

Willow Valley Computer Club

The INTERNET: Its History & How It Works

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Bob McRobbie
Willow Valley Resident

“Glossary” handout - c/o DeJazzd, WebsiteCompass

What is the INTERNET

- Independent networks, each managed by servers at universities, companies, gov't. etc. and linked together, using
- Managed computer identities & locations
- Standard communications protocols
- High speed communications carriers
- Viewed with a visual interface - browser

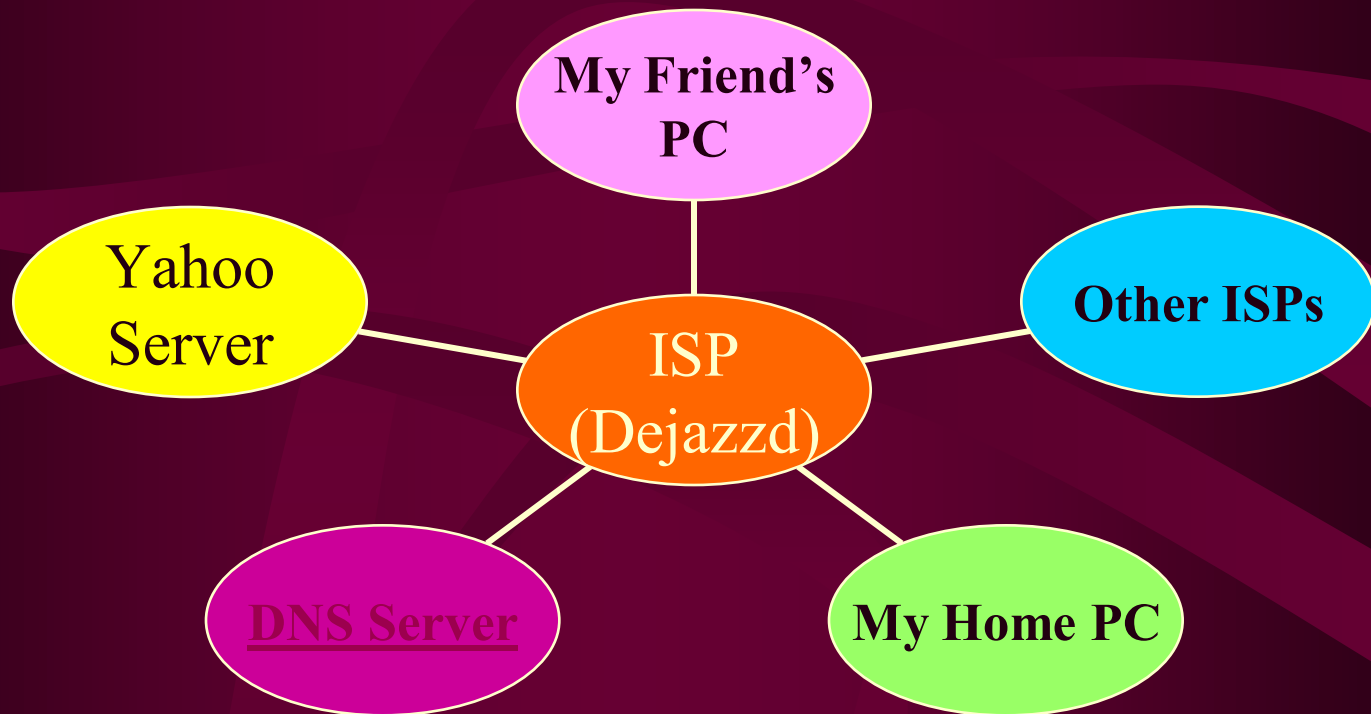
Uses of the INTERNET

- Email: AOL, most ISPs
 - Text, attachments, enclosures, links
- News: MSNBC, Fox News, church info.
- Maps & directions: Google, Yahoo
- Selling & Buying: Craigslist, ebay, Most stores, ebay, meds, tickets etc.
- Research: Facts, genealogy, product comparisons
- Entertainment: Radio, TV, home videos etc.
- Communications: Skype (free audio & video)
- Newsgroups: Chat about a shared interest

How do I get on the INTERNET?

- List of necessary items
 - Computer
 - Modem (Phone or Cable)
 - Software
 - Cable or Telephone line
 - Internet service provider (ISP)
- Consistent username and password

Simple INTERNET Connection:



DNS – Domain Name System

- An International Database:
 - Domain name
 - IP address
 - Location/path to servers
 - Registration, storage & info. managed by US Gov't sub-contractors

Who owns a domain? Look at Whois.com

Domain Names

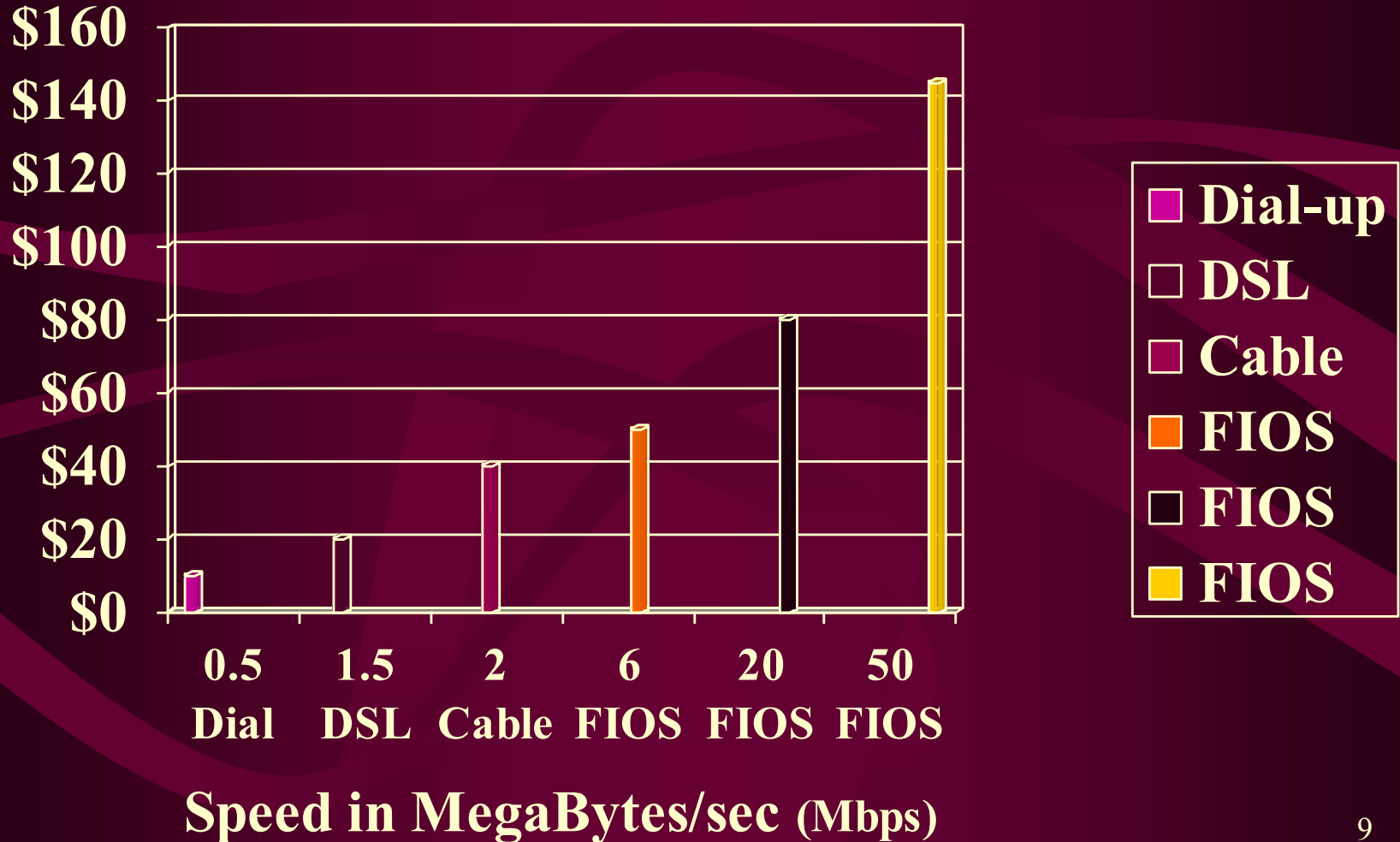
- e.g. “willowvalley.org”, “ebay.com”
- TLDs: .com .net .org .gov .edu .mil
- World Wide, Unique Identity
- International Management
- Licensed per year for low price
- Retailers like “MadDogDomains.com
- IP Address assigned to each domain name
 - Twelve digit IP address:
 - e.g. 024.156.346.428 = unique computer
- One owner at one location (computer/server)
- Identifies email and/or web server

How to Access the INTERNET

- Devices
 - Desk top computer: PC or Mac
 - Laptop computer
 - Hand held device (Blackberry)
- ISP Services
 - Dial-up (AOL)
 - DSL (**D**igital **S**ubscriber **L**ine) phone (Verizon)
 - Cable (Comcast)
 - Fiber Optic [FIOS] cables (Verizon)
 - Satellite
 - Wireless

INTERNET

Monthly \$Cost vs. Speed (Mbps)



What is a “Browser”

- Application software on your computer ([IE 7.0](#))
- Visual framework to display pages from a web site
- Web pages created with special development software using html: **H**yper **T**ext **M**arkup **L**anguage
- Web pages display text, pictures and/or
- Hypertext: (L) clickable link to other web pages:
 - A page local to that web site
 - A page at another web site
 - Displayed as blue and underlined text

Addressing the Internet

via browser

- URL (**U**niversal **R**esource **L**ocator) field commands sent (uploaded) to the INTERNET thru your ISP
 - http:// (**H**yper **T**ext **T**ransfer **P**rotocol)
+Domain name/folder name/page name
`http://www.yahoo.com/logins/user.htm`
 - FTP:// (**F**ile **T**ransfer **P**rotocol) Data Transfer
+Domain name/folder name/page name
`ftp://mitserver.edu/organizations/campuslist.doc`
 - `mailto:BobMcRobbie@comcast.net`

Receive into your Browser

- The response to your uploaded URL request:
 - If authorized by source server computer
 - Source server interprets request
 - Source server sends a packet(s) of information
 - Packet(s) passed on by your ISP
 - Downloaded to your computer
 - A web page is displayed in your browser
 - Usually the home page
 - A partial page on top of/within the first page
 - Text
 - Images
 - Links

Searching the Internet

- Search engines
 - Ask.com
 - Google.com
 - Dogpile.com
- Large data base created by spidering
 - Key words
 - Key phrases
 - Boolean logic

Search engines return list of matches to choose

History of the INTERNET

1950s & 1960s

- Primarily military & educational research sharing in US: UCLA, MIT, Rand Corp.
- Terminal to server communication
- Packet technology/protocol developed
- First email usage in 1965 (text only)

History of the INTERNET

1970s & 1980s

- MIT: DARPA → ARPAnet
(Defense Advanced Research Project Agency)
(Advanced Research Project Agency Network)
- One terminal to many servers
- TCP/IP a world standard protocol
(Transmission Control Protocol/Internet Protocol)
- Managed IDs – Worldwide DNS
(Domain Name System)
- 1974 first use of the word “INTERNET”
- US – Norway – Britain – Japan – Australia
connections based on TCP/IP

Browser Development

- 1990s Text & image transfer (downloads)
- Displayed by free INTERNET browsers
 - http developed (HyperText Transfer Protocol) Rules for moving files across the INTERNET
 - Web pages controlled and displayed with html (hypertext markup language: Images and text displayed on a web page)

History of the INTERNET

Web Browsers

- 1990-First web browser: WorldWideWeb
- 1993 – Netscape’s Mosaic released for PC & MAC
- Free Mozilla browser source code given out
- Many others built: Opera, Navipress, MacWeb etc.
- 1994 Mozilla – First commercial (for \$) web browser released
- 1995 Internet Explorer released by Microsoft in their Windows 95 operating system (for \$)
- By 1999 free IE upgrades surpassed Mosaic users
- 2002 Open source Mozilla → FireFox in 2004

History of the INTERNET

1990s & 2000s

- Easy reference using web pages & indexes
- Web site [page] development tools – FrontPage, DreamWeaver etc.
- Growth of commercial sites
- Increase in organization & personal sites
- Search engines and helpful links from sites
- Viruses & Security

Mobile Devices and the INTERNET

- Mobile phones with INTERNET service
 - 1996 – Finland: Nokia 9000 Communicator
 - 1999 – Japan: i-Mode service
 - 2001 – USA: the Blackberry
 - Majority are Asian users, rapid growth
 - World wide, now more mobile INTERNET users
 - 30% penetration in Western nations
- Many US mobile phone services now offer INTERNET
 - Display of many services
 - eMail
 - News
 - Stock monitoring
 - Sports
- WiFi & WiMax

The INTERNET Future?

Forecasts: By the year 2011:

- 22% of world population using INTERNET
- Most in North America
- North American Penetration to 76%
- China penetration to 17%
- India penetration to 7%
- 42% of INTERNET population will be Asians
- Digital Divide grows

That's All Folks

and

There will be a quiz next month!

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