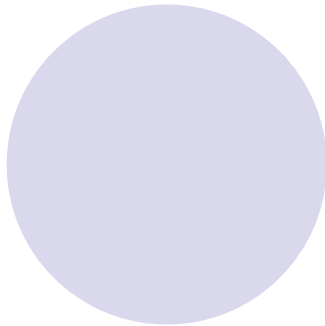
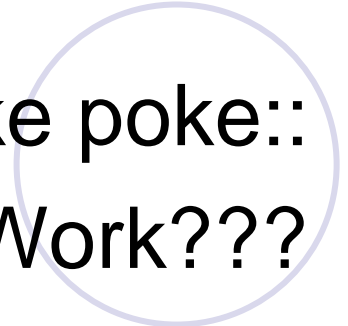


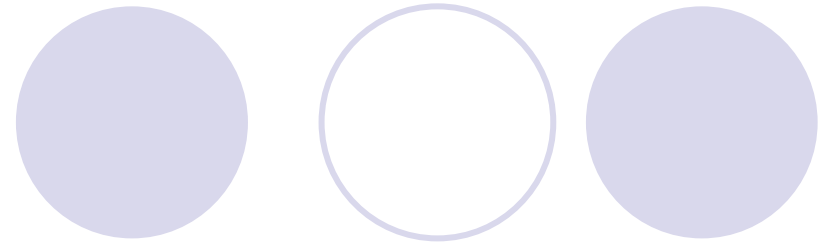
Internet



What is it...??? ::poke poke::  
How Does it Work???



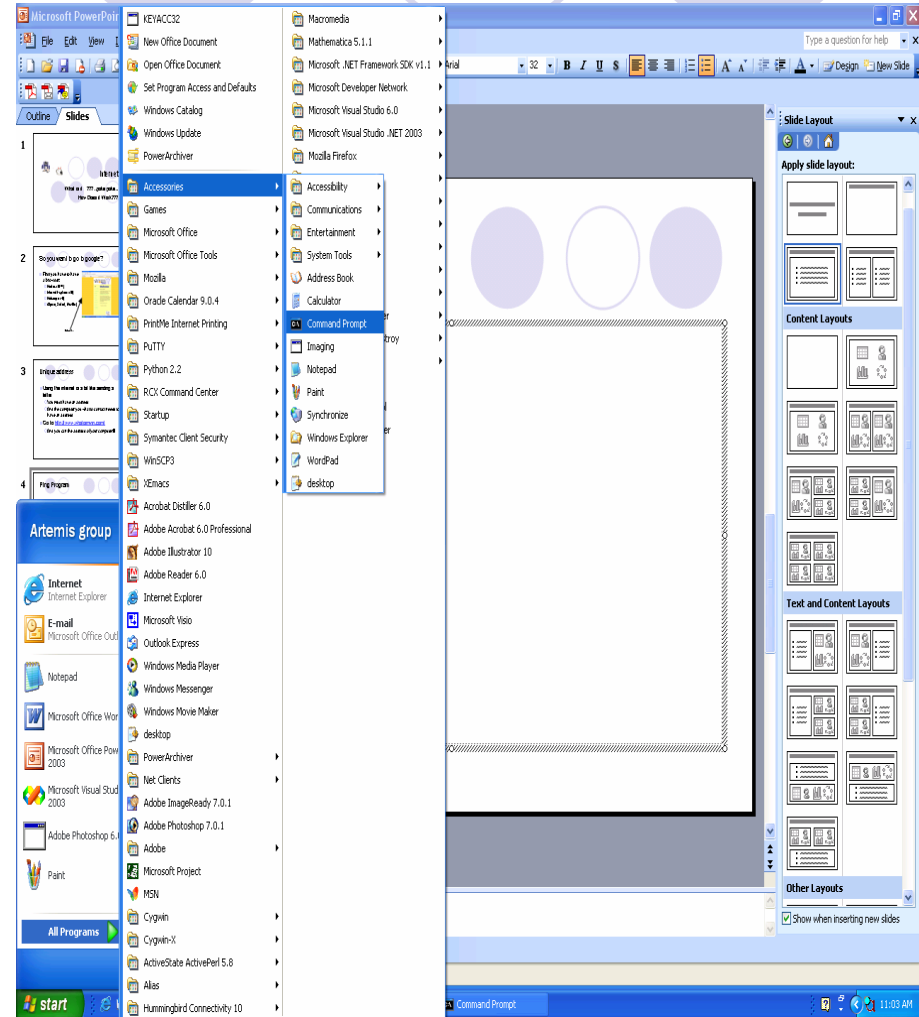
# Unique address



- Using the internet is a bit like sending a letter
  - You must have an address
  - And the computer you want to contact needs to have an address
- Go to <http://www.whatismyip.com/>
  - And you get the address of your computer!!!

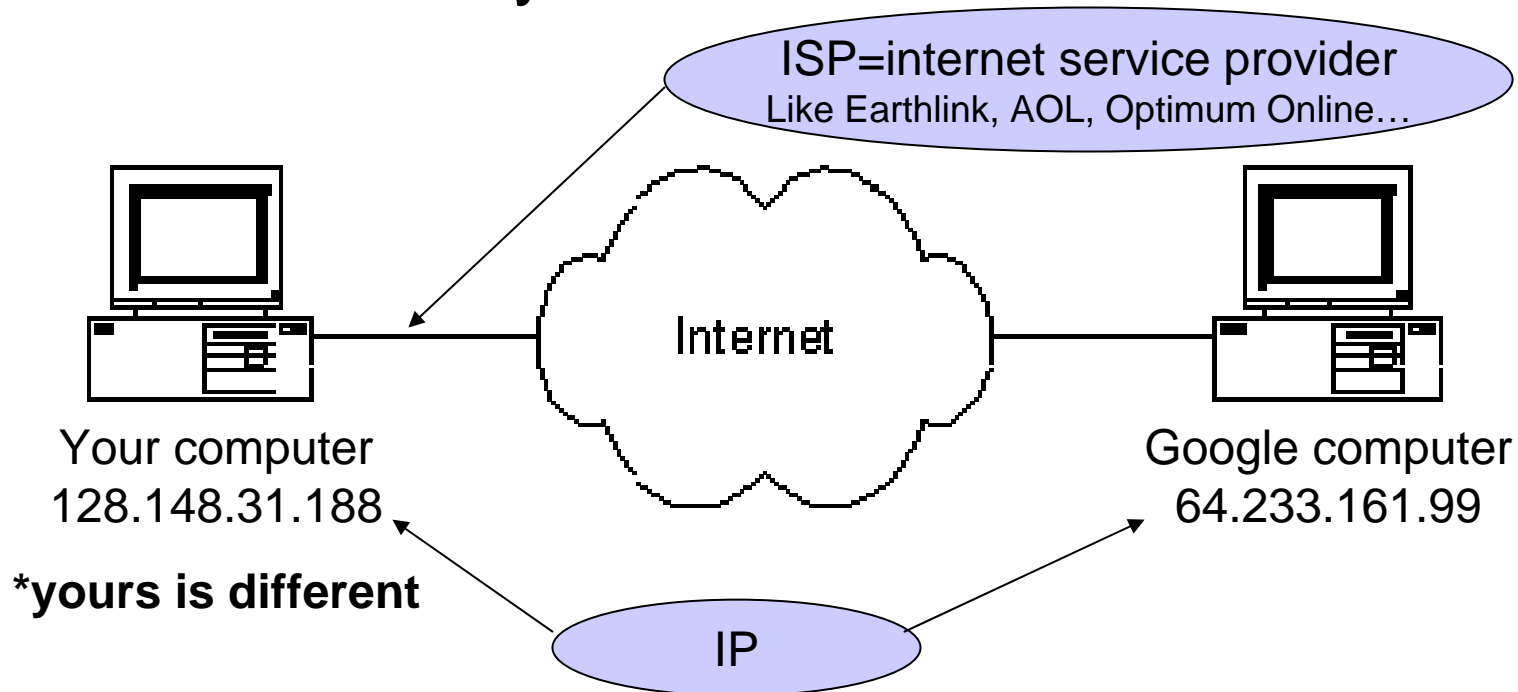
# Ping Program

- Go to start → all Programs → Accessories → Command and Prompt
- Type: ping [www.google.com](http://www.google.com)
- What's google's address?
  - 64.233.161.99!!!



# IP = Internet Protocol

- Both address are IP address
  - IP address are in the form of nnn.nnn.nnn.nnn
  - Where “nnn” is a number from 0-255
- ISP connects you to the internet



# So you want to go to google?

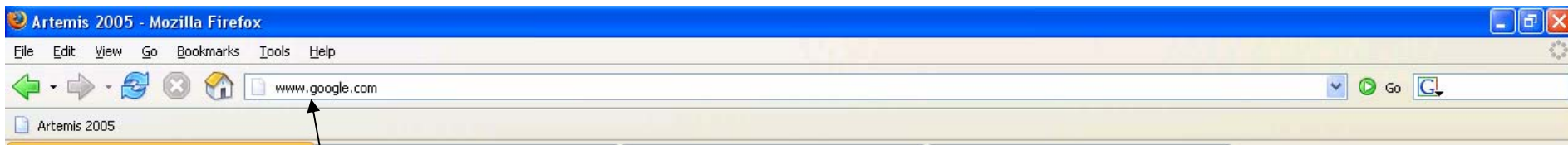
- First you have to have a browser:

- Firefox (☺ !!!)
- Internet Explorer (☹)
- Netscape (☺)
- (Opera, Safari, Mozilla)

Browser



# You type in a URL....



Type in www.google.com

- URL=Uniform Resource Locator

- [www.yahoo.com](http://www.yahoo.com)

- [www.ebay.com](http://www.ebay.com)

- [www.google.com](http://www.google.com)



# When you type in a URL...

- You are saying, “hello Google!”
- And you want Google to answer you back by displaying the Google front page.
- BUT!!! [www.google.com](http://www.google.com) is not a computer address... WE NEED an IP address!!!
- Welcome DNS....

# DNS=Domain Name Server

- DNS is like an phone book...
  - URL is the name
  - IP is the phone/address

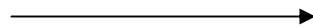
DNS looks up URL  
And give the IP

URL	IP
<a href="http://www.google.com">www.google.com</a>	64.233.161.99
<a href="http://www.yahoo.com">www.yahoo.com</a>	216.109.118.71
<a href="http://www.ebay.com">www.ebay.com</a>	66.135.208.89
(millions more)...	.....(many millions more)

# Computers don't speak english...

- We need to convert English into electronic signals:
  - First break up the message into packets

Hello  
Google!



He	ll	o
G	oog	le

←not an accurate representation, but you get the idea...

- But who break it up???
- Meet TCP: Transmission Control Protocol
  - Don't worry about what it is exactly, just know that TCP will break your information into little packets and IP labels them, so they know where to go.

# The packets embark on a great quest...

## Command Prompt

operable program or batch file.

C:\Documents and Settings\artemis>tracert www.google.com

Tracing route to www.l.google.com [64.233.161.99]  
over a maximum of 30 hops:

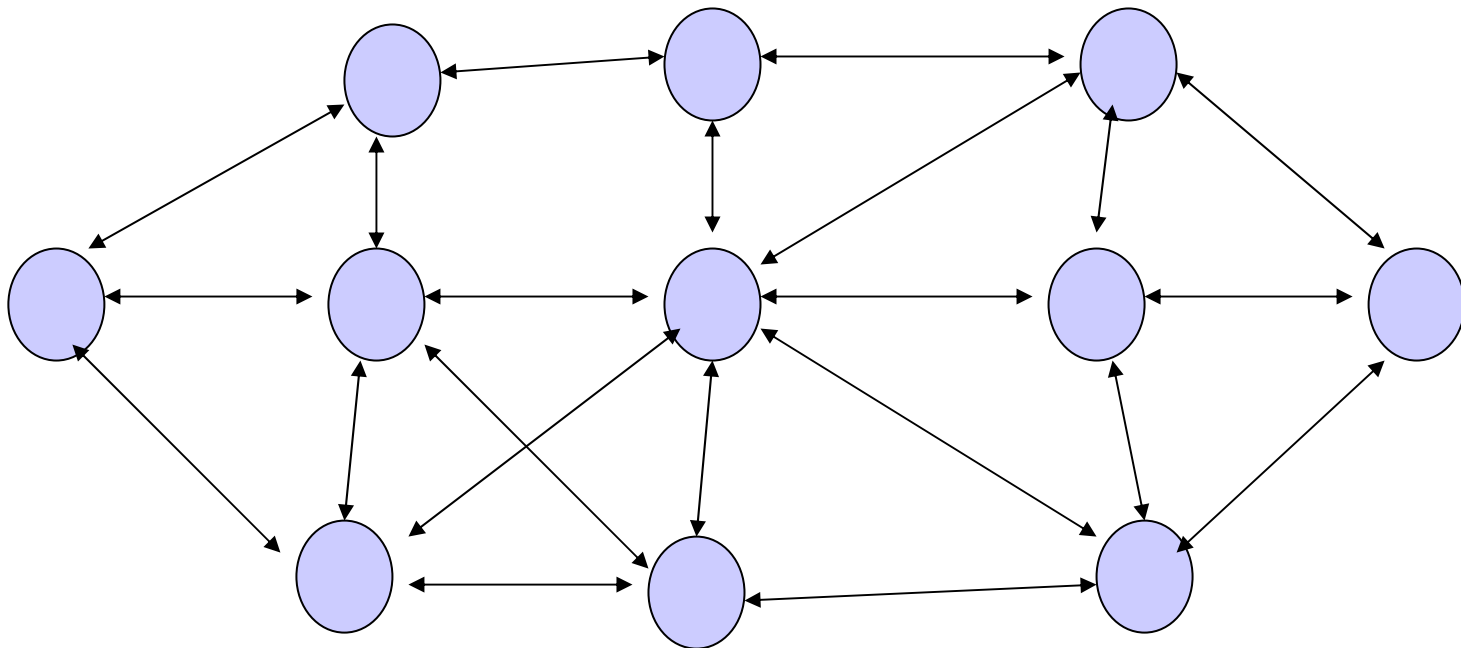
1	<1 ms	<1 ms	<1 ms	cs-cs5-r-31.cs.brown.edu [128.148.31.101]
2	<1 ms	<1 ms	<1 ms	192.168.1.5
3	<1 ms	<1 ms	<1 ms	cis-gw.cs.brown.edu [128.148.34.1]
4	<1 ms	<1 ms	<1 ms	128.148.130.101
5	164 ms	1 ms	208 ms	host-198-7-224-37.oshean.org [198.7.224.37]
6	1 ms	1 ms	1 ms	wsip-66-210-124-1.ri.ri.cox.net [66.210.124.1]
7	1 ms	1 ms	1 ms	68.9.10.17
8	1 ms	1 ms	1 ms	provbbrc02-pos0103.rd.ri.cox.net [68.1.0.56]
9	7 ms	6 ms	6 ms	NYRKBBRJ01-so000.R2.ny.cox.net [68.1.0.51]
10	11 ms	11 ms	11 ms	mrfdbbrc01-pos0102.rd.dc.cox.net [68.1.1.8]
11	12 ms	11 ms	12 ms	mrfdbbrc02-pos0100.rd.dc.cox.net [68.1.1.3]
12	13 ms	13 ms	13 ms	ashbbbrj01-pos020100.r2.as.cox.net [68.1.1.232]
13	13 ms	13 ms	13 ms	68.105.30.118
14	13 ms	13 ms	13 ms	216.239.46.19
15	16 ms	15 ms	15 ms	216.239.49.246
16	12 ms	12 ms	12 ms	64.233.161.99

Trace complete.

C:\Documents and Settings\artemis>

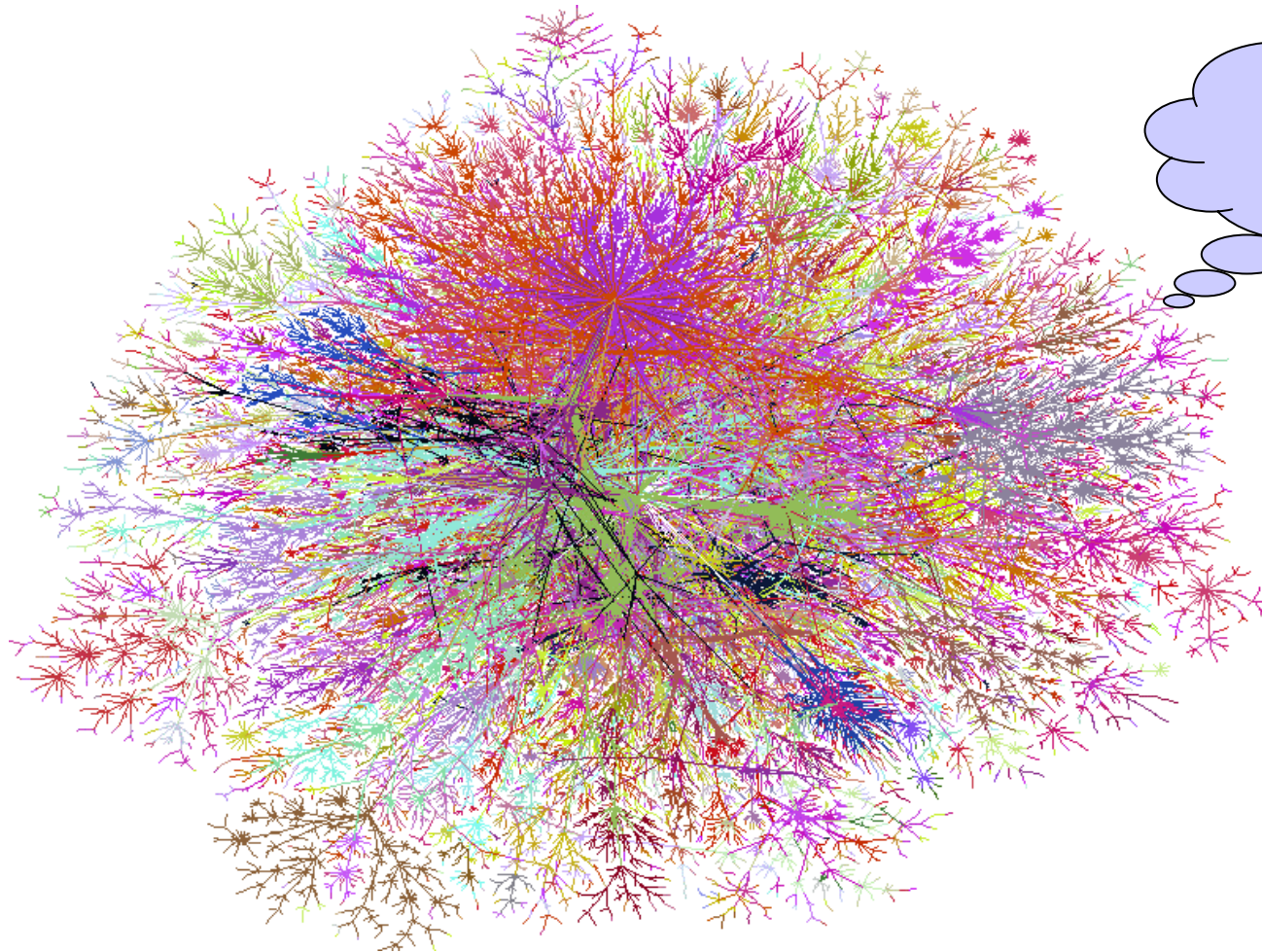
# Why does this happen?

- Well because this is how the internet looks like... only with many, many more nodes.



# Actually...

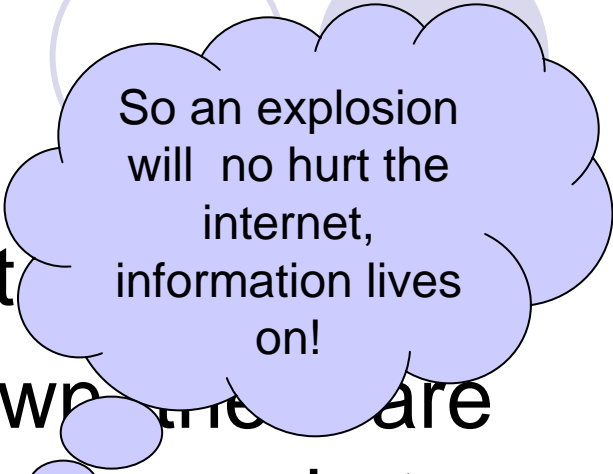
- The real internet looks something like this



Crazy, right?

# Why is it so, WHY???

- Because that's what makes it
- Is one of the routers goes down there are millions more that will guide your packets to their rightful destination.
  - Eh, routers?
    - They are just computer that tell your packets where to go and where not to go, like travel guides!



So an explosion  
will not hurt the  
internet,  
information lives  
on!

# So the packets finally get there...now what?

- The Google server sends packets back with HTML that will be interpreted by the browser, to display the Google front page.
  - A server is just a computer that hold contains the websites (HTML, JavaScript, PHP...etc).



The files are IN the computer??

Phew...

