



**INTERNET
&
ITS SERVICES**

**COMPUTER
AWARENESS**

EPIISODE-14



Computer Awareness

Part 14

- Funsta Team

Lets Start





Computer Awareness



- Part 1 Intro/Generation/ Classification of Computers
- Part 2 Computer Architecture & Memory
- Part 3 Computer Hardware
- Part 4 Computer Software and System Utilities
- Part 5 Number System
- Part 6 Computer Codes & Logic Gates





Computer Awareness



- Part 7 Introduction to Operating System
- Part 8 Operating System
- Part 9 Data Communication
- Part 10 Computer Networks & Network Topology
- Part 11 OSI Layers & Network
- Part 12 Database Management System (DBMS)
- Part 13 Relational Database Management System (RDBMS)

Lets move on to
Next Part





Sl. No	Topic	Page Number
1	Internet	6
2	History of Internet	7
3	Advantages of the Internet	8
4	Disadvantages of the Internet	9
5	Internet Connection	10
6	Interconnecting Protocols	25





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Sl. No	Topic	Page Number
7	Terms Related to Internet	37
8	Services of Internet	51



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Internet



INTERNET stands for **Inter**connected **Network** that is a network system that connects millions of web servers.



The **Internet** is a vast network that connects computers all over the world. Through the **Internet**, people can share information and communicate from anywhere with an **Internet** connection.



History of Internet



The first workable prototype of the **Internet** came in the late 1960s with the creation of ARPANET, or **the Advanced Research Projects Agency Network.**



ARPANET adopted **TCP/IP** on January 1, 1983, and from there researchers began to assemble the “network of networks” that became the **modern Internet.**



In the time period when the ARPANET was connected to the newly formed NSFNET project in the late 1980s, the term was used as the name of the network, **Internet**, being the large and global TCP/IP network.



Advantages of the Internet



- Connectivity, **communication**, and sharing.
- Information, **knowledge**, and **learning**.
- Address, mapping, and contact information.
- Selling and making **money**.
- Banking, bills, and shopping.
- Donations and funding.
- Entertainment.
- Work from home, **collaboration**, and access to a global workforce.



Disadvantages of the Internet



- ⟨⋯⟩ Addiction, time-waster, and causes distractions.
- ⟨⋯⟩ Bullying, trolls, stalkers, and crime.
- ⟨⋯⟩ Spam and advertising.
- ⟨⋯⟩ Adult contents and violent images.
- ⟨⋯⟩ Never being able to disconnect from work.
- ⟨⋯⟩ Identity theft, hacking, viruses, and cheating.
- ⟨⋯⟩ Affects focus and patience.
- ⟨⋯⟩ Health issues and obesity



Internet Connection



Internet connections are of different **types** depending upon the cost, speed, availability, etc.



Internet connections are categorized according to their uses like at home, offices, organization, etc.

- Dial-Up Connection
- Broadband Connection
- Wireless Connection





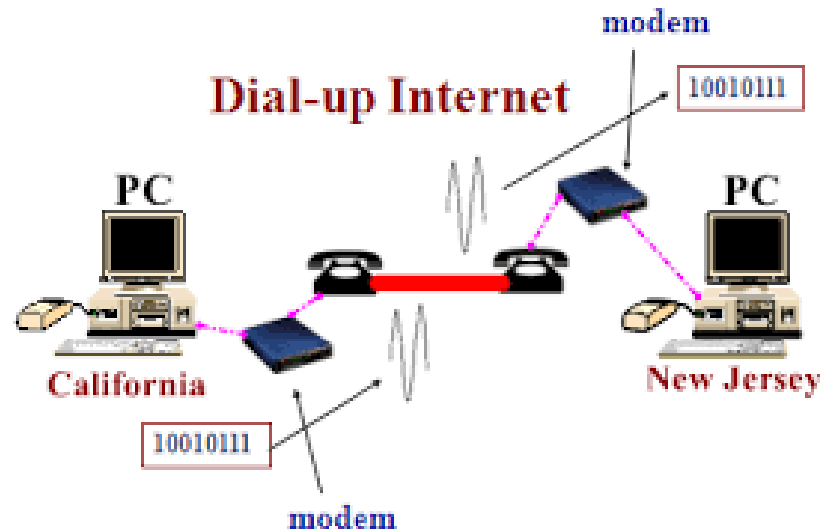
Dial-Up Connection



A **dial-up connection** is established when two or more communication devices use a public switched telephone network (PSTN) to connect to an Internet service provider (ISP).



Many remote areas depend on Internet **dial-up connections** because broadband and cable are rare in remote areas with low population numbers.



Back to
Internet Connection

Broadband Connection



The term broadband commonly refers to **high-speed** Internet access that is always on and faster than the traditional **dial-up access**. Broadband includes several **high-speed** transmission technologies such as:

- **Digital Subscriber Line (DSL)**
- **Cable Modem**
- **Broadband over Power Line(BPL)**



Back to
Internet Connection

Digital Subscriber Line



Digital subscriber line is a family of technologies that are used to transmit digital data over telephone lines. In telecommunications marketing,



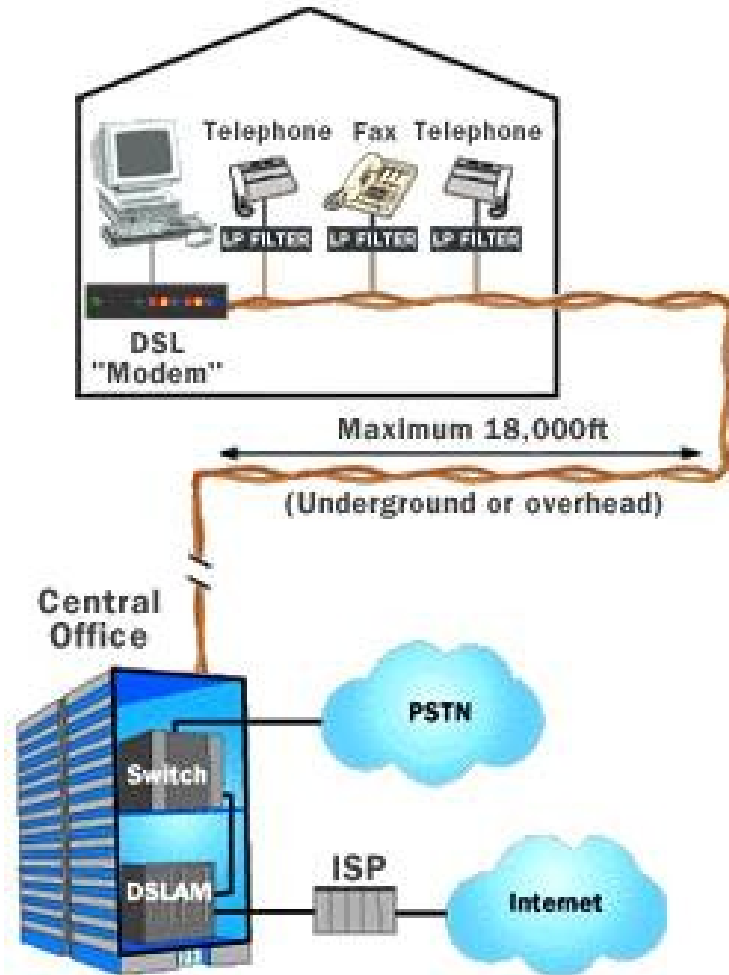
The term DSL is widely understood to mean asymmetric digital subscriber line, the most commonly installed DSL technology, for Internet access.

Pictorial representation of
Digital Subscriber Line

Back to
Broadband Connection



Digital Subscriber Line



Explanation of Digital Subscriber Line

Back to Broadband Connection

Cable Modem



A cable modem is a hardware device that allows your **computer** to communicate with an **Internet** service provider over a landline connection.



It converts an analog signal to a digital signal for the purpose of granting access to **broadband Internet**.



Back to
Broadband Connection

Broadband over Power Line(BPL)



Broadband over powerline (BPL) is a internet service type where customers get high-speed internet connections **through** their standard electrical outlets.



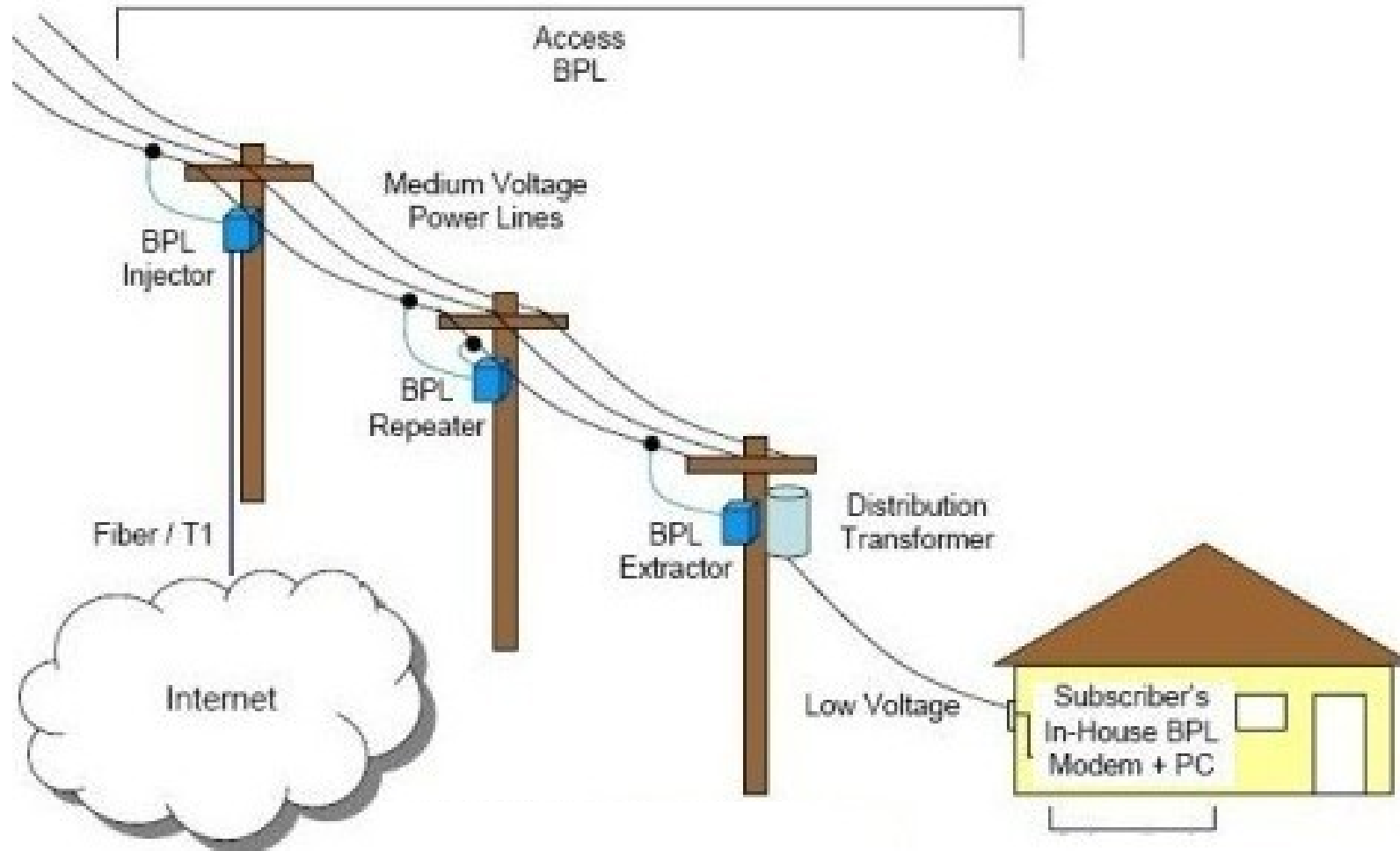
Users simply plug a **power** line modem into any socket and there is no need for additional special wiring.

Pictorial explanation of
Broadband over Power Line

Back to
Broadband Connection



Broadband over Power Line(BPL)



Explanation of
Broadband over Power Line

Back to
Broadband Connection

Wireless Connection



Wireless networks are computer networks that are not **connected** by cables of any kind.



The use of a **wireless network** enables enterprises to avoid the costly process of introducing cables into buildings or as a **connection** between different equipment locations.



Examples of **wireless networks** include cell phone **networks**, **wireless** local area **networks** (WLANs), **wireless** sensor **networks**, satellite communication **networks**, and terrestrial microwave **networks**.

- **Wireless Fidelity(Wi-Fi)**
- **Worldwide Interoperability for Microwave Access(WiMAX)**
- **Mobile Wireless Broadband Services**

Back to
Internet Connection

Wireless Fidelity(Wi-Fi)



WiFi is a universal wireless networking technology that utilizes radio frequencies to transfer data.



WiFi allows high-speed Internet connections without the use of cables.



The term **WiFi** is a contraction of "wireless fidelity" and commonly used to refer to wireless networking technology.

Pictorial explanation of
Wireless Fidelity(Wi-Fi)

Back to
Wireless Communication



Wireless Fidelity(Wi-Fi)



Explanation of
Wi-Fi

Back to
Wireless Communication

Worldwide Interoperability for Microwave Access(WiMAX)



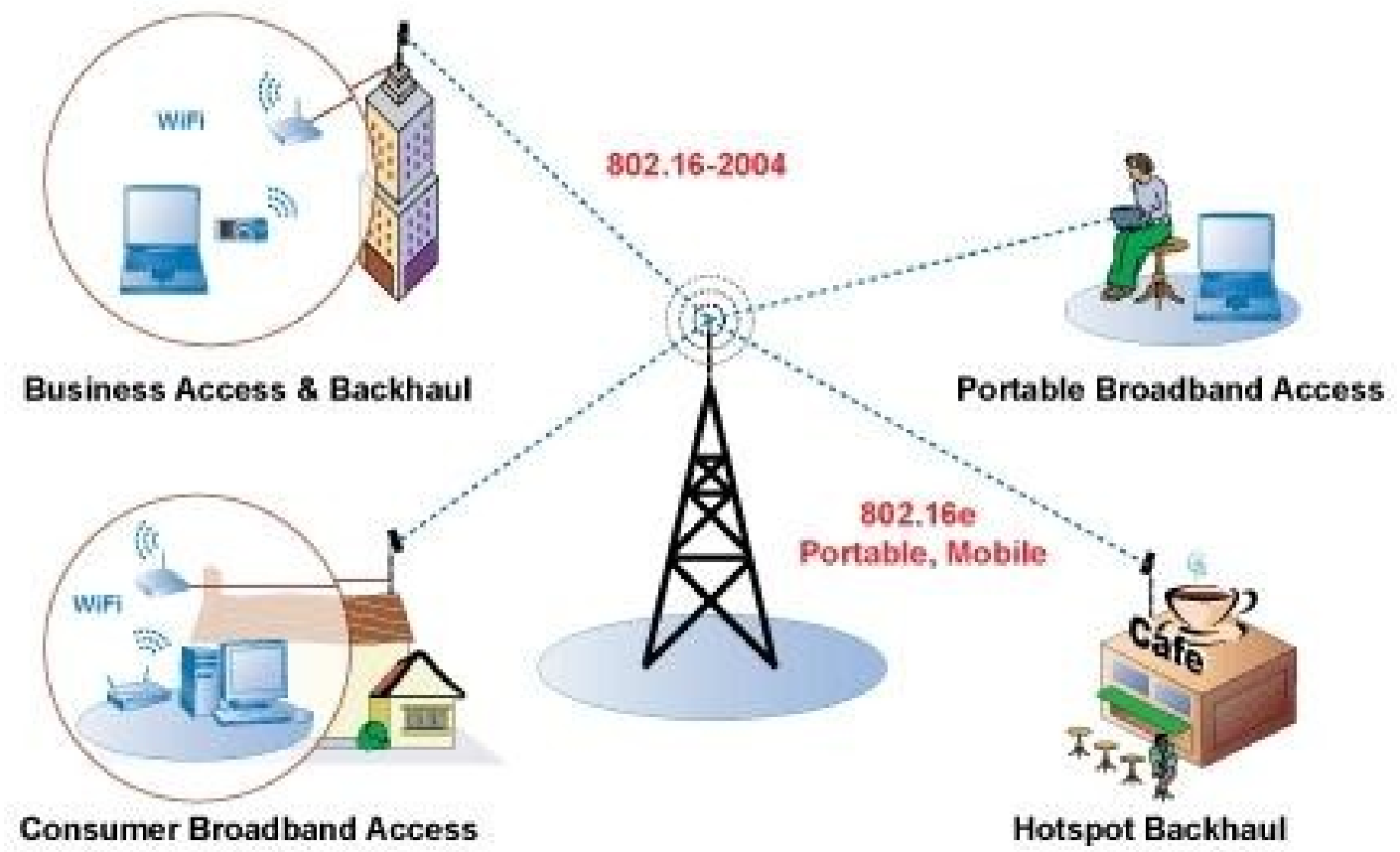
- ↔ **Worldwide Interoperability for Microwave Access (WiMAX)** is. the IEEE 802.16 standard for long-range wireless networking.
- ↔ In addition to providing wireless broadband communication to fixed devices in areas without cable or phone lines, **WiMAX** can provide.
- ↔ Wi-Fi typically provides local network access for a few hundred feet with the speed of up to 54 Mbps, a single **WiMAX** antenna is expected to have a **range** of up to 40 miles with the speed of 70 Mbps or more.
- ↔ As such, **WiMAX** can bring the underlying Internet connection needed to service local Wi-Fi networks.

Pictorial explanation of
WiMAX

Back to
Wireless Communication



Worldwide Interoperability for Microwave Access(WiMAX)



Explanation of WiMAX

Back to Wireless Communication

Mobile Wireless Broadband Services



Mobile Broadband provides high-speed internet access to data-only devices through the Verizon **Wireless** network.



Use **Mobile Broadband** to access the internet through a computer, laptop, tablet or any other compatible data-only device, including a USB modem, Verizon Jetpack® and **mobile** hotspot.

Pictorial explanation of
Mobile Wireless Broadband Services

Back to
Wireless Communication



Mobile Wireless Broadband Services



Back to
Wireless Communication

Explanation of
Mobile Wireless Broadband Services

Interconnecting Protocols



Protocol, in computer science, a set of rules or procedures for transmitting data between electronic devices, such as computers.



In order for computers to exchange information, there must be a preexisting agreement as to how the information will be structured and how each side will send and receive it.



Transmission Control Protocol/Internet Protocol(TCP/IP)



TCP/IP, or the **Transmission Control Protocol/Internet Protocol**, is a suite of communication **protocols** used to interconnect network devices on the **internet**.



TCP/IP can also be used as a communications **protocol** in a private computer network (an intranet or an extranet).

- **Transmission Control Protocol(TCP)**
- **Internet Protocol(IP)**
- **File Transfer Protocol(FTP)**
- **HyperText Transfer Protocol(HTTP)**
- **Telnet Protocol**
- **Usenet Protocol**
- **Point-to-Point Protocol(PPP)**
- **Simple Mail Transfer Protocol(SMTP)**
- **Wireless Application Protocol (WAP)**
- **Voice Over Internet Protocol(VoIP)**



Transmission Control Protocol(TCP)



The Transmission Control Protocol is one of the main protocols of the Internet protocol suite.



It originated in the initial network implementation in which it complemented the Internet Protocol.



Therefore, the entire suite is commonly referred to as TCP/IP.

[Back to TCP/IP](#)

Internet Protocol(IP)



The **Internet Protocol (IP)** is a **protocol**, or set of rules, for routing and addressing packets of data so that they can travel across **networks** and arrive at the correct destination.



Data traversing the **Internet** is divided into smaller pieces, called packets

Back to
TCP/IP

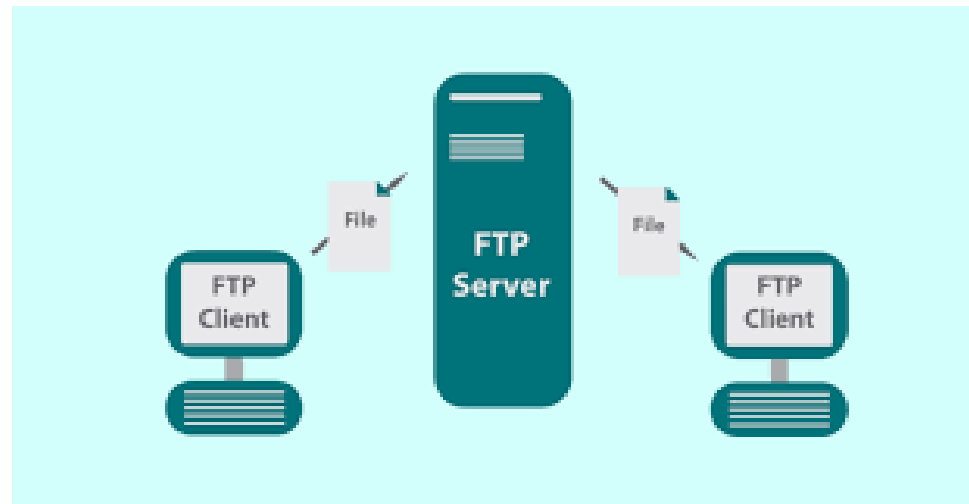
File Transfer Protocol(FTP)



The File Transfer Protocol (FTP) is a standard network protocol used for the transfer of computer files between a client and **server** on a computer network.



FTP is built on a client-**server** model architecture using separate control and data connections between the client and the **server**.



Back to
TCP/IP



HyperText Transfer Protocol(HTTP)



HTTP is a **protocol** which allows the fetching of resources, such as HTML documents.



It is the foundation of any data exchange on the Web and it is a client-server **protocol**, which **means** requests are initiated by the recipient, usually the Web browser.



Back to
TCP/IP



Telnet Protocol



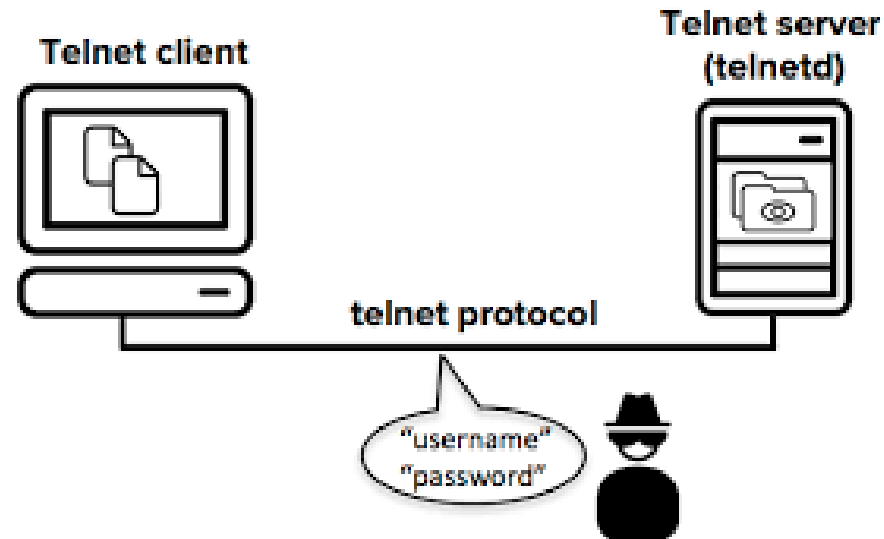
Telnet is an application **protocol** that allows a user to communicate with a remote device.



A user on a client machine can use a software (known as a **Telnet** client) to access a command-line interface of another, remote machine that is running a **Telnet** server program



Telnet, developed in 1969



Back to
TCP/IP



Usenet Protocol



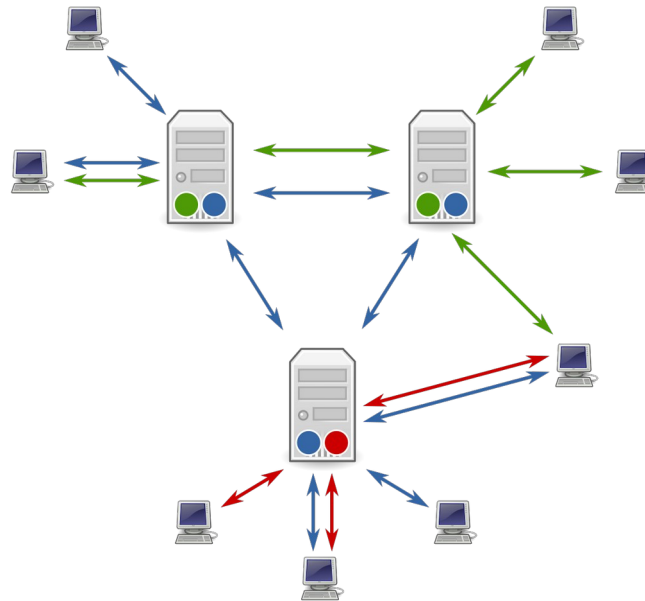
Usenet can be defined as a network where people exchange news.



It is **used for** several purposes by people and support groups for sharing information.



Its' main purpose is to offer a network where users can post information freely, which is then distributed.



Back to
TCP/IP



Point-to-Point Protocol(PPP)



Point-to-Point Protocol or **PPP** is a layer 2 or data link layer **protocol** that is used to establish a direct connection between two nodes in a network.

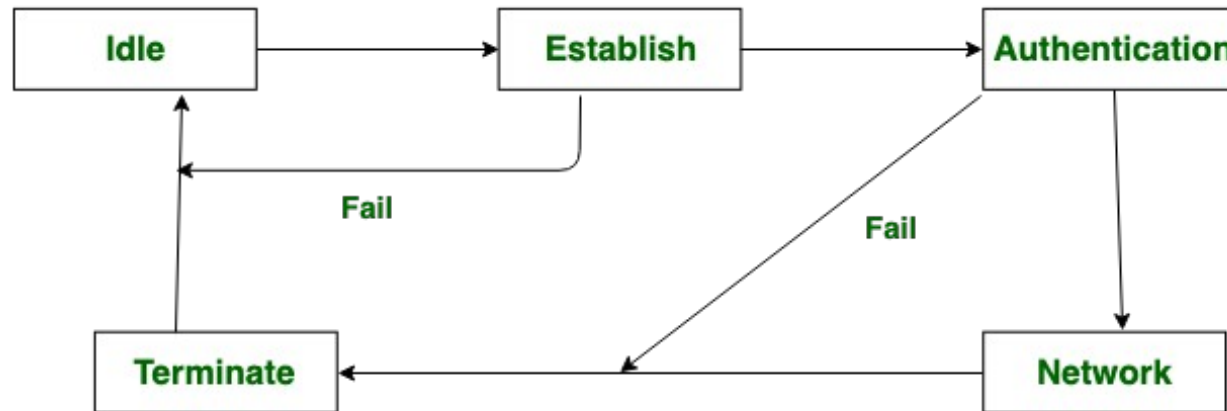


This **protocol** is used to create a simple link between two peers in a network to transport packets.



PPP links are full-duplex and deliver packets in order.

Operation



Point-to-point protocol

Back to TCP/IP



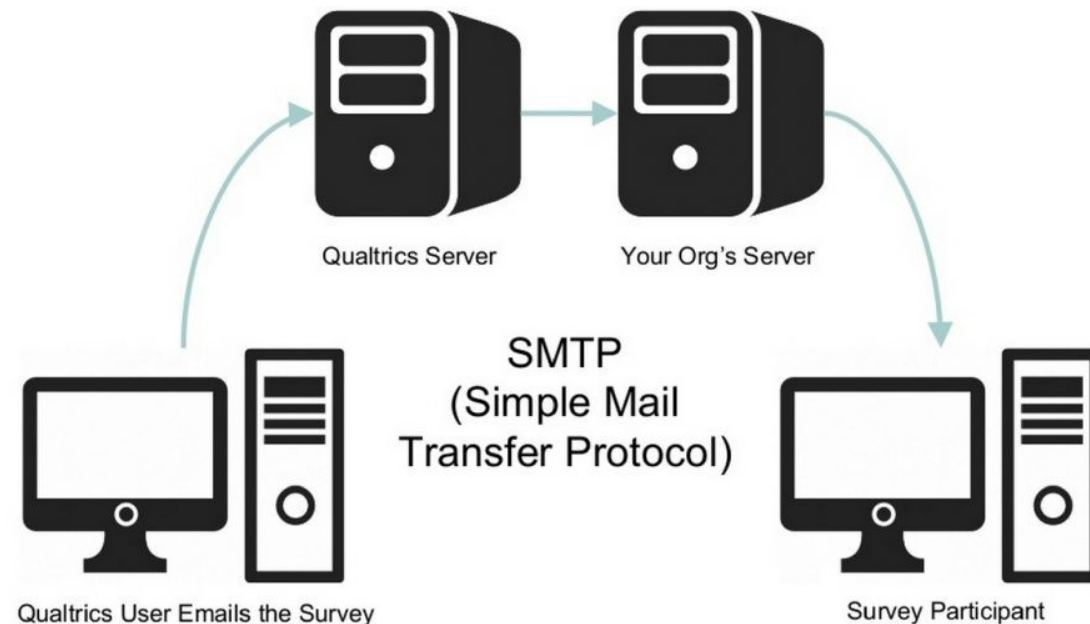
Simple Mail Transfer Protocol(SMTP)



The **Simple Mail Transfer Protocol (SMTP)** is a communication **protocol** for electronic **mail** transmission.



User-level email clients typically use **SMTP** only for sending messages to a **mail** server for relaying, and typically submit outgoing email to the **mail** server on port 587 or 465 as per RFC 8314.



Back to
TCP/IP



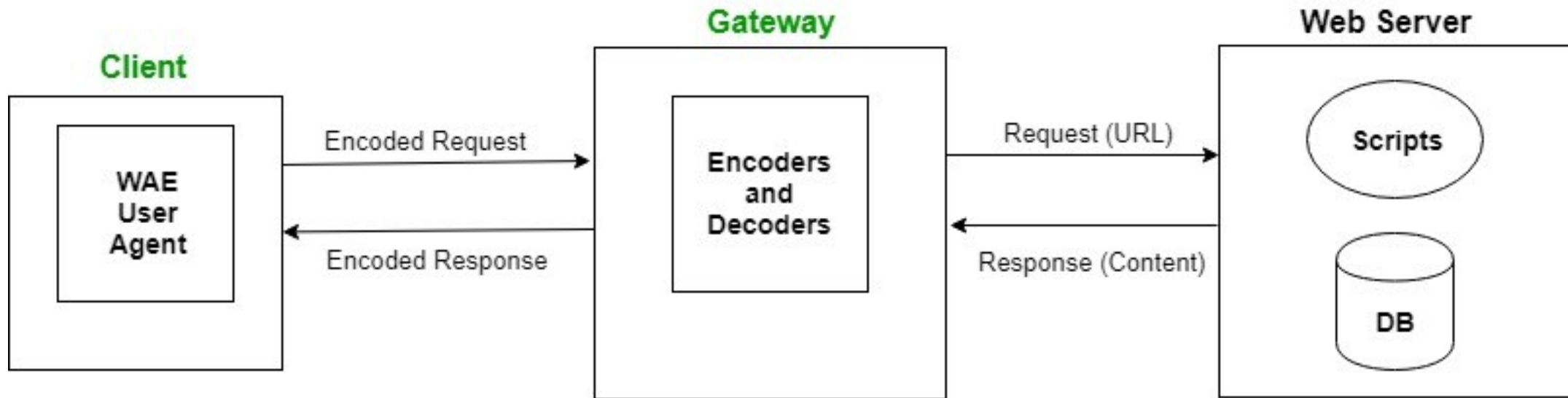
Wireless Application Protocol (WAP)



WAP stands for **Wireless Application Protocol**. It is a **protocol** designed for micro-browsers and it enables the access of internet in the **mobile** devices.



It uses the mark-up language WML (**Wireless** Markup Language and not HTML), WML is defined as XML 1.0 **application**.



Back to TCP/IP

Voice Over Internet Protocol(VoIP)



Voice over Internet Protocol (VoIP), is a technology that allows you to make **voice** calls using a broadband **Internet** connection instead of a regular (or analog) phone line.

[Back to TCP/IP](#)

Terms Related to Internet



- **World Wide Web(WWW)**
- **Web Page**
- **Website**
- **Web Browser**
 - **Text Web Browser**
 - **Graphical Web Browser**
- **Web Server**
- **Web Address and URL**
- **Domain Names**
- **Domain Names Abbreviation**
- **Blogs**
- **Newsgroups**
- **Search Engines**



World Wide Web(WWW)



The **world wide web** ('www' or '**web**' for **short**) is a collection of webpages found on this network of computers.



Your **web** browser uses the **internet** to access the **web**.

[Back to Terms Related to Internet](#)

Web Page



A **web page** or **webpage** is a document, commonly written in HTML, that is viewed in an **Internet** browser.



A **web page** can be accessed by entering a URL address into a browser's address bar.



A **web page** may contain text, graphics, and hyperlinks to other **web pages** and files

[Back to
Terms Related to Internet](#)

Website



A **website** (also written as **web** site) is a collection of **web** pages and related content that is identified by a common domain name and published on at least one **web** server.



All publicly accessible **websites** collectively constitute the World Wide **Web**.

[Back to
Terms Related to Internet](#)

Web Browser



A **web browser** (commonly referred to as a **browser**) is a software application for accessing information on the World Wide **Web**.



When a user requests a **web** page from a particular website, the **web browser** retrieves the necessary content from a **web** server and then displays the page on the user's device



eg: **Mozilla Firefox, Google Chrome.**

[Back to Terms Related to Internet](#)

Text Web Browser



A text-based web browser is a web browser that renders only the text of web pages, and ignores graphic content. Under small bandwidth connections,



Usually, they render pages faster than graphical web browsers due to lowered bandwidth demands.

[Back to Terms Related to Internet](#)

Graphical Web Browser



A **graphical browser** displays and manipulates a computer model by accessing data indicative of features and geometric characteristics of the model, presents **graphical** data indicative of features of the model, and allows a user to graphically manipulate features to provide corresponding changes to the model.



The first graphical Web browser – **Mosaic**

[Back to
Terms Related to Internet](#)

Web Server



A **web server** is software and hardware that uses **HTTP** (Hypertext Transfer Protocol) and other protocols to respond to client requests made over the World Wide **Web**.



The main job of a **web server** is to display website content through storing, processing and delivering webpages to users.

[Back to
Terms Related to Internet](#)

Web Address and URL



A Uniform Resource Locator (**URL**), colloquially termed a **web address**, is a reference to a **web** resource that specifies its location on a computer **network** and a mechanism for retrieving it.



A **URL** is a specific type of Uniform Resource Identifier (URI), although many people use the two terms interchangeably.

[Back to
Terms Related to Internet](#)

Domain Names



Domain names are used to identify one or more IP addresses. For **example**, the **domain name** microsoft.com represents about a dozen IP addresses.



Domain names are used in URLs to identify particular Web pages.



For **example**, in the URL `http://www.pcwebopedia.com/index.html`, the **domain name** is pcwebopedia.com.

Back to
Terms Related to Internet



Domain Names Abbreviation

<u>Domain</u>	<u>Expansion</u>
.org	Non-Profit Organization
.net	Network Resources
.mil	Military
.edu	Educational
.gov	Government
.com	Commercial
.info	International organization

[Back to Terms Related to Internet](#)

Blogs



A **blog** (a truncation of "weblog") is a discussion or informational website published on the World Wide Web consisting of discrete, often informal diary-style text entries (posts).



Blog can also be used as a verb, meaning to maintain or add content to a **blog**.

[Back to
Terms Related to Internet](#)

Newsgroups



A **newsgroup** is an online discussion forum accessible through Usenet.



Each **newsgroup** contains discussions about a specific topic, indicated in the **newsgroup** name.



You can browse **newsgroups** and post or reply to topics using a newsreader program.



Access to **newsgroups** also requires a Usenet subscription.

[Back to
Terms Related to Internet](#)

Search Engines



- ⟨⋯⟩ A **search engine** is an online tool that **searches** for results in **its** database based on the **search** query (keyword) submitted by the internet user.
- ⟨⋯⟩ The results are usually websites that semantically match with the **search** query.
- ⟨⋯⟩ There are many **search engines** on the market, while the most widely used is Google.

[Back to Terms Related to Internet](#)

Services of Internet



- **Chatting**
- **E-Mail**
- **Video Conferencing**
- **E-Learning**
- **E-Banking**
- **E-Commerce**
- **E-Reservation**
- **Social Networking**
- **M-Commerce**



Chatting



On the Internet, **chatting** is talking to other people who are using the Internet at the same time you are.



Usually, this "talking" is the exchange of typed-in messages requiring one site as the repository for the messages (or "**chat** site") and a group of users who take part from anywhere on the Internet.

[Back to
Services of Internet](#)

E-Mail



Email, short for "**electronic mail**," is one of the most widely used features of the Internet, along with the web.



It allows you to send and receive messages to and from anyone with an **email** address, anywhere in the world.



Email uses multiple protocols within the TCP/IP suite.

[Back to
Services of Internet](#)

Video Conferencing



Video conferencing is a technology that allows users in different locations to hold face-to-face meetings without having to move to a single location together.



Uses for **video conferencing** include holding routine meetings, negotiating business deals, and interviewing job candidates.

[Back to
Services of Internet](#)

E-Learning



- It is a very efficient way of delivering courses online.
- Due to its **convenience** and **flexibility**, the resources are available from anywhere and at any time.
- Everyone, who are part time students or are working full time, can take advantage of web-based learning.

[Back to Services of Internet](#)

E-Banking



E-banking is a product designed for the purposes of **online banking** that enables you to have easy and safe access to your **bank** account.



E-banking is a safe, fast, easy and efficient **electronic** service that enables you access to **bank** account and to carry out **online banking** services, 24 hours a day, and 7 days a week.

[Back to Services of Internet](#)

E-Commerce



Ecommerce, also known as **electronic commerce** or internet **commerce**, refers to the buying and selling of goods or services using the internet, and the transfer of money and data to execute these transactions.

[Back to
Services of Internet](#)

E-Reservation



E - reservation also known as **electronic reservation** refers to making the appointments online, which means by using the internet.



A person can only check the availability of seats in a bus, ferry or aircraft by using **E- reservation**

[Back to
Services of Internet](#)

Social Networking



Social networking revolves allows like-minded individuals to be in touch with each other using websites and web-based applications.



Facebook, MySpace, Twitter, and LinkedIn are **examples** of **social networking** sites.

[Back to
Services of Internet](#)

M-Commerce



Mobile commerce, also known as **m-commerce** or **mcommerce**, is the use of wireless handheld devices like cellphones and tablets to conduct commercial transactions online, including the purchase and sale of products, online banking, and paying bills.



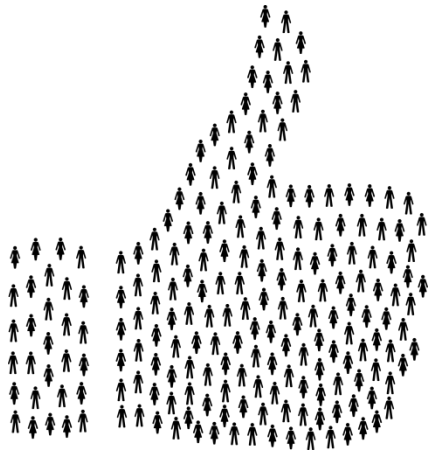
The use of **m-commerce** activity is on the rise

[Back to
Services of Internet](#)



'Hurrah!'

We completed this section



Coming
Soon...

