JÖNKÖPING UNIVERSITY

School of Engineering

INTRODUCTION TO THE INTERNET

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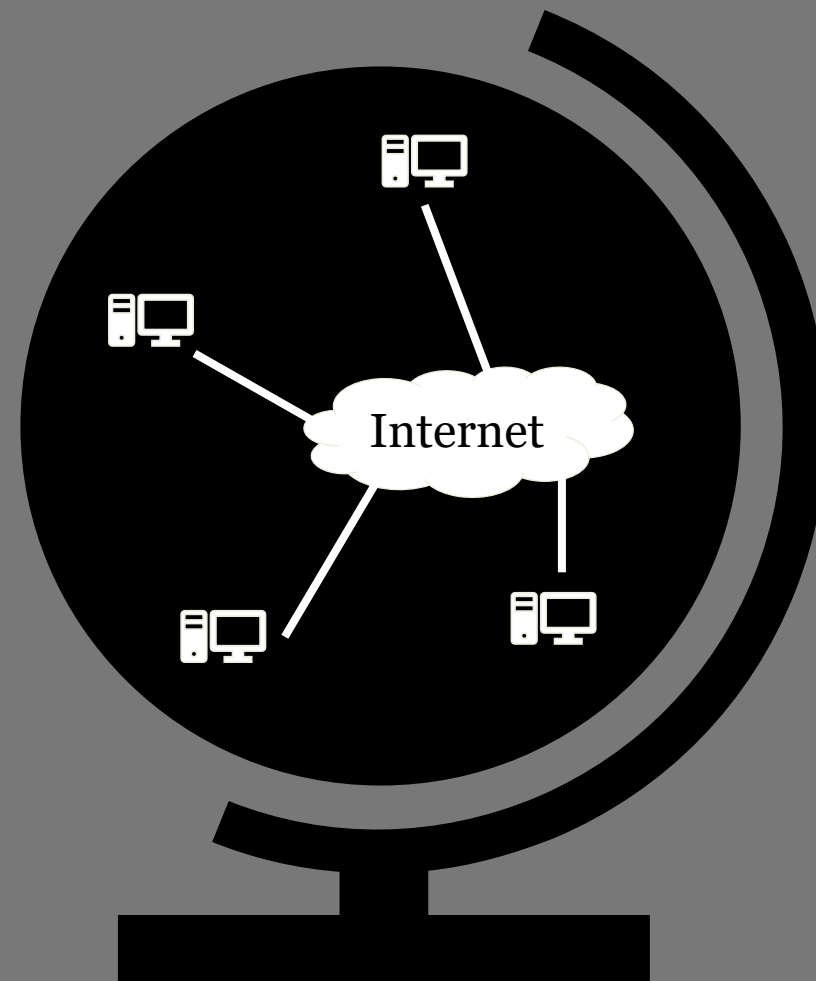
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INTERNET

What is it?
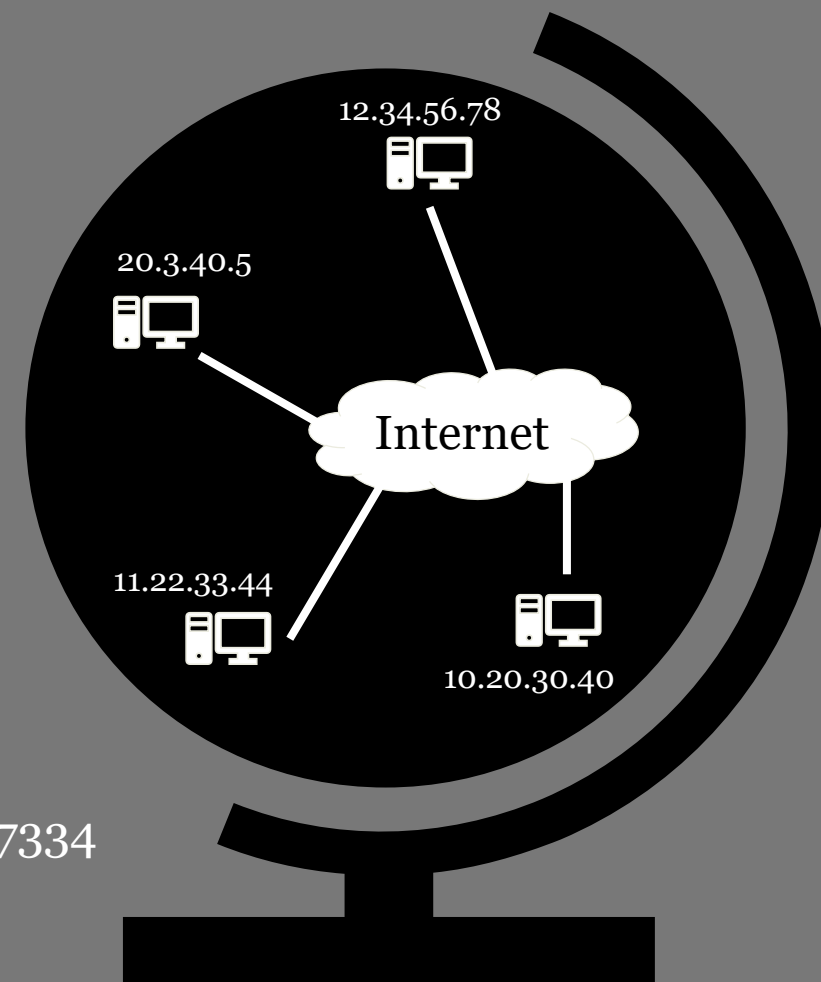
A network spanning across the entire world.

- http://www.submarinecablemap.com

INTERNET

How does it work?

The Internet Protocol (IP) used for communication:

- Specification: https://tools.ietf.org/html/rfc791
- Each connected computer gets its own unique IP address.
  - Version 4: 123.45.6.78
    - At most $2^{32} \approx 4 \times 10^9$ addresses.
  - Version 6: 2001:0db8:0000:0042:0000:8a2e:0370:7334
    - At most $2^{128} \approx 10^{38}$ addresses.
  - More information:
    https://en.wikipedia.org/wiki/IPv6_deployment

12.34.56.78

20.3.40.5

Internet

11.22.33.44

10.20.30.40

INTERNET

What do we use it for?

- Whatever we want!
- Some standard services:
  - E-mail
    - SMTP, Simple Mail Transfer Protocol
  - File Sharing
    - FTP, File Transfer Protocol
  - World Wide Web
    - HTTP, HyperText Transfer Protocol
  - DNS
    - Domain Name System (UDP or TCP)

12.34.56.78

20.3.40.5

Internet

google.com
11.22.33.44

10.20.30.40