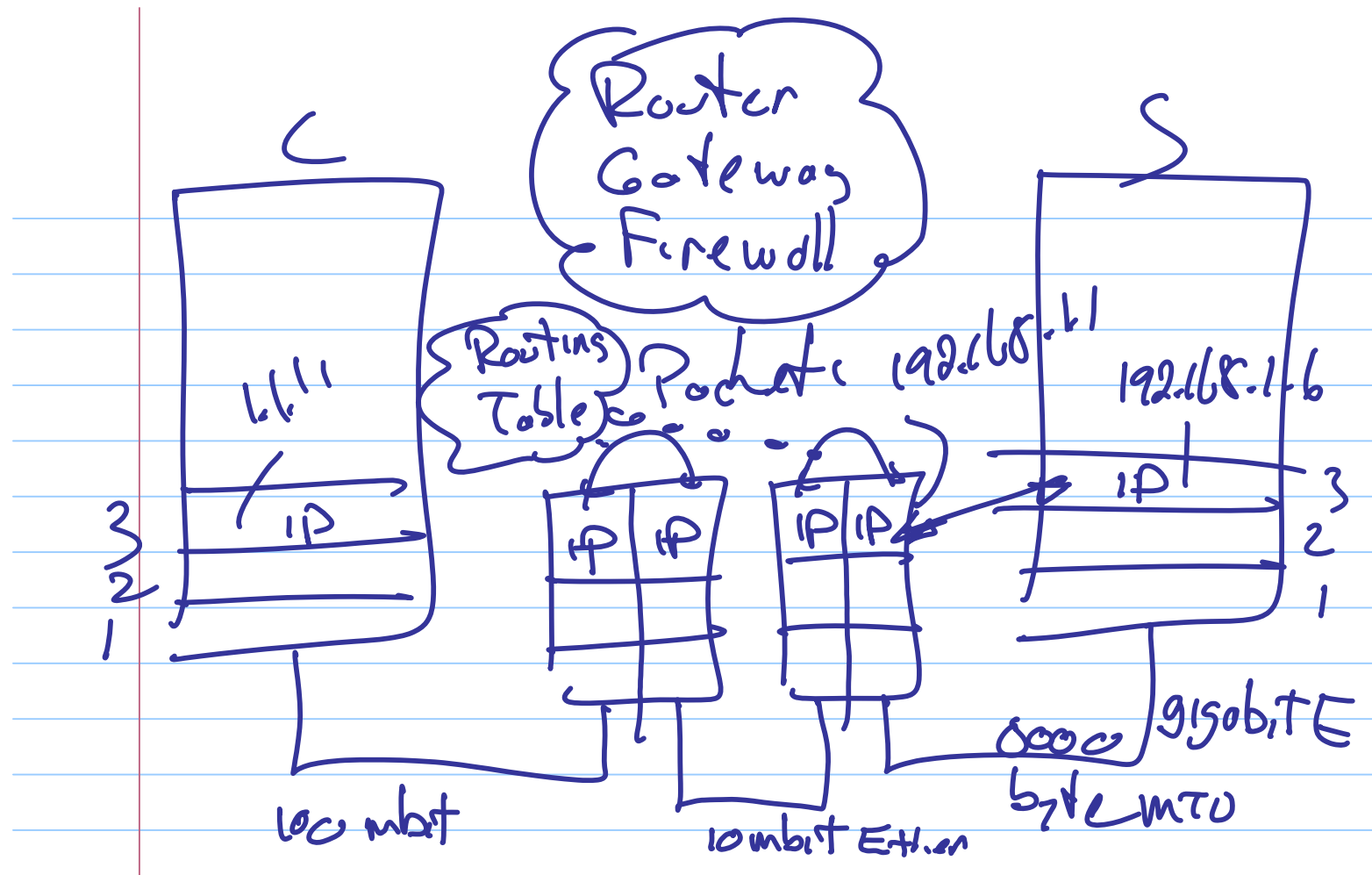
hub



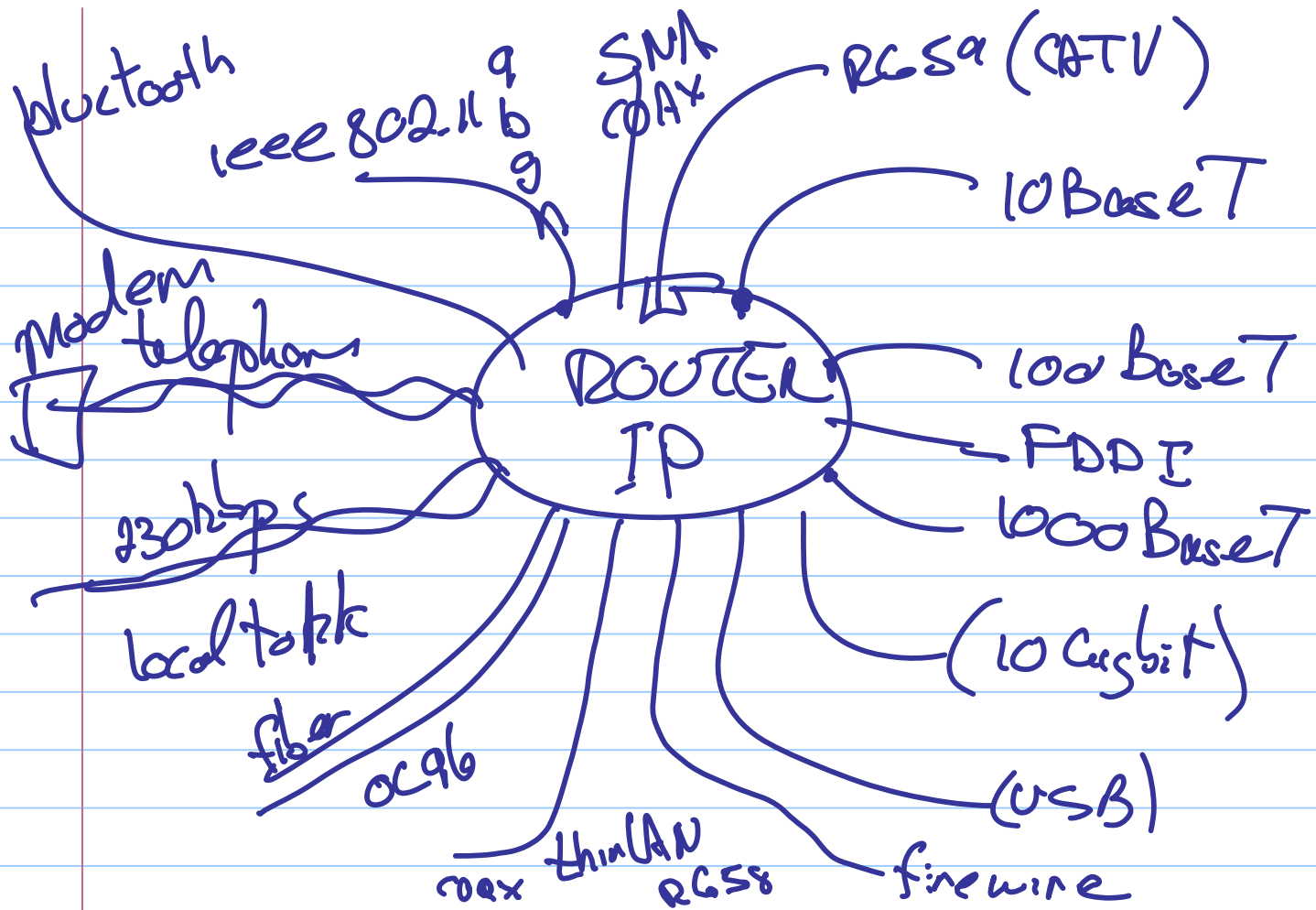
Bridging

max 7 in a row









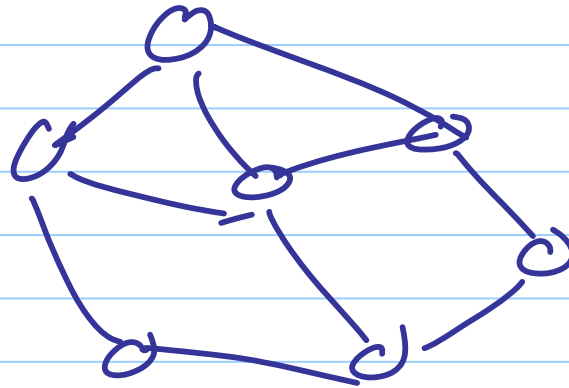
Reliability

Bridges
Switches

STP

mesh \rightarrow tree

layer 2



redundant
mesh

Reliability

ping - 0

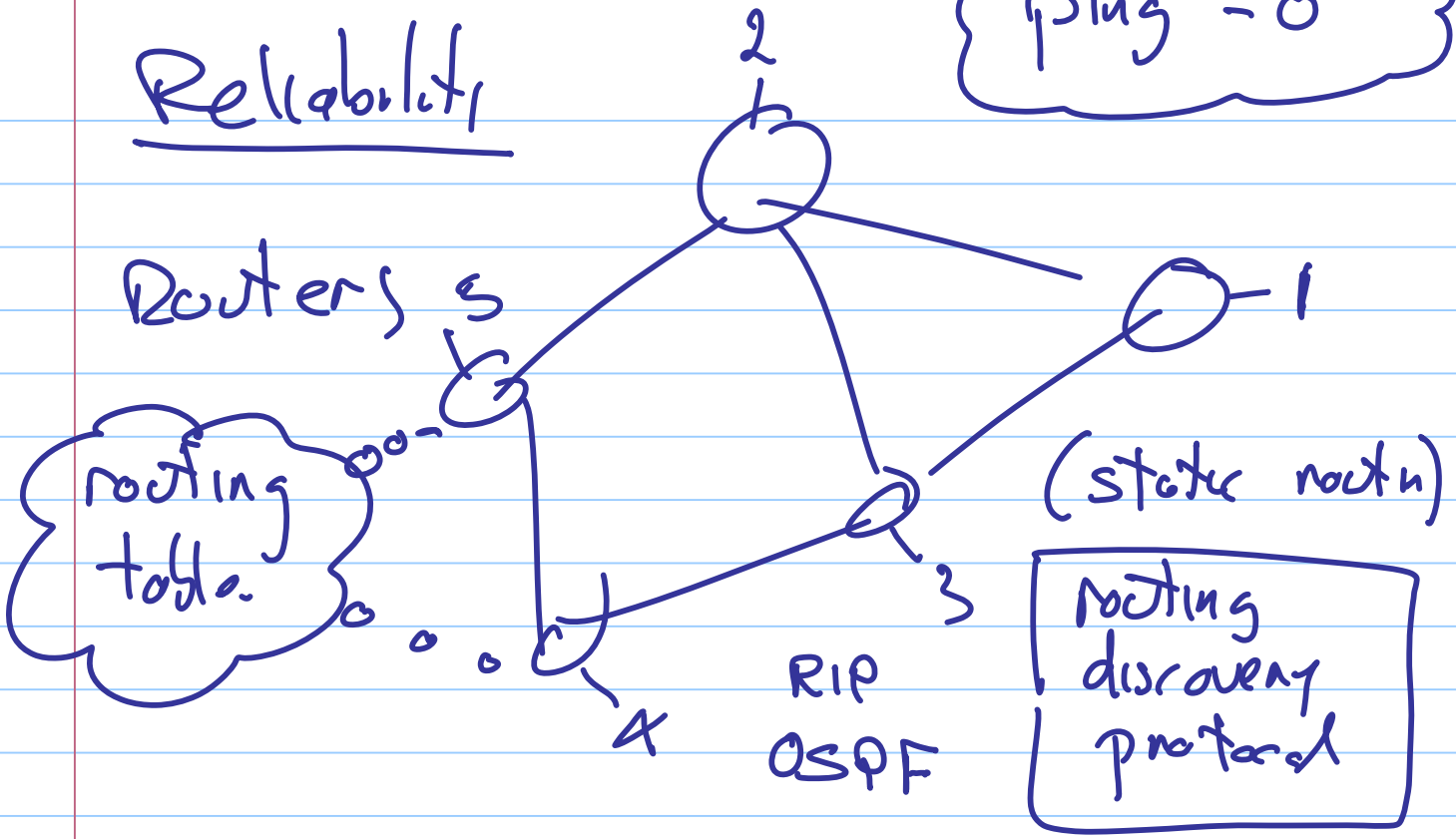
Routers

routing table

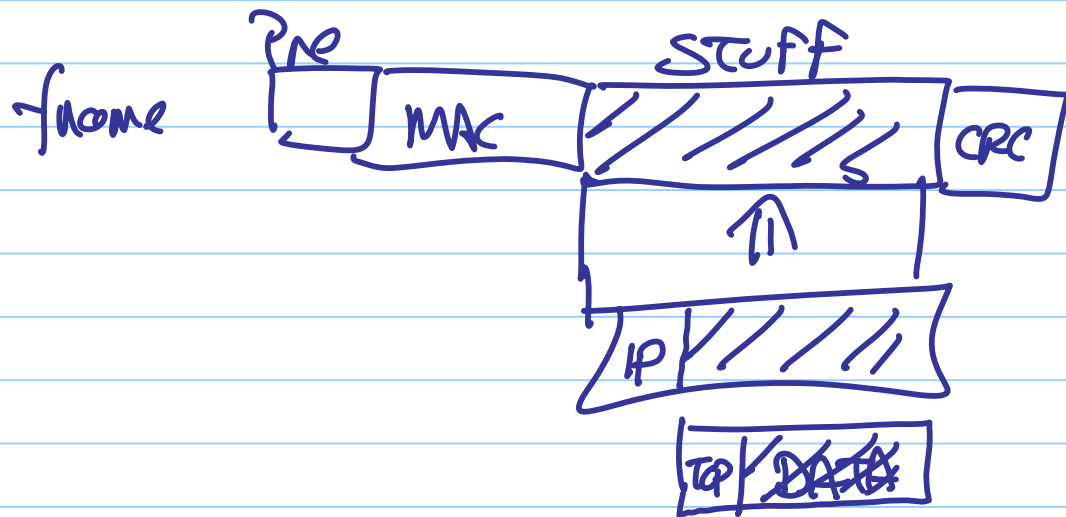
(static route)

routing discovery protocol

RIP
OSPF



route print (windows)
netstat -r everywhere



fin