# Unit 2: *[18 MARKS]*

## *Topics:*

- ✓ Types of E-commerce and Electronic Data Inter-change(EDI)
- ✓ Driving Forces of E-commerce
- ✓ **Introduction various Model of E-commerce**:
  B2C,B2B,C2B,C2C,B2G and G2C
- ✓ **Electronic Data Interchange(EDI)**-
  concept, Meaning & Definition ,
  features and Benefits
- ✓ **Network Security (only concepts)** :
  Firewalls , IP security ,
  virtual private Networks ,
  HTTPs,
  SSL,
  SETP

# Topic-1 : Explain types of E-commerce.

➔ In the real world application of business four distinct type of E-commerce are emerging.

## (1) Information Access : -

➔ It provide search and retrieve capability for public domain and provide data which provide the facility to receive only the data of general use to all users and special information to those who are having the permission to see those information.

➔ for example information service that maintain a database and charge for access.

## (2) Interpersonal Communication : -

➔ These service provide methods for parties with mutual interests to exchange information , discuss ideas and improve their co-operation in various fields related with research education engineering , science , business , etc.

➔For example customer and supplier design groups jointly working files being send by a publisher to printer and a purchasing agent an expending schedule with a supplier.

## (3) Shopping Services : -

➔ Shopping services allow people to search and purchase good or service through internet. These days on internet we can find several groups providing services like booking of tickets , purchasing items , which can be home delivered etc.

## (4) Virtual Enterprises: -

➔ Virtual enterprises are business arrangements in which treading partners separated geographically but having expertise are able to engage in complex joint business activates as if they supply chain integration, where planning and forecast data are transmitted quickly and accurately throughout a multilayer supply chain.

E-commerce is now implemented on the internet using verity of sophisticated web based tools. The scope of E-commerce now includes customers interactions of advertising , product selection, contract negotiation and so on all the way through to the product and services delivery and payment settlement.

# Topic-2 : Explain Electronic Data Interchange (EDI)

➔ EDI stands for Electronic data interchange .

➔Exchange of electronic data between companies using precisely defined transactions.

➔ Electronic Data Interchange (EDI) is the computer-to-computer exchange of business documents in a standard electronic format between business partners.

➔By moving from a paper-based exchange of business document to one that is electronic, businesses enjoy major benefits such as reduced cost, increased processing speed, reduced errors and improved relationships with business partners.

➔The EDI process looks like this — no paper, no people involved:

**Figure-1:**

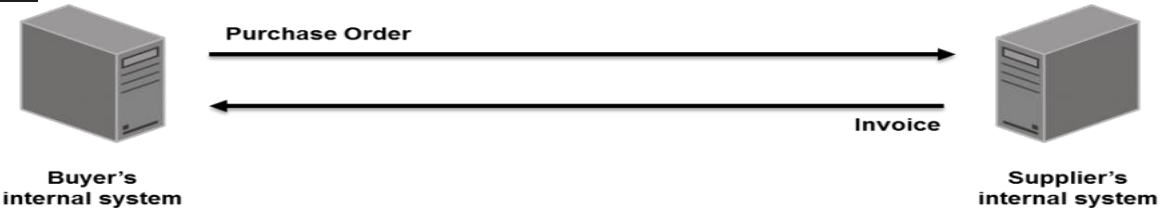


**Figure-2:**

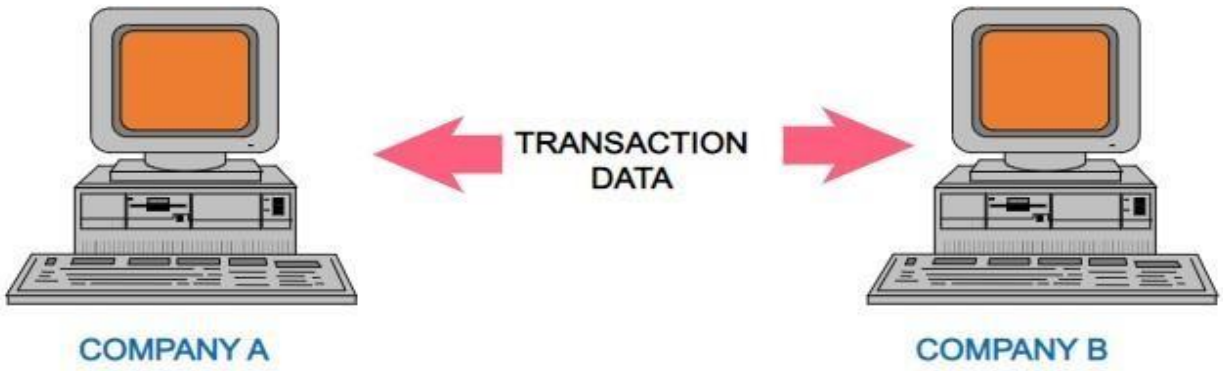
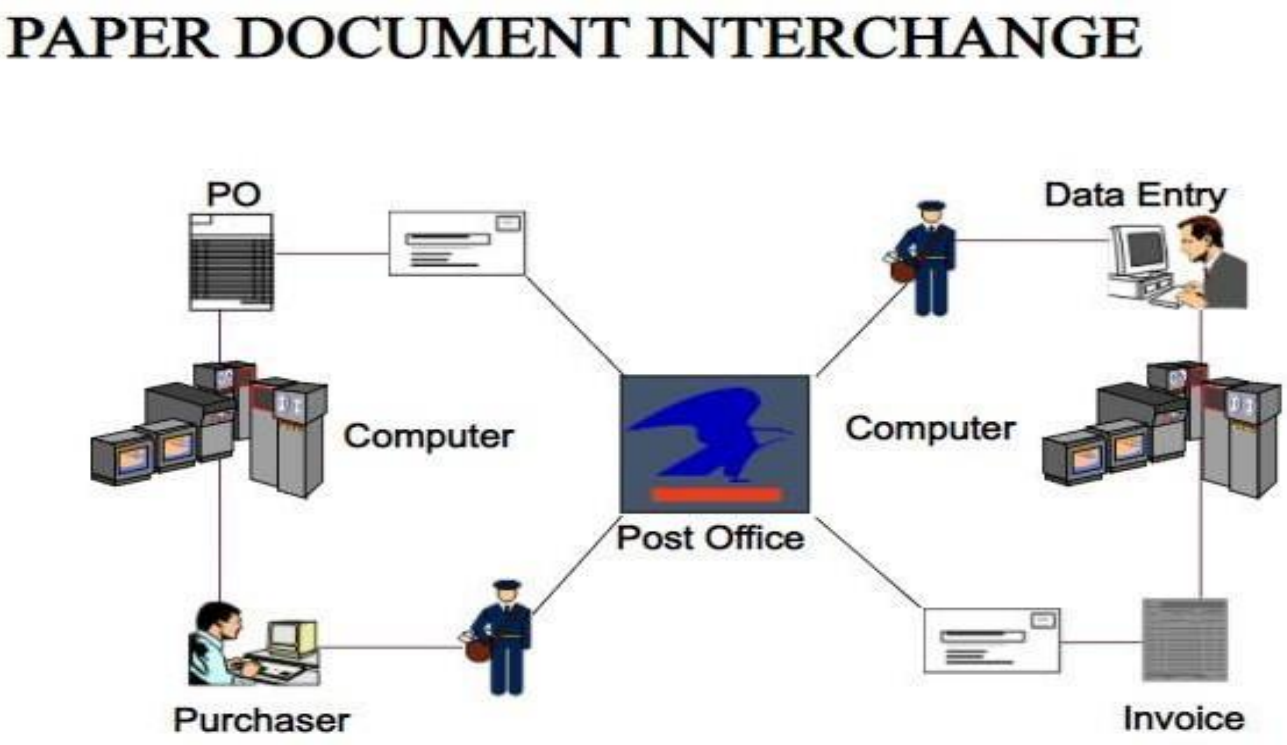



**Figure-3:**




Each term in the definition is significant:

**(1) Computer-to-computer**– EDI replaces postal mail, fax and email. While email is also an electronic approach, the documents exchanged via email must still be handled by people rather than computers.

➔Having people involved slows down the processing of the documents and also introduces errors.

➔Instead, EDI documents can flow straight through to the appropriate application on the receiver's computer (e.g., the Order Management System) and processing can begin immediately.

**(2) Business documents** – These are any of the documents that are typically exchanged between businesses.

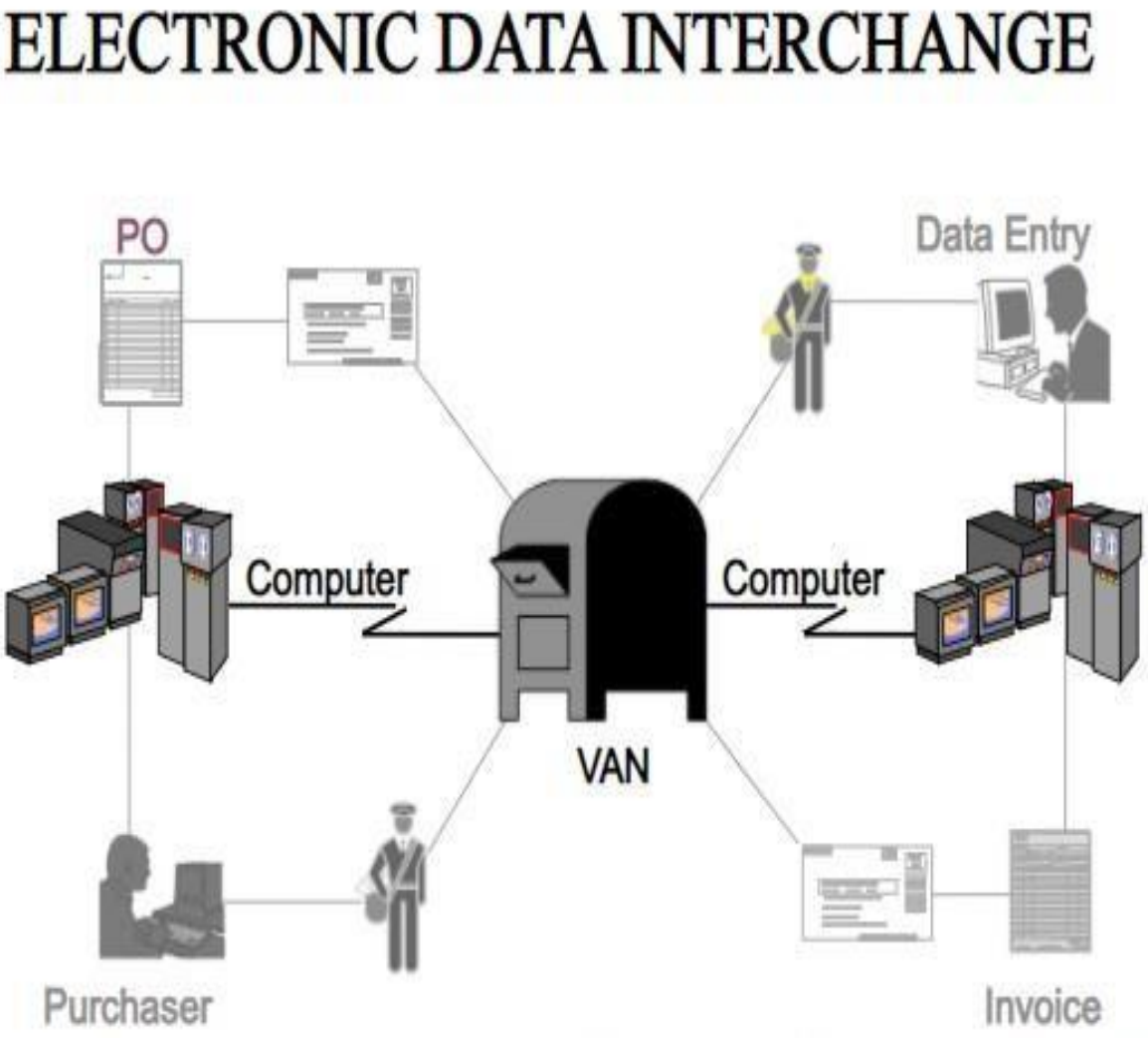
➔The most common documents exchanged via EDI are purchase orders, invoices and advance ship notices. But there are many, many others such as bill of lading, customs documents, inventory documents, shipping status documents and payment documents.

**(3) Standard format-** Because EDI documents must be processed by computers rather than humans, a standard format must be used so that the computer will be able to read and understand the documents.

➔A standard format describes what each piece of information is and in what format (e.g., integer, decimal, mmddyy). Without a standard format, each company would send documents using its company-specific format and, much as an English-speaking person probably doesn't understand Japanese, the receiver's computer system doesn't understand the company-specific format of the sender's format.

**(4) Business partners** – The exchange of EDI documents is typically between two different companies, referred to as business partners or trading partners. For example, Company A may buy goods from Company B. Company A sends orders to Company B. Company A and Company B are business partners.

**Figure-4:**




- Electronic interchange between the computer and an electronic post office eliminates these problems
- Information is exchanged via electronic post office or VAN

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# Topic-3 : Explain Driving forces of E-commerce.

➔ The various driving forces behind e-commerce can be listed as below:

**(1) Global Customers :**

➔ Customers are people who may travel anywhere or companies with global operations.

➔ Global IT can help provide fast, convenient service.

**(2) Global Products :**

➔ products are the same throughout the world or are assembled by subsidiaries throughout the world.

➔Global IT can help manage worldwide marketing and quality control.

**(3) Global Operations :**

➔ Parts of a production or assembly process are assigned to subsidiaries based on changing economic or other conditions.

➔ Only global IT can support geographic flexibilities.

**(4) Global Resources :**

➔ The use and cost of common equipment ,facilities, and people are shared by subsidiaries of a global company.

➔ Global IT can keep track of such shared resources.

➔ Only global IT can support geographic flexibilities.

**(5) Global Collaborations :**

➔ The knowledge and expertise of colleagues in a global company can be quickly accessed, shared, And organized to support individual or group efforts.

➔Only Global IT can support such enterprise collaboration.

# Topic-4 : Explain Various Model of E-commerce.

➔ The various model of e-commerce can be listed as below:

(1) B2C (Business to Consumer) Model
(2) B2B (Business to Business) Model
(3) C2B (Consumer to Business) Model
(4) C2C (Consumer to Consumer) Model
(5) B2G (Business to Government) Model
(6) G2C (Government to Consumer) Model

➔ The details of each are given below:

**(1) B2C (Business to Consumer) Model**

➔In B2C commerce companies market physical goods to consumer online in a more personalized dynamic environment

➔ This includes the delivery of digital goods, software , electronic media and information.

➔The Business-to-Consumer their business organization performs their operation with the consumer. Business organization sells goods and service to the consumer.

➔ Amazon.com , ebays , Gap.com etc are best example of it .

➔In this case, the customer has more info about the products in the form of informative content and there is also a chance to buy products at cheaper rates. Most times, quick delivery of the order is also maintained.

## Sells products or services directly to the consumers

## Major reason for growth of B2C sites are

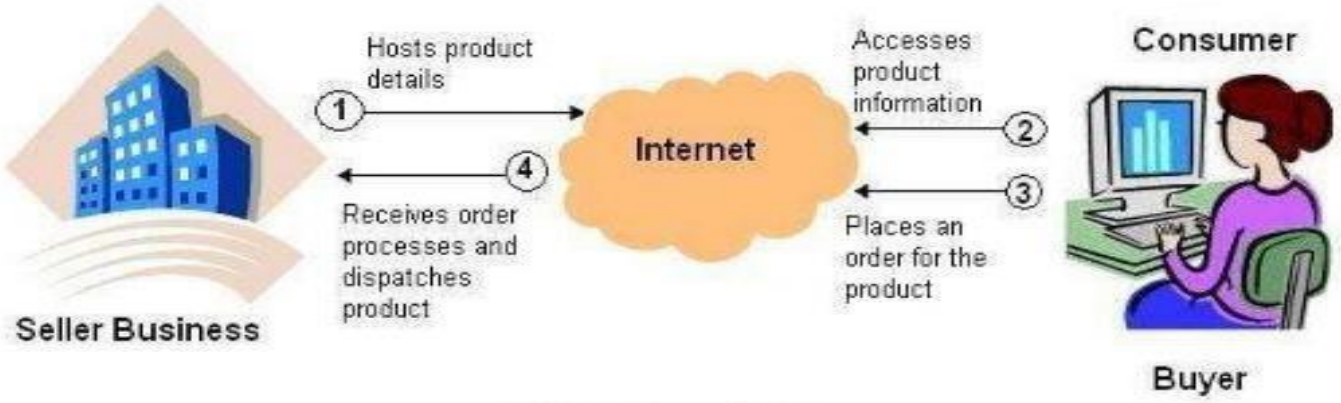
1. **Better opportunity**
2. **Globalization**
3. **Low operational cost**
4. **Convenience to consumers**
5. **Reduced price**

– Typical examples:

- Online book store (e.g. amazon.com)
- Online car purchasing (e.g. automall.com)
- Booking and purchase of airline tickets (e.g. ryanair.com)

**Figure:**

**Business to Customer (B to C)** revenue model




*B2C Business Model*


## (2) B2B (Business to Business) Model

➔ B2B commerce includes online whole thing where business sell goods and service to other business on the web.

➔ With internet based supply chain trading business work closely to efficient the supply of good and improve productivity.

➔ This type of eCommerce consists of all the electronic transactions and dealings related to the goods and services.

➔ These basically are conducted between companies and include conventional wholesalers and producers dealing with retailers.

➔ In B2B their one business organization are perform their operation to other business organization.

- in which businesses focus on selling to other businesses. B2B is the largest form of e-commerce.

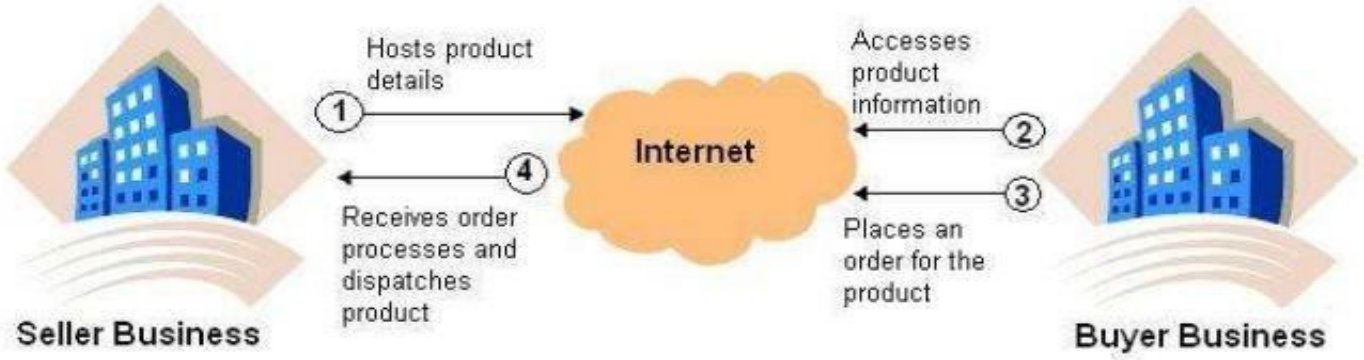
Examples:

- Manufacturer supplying goods to the retailer or wholesaler.
- Heinz selling ketchup to Mc Donald's
- Intel selling micro processors to Dell
- Firestone Selling tires to Ford Company.
- Dell.co, sell products and services to small, medium, and large enterprise businesses.

BEST of B2B

# Business-to-Business Model

B2B is the exchange of product, services or information between businesses rather than between business and consumers.



(1) C2B (Consumer to Business) Model

- It means consumer to business.
- It is a types of ecommerce in which customers sells their products or services to businesses.
- Its common **example** is the advertisement that people put on different sites.

**Example:** Priceline.com.

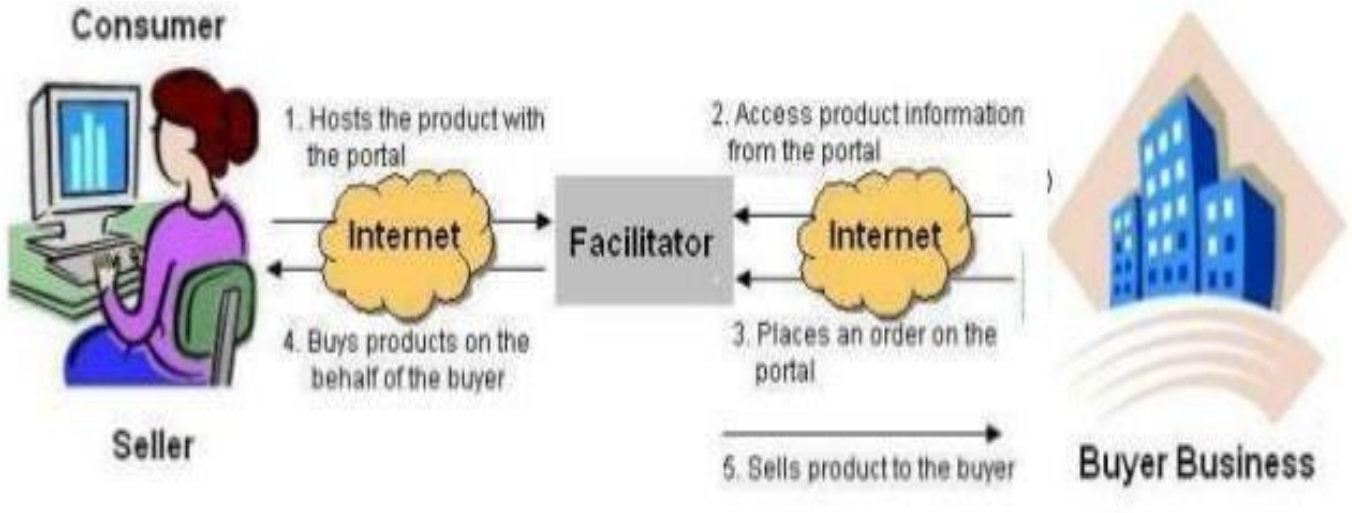
- Consumer to Business ecommerce is defined as commerce between customers and organizations.
- Examples:

  A customer posts his project within a budget online and companies review customers requirements and bid on the project. Consumer reviews bid and selects a company that will complete the project.

The C2B model involves a transaction that is conducted between a consumer and a business organization. It is similar to the B2C model, however, the difference is that in this case the consumer is the seller and the business organization is the buyer. In this kind of a transaction, the consumers decide the price of a particular product rather than the supplier. This category includes individuals who sell products and services to organizations

Example: www.monster.com, www.nakuri.com, etc....

**Figure**:




### (4) C2C (Consumer to Consumer) Model

- Consumer-to-consumer e-commerce or C2C is simply commerce between private individuals or consumers.
- It is the type of e-commerce in which one consumer sells its products to other consumer, through internet or computer network.

**Example:**

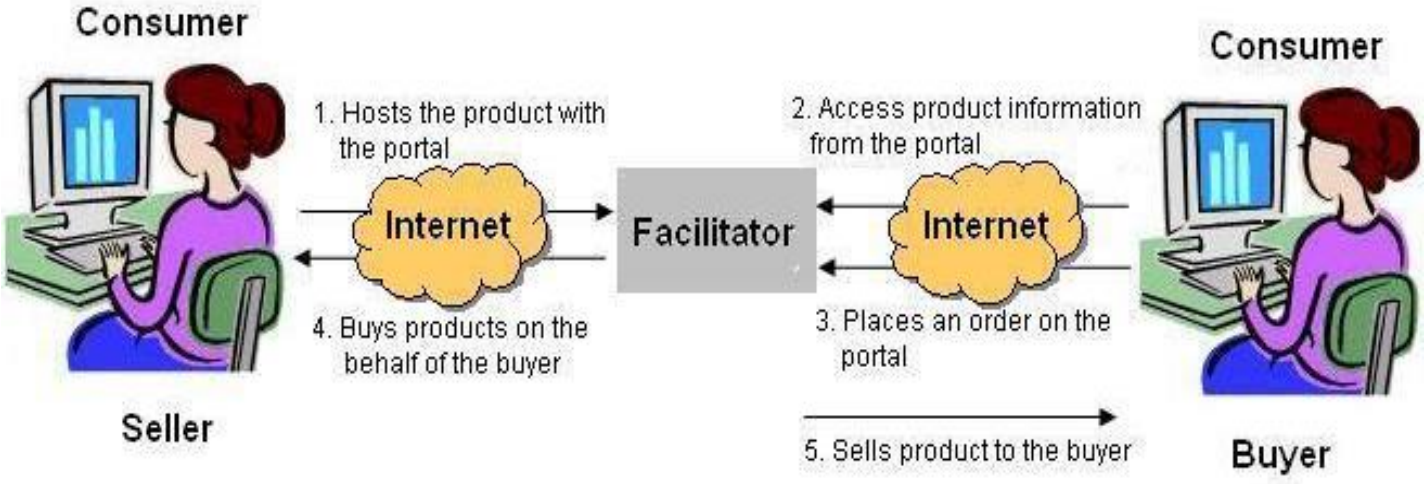
- Mary buying an iPod from Tom on eBay
- Me selling a car to my neighbor
- OLX.com

The C2C model involves transaction between consumers. Here, a consumer sells directly to another consumer.

eBay.com, olx.com, etc... are common examples of online auction web sites that provide a consumer to advertise and sell their products online to another consumer.

While the seller needs to pay a fixed fee to the online auction house to sell their products, the buyer can bid without paying any fee. The site brings the buyer and seller together to conduct deals.

Figure :




*C2C Business Model*

### (5) B2G (Business to Government) Model

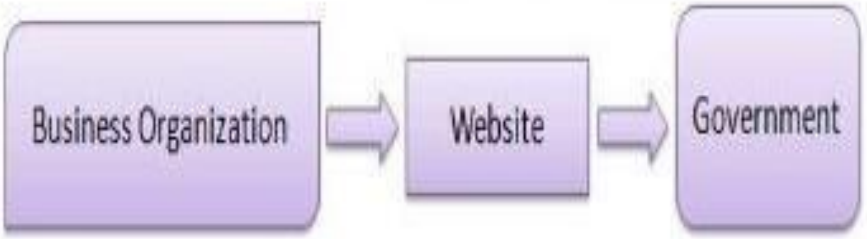
- **Business-to-government (B2G) is a business model that refers to businesses selling *products, services* or *information* to governments OR Government to Businesses.**
- **Any commerce between companies and the public sector.**
- **Bid on government projects or products**

**Examples:**

- **Dell.com | supplies computers to public sector organization**
- **ppra.org.pk |** Public Procurement Regulatory Authority
  - (monitoring procurement by public sector agencies/organizations)

- Business pay taxes, file reports, or sell goods and services to Govt. agencies.

- Business - to - Government (B2G):B2G model is a variant of B2B model. Such websites are used by government to trade and exchange information with various business organizations. Such websites are accredited by the government and provide a medium to businesses to submit application forms to the government.




## (6) G2C (Government to Consumer) Model

➔ These are the electronic commerce activities, such as paying taxes, land and vehicle registration, providing information to the public among others, performed between the government and its citizens or consumers.

➔ Though these platforms, the government avails essential services to its citizens efficiently. Information that should be in the public domain is conveyed with minimal cost through these platforms.

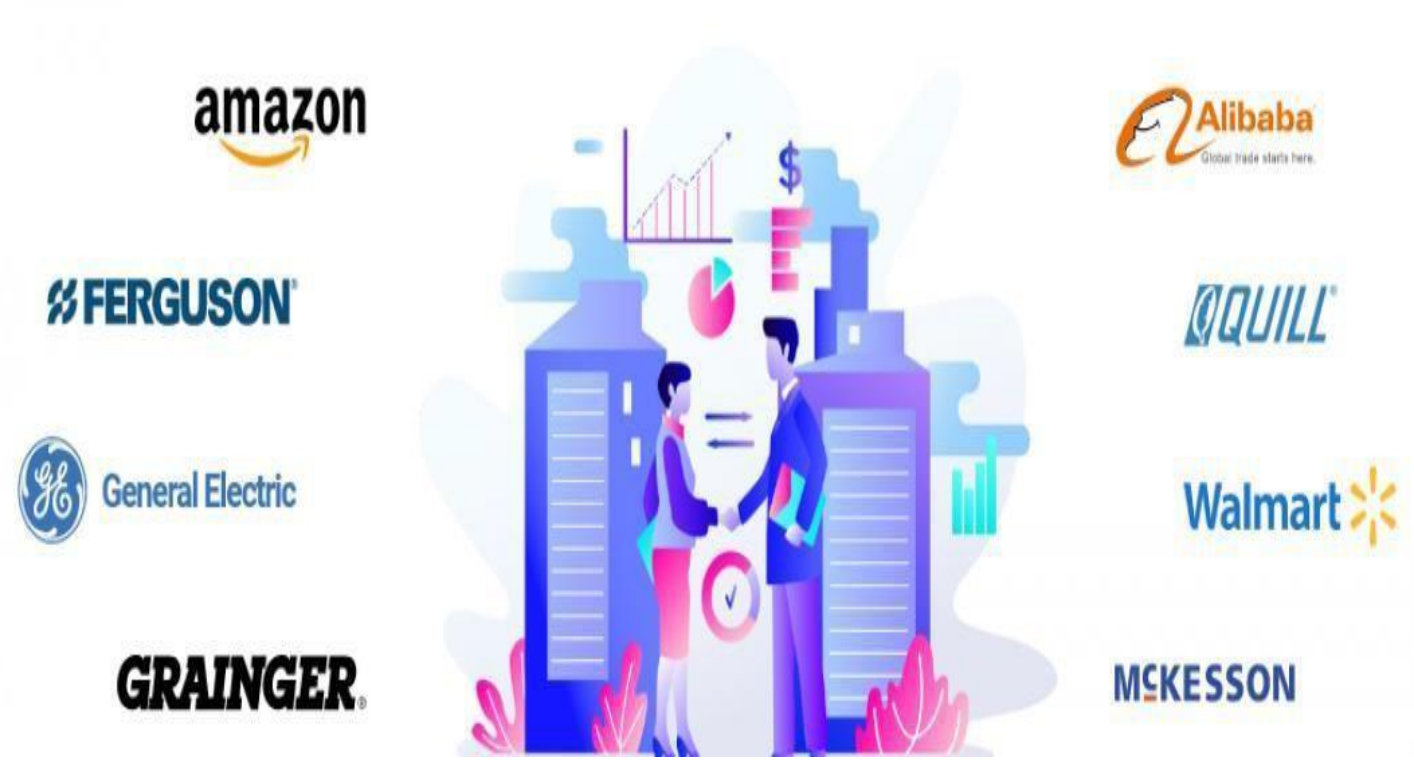
**Government-to-Consumer (G2C) model**: In this model, the government transacts with an individual consumer.

Example: a government can enforce laws pertaining to tax payments on individual consumers over the Internet by using the G2C model.

- Government uses G2C model to approach citizens directly. Examples for such models can be websites providing services like registration for birth, marriage, etc. A main objective of G2C websites is to reduce average time for servicing people's requests for various government linked services.


**EXTRA FIGURE :-**

| | Business | Consumer | Government |
|---|---|---|---|
| Business | **B2B**<br>• Wholesalers, software and service providers<br>• Alibaba, Nop-Templates, Spectrum Audio | **B2C**<br>• Retailers (most common category)<br>• Amazon, Walmart | **B2G**<br>• Private-sector suppliers of services<br>• Web-based applications, databases |
| Consumer | **C2B**<br>• An individual who has something to offer<br>• Bloggers, hiring websites | **C2C**<br>• Auction websites<br>• eBay | **C2G**<br>• Public Government auctions |
| Government | **G2B**<br>• Online collection of taxes and fees | **G2C**<br>• Online collection of taxes and fees | **G2G**<br>• Document exchange, sharing public administration registers |




# *Topic-5 : Explain Electronic Data Interchange(EDI) concept, Meaning & Definition , Features and Benefits in Detail.*

➔ **Definition**

➔ EDI stands for electronic data interchange.

➔EDI, which stands for Electronic Data Interchange, can be defined as the exchange of information between computers in a standardized format either within an organization or between two business partners.

➔ EDI is a fast, reliable, and accurate system for exchanging business documents with external entities that do business together.

## *Meaning*

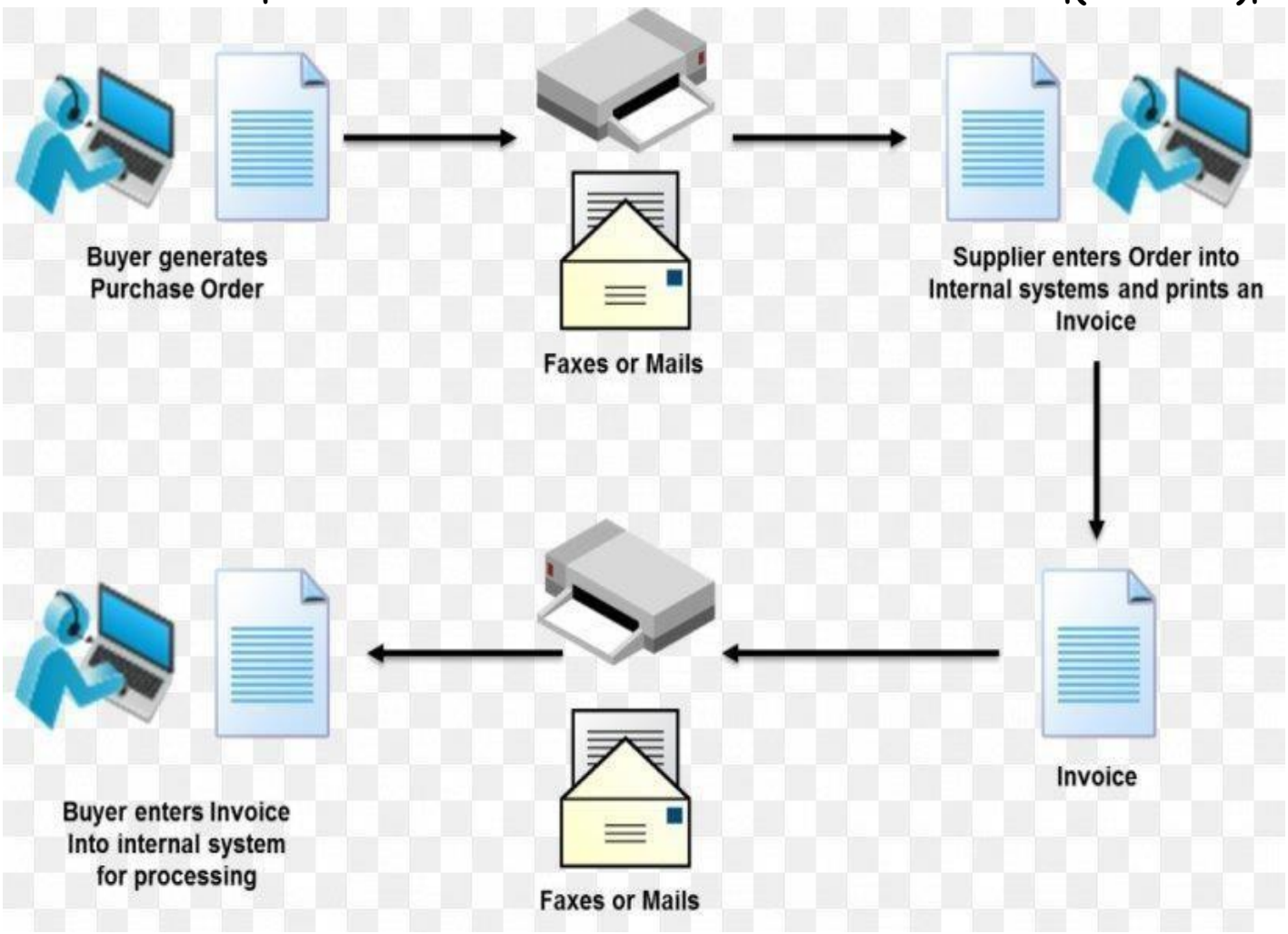
➔"EDI means the electronic exchange of business documents, such as orders, delivery slips and invoices. These documents are exchanged among business partners in structured data form and **without manual** intervention"

➔ The goal of EDI is the easy and secure exchange of data between companies, independent of formats or merchandise management systems.

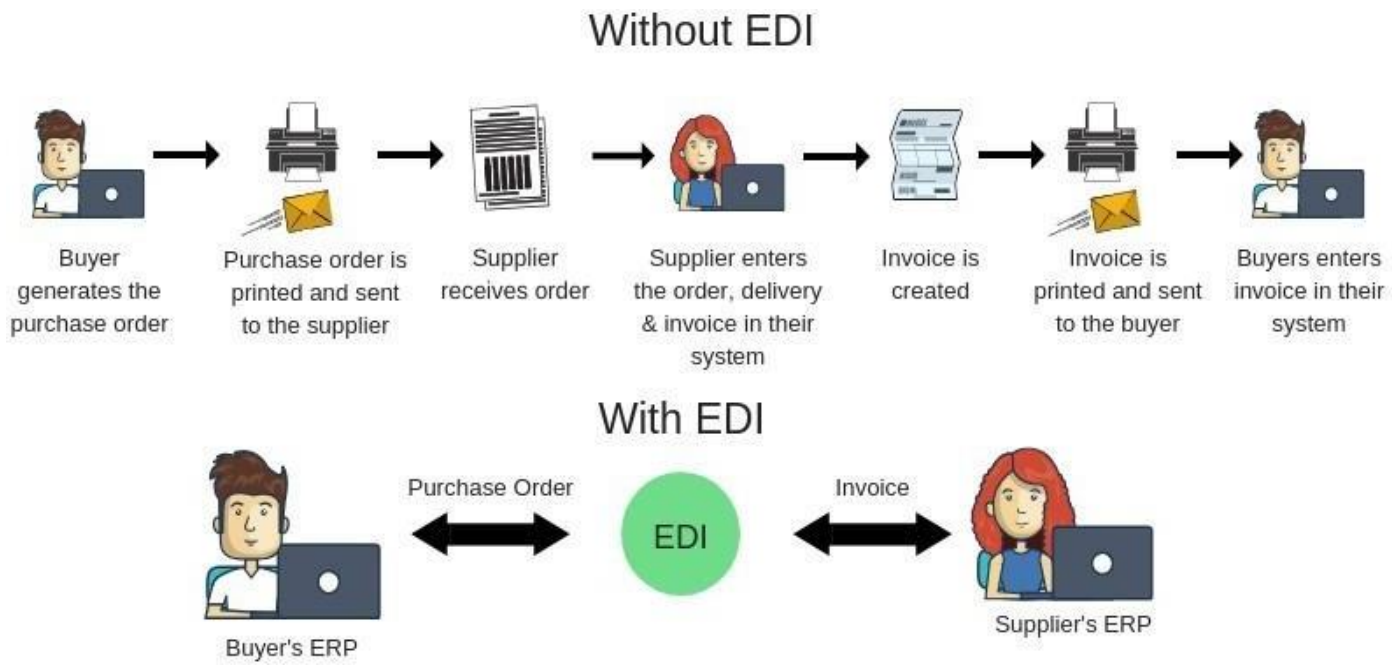
➔Furthermore, companies should be able to further process this data without having to manually record it again.

➔ Data exchange via EDI is faster, more efficient, and less prone to error than exchange via other processes.

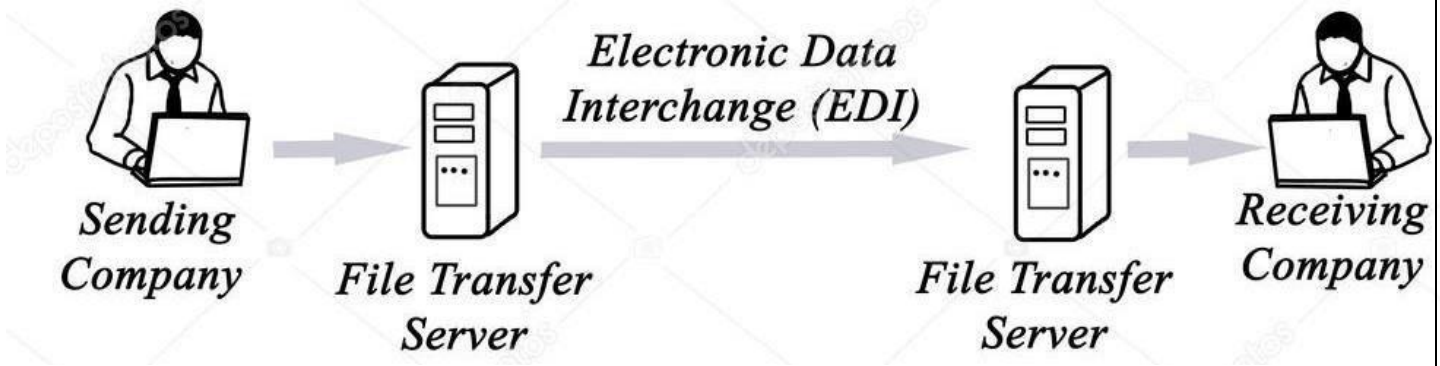
**Example-1:**




**Example-2:**




**Example-3:**




## Features of Electronic Data Interchange(EDI)

- Exchange of structured business information in standard formats between computers.
- It has reduced data entry link, eliminates the need for a paper bases system and improved business cycle.
- EDI transfer structured business documents internally among groups of departments or externally with its suppliers, customers and subsidiaries.
- In EDI, information transferred over a network will not have to read, retyped or printed but must have predefine structure agreed between the two company's which send and receive data.
- The two companies or groups which exchanged information through EDI are called the Trading Partners.

## Benefit of Electronic Data Interchange(EDI)

**Advantages/Benefits/Uses of EDI:**

**1) Cost & Time Saving:**
It saves time & cost in terms of creating manual business documents.

**2) Relationship:**
Business relations with trading partners and customers improved through better quality and Speed of services.

**3) Manpower:**
It reduces manpower due to predefined standard format i.e. EDI is totally integrated with application program (EDI Standards) which automate transaction of business documents. For e.g. Order processing/Invoicing/job orders/Billing etc.

**4) Decision-making:**
It provides better information for management to take decision in time. It helps in business planning and budgeting at the right place and time.

**5) Competition:**
Competition can be maintained and improve the business goodwill.

**Disadvantages of EDI:**

1) **High installation cost:**
Cost of implementing EDI in an organization is more

2) **Not suitable for all customers:**
It is difficult to have EDI system with various customers of a firm

3) **Third party:**
Risk of misuse of communicating financial data by third party.

4) **Less transparent than paper-based systems:**
EDI involves standard predefined format to exchange business documents so it gives clear information.

5) **Knowledge based employees needed:**
Only qualified and trained employees can work on the EDI system.

## *Topic-6 : Explain Network Security (only concepts): firewalls , IP security, Virtual Private Networks , HTTPs , SSL , SETP.*

### ➔ *(1) Firewalls :*

- A firewall can either be software-based or hardware-based and is used to help keep a network secure. A system designed to prevent unauthorized access to or from a private network. Firewalls can be implemented in both hardware and software, or a combination of both

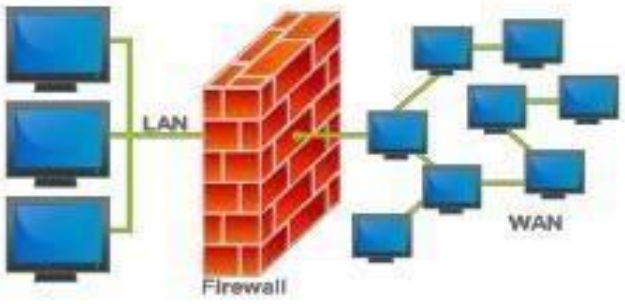
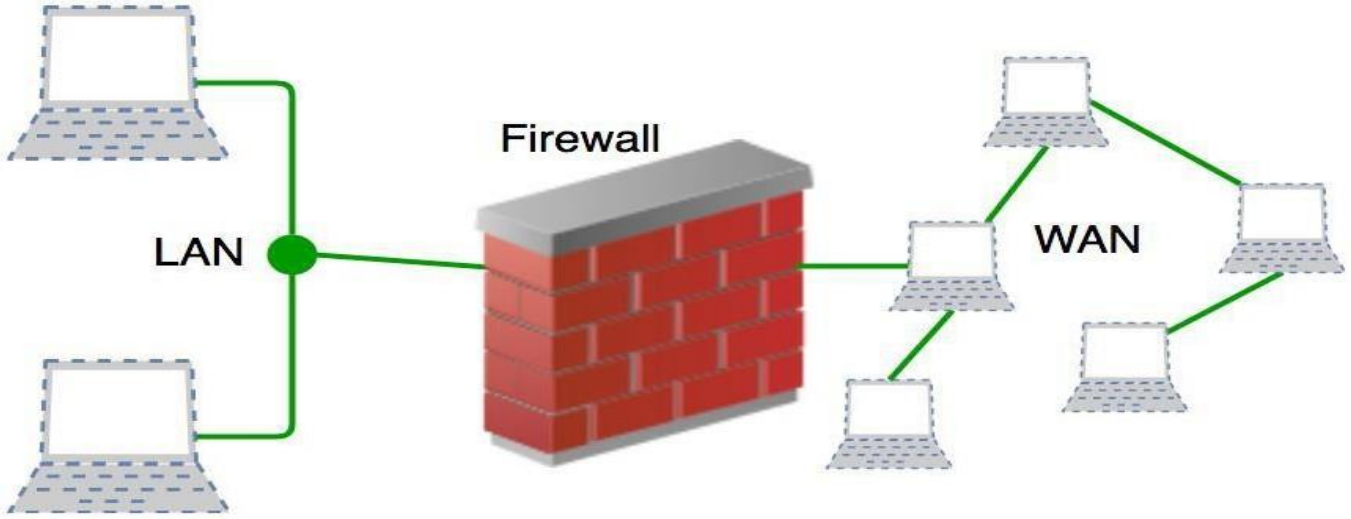


**Figure -2**




➔A **firewall** is a software or hardware-based network security system that controls the incoming and outgoing network traffic by analyzing the data packets and determining whether they should be allowed through or not, based on a rule set.

➔A firewall establishes a **barrier** between a trusted, secure internal network and another network (e.g., the Internet) that is not assumed to be secure and trusted.

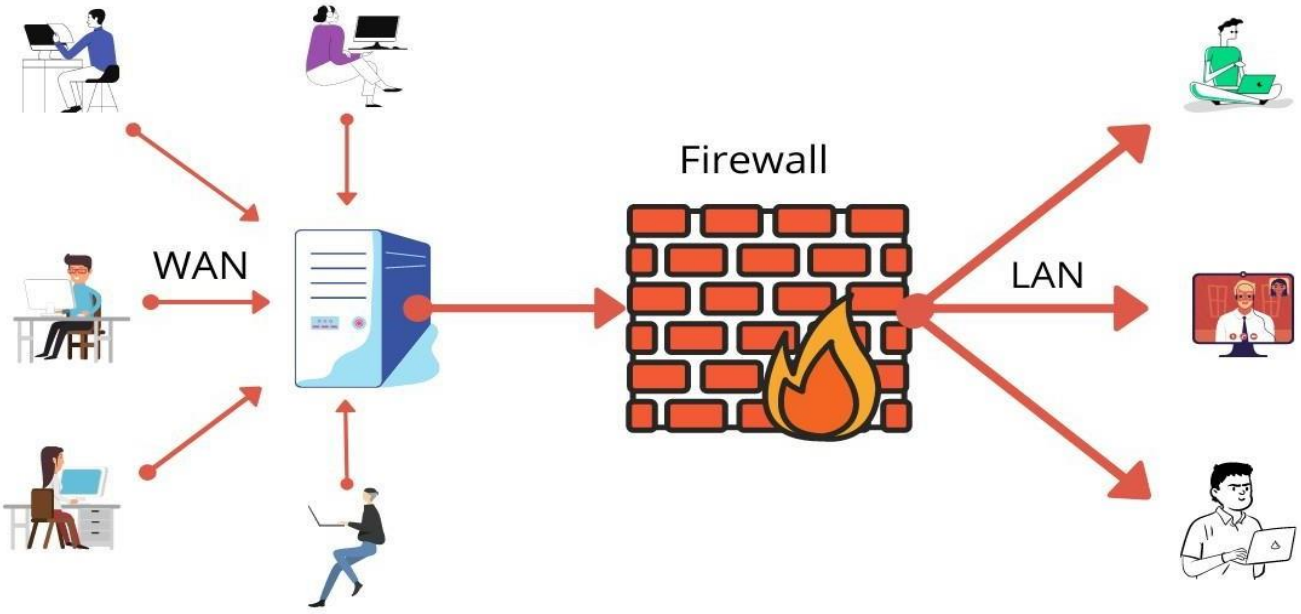
➔Many personal computer operating systems include software-based firewalls to protect against threats from the public Internet.

➔ A system designed to prevent unauthorized access to or from a private network. Firewalls can be implemented in both **hardware** and **software**, or a combination of both.

➔Firewalls are frequently used to prevent unauthorized Internet users from accessing private networks connected to the Internet, especially *intranets*.

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

**Figure -3**



**There are several types of firewall techniques**:

- **Packet filter:** Looks at each packet entering or leaving the network and accepts or rejects it based on user-defined rules. Packet filtering is fairly effective and transparent to users, but it is difficult to configure. In addition, it is susceptible to IP spoofing.
- **Application gateway:** Applies security mechanisms to specific applications, such as FTP and Telnet servers. This is very effective, but can impose a performance degradation.
- **Circuit-level gateway:** Applies security mechanisms when a TCP or UDP connection is established. Once the connection has been made, packets can flow between the hosts without further checking.
- **Proxy server:** Intercepts all messages entering and leaving the network. The proxy server effectively hides the true network addresses.

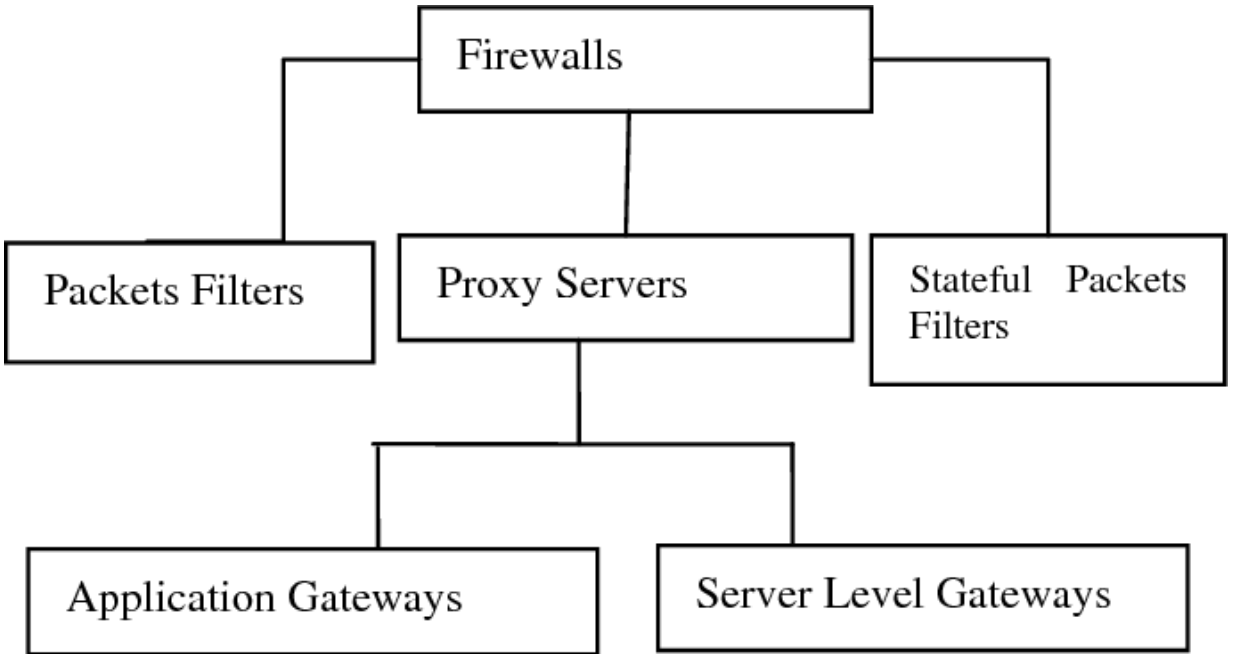



**Figure : (Firewall Classification)**

## Advantage & Disadvantages of Firewall

### Advantages-

- More secure than packet filter firewalls.
- Faster than application level firewalls.

### Disadvantages-

- Only detect one transport layer protocol-TCP.
- Cannot perform security checks on higher level protocols.

# (2) IP Security :

➔ IP stands for Internet Protocol (just like IPAddress).

➔ **An Overview of IP :-**

"Provides the facilities for inter connecting end systems across multiple networks."

➔Implemented in:

1) Each end System and
2) Routers of the networks

➔**IP-level security** encompasses **three** functional **areas**:

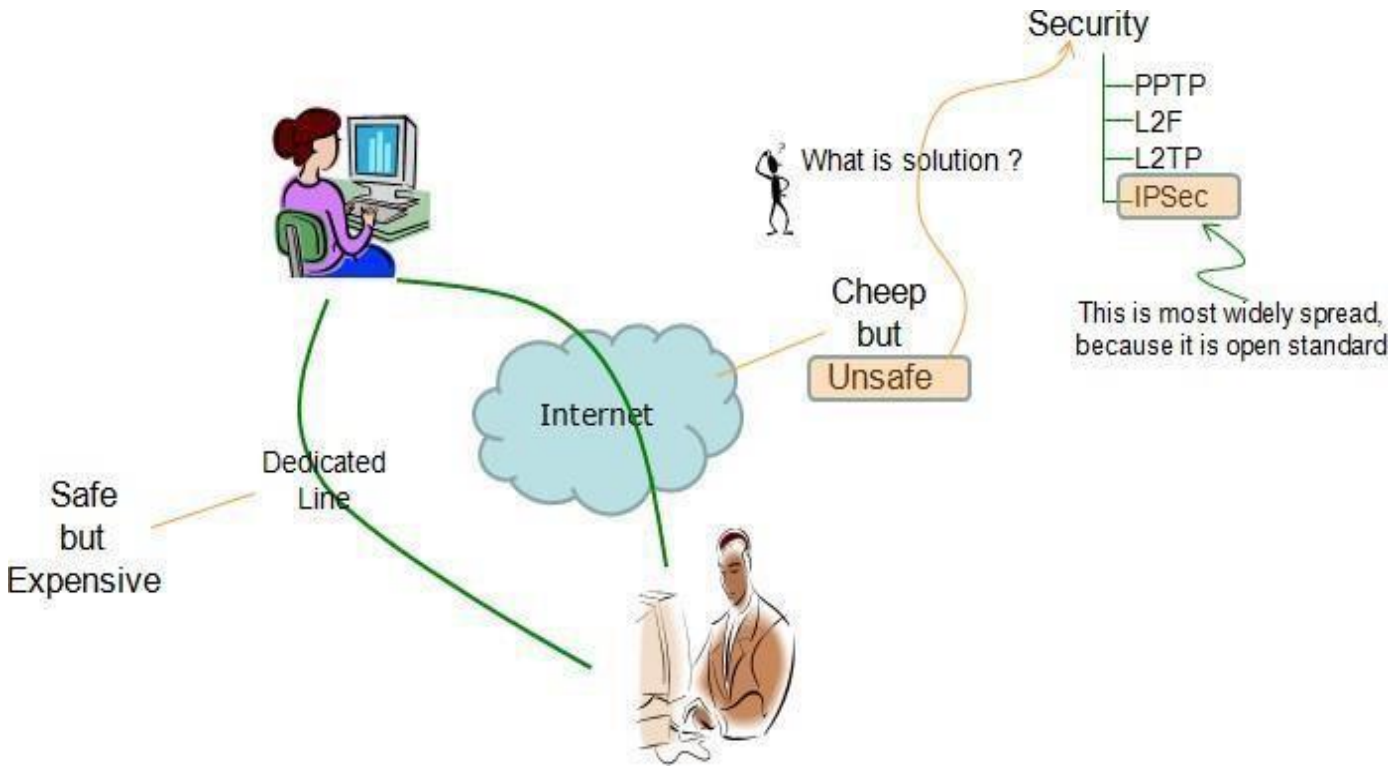
1) Authentication
2) Confidentiality
3) key Management

1) **Authentication:** In security, authentication is the process of verifying whether someone (or something) is, in fact, who (or what) it is declared to be.

2) **Confidentiality : Confidentiality** refers to protecting **information** from being accessed by unauthorized parties.

3) **Key Management** : Secure key Exchange.

**Figure:**



## ➔IP Security Overview

➔ IP security allows individual users or organizations to secure traffic for all applications, without having to make any modifications to the applications.
➔ Therefore, the transmission of any data, such as e-mail or application-specific company data, can be made secure.

- **IP security and the operating system**
  The operating system uses IP Security (IPsec), which is an open, standard security technology developed by the Internet Engineering Task Force (IETF).

## ➔IP security features

The following are features of IP Security.

- **Security associations**
  The building block on which secure communications is built is a concept known as a security association. Security associations relate a specific set of security parameters to a type of traffic.
- **Tunnels and key management**
  Use a tunnel to negotiate and manage the security associations that are required to set up secure communication between two hosts.
- **Native filtering capability**
  *Filtering* is a basic function in which incoming and outgoing packets can be accepted or rejected based on a variety of characteristics. This allows a user or system administrator to configure the host to control the traffic between this host and other hosts.
- **Digital certificate support**
  IP Security supports the use of X.509 Version 3 digital certificates.
- **Virtual private networks and IP security**
  A virtual private network (VPN) securely extends a private intranet across a public network such as the Internet.

## Advantages

### (1) Network layer security

➔IPsec operates at layer 3, the network layer. As a result, it has no impact on higher network layer. In other words, one of the biggest advantage of IPsec is its transparency to applications. The end user need not have to bother about the IPsec or its configuration.

### (2) Confidentiality

➔Similarly, the second advantage of IPsec is that it offers confidentiality. During any data exchange, IPsec uses public keys that helps to safely transfer confidential data.

### (3) No Application Dependence

➔While SSL-/ SSH-/ PGP-based VPNs are application-dependent, IPsec-based VPNs do not

need to worry about application dependence. Since the entire security system is implemented at the network level, there are no application compatibility issues.

**(4) Security**

➔The Internet is full of great content, but it also contains its fair share of malicious applications and users - everything from Trojans and viruses to worms and hackers.

## Disadvantages

**(1) CPU Overhead**

➔Having to perform encryption and decryption on the hundreds of megabytes of data flowing through the machines requires quite a bit of processing power, and this translates to **higher processor loads**.

**(2) Maintenance Costs**

➔ While it may be frustrating to depend on far-away servers and service providers for network connectivity, the advantage of huge, global networks such as the Internet is that the cost of maintaining network infrastructure can be divided among millions of users.

**(3) Compatibility Issues**

➔IPsec is a standardized solution today, and yet, some large software developers may not adhere to it, and may go ahead with standards of their own. As a result, this can lead to **compatibility issues**.

**(4) Broken Algorithms**

➔Some of the security algorithms that are still being used in IPsec have already been cracked.

This poses a huge security risk, especially if the network administrators unknowingly use those algorithms instead of newer, more complex ones that are already available.

# *(3) VIRTUAL PRIVATE NETWORKS (V.P.N) :*

➔ Virtual Private Network is a type of private network that uses public telecommunication, such as the Internet, instead of leased lines to communicate.

➔ Became popular as more employees worked in remote locations.

➔ VPN stands for "Virtual Private Network" or "Virtual Private Networking." A VPN is a private network in the sense that it carries controlled information, protected by various security mechanisms, between known parties.

➔ VPNs are only "virtually" private, however, because this data actually travels over shared public networks instead of fully dedicated private connections.

**VPN connectivity overview**

**Figure :-1**

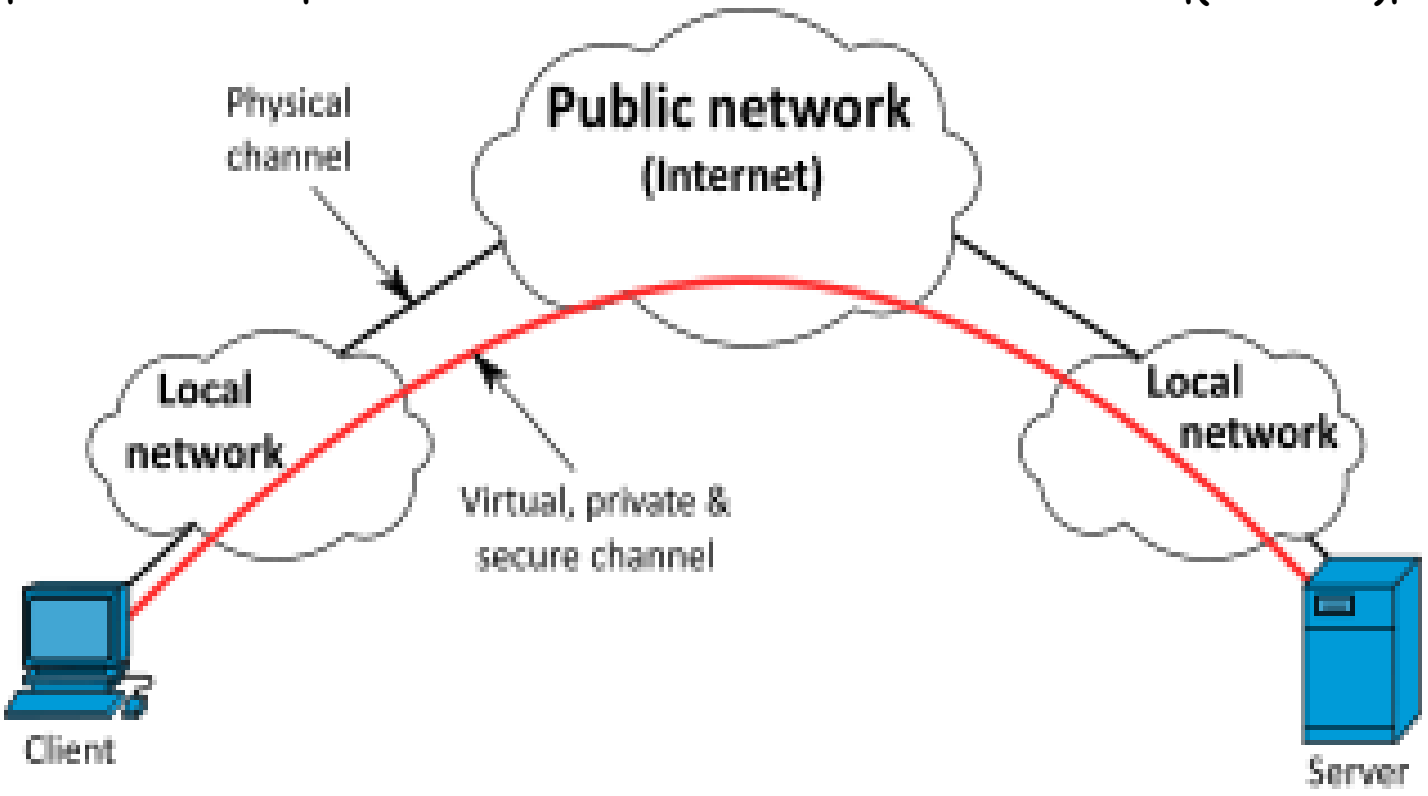
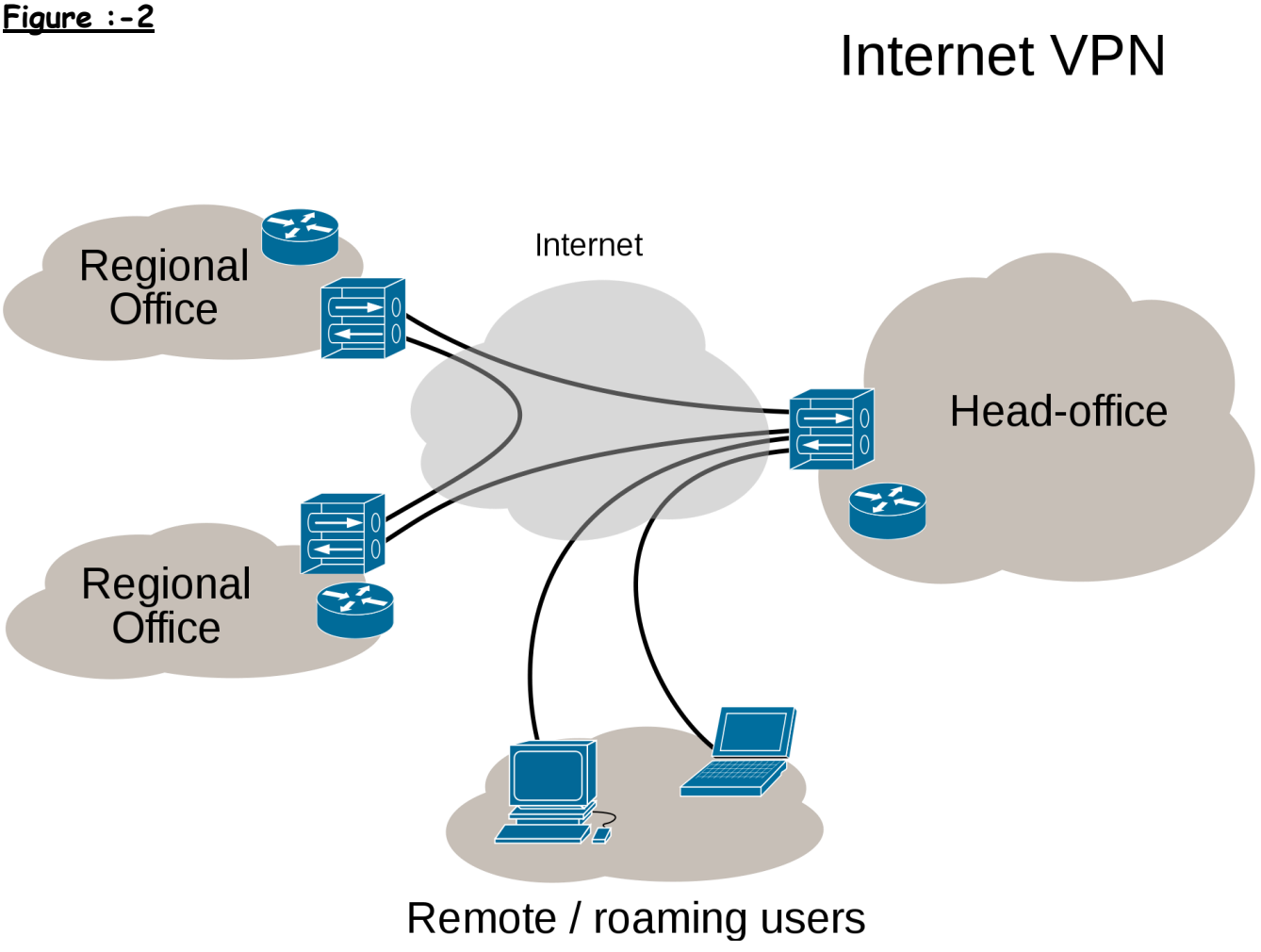

Physical channel
Public network (Internet)
Local network
Local network
Virtual, private & secure channel
Client
Server

**Figure :-2**


Internet VPN
Regional Office
Internet
Head-office
Regional Office
Remote / roaming users

- Different solutions are available to make communication over internet safe, secure and it can also ensure desired grade of quality of service.
- These solutions are known as VPN solutions.
- Different protocols like L2TP, PPTP, IPsec etc are available to provide VPN solutions to customers.
- These Protocols take care of data authenticity, data integrity, and if required data confidentiality.

## Brief Overview of How it Works

- ✓ Two connections – one is made to the Internet and the second is made to the VPN.
- ✓ Datagrams – contains data, destination and source information.
- ✓ Firewalls – VPNs allow authorized users to pass through the firewalls.
- ✓ Protocols – protocols create the VPN tunnels.

## Four Protocols used in VPN

- PPTP -- Point-to-Point Tunneling Protocol
- L2TP -- Layer 2 Tunneling Protocol
- IPsec -- Internet Protocol Security
- SOCKS – is not used as much as the ones above

## Advantages of VPN

1) The user's 'real' IP address is hidden and the user becomes moreanonymous.
2) Data traffic is encrypted, which allows you to safely connect to public WIFI hotspots.
3) Extra protection from ad-trackers and phishing attacks.
4) The ability to bypass geographical restrictions.
5) Users can download information safely and anonymously.
6) The ability to bypass government censorship.
7) It is possible to save money while shopping online.
8) Online gaming is improved through expanded access and increased protection.
9) Online throttling by your ISP is less likely to occur.
10) Using multiple servers on multiple devices with just one account.
11) Getting anonymous and safe access to the TOR network

## Disadvantages of VPN

1) A slower internet connection.
2) Specific blockades of VPN services (for example by Netflix).
3) Illegal use of VPNs themselves.
4) Not knowing how strong the encryption provided by your VPN .
5) The logging and potential reselling of your internet habits to third parties.
6) Connection breaks.
7) An unwarranted sense of online impunity.

8) Free VPNs: sometimes worse than none at all.

## ➔ HTTPs (S-HTTP) :

➔ HTTPs stands for Hypertext Transfer Protocol Secure (S-HTTP).

### ❑ Hypertext transfer protocol secure (HTTPS)

- HTTPs is a combination of HTTP with SSL/TLS protocol.
- It provides encrypted communication & secure identification of a network server.
- HTTPs connection are often used for payment transactions on the WWW & for sensitive transaction in corporate information system.
- HTTPs is a secure version of the hypertext transfer protocol (HTTP).
- HTTPs allows secure ecommerce transaction, such as online banking.
- Web browsers such as internet explorer & Firefox display a padlock icon to indicate that the website is secure, as it also display https:// in the address bar.
- E.g.-https://facebook.com

**Figure 1:**

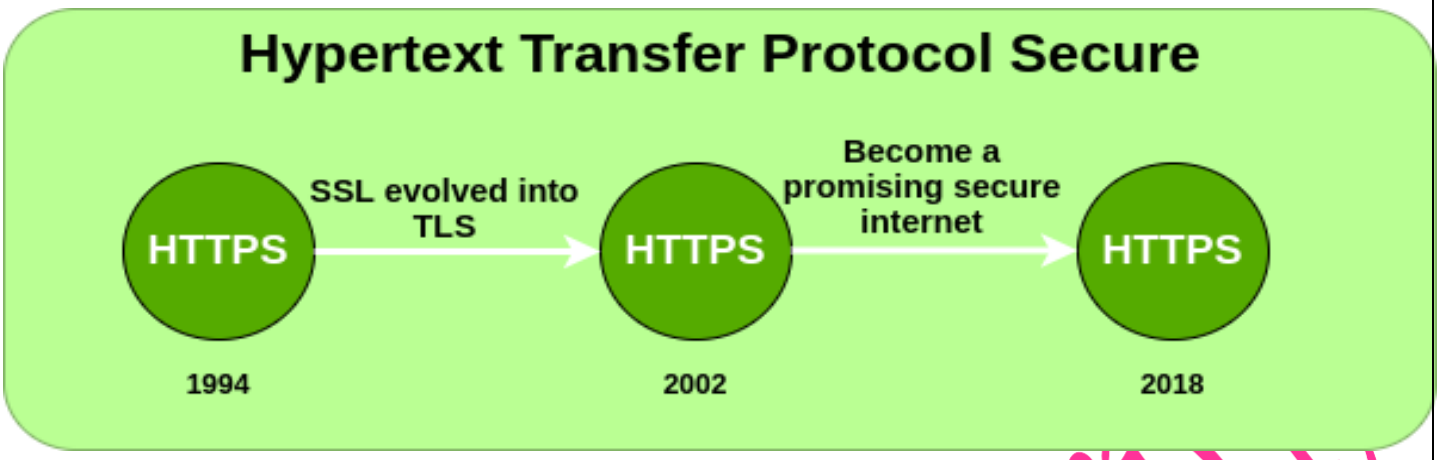



**Figure 2:**

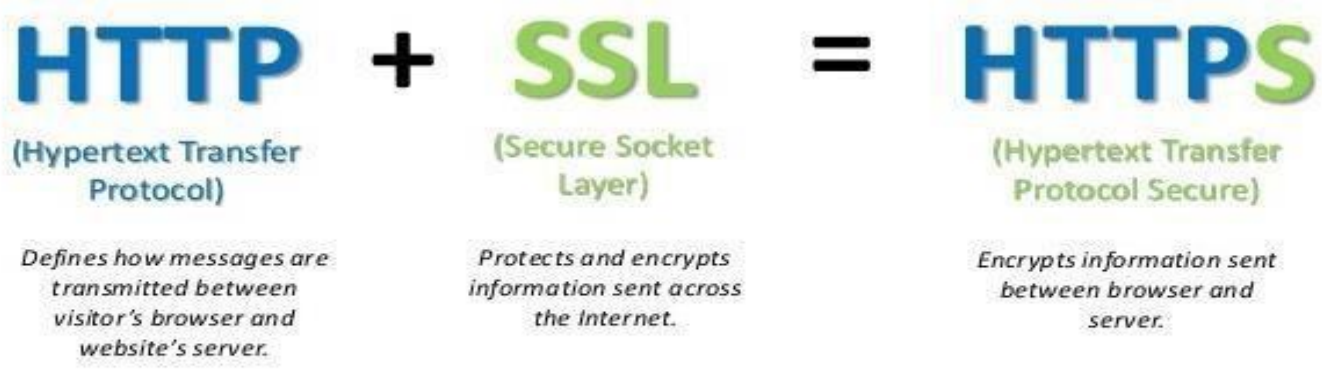
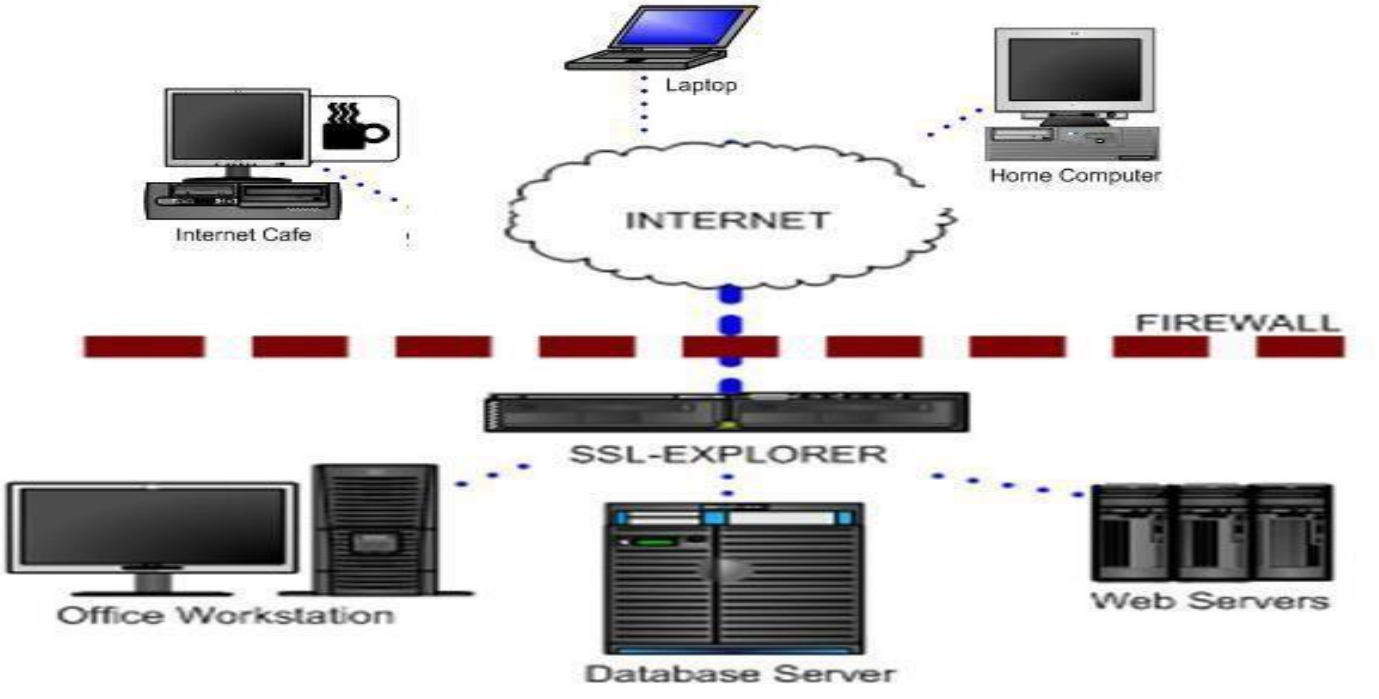



**Figure 3: (Hypertext Transfer Protocol secure)**



## ❑ difference between HTTP and HTTPs

| S.NO | HTTP | HTTPs |
|---|---|---|
| 1. | It is hypertext transfer protocol. | It is hypertext transfer protocol with secure. |
| 2. | It is not secure & unreliable. | It is secure & reliable. |
| 3. | HTTP URLs begin with http://. | HTTPs URLs begin with https://. |
| 4. | It uses port 80 by default . | It was use port 443 by default. |
| 5. | It is subject to man-in-the-middle & eavesdropping attacks. | It is designed to withstand such attacks & is considered secure against such attacks. |

## Advantages :

➔The Advantages of HTTPS is that any sensitive information that need to be transferred for the user to another location can be done securely.

➔And seeming this link is encrypted anyone who does try to intercept the message they have to get the code to decrypt it.

## Disadvantages :

➔The Disadvantages of HTTPS are not enough to tips the scale of good and bad , but if HTTPS is being used for a web request it is normally seeming slower than http , also some older versions of browsers or SSL will refuse to work with HTTPS.

# SSL (Secure Socket Layer) :

⇨ Secure Socket Layer (SSL) is a protocol developed by Netscape for transmitting private documents via the Internet.

⇨ The SSL Security protocol provides data encryption, server authentication, message integrity, and optional client authentication for a TCP/IP connection.

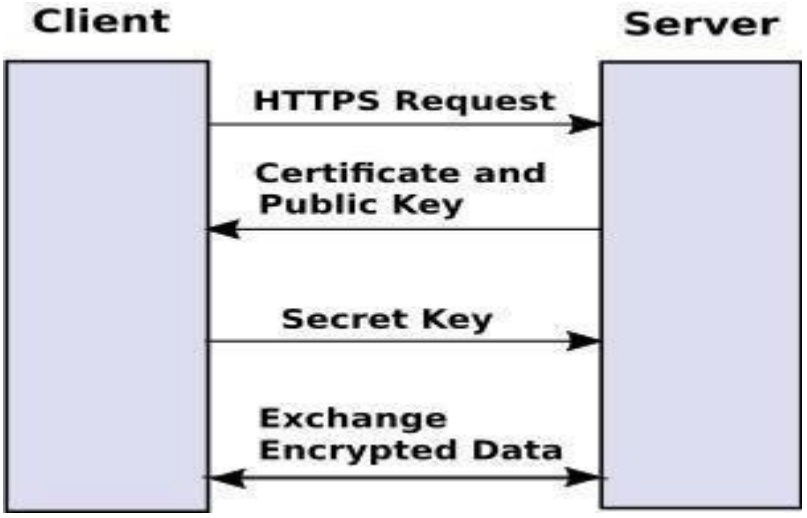
⇨ SSL is built into all major browsers and web servers.

⇨ Both Netscape Navigator and Internet Explorer support SSL, and many websites use the protocol to obtain confidential user information, such as credit card numbers.

⇨ The primary goal of SSL is to provide privacy and reliability between two communicating applications.

**Figure-1**


## ⇨ How SSL Works




SSL installs a transparent layer rather than building on HTTP. This means that the system works with any standard protocol including HTTP, FTP, Telnet. The system works by establishing a separate secure channel for all messages using HTTP. This secure channel is set up by the SSL protocols on the server and browsers. The initial handshaking defines the keys used and establishes the connection – a conversation would sound like this:

(1) client requests HTTPS.

(2) Server sends client its certificate and its public key.

## ❖ What are the Advantages and disadvantages of Secure Electronic Transactions?

### ➔ Advantages

- It is secure enough to protect user's credit-card numbers and personal information from attacks
- hardware independent
- world-wide usage
- Confidentiality of information
- Integrity of data
- Cardholder account authentication
- Merchant authentication

### Disadvantages

- User must have credit card
- It is not cost-effective when the payment is small
- None of anonymity and it is traceable
- Network effect - need to install client software (an e-wallet).
- Cost and complexity for merchants to offer support, contrasted with the comparatively low cost and simplicity of the existing SSL based alternative.
- Client-side certificate distribution logistics.

***Full Forms***

1) **EDI** : Electronic Data Interchange
2) **ATM** : Automatic Teller Machine
3) **Internet** : Interconnected Network
4) **SSL** : Secure Socket layer
5) **AES** : Advanced Encryption Standard
6) **DES** : Data Encryption Standard
7) **TCP/IP** : **T**ransmission **C**ontrol **P**rotocol / **I**nternet**P**rotocol
8) **UDP** : User Datagram Protocol
9) **ICMP** : Internet Control Message Protocol
10) **DHCP** : Dynamic Host Configuration Protocol
11) **ARP** : Address Resolution Protocol
12) **IGMP** : Internet Group Management Protocol
13) **HTTP** : Hyper Text Transfer Protocol
14) **FTP** : File Transfer Protocol
15) **SMTP** : Simple Mail Transfer Protocol
16) **VPN** : Virtual Private Network

17) **STP** : Secure Transport Protocol
18) **S-HTTP** : Secure Hyper Text Transfer Protocol
19) **SET** : Secure Electronic Transaction

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