The Internet

WHAT IS THE INTERNET ?

- A world-wide network of computers allows people to share information electronically
- It is a BIG book with many web-pages on different topics.
- It Can be accessed anywhere with an Internet connection

ARPANET

- The **Advanced Research Projects Agency Network** (**ARPANET**) was one of the world's first operational networks.

- It was developed by US Department of Defence during Second World War.

- It was fully completed in 1969.

INTERNET SERVICE PROVIDER

➤ A company that provides Internet access for customers
   examples: BSNL, Airtel, Vodafone, AOL, etc

➤ Your computer connects to the Internet Service Provider (ISP) then to the Internet.

| Your computer | ISP | Internet |

MOBILE

- ➤ **Many cell phone and Smartphone** providers offer voice plans with Internet access.

- ➤ **Mobile Internet connections provide** good speeds and allow you to access the Internet on the go.

MOBILE GENERATIONS

TDMA (Time Division Multiple Access), sorts messages into time slots in order to send them. Voice and data are converted to digital signals that are sent and received in bursts in specific time slots.

CDMA (Code Division Multiple Access) was developed by Qualcomm for military anti jamming systems, which translates into highly private conversations. It spreads a low power signal across a wide frequency width, which provides for a significant increase in subscriber capacity.

FDMA
FDMA is the process of dividing one channel or bandwidth into multiple individual bands, each for use by a single user . Each individual band or channel is wide enough to accommodate the signal spectra of the transmissions to be propagated. The data to be transmitted is modulated on to each subcarrier, and all of them are linearly mixed together.

MOBILE

GPRS Network

GPRS (General packet radio service) networks are used to transmit data at speed from 56 to 114 Kbits/second. It is a battery-friendly way to access internet from smart phones, send/receive emails and MMS.

EDGE Network

EDGE(Enhanced Data rates for GSM Evolution)) is enhancement to 2.5 GSM or GPRS networks so it is also known as Enhanced GPRS (EGPRS) technology. The network has been classified as "2G" standard due to the fact that it can provide speed up to 473.6 Kbits/second but it is typically limited to 70 – 130 kBps speed in order to conserve spectrum resources.

MOBILE

3G Network

3G (Third generation of mobile telecommunications technology) initially came to market as a way to offer video calling support on mobile networks. However, it provides very fast internet browsing, voice calls over IP, instant messaging etc. At most of the places, 3G speed are find similar to EDGE connection speed.

HSPA Network

HSPA+ (High-Speed Packet Access) is an evolution to HSPA (*i.e.,* HSUPA + HSDPA) technology which provides much fast speed to browse internet, downloading, uploading and sending/receiving emails and instant messages. It can provide the support speed of up to 168 Mbits/s however, in reality, you'll get a peak speed of 21 Mbits/s which is because the current 3G network architecture is not designed to handle such massive bandwidth.

MOBILE

LTE Network

LTE (Long Term Evolution) is the first step forward true 4G technologies. However, in a way to become true 4G, download speeds of 100 Mb/s and 1 Gb/s was required to achieve pedestrian points respectively. LTE

INTEGRATED SERVICES DIGITAL NETWORK

ISDN (Integrated Services Digital Network) allows users to send data, voice and video content over digital telephone lines or standard telephone wires.

DIAL-UP INTERNET CONNECTION

➢ Dial-up connections require users to link their phone line to a computer in order to access the Internet.

➢ This particular type of connection also referred to as analog does not permit users to make or receive phone calls through their home phone service while using the Internet.

| Your computer | Landline | ISP | Internet |
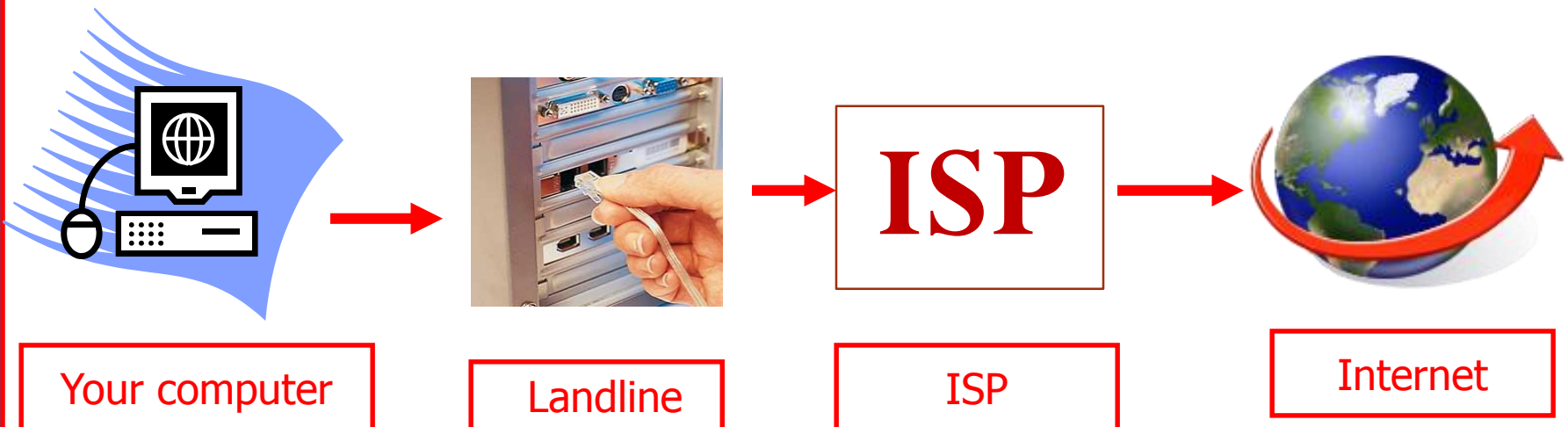
BROADBAND

➢ The term broadband is shorthand for broad bandwidth.

➢ Broadband Internet connections such as DSL and cable are considered high-bandwidth connections.

DIGITAL SUBSCRIBER LINE

DSL which stands for Digital Subscriber Line, uses existing 2-wire copper telephone line connected to one's home so service is delivered at the same time as landline telephone service.

Phone line jack

Phone line cable

Computer

DSL modem

Ethernet cable
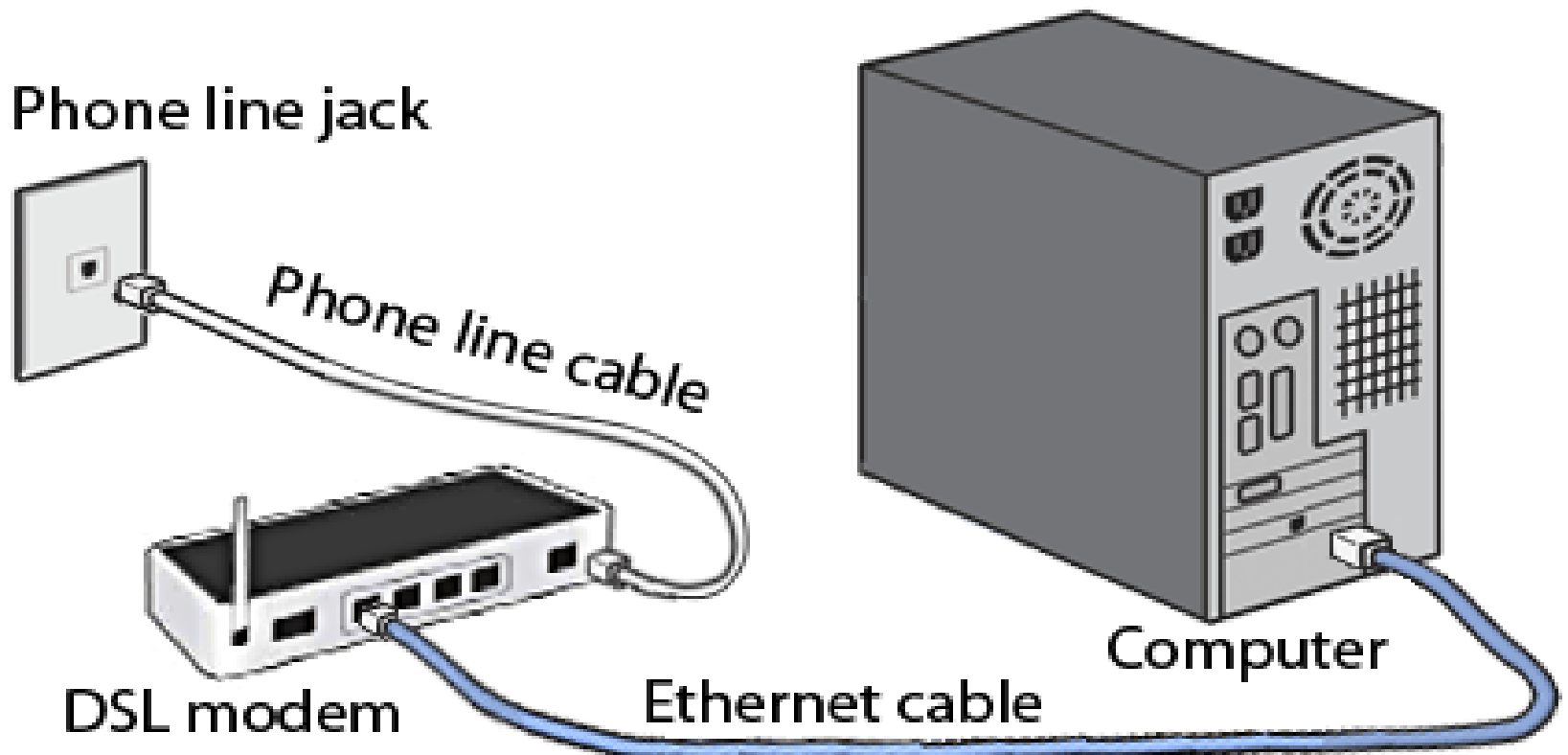
CABLE

➤ Cable Internet connection is a form of broadband access.

➤ Through use of a cable modem, users can access the Internet over cable TV lines. Cable modems can provide extremely fast access to the Internet.
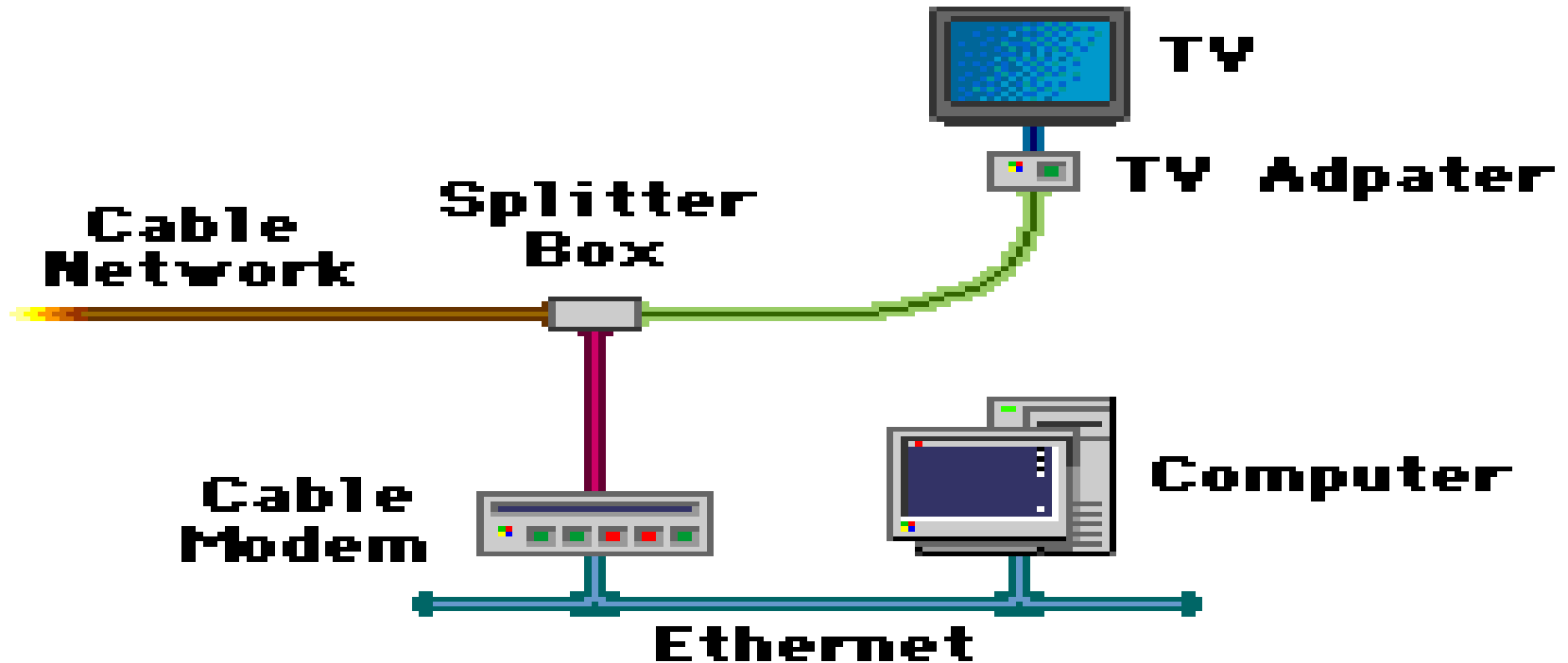
WEB ADDRESSES

➤ Web addresses are an addressing system that identifies where a Web resource is located.

➤ The **Uniform Resource Locator** (**URL**) is the standard used to identify Web resources.

➤ The URL consists of:

Protocol identifies the means of access

Server contains the domain name of the Web server

Path identifies the location of the document

Resource specifies the filename of the resource

URL	http://www.mahendras.org/User/downloads.aspx

DOMAIN TYPE

HTTP

- HTTP stands for Hyper Text Transfer Protocol.
- HTTP is request-response protocol.
- New version of http is **HTTPS**.
- In https, **s** stands for **secured.**
- Default port number of http is **80**

FILE TRANSFER PROTOCOL(FTP) AND TELNET

> **FTP** is a part of the Internet that enables client computers to transfer files.

Default Port Number of FTP is 21.

> Telnet is a protocol that allows you to connect to remote computers (called hosts) over a TCP/IP network (such as the Internet).

> Default Port Number of **TELNET** is **23**

WWW

- WWW stands for WORLD WIDE WEB.

- It was developed by TIM BERNERS-LEE.

- In short it is called W3.

- WWW was invented in 1989.

- W3C stands for World Wide Web Consortium.

- The W3C is the main international standards organization for the World Wide Web.

INTRANET

➢ An **intranet** is a computer network that uses Internet Protocol technology to share information, operational systems, or computing services within an organization.

➢ INTRANETS are also being used as corporate culture-change platforms.

➢ All Bank uses INTRANET for their internal working.

EXTRANET

- An extranet is a computer network that allows controlled access from the outside, for specific business or educational purposes.

- In a business-to-business context, an extranet can be viewed as an extension of an organization's intranet that is extended to users outside the organization, usually partners, vendors and suppliers, in isolation from all other Internet users.

SEARCH ENGINE OPTIMIZATION

The process of maximizing the number of visitors to a particular website by ensuring that the site appears high on the list of results returned by a search engine.

TYPES OF CASTING

Webcast

The transmission of live or delayed versions of audio or video broadcasts using the Web. Also see: push technology.

Unicast

Communication between a single sender and a single receiver over a network.

Telecast

A television program. Made famous by announcers offering a free transcript of "this telecast" after a television shown.

TYPES OF CASTING

Podcast
The transmission of programming through the preparation and distribution of audio files to the computers of subscribed users. These files may then be uploaded to digital music or multimedia players like the iPod.

multicast
The transmission to multiple specific receivers, as in e-mail to a distribution list or a Web transmission over the MBone network to a specific group of receiving addresses.

broadcast
To cast or throw forth something in all directions (send to all)

EPABX

Electronic Private Automatic Branch Exchange : A **private branch exchange (PBX)** is a telephone exchange that serves a particular business or office, as opposed to one that a common carrier or telephone company operates for many businesses or for the general public. PBXs are also referred to as **PABX** – private automatic branch exchange and **EPABX.**

PSTN - PUBLIC SWITCHED TELEPHONE NETWORK

The term Public Switched Telephone Network (PSTN) describes the various equipment and interconnecting facilities that provide phone service to the paublic.
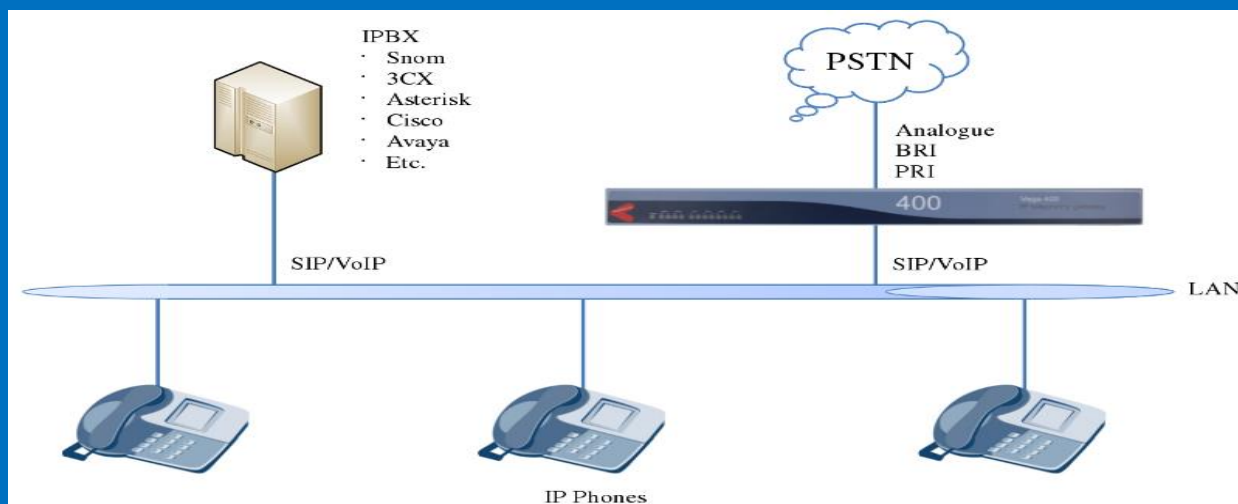
CAPTCHA

A term for Completely Automated Public Turing test to tell Computers and Humans Apart.

It is a type of challenge-response test used in computing to determine whether or not the user is human

I'm not a robot
reCAPTCHA
Privacy - Terms

HTTP STATUS MESSAGES

100   Continue
The server has received the request headers, and the client should proceed to send the request body

101   Switching Protocols
The requester has asked the server to switch protocols

200   OK
The request is OK (this is the standard response for successful HTTP requests)

204   No Content
The request has been successfully processed, but is not returning any content

HTTP STATUS MESSAGES

301 Moved Permanently
The requested page has moved to a new URL

302 Found
The requested page has moved temporarily to a new URL

400 Bad Request
The request cannot be fulfilled due to bad syntax

401 Unauthorized
The request was a legal request, but the server is refusing to respond to it. For use when authentication is possible but has failed or not yet been provided

HTTP STATUS MESSAGES

402 Payment Required
Reserved for future use

403 Forbidden
The request was a legal request, but the server is refusing to respond to it

404 Not Found
The requested page coul';d not be found but may be available again in the future

408 Request Timeout
The server timed out waiting for the request

HTTP STATUS MESSAGES

409 Conflict
The request could not be completed because of a conflict in the request

500 Internal Server Error
A generic error message, given when no more specific
message is suitable

502 Bad Gateway
The server was acting as a gateway or proxy and received an invalid
response from the upstream server

TYPES OF SERVERS

Different servers do different jobs, from serving email and video to protecting internal networks and hosting Web sites

Telnet Server
A Tenet server enables users to log on to a host computer and perform tasks as if they're working on the remote computer itself

Web Server
At its core, a Web server serves static content to a Web browser by loading a file from a disk and serving it across the network to a user's Web browser. This entire exchange is mediated by the browser and server talking to each other using HTTP.

Application Server
Sometimes referred to as a type of middleware, application servers occupy a large chunk of computing territory between database server and the end user, and they often connect the two.

TYPES OF SERVERS

FTP Server
One of the oldest of the Internet services, File Transfer Protocol makes it possible to move one or more files securely between computers while providing file security and organization as well as transfer control.

Mail Server
Almost as ubiquitous and crucial as Web servers, mail servers move and store mail over corporate networks (via LANs and WANs) and across the Internet.