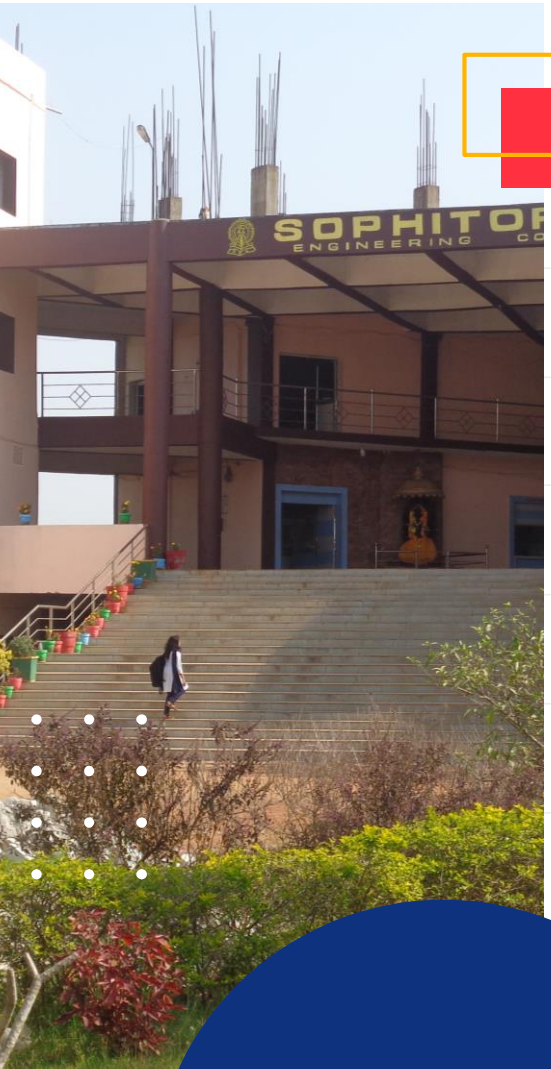


BCA
6th Semester

UNIT - I, II, III, IV, V

TOPIC – Introduction to e-Commerce

E-Commerce

Introduction to E-commerce

E-commerce (electronic commerce) is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet.

These business transactions occur either as business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer or consumer-to-business.

The terms e-commerce and e-business are often used interchangeably.

The term e-tail is also sometimes used in reference to the transactional processes that make up online retail shopping.

Types of e-commerce

- Business-to-business (B2B)
- Business-to-consumer (B2C)
- Consumer-to-consumer (C2C)
- Consumer-to-business (C2B)
- Business-to-administration (B2A)
- Consumer-to-administration (C2A)v

Business-to-business (B2B)

e-commerce refers to the electronic exchange of products, services or information between businesses rather than between businesses and consumers.

Examples include online directories and product and supply exchange websites that allow businesses to search for products, services and information and to initiate transactions through e-procurement interfaces.

Business-to-consumer (B2C)

Business-to-consumer (B2C) is the retail part of e-commerce on the internet. It is when businesses sell products, services or information directly to consumers. The term was popular during the dot-com boom of the late 1990s, when online retailers and sellers of goods were a novelty.

Consumer-to-consumer (C2C)

Consumer-to-consumer (C2C) is a type of e-commerce in which consumers trade products, services and information with each other online. These transactions are generally conducted through a third party that provides an online platform on which the transactions are carried out.

Online auctions and classified advertisements are two examples of C2C platforms, with eBay and Craigslist being two of the most popular of these platforms. Because eBay is a business, this form of e-commerce could also be called C2B2C -- consumer-to-business-to-consumer.

Consumer-to-business (C2B)

Consumer-to-business (C2B) is a type of e-commerce in which consumers make their products and services available online for companies to bid on and purchase. This is the opposite of the traditional commerce model of B2C.

A popular example of a C2B platform is a market that sells royalty-free photographs, images, media and design elements, such as iStock. Another example would be a job board.

Business-to-administration (B2A)

Business-to-administration (B2A) refers to transactions conducted online between companies and public administration or government bodies. Many branches of government are dependent on e-services or products in one way or another, especially when it comes to legal documents, registers, social security, fiscals and employment.

Businesses can supply these electronically. B2A services have grown considerably in recent years as investments have been made in e-government capabilities.

Consumer-to-administration

Consumer-to-administration (C2A) refers to transactions conducted online between individual consumers and public administration or government bodies. The government rarely buys products or services from citizens, but individuals frequently use electronic means in the following areas:

Education. Disseminating information, distance learning/online lectures, etc.

Social security. Distributing information, making payments, etc.

Taxes. filing tax returns, making payments, etc.

Health. Making appointments, providing information about illnesses, making health services payments, etc.

Advantages and disadvantages of e-commerce

- ✓ Availability
- ✓ Speed of access
- ✓ Wide availability
- ✓ Easy accessibility
- ✓ International reach
- ✓ Lower cost
- ✓ Personalization and product recommendations
- ✓ Limited customer service
- ✓ Not being able to touch or see
- ✓ Wait time
- ✓ Security

Application of e-Commerce

E-commerce is conducted using a variety of applications, such as Email, online catalogs and shopping carts, Electronic Data Interchange (EDI), the file transfer protocol, web services and mobile devices.

This includes B2B activities and outreach, such as using email for unsolicited ads, usually viewed as spam, to consumers and other business prospects, as well as sending out e-newsletters to subscribers and SMS texts to mobile devices.

More companies now try to entice consumers directly online, using tools such as digital coupons, social media marketing and targeted advertisements.

A few examples of e-commerce marketplace platforms include:

- **Amazon**
- **eBay**
- **Walmart Marketplace**
- **Chewy**
- **Wayfair**
- **Newegg**
- **Alibaba**
- **Etsy**
- **Overstock**
- **Rakuten**

Vendors offering e-commerce platform services for clients hosting their own online store sites include:

- **Shopify**
- **WooCommerce**
- **Magento**
- **Squarespace**
- **BigCommerce**
- **Ecwid**
- **Salesforce Commerce Cloud (B2B and B2C options)**
- **Oracle SuiteCommerce**

Unit-II
The Internet and WWW

The Internet is the global system of interconnected computer networks that use the Internet protocol suite (TCP/IP) to link devices worldwide. It is a network of networks that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies.

The Internet carries an extensive range of information resources and services, such as the inter-linked hypertext documents and applications of the World Wide Web (WWW), electronic mail, telephony, and peer-to-peer networks for file sharing.

WWW

The World Wide Web (abbreviated WWW or the Web) is an information space where documents and other web resources are identified by Uniform Resource Locators (URLs), interlinked by hypertext links, and can be accessed via the Internet.

English scientist Tim Berners-Lee invented the World Wide Web in 1989. He wrote the first web browser computer program in 1990 while employed at CERN in Switzerland.

The Web browser was released outside of CERN in 1991, first to other research institutions starting in January 1991 and to the general public on the Internet in August 1991

Domain name

A domain name is an identification string that defines a realm of administrative autonomy, authority or control within the Internet.

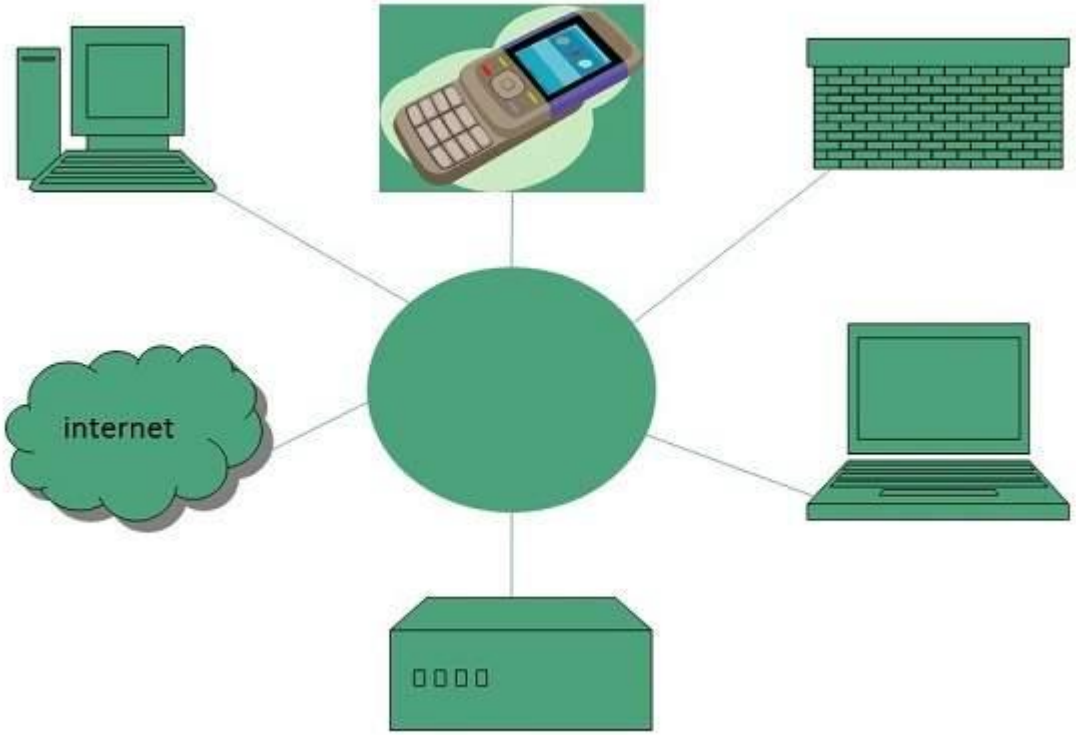
Domain names are used in various networking contexts and for application-specific naming and addressing purposes.

Internet

Internet is defined as an Information super Highway, to access information over the web. However, It can be defined in many ways as follows:

- Internet is a world-wide global system of interconnected computer networks.
- Internet uses the standard Internet Protocol (TCP/IP).
- Every computer in internet is identified by a unique IP address.
- IP Address is a unique set of numbers (such as 110.22.33.114) which identifies a computer location.
- A special computer DNS (Domain Name Server) is used to give name to the IP Address so that user can locate a computer by a name.
- For example, a DNS server will resolve a name http://www.tutorialspoint.com to a particular IP address to uniquely identify the computer on which this website is hosted.
- Internet is accessible to every user all over the world.

Internet



Evolution

The concept of Internet was originated in 1969 and has undergone several technological & Infrastructural changes as discussed below:

The origin of Internet devised from the concept of Advanced Research Project Agency Network (ARPANET).

ARPANET was developed by United States Department of Defense.

Basic purpose of ARPANET was to provide communication among the various bodies of government.

Initially, there were only four nodes, formally called Hosts.

In 1972, the ARPANET spread over the globe with 23 nodes located at different countries and thus became known as Internet.

By the time, with invention of new technologies such as TCP/IP protocols, DNS, WWW, browsers, scripting languages etc.,Internet provided a medium to publish and access information over the web.

Internet Organization

The Internet is a loosely organized international cooperation of autonomous networks. The different organizations control their network individually.

Standards (documented in IETF RFCs) provide the basis for 'gluing' these different networks together.

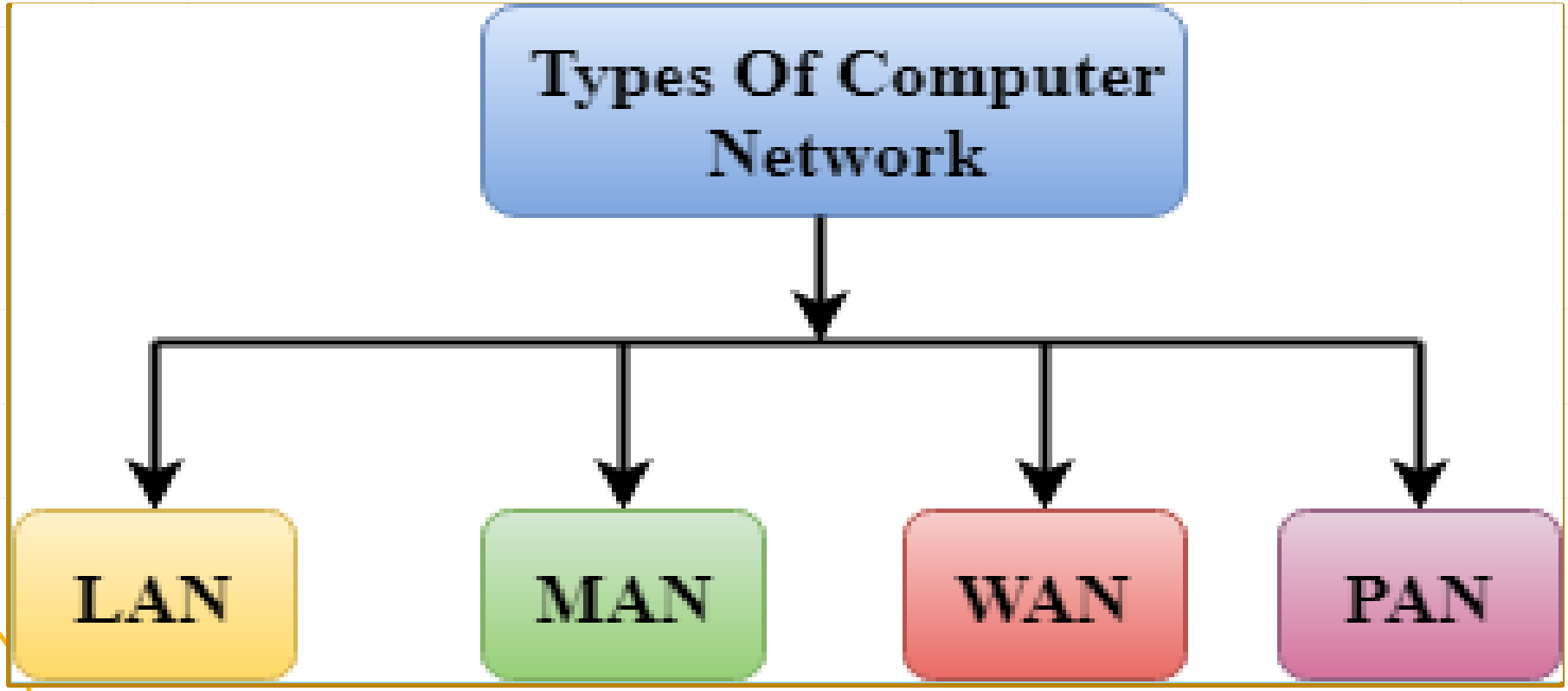
Computer Network Types

A computer network is a group of computers linked to each other that enables the computer to communicate with another computer and share their resources, data, and applications.

A computer network can be categorized by their size. A computer network is mainly of four types:

LAN(Local Area Network)
PAN(Personal Area Network)
MAN(Metropolitan Area Network)
WAN(Wide Area Network)

Computer Network Types



LAN(Local Area Network)

Local Area Network is a group of computers connected to each other in a small area such as building, office.

LAN is used for connecting two or more personal computers through a communication medium such as twisted pair, coaxial cable, etc.

It is less costly as it is built with inexpensive hardware such as hubs, network adapters, and ethernet cables.

The data is transferred at an extremely faster rate in Local Area Network.

Local Area Network provides higher security.


LAN

PAN(Personal Area Network)

Personal Area Network is a network arranged within an individual person, typically within a range of 10 meters.

Personal Area Network is used for connecting the computer devices of personal use is known as Personal Area Network.

Thomas Zimmerman was the first research scientist to bring the idea of the Personal Area Network.

Personal Area Network covers an area of 30 feet.

Personal computer devices that are used to develop the personal area network are the laptop, mobile phones, media player and play stations.

MAN(Metropolitan Area Network)

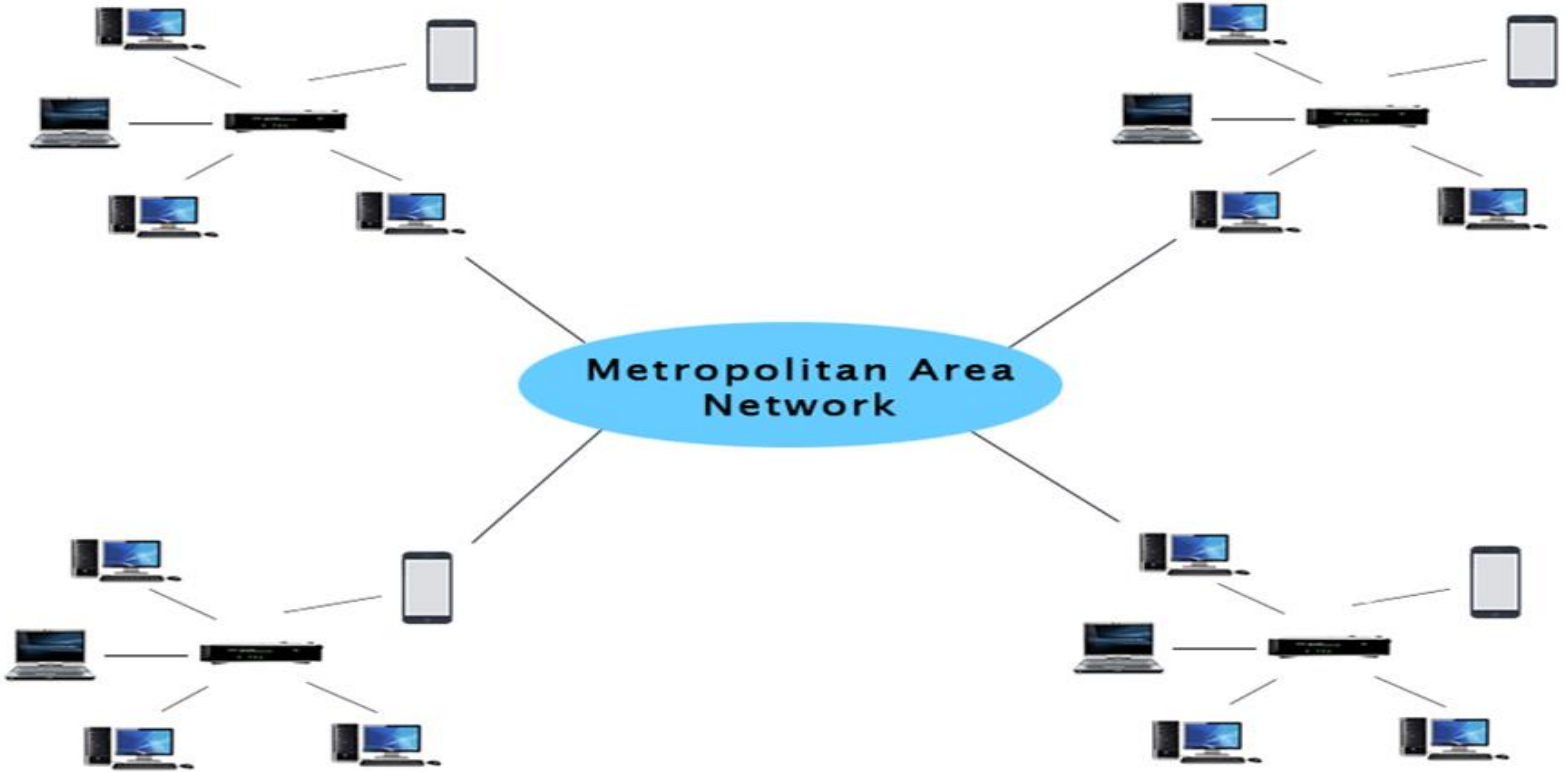
A metropolitan area network is a network that covers a larger geographic area by interconnecting a different LAN to form a larger network.

Government agencies use MAN to connect to the citizens and private industries.

In MAN, various LANs are connected to each other through a telephone exchange line.

The most widely used protocols in MAN are RS-232, Frame Relay, ATM, ISDN, OC-3, ADSL, etc.

It has a higher range than Local Area Network(LAN).


Metropolitan Area Network

Uses Of Metropolitan Area Network:

MAN is used in communication between the banks in a city.

It can be used in an Airline Reservation.

It can be used in a college within a city.

It can also be used for communication in the military.

WAN(Wide Area Network)

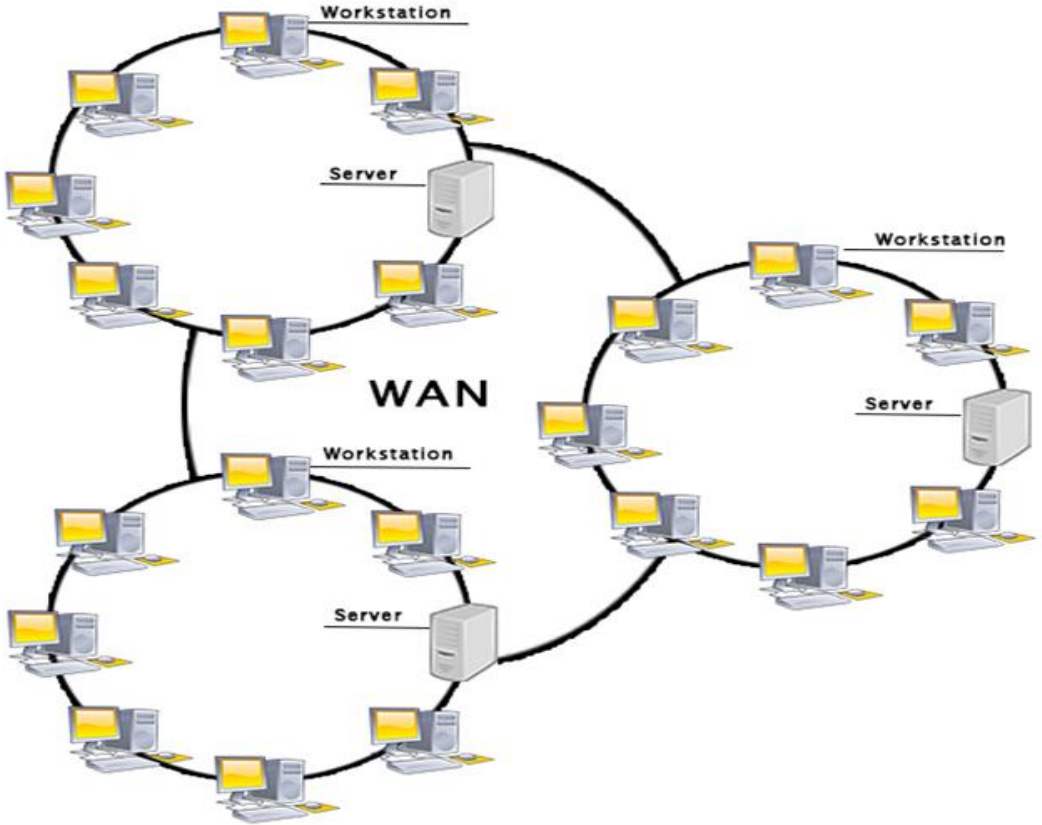
A Wide Area Network is a network that extends over a large geographical area such as states or countries.

A Wide Area Network is quite bigger network than the LAN.

A Wide Area Network is not limited to a single location, but it spans over a large geographical area through a telephone line, fibre optic cable or satellite links.

The internet is one of the biggest WAN in the world.

A Wide Area Network is widely used in the field of Business, government, and education.


Workstation
Server
Workstation
WAN
Server
Workstation
Server

Internet and Extranet

Internet	Extranet
• It is used as public network. • An internet is less secure because it has zero security level in the firewall. • In the case of the Internet, anyone can access it without a valid username and password. • A large number of users can access the Internet. •An internet acts as a tool for sharing information all over the world.	• Whereas it is used as private network. • While the extranet is more secure than the Internet. • Whereas in the case of extranet, no one can access it without a valid username and password. • Whereas here, a limited number of users can access the extranet. • Whereas it acts as a medium to share the information between the internal and external members.

Internet Security

Internet security refers to securing communication over the internet.

It includes specific security protocols such as:

- Internet Security Protocol (IPSec)
- Secure Socket Layer (SSL)

Internet Security Protocol (IPSec)

It consists of a set of protocols designed by Internet Engineering Task Force (IETF). It provides security at network level and helps to create authenticated and confidential packets for IP layer.

Secure Socket Layer (SSL)

It is a security protocol developed by Netscape Communications Corporation.). It provides security at transport layer. It addresses the following security issues:

- Privacy
- Integrity
- Authentication

Types of internet security threats

While the web presents users with lots of information and services, it also includes several risks.

Cyber attacks are only increasing in sophistication and volume, with many cybercriminals using a combination of different types of attacks to accomplish a single goal.

Though the list of potential threats is extensive, here are some of the most common internet security threats:

Malware: Short for "malicious software," malware comes in several forms, including computer viruses, worms, Trojans, and dishonest spyware.

Computer worm: A computer worm is a software program that copies itself from one computer to the next. It does not require human interaction to create these copies and can spread rapidly and in great volume.

Spam: Spam refers to unwanted messages in your email inbox. In some cases, spam can simply include junk mail that advertises goods or services you aren't interested in. These are usually considered harmless, but some can include links that will install malicious software on your computer if they're clicked on.

Phishing: Phishing scams are created by cybercriminals attempting to solicit private or sensitive information. They can pose as your bank or web service and lure you into clicking links to verify details like account information or passwords.

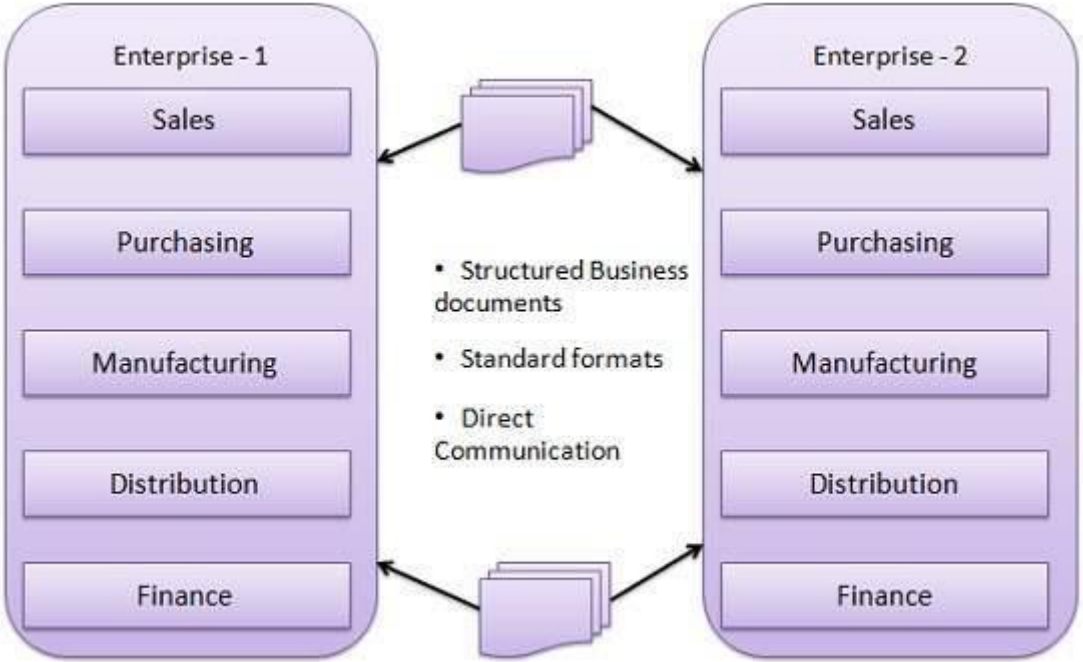
Botnet: A botnet is a network of private computers that have been compromised. Infected with malicious software, these computers are controlled by a single user and are often prompted to engage in nefarious activities, such as sending spam messages or denial-of-service (DoS) attacks.

E-Commerce - EDI

EDI stands for Electronic Data Interchange.

EDI is an electronic way of transferring business documents in an organization internally, between its various departments or externally with suppliers, customers, or any subsidiaries.

In EDI, paper documents are replaced with electronic documents such as word documents, spreadsheets, etc.


Enterprise - 1
Sales
Purchasing
Manufacturing
Distribution
Finance
• Structured Business documents
• Standard formats
• Direct Communication
Enterprise - 2
Sales
Purchasing
Manufacturing
Distribution
Finance

EDI Documents

Following are the few important documents used in EDI −

- Invoices
- Purchase orders
- Shipping Requests
- Acknowledgement
- Business Correspondence letters
- Financial information letters

Steps in an EDI System

Following are the steps in an EDI System.

A program generates a file that contains the processed document.
The document is converted into an agreed standard format.
The file containing the document is sent electronically on the network.
The trading partner receives the file.
An acknowledgement document is generated and sent to the originating organization.

Advantages of an EDI System

Following are the advantages of having an EDI system.

Reduction in data entry errors. − Chances of errors are much less while using a computer for data entry.
Shorter processing life cycle − Orders can be processed as soon as they are entered into the system. It reduces the processing time of the transfer documents.
Electronic form of data − It is quite easy to transfer or share the data, as it is present in electronic format.
Reduction in paperwork − As a lot of paper documents are replaced with electronic documents, there is a huge reduction in paperwork.
Cost Effective − As time is saved and orders are processed very effectively, EDI proves to be highly cost effective.
Standard Means of communication − EDI enforces standards on the content of data and its format which leads to clearer communication.