

CSC104 Winter 2013

Why and how of computing
week 11

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BA4270 (behind elevators)

<http://www.cdf.toronto.edu/~heap/104/F12/>

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Text: **Picturing Programs**

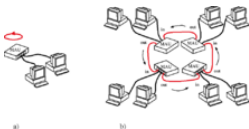
Outline

networks

Notes

roundly connected

ring topology



wait for the token

centrally connected

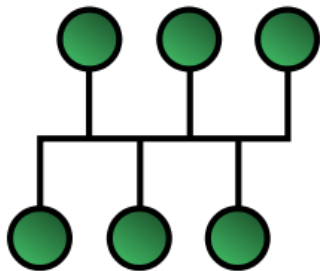
star configuration



server runs things

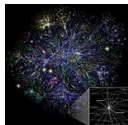
all connected

bus configuration

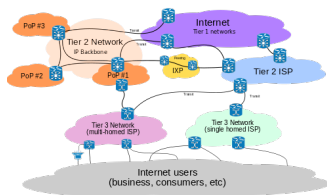


cooperate and back off

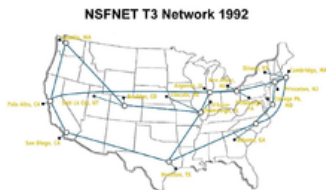
network of networks



local networks
interconnected by
gateways
(click images)



the medieval internet



- ▶ email
- ▶ file transfer protocol
- ▶ Network File Service
- ▶ Tim Berners-Lee: WWW impossible without open protocols

now the internet \approx WWW

antipodal clicking...



- ▶ where's the content?
- ▶ how's it move around
- ▶ who's in charge?

can you believe the web?

- ▶ Every browser session requires an exchange of trust, from both sides
- ▶ There is a combination of broad-based publishing and powerful media interests
- ▶ The jury is still out on accuracy, for example **Wikipedia versus Britannica**

flatten

```
; flatten : list -> list
(define (flatten L)
  (cond
    [(cons? L) (apply append (map flatten L))]
    [else (list L)]))

; predict what (flatten 3) does

; predict what (flatten (list 3)) does

; predict what (flatten (list 1 2 (list 3))) does
```

depth

```
; depth : list -> number
(define (depth L)
  (cond
    [(cons? L) (+ 1 (apply max (map depth L)))]
    [else 0]))

; predict what (depth 3) does

; predict what (depth (list 3 4)) does

; predict what (depth (list 3 4 (list 5 6))) does
```

Notes