Electronic Mail

Introduction

Email can be sent internally to members of an organization through their internal computer network or they can be sent externally to anyone in the world by using web based email services. It's very similar to the traditional mail system with post boxes, post offices, envelopes and addresses. The difference is that here messages are sent electronically to other computer users via Internet, taking a fraction of the time to reach the recipient. Also one can send computer documents, graphics, software or anything else that can be turned into a digital form attached to an email message.

In order for messages to be sent from one computer to another, the message needs to be converted into a digital form and forwarded to a computer that acts as a mail server or post office. This mail server sorts and directs mails to and from the users. The only way this mail server can direct mail though, to all users is by being connected to a network that all the users are also connected to.

- E-mail is a fast and effective method to exchange the messages and other data.
- To interact through the e-mail one needs to have an e-mail account.
- The messages are instantly delivered and it is not necessary for the recipient to be present while the mail is delivered to his/her mail box.
- The e-mail system allows a very easy merging of a particular message.

Origin

The birth of electronic mail (*email*) occurred in the 1965 at Massachusetts Institute of Technology was "mailbox". Mailbox is a file in a user's home directory that was readable only by that user. After that another programs design called "SNGMSG" to send messages on came computer. With the advancement of networks technology, an electronic mail message file took place in 1971 when a computer engineer named Ray Tomlinson sent a test message between two machines via ARPANET — the precursor to the Internet.

Cont....

He use "@" symbol from keyboard to denote sending messages from one to another computers. Larry Robert invented "Email folder". In 1975, John Vittal developed software to organised Email. Then further develop into "offline mode" for "offline readers". After that email had really taken off and commercial packages began appear.

Definitions

- According to Merriam Webster:

"A means or system for transmitting messages electronically (as between computers on a network)".

- According to Business dictionary:

"Almost instantaneous transfer of text, voice and video messages from one computer to another, typically over the internet".

continued…

Definition

continues...

- According to technopedia:

"E-mail is a digital mechanism for exchanging messages trough internet or intranet communication platforms".

Importance

- Saves Money
- Saves Time
- Instant Response
- Regular Communication
- Going Viral
- No need to speak to recipient
- Messages can be marked as urgent

continued…

Importance

continues…

- Messages can be read as convenient
- Incoming messages are saved
- E-mail reduces volume of paper

Types of E-mail

E-mails are broadly categories into three types

1. Marketing Emails
2. Notification Emails
3. Transactional Emails

Marketing Emails

Marketing (or Bulk) emails stimulate your clients and leads. They contain informative / incentive messages. The recipient must agree to receive such emails: opt-in is mandatory. The recipient does not make an explicit request for a message in particular. There can be a periodicity, but the message can also be sent to a segment in particular. Nonetheless, the main point is that messages are sent independently from specific actions from the clients. For examples: Newsletters, Flash sales and Sales/promotions announcements etc.

Notification Emails

- Notification email are also known as trigger, alert or auto-responder. They allow the user to be notified each time a particular event happens (or has happened). More generally, the notification email may be used in order to celebrate and/or mark an event. It is either the recipients themselves, or the sender that will establish criteria for an outgoing message to be triggered by an event. For examples: Birthday, status change, and Shopping etc.

Transactional Emails

This is an expected message and its content is information that the client wishes to check or confirm, and not "discover". This type of email is not intended to optimize the customer relationship but to define it and mark it out. It is a point of reference in one's CRM. Strong attention should be paid to this kind of email. These emails must be specifically dealt with: wrongly delivered newsletters might impact leads, but an undelivered transactional email will upset the customer. For examples: Welcome message / Account opening, Order shipment confirmation and Payment etc.

E-Mail Message Format

It consists of two parts:

- Header (information about the message)
- Body (text field)

Header

Header contains information about:

- From (describe who sent the message)
- To (The addresses to which the mail is sent)
- Date
- Subject (User's summary of the message content)
- Cc (Carbon copy recipients)
- BCC (Blind carbon copy recipients)

Body

The body contains the text of the message and any attachments to be sent.

Process of E-Mail

The e-mail works on the client-server model

E-Mail Clients are the users who wish to use the e-mail facility.

The basic functionality of the client includes- create new e-mail, address list of contacts, etc.

Both the sender of e-mail and the recipient of e-mail are e-mail client.

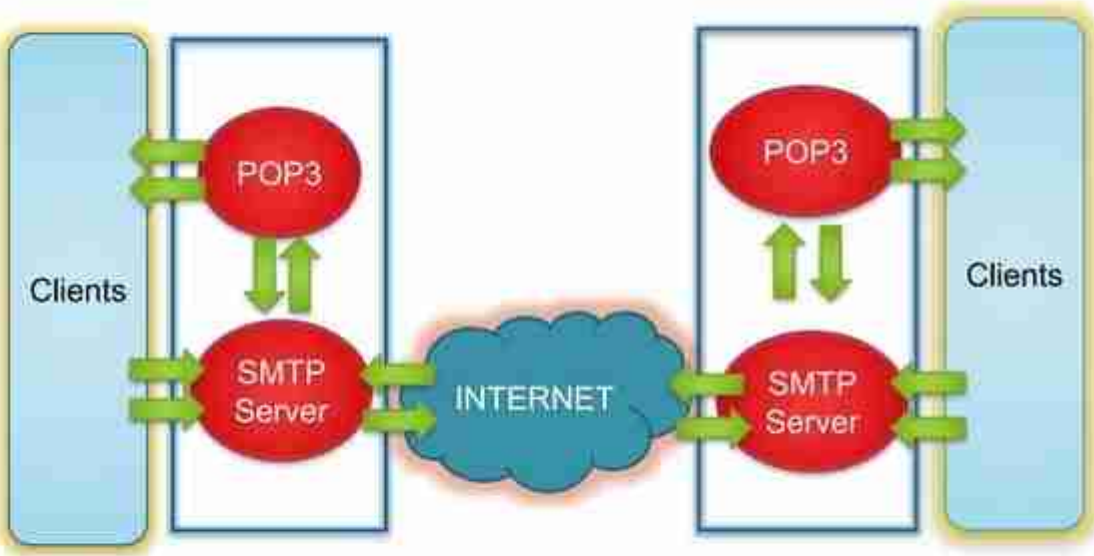
continued…

Process of E-Mail

Continues…

E-Mail Server is a combination of processes running on a server with a large storage capacity- a list of users and rules, the capability to receive, send and store e-mails and attachments.

These servers are designed to operate without constant user interaction.


Clients
POP3
SMTP
Server
INTERNET
SMTP
Server
POP3
Clients

The E-Mail **client-server** works as follows

- An e-mail client like Gmail, yahoo, outlook etc is used to create or reply to an e-mail.
- Once the e-mail is drafted successfully, it is sent using the e-mail client.
- This e-mail first goes to the SMTP server (also known as MTA (Mail transfer agent) to which the e-mail client is connected.
- The e-mail server looks out for the recipients address. The address is of the form **<name>@domain.com**

The E-Mail **client-server** works as follows

- Next it sends the e-mail to this IP address over the Internet.
- The e-mail server first uses the DNS technique to resolve the domain name into a valid IP address.
- Now the e-mail moves over the Internet in a series of IP packets and reaches the destination SMTP server.
- This server collects all the e-mails and places them to appropriate location so that these are accessible to your e-mail clients through POP or IMAP services.

Services of E-mail Program

- On-line and Off-line text drafting
- Spell Checker
- Text Style Capabilities
- Expanded Text
- Clickable URLs
- Encoding Colours
- Draft save and text save
- Attachments with the e-mail

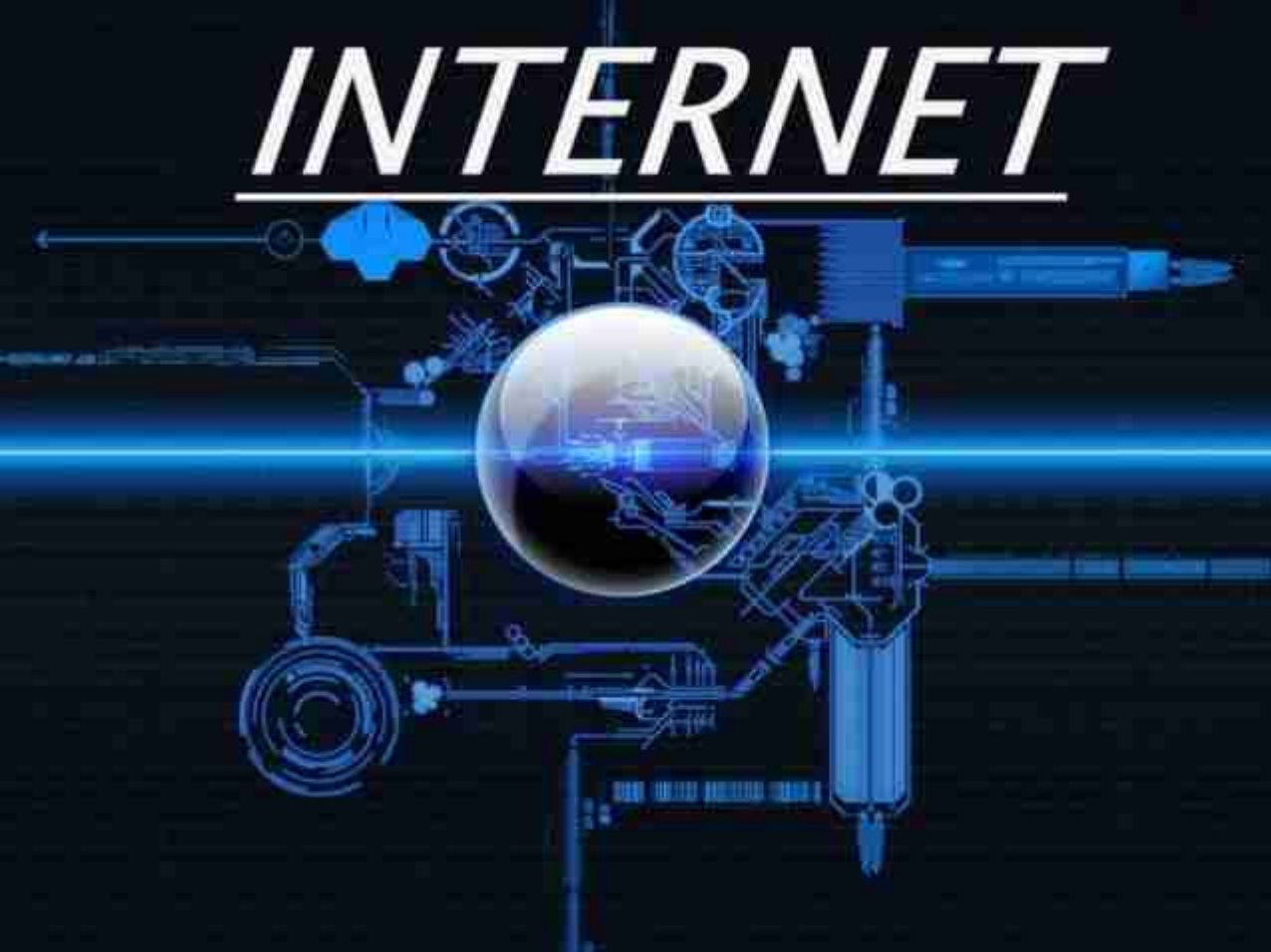
continued…

Services of E-mail Program

Continues…

- Voice recording for an E-mail attachment
- Scheduling delivery date and time
- The E-mail alerts
- Reminder
- Compressing an E-mail attachment
- Reply to all
- Forwarding a mail
- Reply to an incoming mail

INTERNET



CONTENTS

- Definition And History
- Basic services of INTERNET
- The World Wide Web (W.W.W.)
- WWW browsers
- INTERNET search engines
- Uses of INTERNET

Definition and History

- *The INTERNET is a network of computers, which links many different types of computers all over the world.*
- *ARPANET was the first WAN and had only four sites in 1969.*
- *In 1989, the U.S. government lifted restrictions on the use of INTERNET, and allow its usage for commercial purposes as well.*

Basic Services Of The INTERNET

- Electronic Mail (E-Mail) –

Allow user to send a mail (message) to another internet user in any part of the world in a near-real-time manner .

- File Transfer Protocol (FTP) –

Allow user to move a file from one computer to another on the internet.

- Telnet –

Allow a user to log into another computer somewhere on the internet .

Electronic Mail

E-Mail is a rapid and productive communication tool because :

- It is faster than Paper Mail .
- Unlike telephone, The persons communicating with each other need not to be available at the same time.
- Unlike Fax documents , Email documents can be stored in a computer and be easily edited using editing programs.

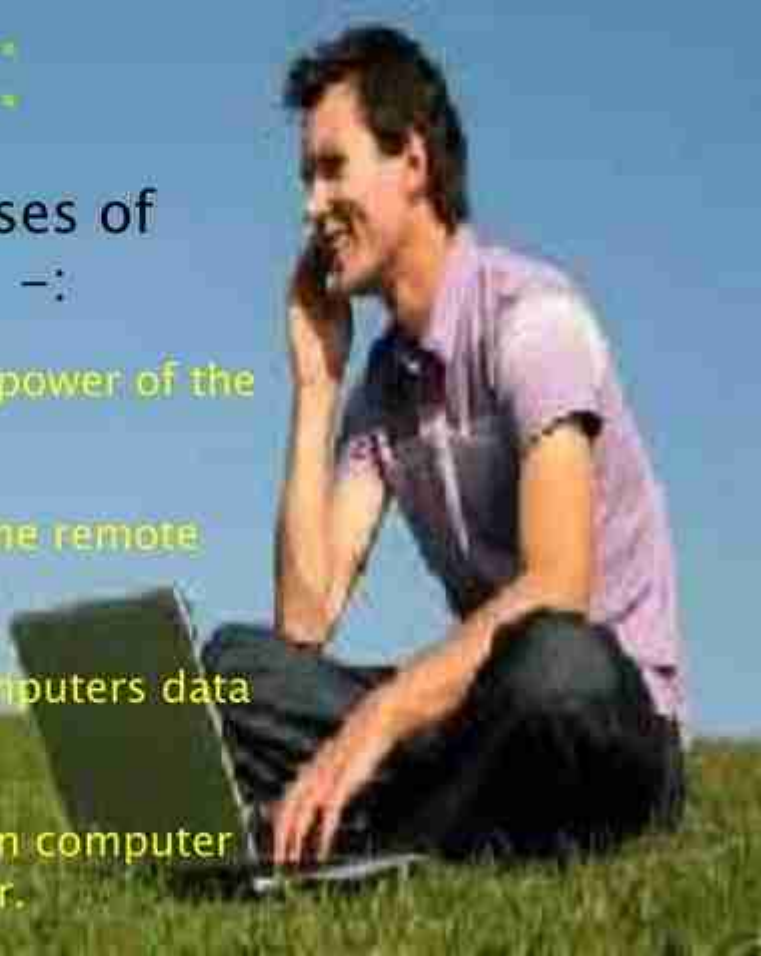
ftp File Transfer Protocol

- *Moving a file from a remote computer to ones own computer is known as **Downloading**.*
- *Moving a file from ones own computer to a remote computer is known as **Uploading**.*
- ***Anonymous FTP site** in a computer allows a user to log in with the username of anonymous and password that is user's E-mail Address.*
- *Anonymous FTP sites are called **publically accessible sites** because they can be accessed by any user on internet.*

TELNET :

Some common uses of telnet service are –:

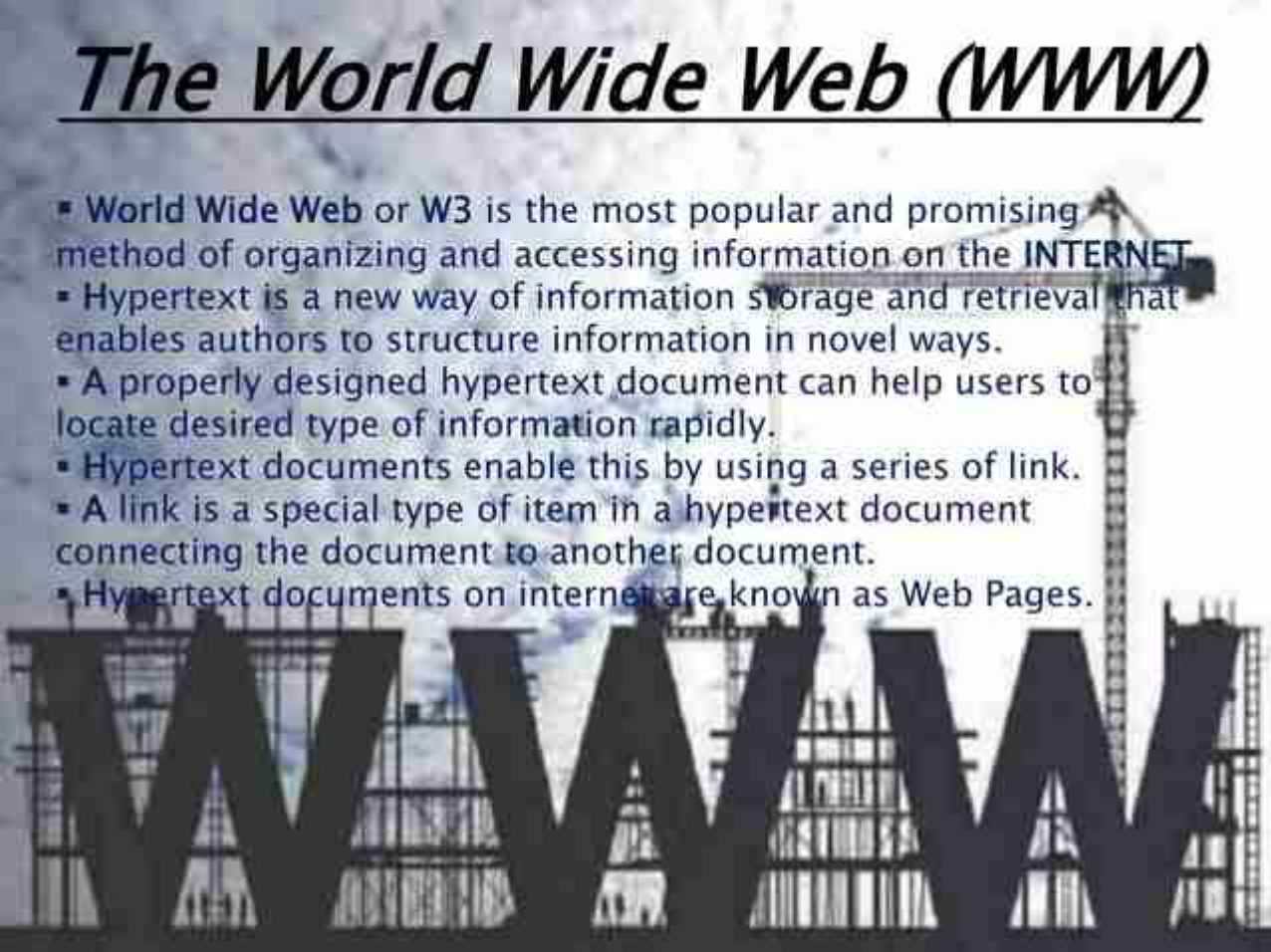
- Using the computing power of the remote computer.
- Using a software on the remote computer.
- Accessing remote computers data base or achieve.
- Logging into ones own computer from another computer.




WELCOME
TO THE
WORLD WIDE WEB

The World Wide Web (WWW)

- World Wide Web or W3 is the most popular and promising method of organizing and accessing information on the INTERNET.
- Hypertext is a new way of information storage and retrieval that enables authors to structure information in novel ways.
- A properly designed hypertext document can help users to locate desired type of information rapidly.
- Hypertext documents enable this by using a series of link.
- A link is a special type of item in a hypertext document connecting the document to another document.
- Hypertext documents on internet are known as Web Pages.



WWW Browsers

- To use a computer as a Web client, a user needs to load on it a special software tool known as WWW Browser.
- Browser provide following navigation facilities –
  - Do not require a user to login to a server computer.
  - Enable a user to visit a server computer's site directly and access information on it by specifying its URL (Uniform Resource Locator).
  - Enable user to create and maintain a personal hotlist of favorite URL.
  - Maintain a history of server computers visited by user in a surfing session.
  - Enable a user to download information in various formats.

INTERNET SEARCH ENGINES

- Internet search engine is an application, which helps users to locate Web sites containing useful information and references.
- To search Information :
  - A user types the description of the information using the user interference of the search engine.
  - The search engine then searches the requested information on the WWW and returns the results to the user.

  - Results enable the user to locate the requested quickly from the last ocean of information available on the internet.

Major Elements of Internet Search Engines

- Search Request Interface

enables users to provide description of desired information to the search engine

search engine may allow specifications of simple keywords and phrases, combination of keywords and phrases using Boolean operators and exclusion/inclusion operators, and title and URL limiters

Information Discoverer

Discovers information from the WWW and creates a database for the search engine.

Search engine uses the database to locate useful information during the search process.

Presenter of search results

search engines often list search results in accordance to a relevance score.

Relevance scores reflect the number of times a search term appears in a web page.

Some search engines also allow users to control relevance score by giving different weights.

Some Popular Internet Search Engines

Uses of INTERNET

Some important current strategic of the INTERNET are :

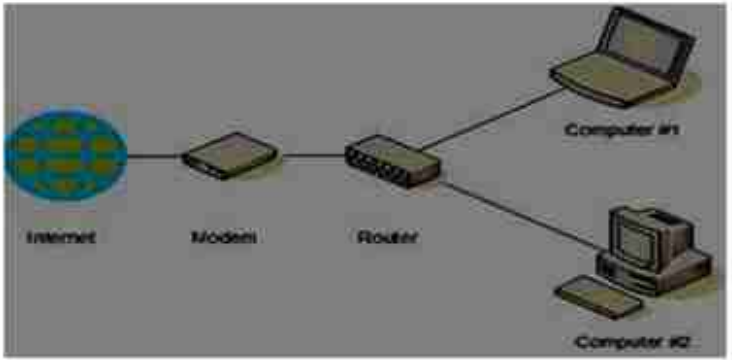
- *On-line communication*
- *Software sharing*
- *Exchange of views on topics of common interest*
- *Posting of information of general interest*
- *Organization promotion*
- *Product presentation and feedback about products*
- *Customer support service*
- *On-line journals, magazines, Encyclopedia, and dictionary*
- *On-line shopping*
- *World-wide conferencing*

WHY DO WE NEED INTERNET

For getting and sharing information

- Education
- Communication
- Medical
- Entertainment
- Etc

HOW TO CONNECT TO INTERNET

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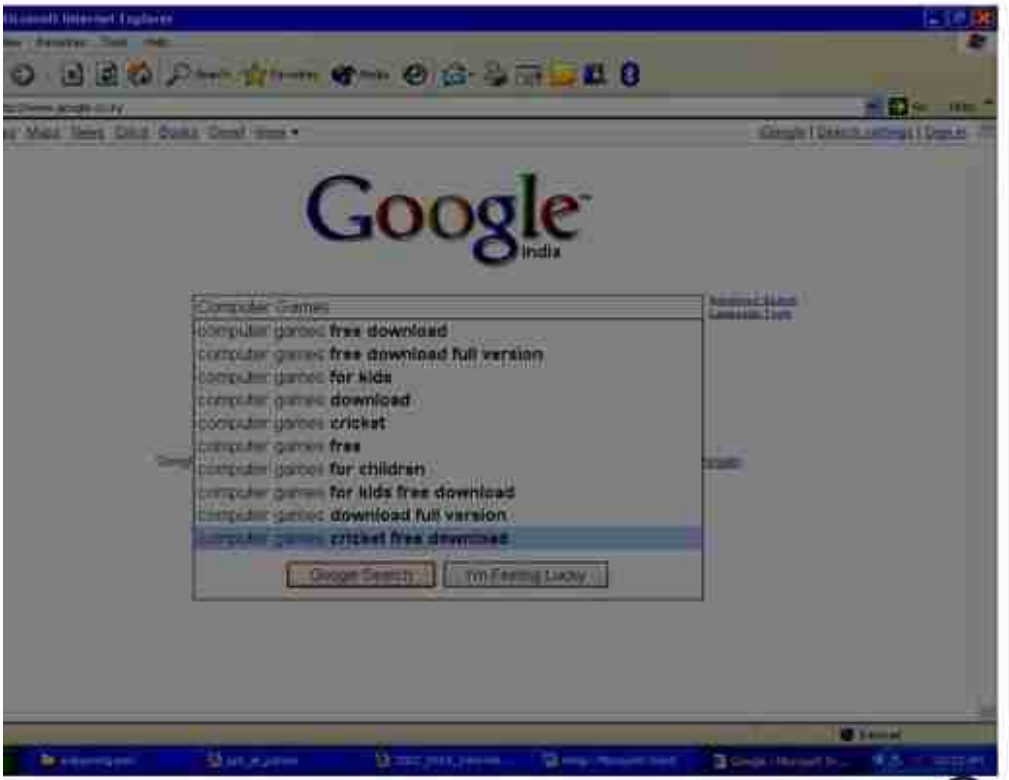
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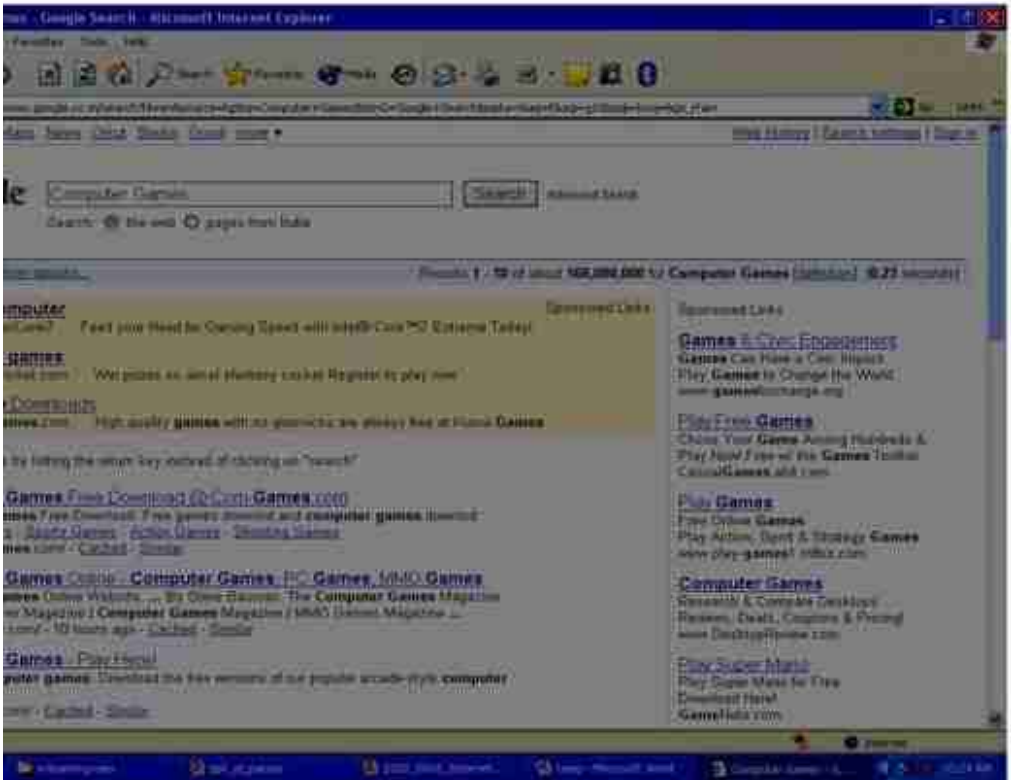
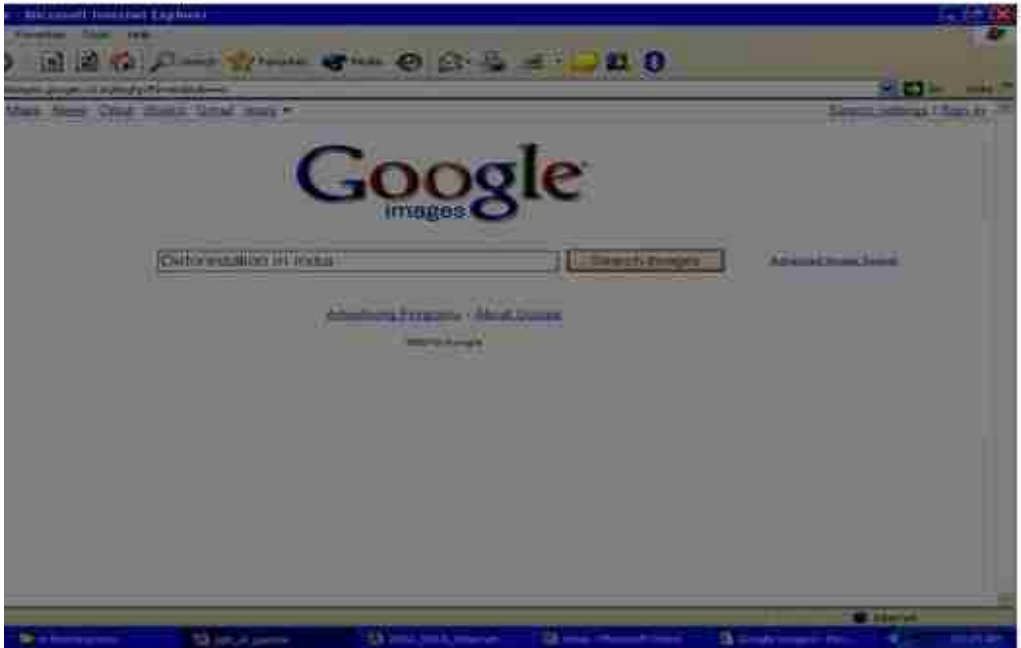
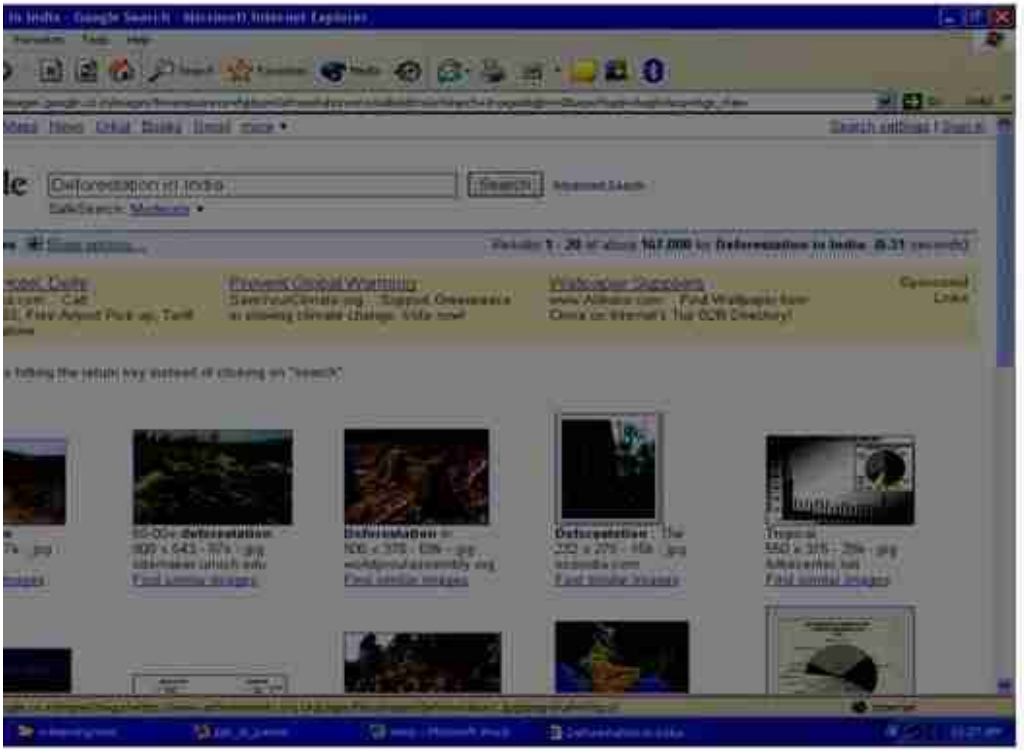

Computer Games
Search
Sponsored Links
Games & Civic Engagement
Play Games
Computer Games
Play Super Mario

V DO YOU SEARCH IMAGES FROM ERNET AND SAVE IT TO A FOLDER?





Welcome

Social Networking Sites

The Networkers

- MD. HOSSAIN IMAM – CEN 00205015
- MD. REZAUL KARIM – CEN 00205030
- ABDUL AOUWAL – CEN 00205031

What is Social Networking?

Social networks are a web-based service that focuses on building online communities of people who share interests and activities or who are interested in exploring the interests and activities of other.

Popular Social Networking Sites are:

- ✓ Facebook
- ✓ Youtube
- ✓ Twitter
- ✓ Google+
- ✓ Myspace,etc.

facebook.

Facebook is an online social networking service. It's name comes from a colloquialism for the directory given to students at some American universities. Facebook was founded on February 4, 2004 by Mark Zuckerberg.

Features: Uploading photos, videos, status update, check info, chatting, video calling, following, like, comment, apps, etc.

Facebook facts:

- ✓Monthly active facebook users: 1.4 billion.
- ✓In everyday almost 350 million photos are uploaded in to facebook.
- ✓Every sixty seconds 2,93,000 status are posted on facebook.
- ✓Average amount of time a person uses facebook per month: 15 hours 33 minutes.

YouTube

YouTube is a video-sharing website, created by three former PayPal employees Chad Hurley, Steve Chen, and Jawed Karim in February 2005 and owned by Google since late 2006. The company is based in San Bruno, California.

Features:
Video playback, uploading, sharing, localization, April fools, etc.

YouTube facts:
✓The first YouTube video was entitled "Me at the zoo", and shows co-founder Jawed Karim at the San Diego Zoo.
✓The site has 800 million+ monthly unique visitors!
✓An average internet user spends 15 minutes (900 seconds) on YouTube daily.
✓First video hits 1 billion views – "Gangnam Style" by PSY (Dec,2012)

Twitter is an online social networking and micro blogging service that enables users to send and read short 140-character text messages, called "tweets". Twitter was created in March 2006 by Jack Dorsey.

Twitter facts:

✓ Twitter experiences more than 500 million tweets a day.

✓ Katy Perry is the most followed Twitter account with more than 51 million followers.

✓ Ellen DeGeneres received most retweets in March this year.

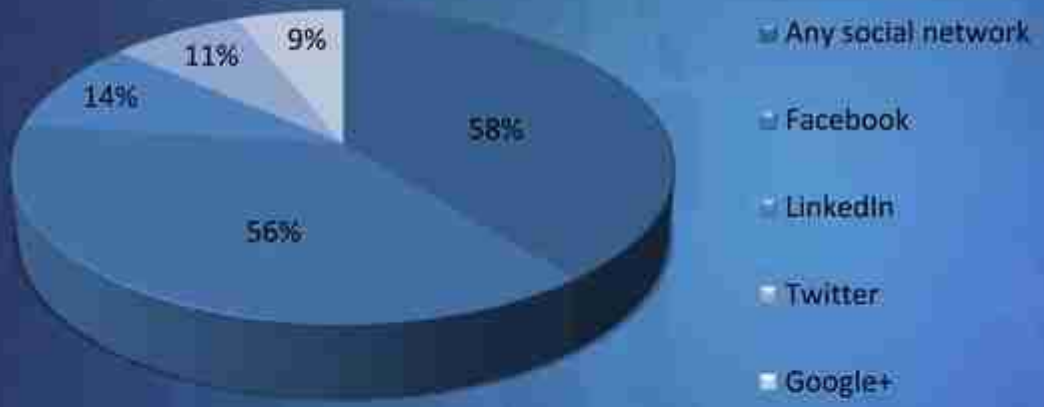
✓ 70% of Twitter of accounts are outside the US.

✓ China is the country with the most Twitter users with 35.5 million.

Why Social Networking is so popular these days?

- Opportunity to meet new people.
- Social Networking Sites are user-friendly.
- They are free to use.
- Easy to access.

Percentage of Social Networking Sites using



Top ten most engaged countries for social networking

Advantages of Social Networking Sites

- These sites can be accessed from any part of the world.
- Easier than ever to keep in contact with old friends and colleagues.
- It helps students in interacting with one another and share ideas. This helps in improving students' creativity.
- Various social activities such as blood donating, financial support etc.
- Publish advertisement with low cost.

Disadvantages of Social Networking Sites

- The most common disadvantage of social networking sites is addiction. Often users of these sites get addicted to it. They spend hours using these sites and it harms their academic performance.

- Some peoples may tend to use to these social networking sites till mid night or even more which can obviously lead to mental health problems and sometimes it harms their body too.

- Peoples may spend time in Facebook through which they lack to spend time with their family members.

- Sometimes users provide their personal information to others which is insecure because they can easily tracked down by strangers.

Finally, we can clearly see that social networking sites are advantageous only if they are used wisely. One thing keep on your mind, a doctor can operate with a knife and a murderer can kill a person with the same knife. So its all depends on up to you, how you use it...

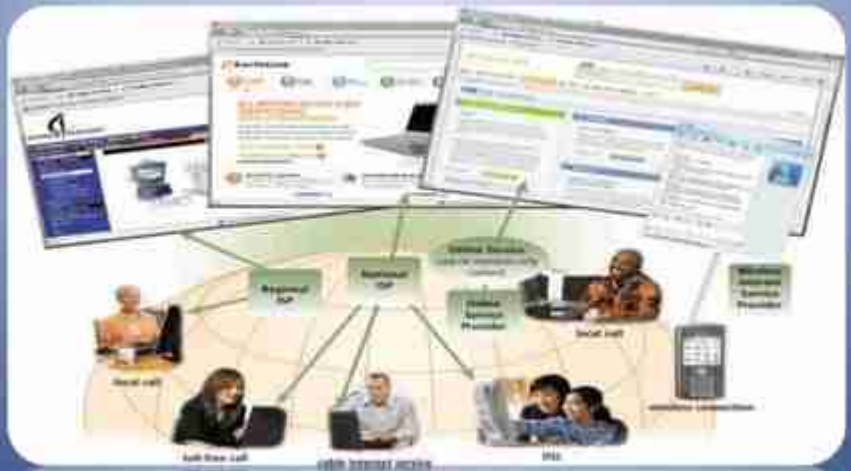
Remember and enjoy Social Networking!... ☺


ISP
Internet Service Provider

What is ISP..??

An Internet service provider (ISP), also sometimes referred to as an Internet access provider (IAP), is a company that offers its customers access to the Internet.

- In other words, ISP is a service (an access) provider to a business/company that provides individuals and organizations access to the Internet free or for a monthly or yearly fee.



For complete Internet connectivity..??

- You must be able to reach all destinations on the net.
- Your packets have to get delivered to every destination.
- Packets from everywhere else have to "find you". This is done by having your ISP(s) advertise routes for you.

TYPES OF ISP

- An Internet Service Providers are categorized as:-

1. Regional ISP's
2. National ISPs.

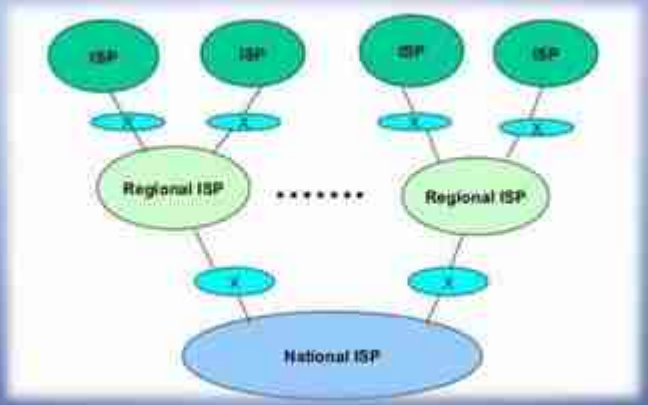
- Other than Internet connection, ISPs may also provide related services like Web site hosting & development, e-mail hosting, domain name registration etc.

Regional ISP

A regional ISP usually provides Internet access to a specific geographic area and usually has a smaller technical support team

National ISP

A national ISP is a business that provides Internet access in cities and towns nationwide and have a much larger technical support team.

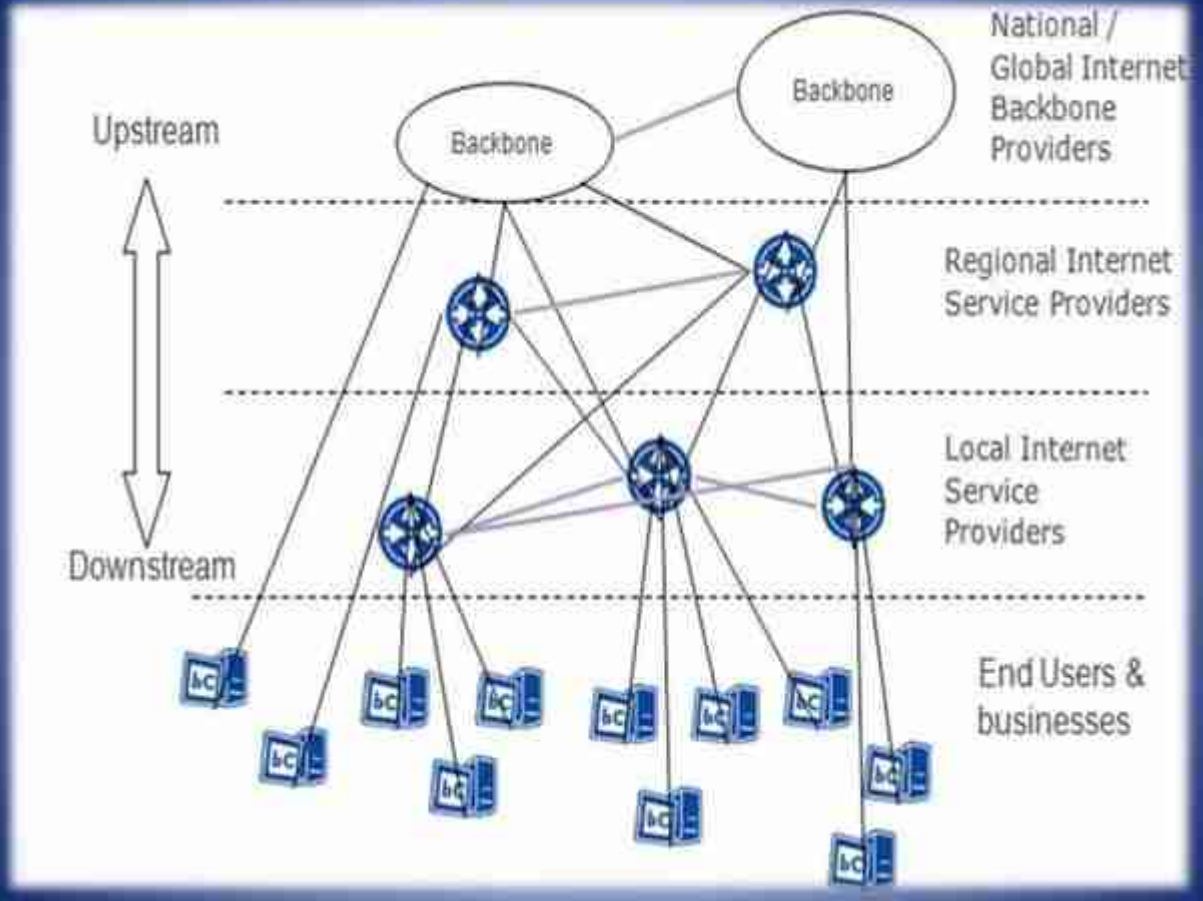


ISP Interconnection

- Just as their customers pay them for Internet access, ISPs themselves pay upstream ISPs for Internet access.

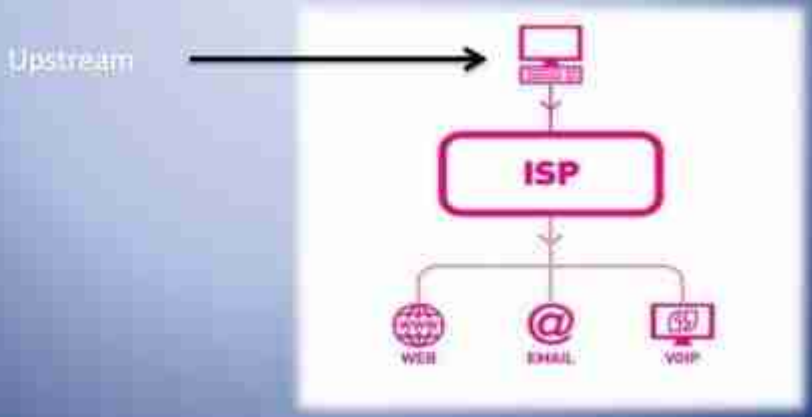
- An upstream ISP usually has a larger network than the contracting ISP and/or is able to provide the contracting ISP with access to parts of the Internet the contracting ISP by itself has no access to.

The Internet Hierarchy


National / Global Internet Backbone Providers
Backbone
Backbone
Upstream
Regional Internet Service Providers
Local Internet Service Providers
Downstream
End Users & businesses

Peering

ISPs may engage in peering, where multiple ISPs interconnect at peering points or Internet exchange points (IXs), allowing routing of data between each network, without charging one another for the data transmitted—data that would otherwise have passed through a third upstream ISP, incurring charges from the upstream ISP.



Responsibility of an ISP

- Providing and maintaining a connection to the Internet
- Support the hardware and software needed to service that connection
- To protect their site and network from external threats such as viruses, hacker attacks and other illegal activities
- Provide 24-hour customer service and technical support

www.oeclib.in

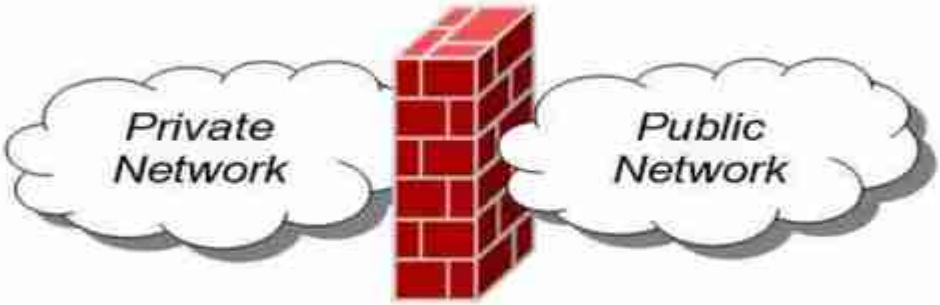
Seminar On Firewall

Submitted By:
Odisha Electronics Control Library

Topic:- Firewall And Its Types And Function

Firewall

- **Definition**: A Network Firewall is a system or group of systems used to control access between two networks -- a trusted network and an untrusted network -- using pre-configured rules or filters.



- Firewall is device that provides secure connectivity between networks (internal/ external).

- It is used to implement and enforce a security policy for communication between networks.

- A firewall may be a hardware, software or a combination of both that is used to prevent unauthorized program or internet users from accessing a private network or a single computer.

- All messages entering or leaving the intranet pass through the firewall, which examines each message & blocks those that do not meet the specified security criteria.

Why do we need a firewall?

- To protect confidential information from those who do not explicitly need to access it.

- To protect our network & its resources from malicious users & accidents that originate outside of our network.

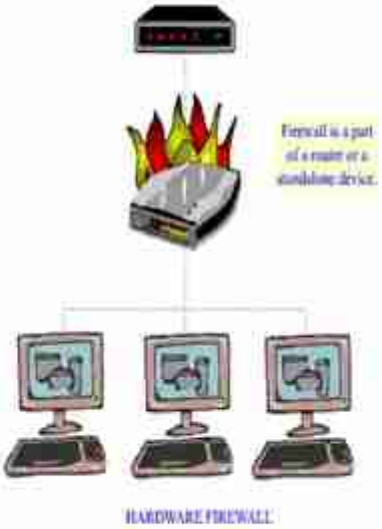
Types of firewall

1. Hardware firewall

1. Software firewall

1. Hardware Firewall

- It is a physical device.
- It can be installed between the modem and computer.
- It can be incorporated into a broadband router being used to share the internet connection.
- Protects an entire network.



- Usually more expensive, harder to configure.
- E.g.- Cisco pix, Netscreen, Watchfuard etc.

2. Software Firewall

- It is a software application.
- It is installed onto the computer system that you wish to protect .
- Protects a single computer.
- This is usually the computer with modem attached to it.

- Usually less expensive, easier to configure.

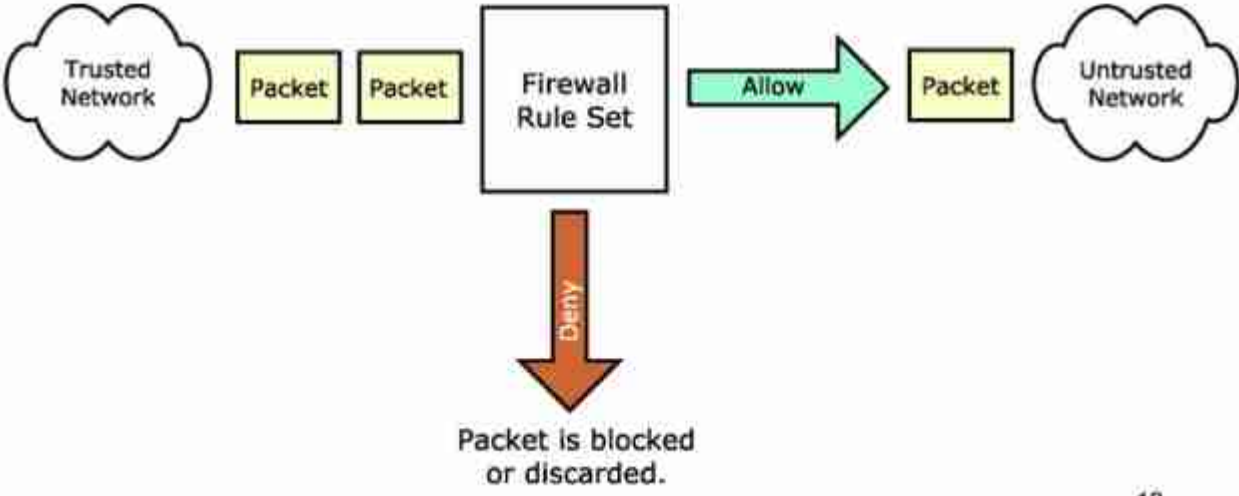
- E.g.- Norton internet security, MacAfee internet security etc.

Types of firewall technique

- Packet filter
- Application gateway
- Circuit-level gateway
- Bastion host

Packet filter

- It looks at each packet entering or leaving the network and accepts or rejects it based on user-defined rules.



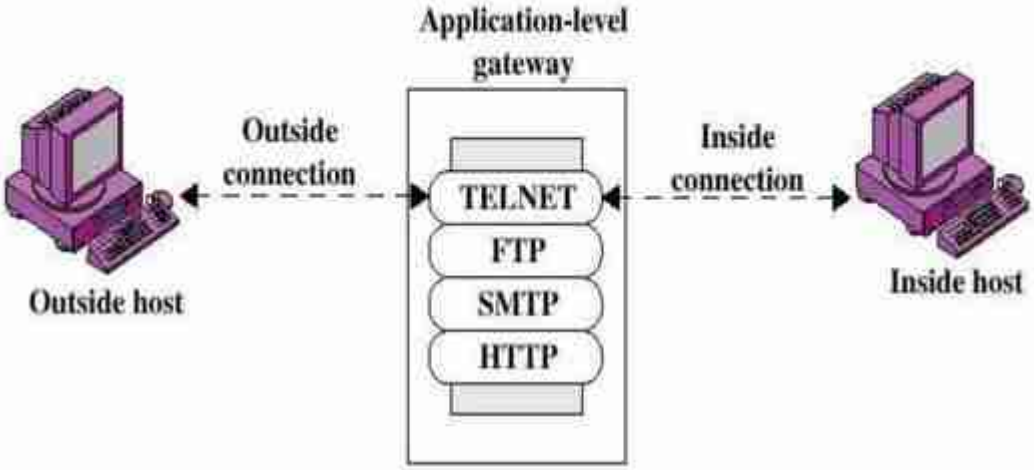
- Packet filtering is fairly effective & transparent to users, but it is difficult to configure.

- In addition, it is susceptible to IP spoofing.

Application gateway

- In such type of firewall remote host or network can interact only with proxy server, proxy server is responsible for hiding the details of the internal network i.e. intranet.

- Users uses TCP/IP application, such as FTP & Telnet servers.

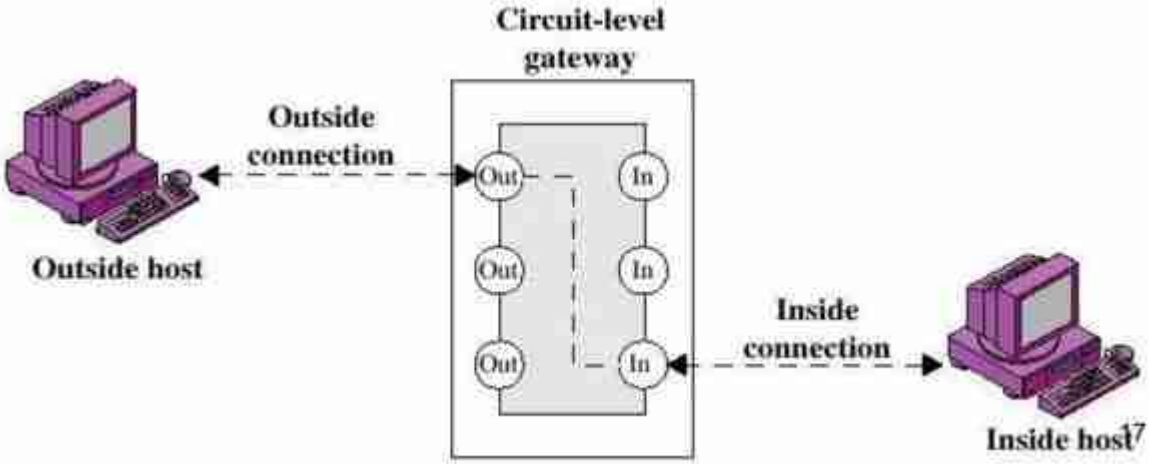


- This is very effective, but can impose a performance degradation.

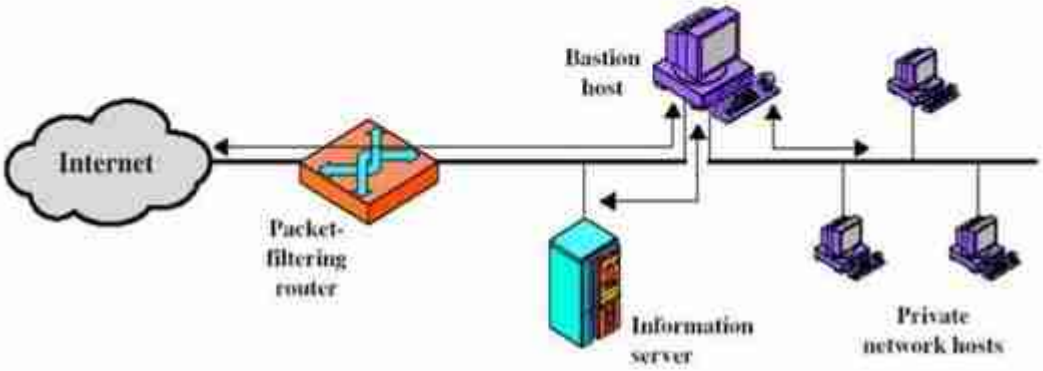
Circuit – level Firewall

- This can be a stand – alone system or it can be a specialized functions performed by an application – level gateway for certain applications.
- It does not permit an end – to – end TCP connection; rather, the gateway sets two TCP connections.
- A typical use of the circuit – level gateway is a situation in which the system administrator trusts the internal users.

- The gateway can be configured to support application level or proxy service on inbound connections and circuit level functions for outbound connections.



Bastion Host



(b) Screened host firewall system (dual-homed bastion host)

- Bastion host is a special purpose computer on a network specifically designed and configured to withstand attacks.

- It generally hosts a single application, provides platform for application gateway and circuit-level gateway.

- It supports limited/specific applications to reduce the threat to the computer.

- Include application-Telnet, SMTP, FTP

What a personal firewall can do

- Stop hackers from accessing your computer.
- Protect your personal information.
- Blocks "pop up" ads and certain cookies.
- Determines which programs can access the internet.
- Block invalid packets.

What a personal firewall can not do

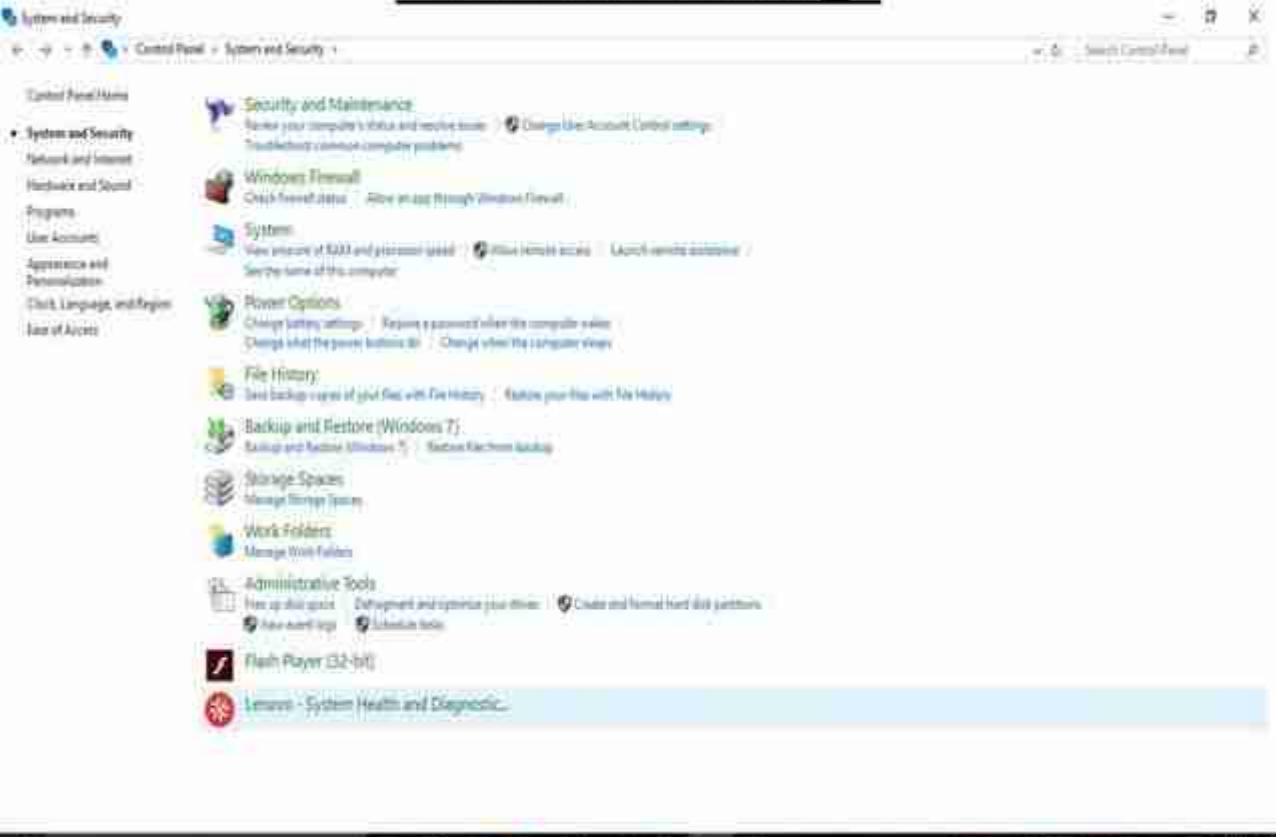
- Cannot prevent e-mail viruses

  -only an antivirus product with update definitions can prevent e-mail viruses.

- After setting it initially, you cannot forget about it

  -The firewall will require periodic updates to the rule sets and the software itself.

Firewall Settings



Content

- Introduction
- What is a Firewall
- Applications of Firewall
- Software Firewall vs Hardware Firewall
- History
- Design goals for Firewall

Content….

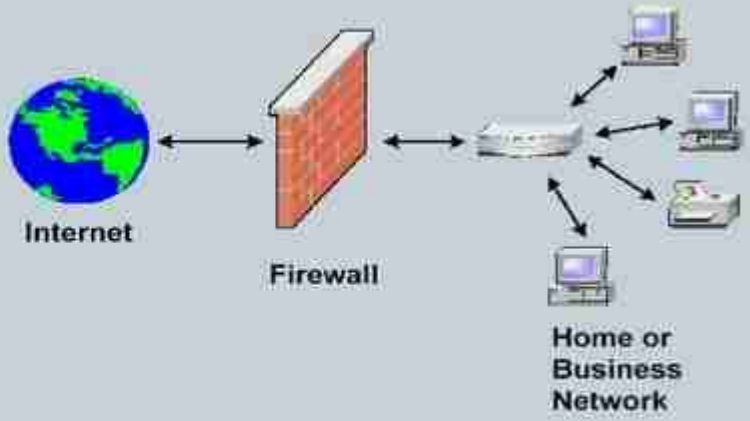
- Types
- Basic Concepts of Firewall
- Role of Firewall
- Advantages
- Disadvantages
- Conclusion

INTRODUCTION

- The Internet has made large amount of information available to the average computer user at home, in business and education.
- For many people, having access to this information is no longer just an advantage; it is essential.
- Therefore, security of network is the main criteria here and firewalls provide this security.

What is a Firewall?

- A Firewall is simply a program or hardware device that filters the information coming through the internet connection into your private network or computer system.



What is an application firewall?

- An application firewall is a special firewall that is specifically coded for the type of traffic it is inspecting.
- The most widely developed application firewall is the web application firewall.

What is the difference between a host-based firewall and a network-based firewall?

- A host-based firewall is installed on an individual computer to protect it from activity occurring on its network.
- A network-based firewall is implemented at a specified point in the network path and protects all computers on the "internal" side of the firewall from all computers on the "external" side of the firewall.

Hardware firewall vs Software firewall

- **Hardware firewalls** are integrated into the router that sits between a computer and the Internet.

- **Software firewalls** are installed on individual servers. They intercept each connection request and then determine whether the request is valid or not.

History of Firewalls

- Firewall technology first began to emerge in the late 1980s. Internet was still a fairly new technology in terms of its global usage and connectivity.

- In 1988 an employee at the NASA Ames Research Center in California sent a memo by email to his colleagues that read, "We are currently under attack from an Internet VIRUS!

History of Firewalls…

- The first paper published on firewall technology was in 1988, when Jeff Mogul from Digital Equipment Corp. developed filter systems know as packet filter firewalls.

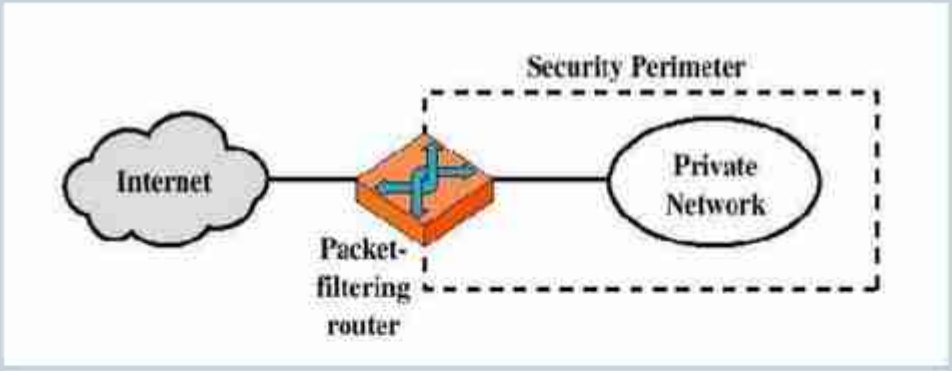
- One of the largest internet security companies in the world released the product to the public in 1997.

Design goals for a firewall

- The first design goal for a firewall is that collectively the sum of all the network traffic from internal to external must go through the firewall physically cutting off all access to the local network except via the firewall.
- The second design goal would be only authorized traffic which is delineated by the local security policy will be allowed to proceed.
- Finally the last design goal is that the firewall itself is resistant to penetration inclusive is a solid trustworthy system with a protected operating system.

Types of firewalls

- Packet-filtering Router

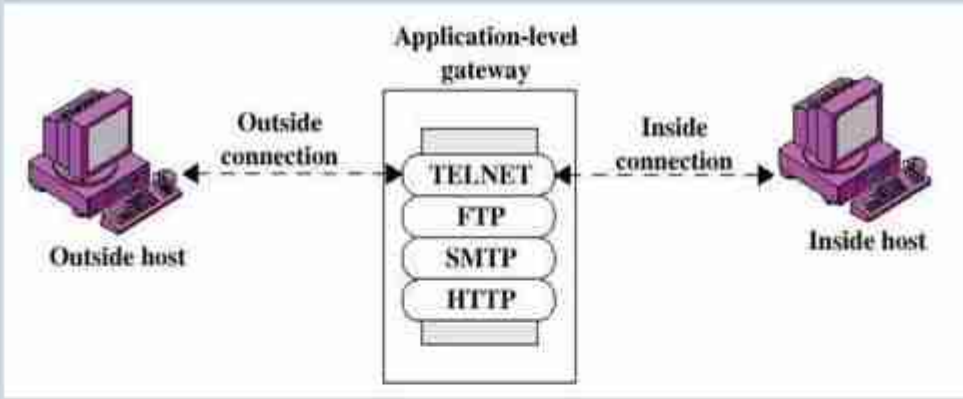


Packet-filtering Router

- Applies a set of rules to each incoming IP packet and then forwards or discards the packet
- Filter packets going in both directions
- The packet filter is typically set up as a list of rules based on matches to fields in the IP or TCP header
- Two default policies (discard or forward)

Types of firewalls…

- Application-level Gateway

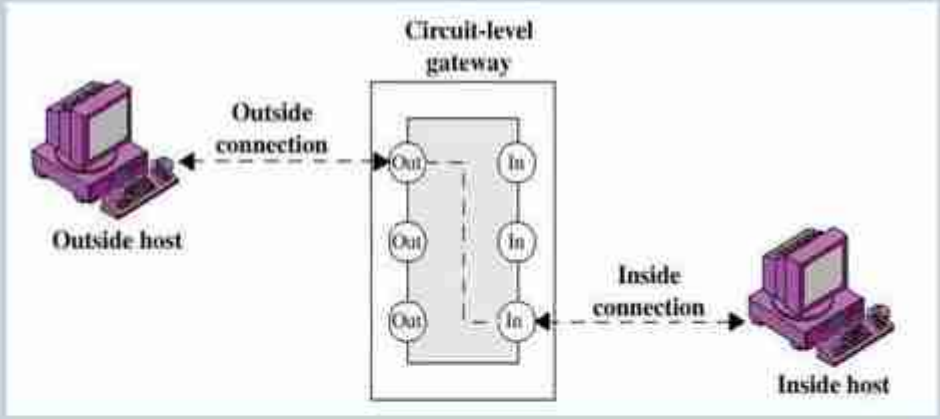


Application-level Gateway

- Also called proxy server
- Acts as a relay of application-level traffic

Types of firewalls…

- Circuit-level Gateway



Circuit-level Gateway

- Stand-alone system or
- Specialized function performed by an Application-level Gateway
- Sets up two TCP connections
- The gateway typically relays TCP segments from one connection to the other without examining the contents
- The security function consists of determining which connections will be allowed

Basic concepts of a firewall

- **Source**
- **Destination**
- **Service**
- **Action**

The Role of Firewalls

- A firewall is a term used for a ``barrier'' between a network of machines and users that operate under a common security policy and generally trust each other, and the outside world.
- There are two basic reasons for using a firewall at present: to save money in concentrating your security on a small number of components, and to simplify the architecture of a system by restricting access only to machines that trust each other.

Advantages of firewall

- Concentration of security all modified software and logging is located on the firewall system as opposed to being distributed on many hosts;
- Protocol filtering, where the firewall filters protocols and services that are either not necessary or that cannot be adequately secured from exploitation;
- Information hiding, in which a firewall can ``hide'' names of internal systems or electronic mail addresses, thereby revealing less information to outside hosts;
- Application gateways, where the firewall requires inside or outside users to connect first to the firewall before connecting further, thereby filtering the protocol;

Disadvantages of firewall

- The most obvious being that certain types of network access may be hampered or even blocked for some hosts, including telnet, ftp, X Windows, NFS, NIS, etc.
- A second disadvantage with a firewall system is that it concentrates security in one spot as opposed to distributing it among systems, thus a compromise of the firewall could be disastrous to other less-protected systems on the subnet.

Computer Virus And Anti Virus

Prepare By : sardar dnany

CONTENTS

- What is a computer virus?
- What a computer virus do?
- History of virus.
- Why do people create viruses?
- How do viruses spread?
- Signs of a viruses in computer.
- Types of computer viruses.
- Anti virus software.
- How an Anti virus works.
- How to Protect your System Against Virus?

Viruses

What they are ..
Where they come from ..
Why they are here ..

What is a computer virus ?

- Computer viruses are small software or code that can cause damage to your data and software on a computer.

What a computer virus do?

- A virus tries to take control of computer system at the first opportunity available.
- Also it makes copies of it self and try to carry harmful task written in its program.
- This process can happen so quickly that the user is not even aware of the presence of a virus in computer.

History of Virus

Like any other field in computer science viruses have evolved over the years.

- The first computer virus was called 'Creeper'.
- It was invented in the early 1971 by Bob Thomas.
- This program has been designed not to damage the computer, but only to display a messages.
- Since then, millions of viruses have been invented.

Why do People Create Computer Viruses?

Any programmer can make a virus to:

- To take control of a computer and use it for specific tasks.
- To steal sensitive information (credit card numbers, passwords, personal details, data etc.)

Why do People Create Computer Viruses?

Any programmer can make a virus to:

- To take money.
- To prove ones skill or for revenge purposes.
- To disable a computer or network.

How do viruses spread?

Computer viruses usually spread in one of three ways:

- **From removable media.**

How do viruses spread?

Computer viruses usually spread in one of three ways:

- From downloads off the Internet.

How do viruses spread?

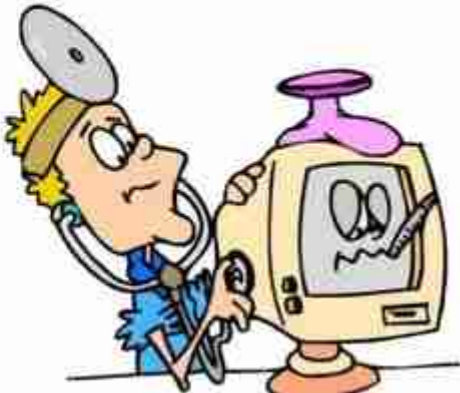
Computer viruses usually spread in one of three ways:

- **And from e-mail attachments.**

How to detect a Virus

Some signs that may indicate that your computer is infected include:

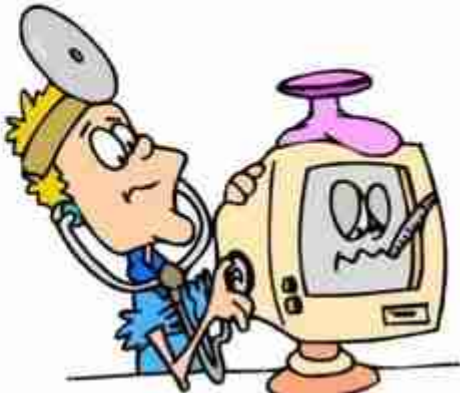
- Your computer functions slower than normal.
- Your computer responds slowly and freezes often.
- Your computer restarts itself often.



How to detect a Virus

Some signs that may indicate that your computer is infected include:

- You see uncommon error messages.
- Applications won't start.
- Your antivirus has disappeared, and firewall is disabled



Types of computer viruses

There are so many types of computer viruses some of them are :

1. Macro virus
2. File Infector virus
3. Boot sector virus
4. E-mail virus
5. Trojan virus
6. Resident virus
7. Multipartite virus
8. Worm virus


VIRUS
ANTI-VIRUS

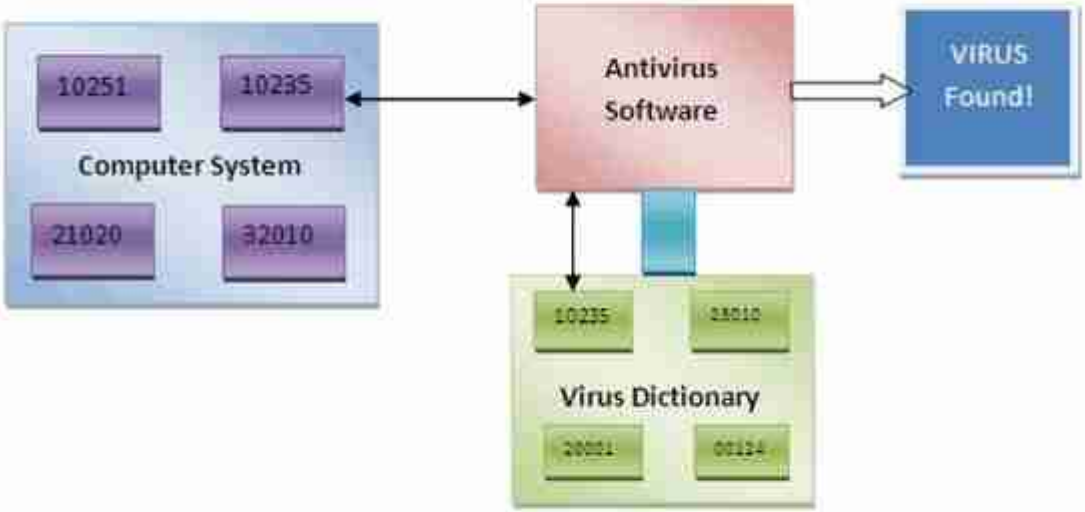
Anti virus software

- An antivirus software is a computer program that identify and remove computer viruses, and other malicious software like Worms and Trojans from an infected computer.

- Also an antivirus software protects the computer from further virus attacks.

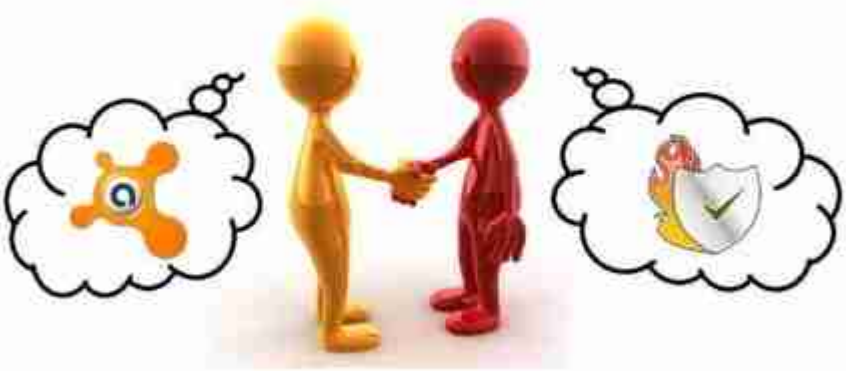
How an anti virus works?

- The antivirus software examines each and every file in a computer and examines its content with the virus definitions stored in its virus dictionary.
- A virus dictionary is an inbuilt file belonging to an antivirus software that contains code identified as a virus by the antivirus authors.


10251
10235
Computer System
21020
32010
Antivirus
Software
VIRUS
Found!
10235
Virus Dictionary

How to Protect your System Against Virus?

To Protect your system against Viruses you have to follow these steps :



How to Protect your System Against Virus?

To Protect your system against Viruses you have to follow these steps :

- Install a good Anti-Virus software on your computer.
- Update Anti-Virus regularly.

How to Protect your System Against Virus?

To Protect your system against Viruses you have to follow these steps :

- Be careful while Downloading files or programs from the internet.

- Always scan your floppies, CDs, flash drives before using them.

How to Protect your System Against Virus?

To Protect your system against Viruses you have to follow these steps :

- **Do not use pirated software.**
- **Turn on firewall of your computer operating system.**

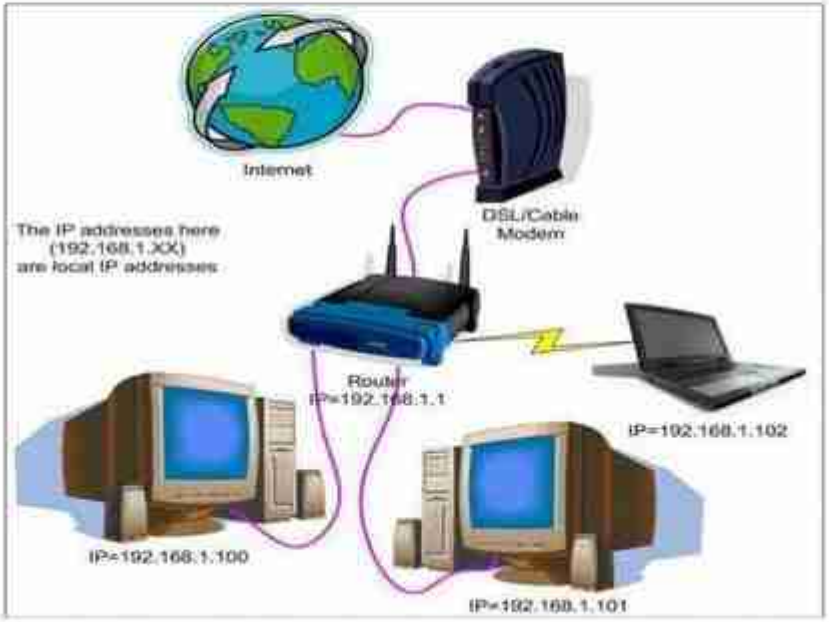
The Internet

How did the internet develop?

What is Internet?

- The internet is a network of computers linking many different types of computers all over the world.
- It is a very large **wide area network (WAN)** connecting computers and networks around the world.
- It makes it possible for millions of users to connect to one another via **telephone lines, cable lines and satellites.**

Internet


Internet
DSL/Cable Modem
The IP addresses here (192.168.1.XX) are local IP addresses
Router IP=192.168.1.1
IP=192.168.1.102
IP=192.168.1.100
IP=192.168.1.101

How did the Internet developed?

- Internet was born in late **1960's**
- The internet has its root in the ARPANET system of the **Advanced Research Project Agency** of U.S. Department of Defense which linked together mainframe computers to form a communication networks.
- ARPANET is known as the **forefather** of internet.

Basic services of internet

- Electronic mail
- FTP
- Telnet
- Usenet news
- The World Wide Web

File transfer Protocol (FTP)

- It enables users to move a file from one computer to another computer.
- A file may contain:
  - Text document
  - Image
  - Artwork
  - Movie
  - Sound
  - Software

Telnet

- Telnet service enables users to login to another computer on internet from their local computer for using:
  - Computing power of remote computer
  - Software on remote computer
  - Database of remote computer
- This action is called 'remote login'.

Usenet News

- Usenet news service enables a group of internet users to exchange their views, ideas, information on some common topic of internet.
- A newsgroup is like a large notice board accessible to all members belonging to the group.
- 2 types of newsgroups:
  - Moderated
  - Non-moderated

The World Wide Web

- It is a most popular method of accessing internet.
- It uses a concept called hypertext.
- Hypertext documents on internet are known as web pages.
- Web pages are created by using a special language called Hyper Text Markup Language (html)

Uses of the Internet ?

- On-line communication
- Software sharing
- Exchange of views on topics of common intersest
- Posting of information of general interset
- Product promotion
- Feedback about product
- Customer support service
- On-line journals and magazines

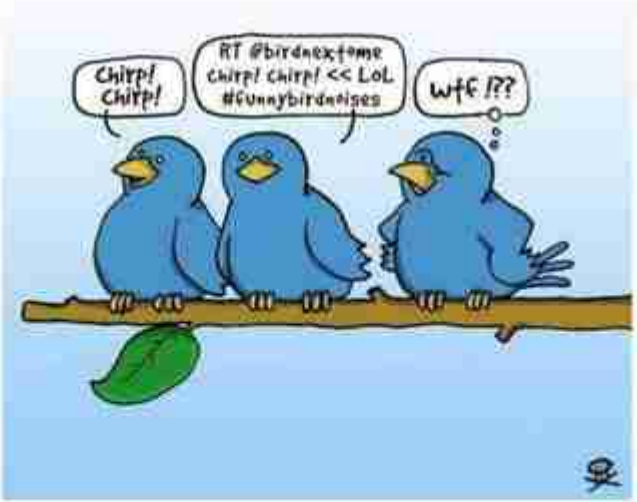
Electronic mail

- It is also known as e-mail in short
- It enables to send and receive a mail (message).
- It is Faster than paper mail.
- Images, audio, video can be sent along with text.

On-line communication

Software sharing

Exchange of views on topics of interest



Posting of information

LOST

BLACK LAB

Lost on January 1, 2006. His name is Luca. He was last seen at Dog Avenue and Cat Crossing. He was wearing a red collar with silver tags. White patch of hair on chest. Contact owner at 816-555-5555 or 816-555-5556. Call day or night if you find him. **$50 Reward if found.**

Product promotion

Feedback about products

Feedback & Comments

Customer support services

Online journals and magazines

- ARPANET

Forefather of internet

- INTERNET

Network of computers

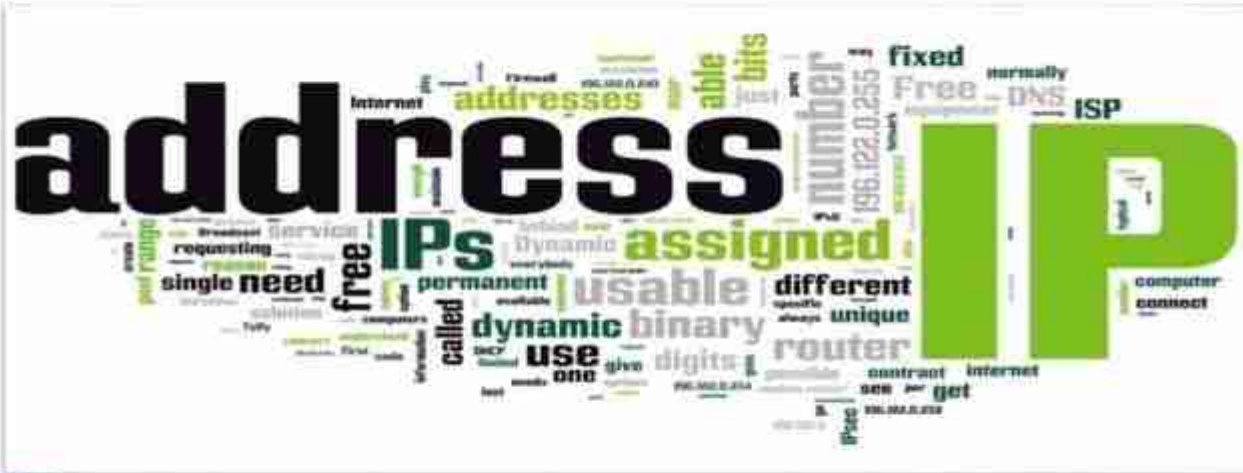
- Basic Services

e-mails, FTP, Telnet, Usenet news

- Uses of internet

Communication, sharing, exchanging, informing, feedback and support.

Internet Protocols



Prepared by: EILLEN IVY A. PORTUGUEZ
Siari John H. Roemer Memorial National High School

Internet Protocols

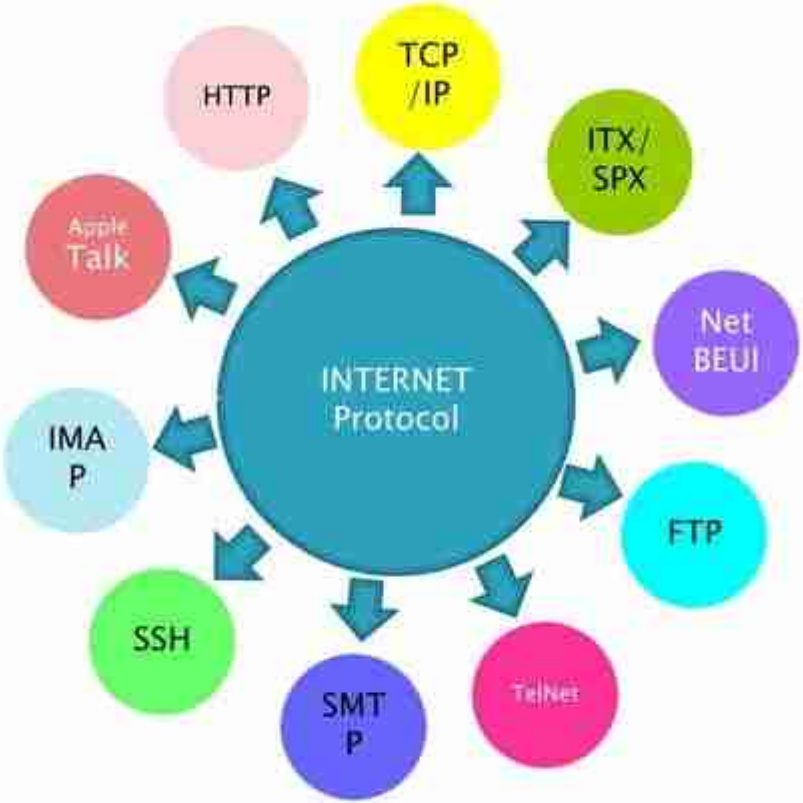
- A protocol is a set of rules.
- Part of the protocol specifies where on the envelope the delivery address needs to be written. If the delivery address is written in the wrong place, the letter cannot be delivered.
- Internet protocols are set of rules governing communication within and between computers on a network.

THE MAIN FUNCTIONS OF PROTOCOLS ARE:

- Identifying errors
- Compressing the data
- Deciding how the data is to be sent
- Addressing the data
- Deciding how to announce sent and received data.

COMMONLY USED INTERNET PROTOCOLS

- **TCP/IP:** The transmission Control Protocol/Internet Protocol suite protocols has become the dominant standard for internetworking. TCP/IP represents a set of public standards that specify how packets of information are exchanged between computers over one or more networks.
- **IPX/SPX:** Internetwork Packet Exchange/Sequenced Packet Exchange is the protocol suite originally employed by Novell Corporation's network operating system, NetWare.
- **NetBEUI:** NetBIOS Extended User Interface is a protocol primarily on small Windows NT networks. NetBEUI cannot be routed or used by routers talk to each other on a large network.
    - suitable for small peer-to-peer networks, involving a few computers directly connected to each other.



Commonly Used Internet Protocol

COMMONLY USED INTERNET PROTOCOLS

- **AppleTalk:** AppleTalk is a protocol suite to network Macintosh computers
  - designed to run over LocalTalk, which is the Apple LAN physical topology,
  - also designed to run over major LAN types, notably Ethernet and Token Ring

HTTP: Hyper Text Transfer Protocol governs how files such as text, graphics, sound, and video are exchanged on the World Wide Web (www).

- **FTP:** File Transfer Protocol provides services for file transfer and manipulation. FTP allows multiple simultaneous computer that lacks security features.
- **SSH:** Secure Shell is used to securely connect to a remote computer
- **TelNet:** An application used to connect to a remote computer that lacks security features.
- **POP3:** Post Office Protocol is used to download e-mail from remote mail server.

- **IMAP:** Internet Message Access Protocol is also used to download e-mail from a remote mail server.
- **SMTP:** Simple Mail Transfer Protocol is used to send e-mail to a remote e-mail server.

IP ADDRESSING

- An IP Addressing is a number that is used to identify a device on the network.
- Each device on a network must have a unique IP address to communicate with other network devices. Network devices are devices that move data across the network, including hubs, switches, and routers.
- On a LAN, each host (device that sends or receives information on the network) and network device must have an IP address within the same network to be able to communicate with each other.

- An IP address consists of a series of 32 binary bits (1s and 0s). It is very difficult for humans to read binary IP address. For this reason, the 32 bits are grouped into four 8-bit bytes called **OCTETS**. An IP Address, even in this grouped format, is hard for humans to read, write, and remember.

FIVE CLASSES OF IP ADDRESS

IP CLASSES	PURPOSE
Class A	Used for large networks, implemented by large companies and some countries.
Class B	Used for medium-sized networks, implemented by universities.
Class C	Used for small networks, implemented by ISPs for customer subscriptions.
Class D	Used for special use for multicasting
Class E	Used for experimental testing