

Sit with someone you have not sat with this year

The Internet: Information Transmission

Journal:

What is the difference between the Internet and a browser? How are they connected?

Unit 3 Lesson 1

Objectives:

- 6.2.1 - Explain characteristics of the Internet and the systems built on it.
- 6.2.2 - Explain how the characteristics of the Internet influence the systems built on it.
- 7.1.1 - Explain how computing innovations affect communication, interaction and cognition.

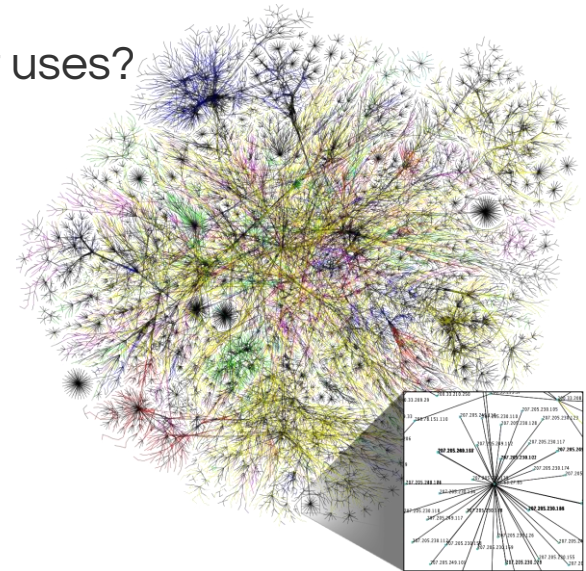


Most important?

Physical Infrastructure?

Discussion: What is the Internet?

- How does the Internet work?
- What is some of the **hardware** that the Internet uses?
- What is some of the **software** that the Internet uses?
- What do we already know?
- What questions do we have?



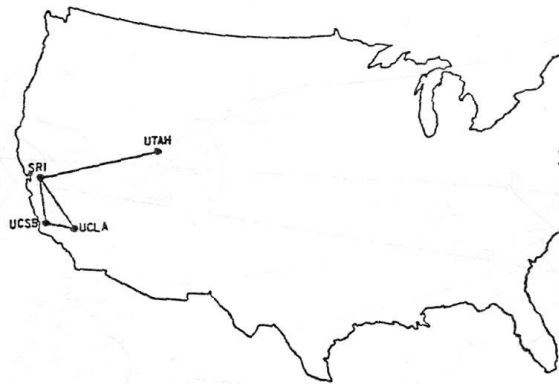
<https://en.wikipedia.org/wiki/Internet>



How the Internet has Grown

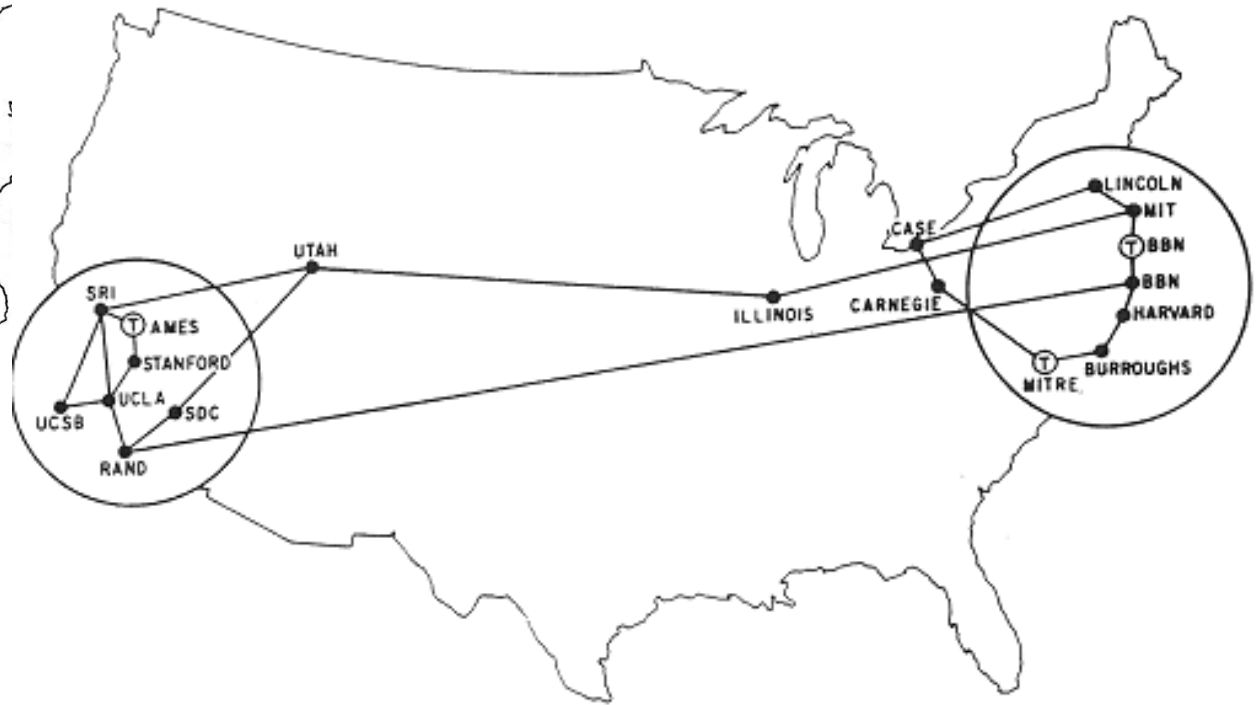
Internet has grown from the small ARPANET system to what it is today.

1. This was the first Internet, called ARPANET from 1971



The ARPANET in December 1969

<https://www.flickr.com/photos/itupictures/16454814597>



<http://www.policy.hu/inetclass/arpaNet.html>

How the Internet has Grown

2. Watch the *Today Show* discussion on "[What is the Internet?](#)" (2:12 min) from many years ago. Has the overall understanding of the Internet changed much since then?



How the Internet has Grown

3. The Internet of Things (IoT):

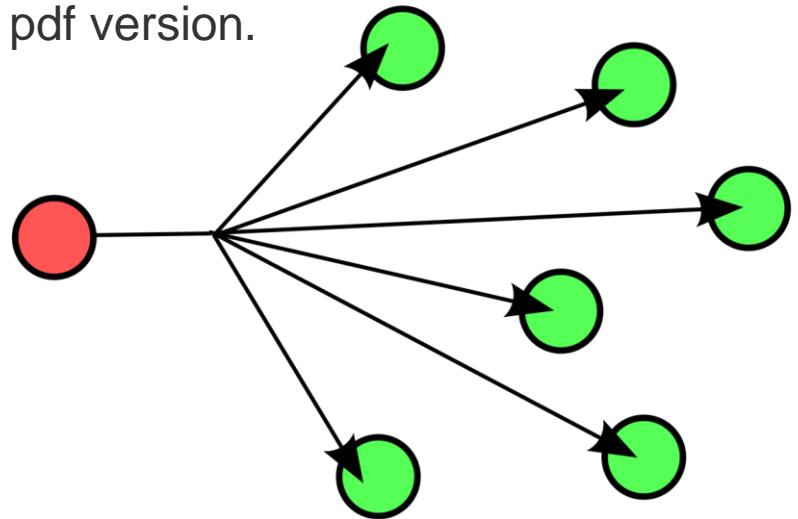


Read

Read the following sections from the "[Blown to Bits](#)" book.

- "The Internet as a Communication System"
- "Packet Switching"
- "Core and Edge"

These sections are on pages 301-303 in the pdf version.



How does email travel?

1. Create a diagram of how an email might travel from start to end.
2. Discuss the flow of an email as a group.
3. Watch this [video](#) and compare it to your diagram. (stop at about 50 seconds).



Packets are limited by two things

- Latency: <https://bit.ly/2SedtDU>
 - <http://www.webperformancetoday.com/2012/04/02/latency-101-what-is-latency-and-why-is-it-such-a-big-deal/>

- Bandwidth: <https://bit.ly/2BwWGGG>
 - <https://www.lifewire.com/what-is-bandwidth-2625809>



Bandwidth measurement

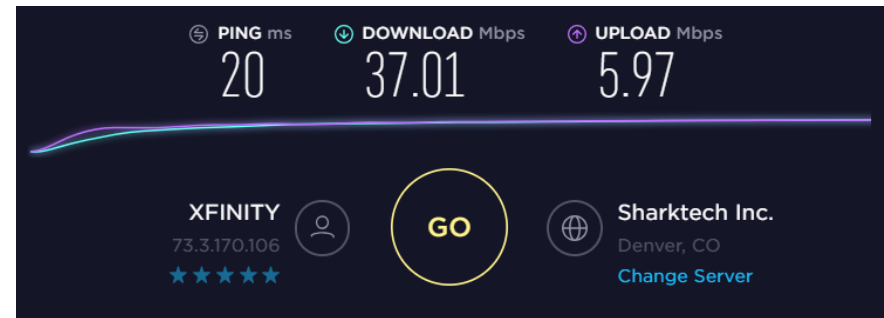
Demonstrate how to test bandwidth:

- <http://www.speedtest.net/>
- <http://www.bandwidthplace.com/>

Internet Speed Test + Deals From Internet Providers in Your Area




Download	Upload	Ping
37.53 Mbps	5.36 Mbps	31 ms
Server US - Salt Lake City, UT		
IP 73.3.170.106		
Provider Comcast Cable		
My Results		Share Results





Internet Usage





□ Your investigation: <http://www.internetlivestats.com/>



4,075,534,905
Internet Users in the world


1,931,508,473
Total number of Websites


91,379,097,491
Emails sent *today*


2,264,408,715
Google searches *today*


2,142,823
Blog posts written *today*


264,625,816
Tweets sent *today*



Exit Slip



Name one thing you learned today...

