

# Chapters 5 – 8 essay



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PAN (Personal Area Network) a term sometimes used to refer to the interconnection of personal digital devices or consumer electronics within a range of about 30 get (10 meters) and without the use of wires or cables.

LAN (Local Area Network) a data communications network that connect personal computers within a vary limited geographical area-usually a single building.

MAN (Metropolitan Area Network) a public high-speed network capable of voice and data transmission within a range of about 50 miles (80 km).

LAN this technologies are standardized by the institute of Electrical and Electronics Engineers (IEEE) Project 802 - Local Network Standards.

Node This is referred to as each connection point on a network.

Network Interface card (NIC) To connect to a LAN, a computer requires network circuitry referred to as .....?

Network Peripheral or Network-enabled peripheral is any device that contains network circuitry to directly connect t a network. examples are, printers, scanners, and storage devices.

Network Attached Storage (NAS) referred to a storage device that directly connects to a network.

Network Device aka Network appliance is any electronic device that broadcasts network data, boosts signals, or routes data to its destination.

Application server runs application software for network workstations

File server stores files that supplies them to workstations on request.

Print server handles jobs sent to network printers.

Peer-to-Peer mode files and applications can be shared among workstations operating as \_\_\_\_\_? Examples of Popular file sharing systems are Gnutella, Kazaa, and BitTorrent

Client/server mode Networks that include one or more servers

Physical topology the arrangement of devices in a network is \_\_\_\_\_?

Star topology features a central connection point that links cables of handles wireless broadcasts to all workstations and peripherals.

Ring topology connects all devices in a circle, with each device having exactly two neighbors.

Bus topology uses a common backbone to connect all network devices.

Mesh topology connects to each network device to many other network devices. Data traveling on this network can take any of several paths from its destination.

Tree topology is essentially a blend of star and bus networks. Multiple star networks are connected into a bus configuration by a backbone.

Gateway is a generic term for any device or software code used to join two networks, even if those networks use different standards.

Communications Channel or a link is a physical path or frequency for signal transmissions.

Bandwidth is the transmission capacity of a communications channel. Its digital data is usually measured in bits per second.

Broadband This is referred to as High Bandwidth communications systems, such as cable TV and DSL

Narrowband Systems with less capacity, such as dial-up internet access is referred to as \_\_\_\_\_?

Communications protocol refers to a set of rules for efficiently transmitting data from one network to another.

Handshaking this is referred to when two computers on a network might negotiate their communications protocols

Packet is a parcel of data that is sent across a computer network.

Circuit switching some communications networks, such as telephone system, use this technology

Packet switching this divides a message into several packets that can be routed independently to their destination.

Digital depicted as stepped wave.

Analog Signal depicted as smooth wave

MAC Address a unique number assigned to a network interface card when it is manufactured.

IP Address a series of numbers used to identify a network device. It is separated into four sections by periods for the convenience of human readers.

Octet in binary it is represented by eight bits.

DHCP (dynamic host configuration protocol) designed to automatically distribute IP Address.

Wired network is one of that uses cables to connect network devices.

Ethernet a packet is broadcast to every device, but is accepted only by the device to which it is addressed. Data travels on a first-come, first-served basis. If two workstations attempt to send at the same time, a collision occurs.

CSMA/CD Protocol takes care of situations in which two network devices attempt to transmit packets at the same time.

Ethernet adapter (also called an ethernet card or NIC) You can purchase and install this if your computer does not come with a port

Network Hub is a device that links two or more nodes of a wired network.

Network Switch is a more sophisticated connection device that sends data only to the devices specified as the destination.

Network router is a network device that can ship data from one network to another.

Home PNA is a network technology that utilizes existing telephone wires or coaxial cables to connect network devices.

Powerline network transmits network data as radio signals over the wires that supply electricity to wall outlets.

Wireless network transports data from one device to another without the use of cables or wires.

RF Signals (Radio Frequency Signals) commonly called radio waves are sent and received by a transceiver that is equipped with an antenna.

Transceiver a combination of both a transmitter and receiver.

Microwaves provide another option for transporting data over wireless networks. This can be aimed in just a single direction.

Infrared Light can also carry data signals, but only for short distances and with a clear line of sight.

Bluetooth short range wireless network technology that's designed to make its own connections between electronic devices, without wires, cables, or any direct action from a user.

Piconet A bluetooth network is sometimes called a \_\_\_\_\_?

Wi-Fi refers to a set of wireless networking technologies defined by IEEE 802.11 standards that are compatible with Ethernet.

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MIMO (Multiple-input multiple-output) technology uses two or more antennas to essentially send multiple sets of signals between network devices.

Wi-Fi adapter (also called a Wi-Fi card or wireless network controller) can be plugged into a USB port and be used to upgrade any type of computer.

Wireless Ad-hoc network transmit from one workstations to another, whereas an infrastructure network uses a centralized access point or router to relay signals to workstations.

Wireless Infrastructure Network uses a centralized broadcasting devices, such as a wireless access point or router.

Wireless access point is a device that transmits and receives wireless signals.

Wireless Router is a wireless access point that also includes routing circuitry designed to connect a Wi-Fi network to the internet.

MiFi is a brand name for a compact, mobile, wireless router offered by Novatel Wireless. The term is sometimes applied to similar routers produced by other manufacturers that can form a network of about five clients.

SSID (service set identifier) is the name of wireless network. This helps you log into the right network.

Shared resources hardware, software, and data made available for authorized network users to access.

Drive mapping assigns a letter to a storage device located on a network workstation.

Homegroup is a collection of trusted networked computers that automatically share files and folders.

LAN Jacking is a practice with wireless network data floating freely through the air, hackers have an easy time intercepting signals by cruising through a business district or neighborhood with a Wi-Fi enabled notebook computer.

Wireless Encryption scrambles the data transmitted between wireless devices and then unscrambles the data only on devices that have a valid encryption key.

WEP (Wired Equivalent Privacy) was designed to provide a level of confidentiality similar to that of a wired network.

WPA (Wi-Fi Protected Access) offers stronger protection by making sure that packets have not been intercepted or tampered with in any way.

PSK (pre-shared key) also referred to as personal mode, is a type of WPA used on most home networks. All workstation has the same key to connect to the network.

Router Software keeps track of everyone who is accessing a network, and it can be used to uncover intrusions.

Wireless Network Key (network security key) is the basis for scrambling and unscrambling the data transmitted between wireless devices.

Encryption transforms a message in such way that its contents are hidden from unauthorized readers. It is designed to keep messages secret.



Plaintext an original message that has not yet been encrypted

Ciphertext referred to an encrypted message.

Decryption the reverse process-converting ciphertext into plaintext

Cryptographic Algorithm is a procedure for encrypting or decrypting a message.

Cryptographic key (usually just called a key) is a word, number, or phrase that must be known to encrypt or decrypt a message

Weak encryption Caesar's simple substitution key is an example because it is easy to decrypt even without the algorithm and key.

Strong encryption is loosely defined as "very difficult to break".

AES (Advance Encryption Standard) the technology used for WPA2, is one of the strongest cryptographic algorithms.

Symmetric key encryption in which the key is used to encrypt a message is also used to decrypt the message.

Public key encryption (PKE) eliminates the key-distribution problem by using one key to encrypt a message, but another key to decrypt the message.

Narrowband Dial-up Internet access is an example of a(n) \_\_\_\_\_ communications system.

Ciphertext \_\_\_\_\_ is a crucial technology for e-commerce and email.

DHCPA protocol know as \_\_\_\_\_ is designed to automatically distribute IP addresses.

StarThomas is designing a wired home network with six nodes for a friend. His friend has asked that the network be configured such that, if one link fails, the rest of the network will still function.

1GData transport rates depend on the technology of the cellular system. The generation of cellular technology associated with analog voice service is \_\_\_\_\_?

ICANNdomain names are assigned by \_\_\_\_\_?

5 Mbps3G technologies have speeds ranging from 200 Kbp to

You need your own domain name ifyou have your own Web site

Cable internet service needscircuitry to handle Ethernet protocols and cable modem

SwarmA group of computers temporarily networked to download a file is a \_\_\_\_\_?

FQDNthis is a easy way to remember most Internet servers name

Screen sizethe disadvantage of WAP-enabled device is their\_\_\_\_\_?

Cachewhen your browser fetches pages and graphics to form a Web page, it stores then in temporary files on your hard drive called a web \_\_\_\_\_?

50KB Melissa wants to ensure that the resume she attaches to the e-mail messages she is sending to the potential employers will successfully make it to them. She should try to limit the size of the attachment to \_\_\_ or less for dial-up connections.

For the next search, Elizabeth wants only Web pages containing the complete phrase " Mars exploration." Which screen operator should she use to formulate the query? quotation marks

When you view a page infested with a(n) \_\_\_\_\_, an HTTP set-cookie request automatically goes to a third party server, which may set a cookie on your computer for later retrieval or record your IP address. Web bug

A(n) \_\_\_\_\_ adds HTML tags to a document, spreadsheet, or other text-based file to create an HTML document that can be displayed by a browser. HTML conversion utility

GET is the most frequently used HTTP method

A Web server's response to a browser's request includes HTTP \_\_\_\_\_ that indicates whether the browser's request could be filled. Status code

Cookie enables a Web server to keep track of your activity and compile a list of the your purchases.

A \_\_\_\_\_ watermark is a pattern of bits inserted at various places in an image or a content stream that can be used to track, identify, verify, and control content use. Digital

The \_\_\_\_\_ bitmap graphics file format compresses bitmap data without losing any data and supports trillions of colors. PNG

Copyprotection refers to technologies designed to prohibit consumers from copying content.

After videotaping her sister's wedding with an analog video camera, Nancy decided to edit out some of the footage using her computer. She finds that, although she has connected her camera, with the videotape, to her computer, she cannot access the video footage. Why? The analog video footage must be first converted into a digital form.

A(n) \_\_\_\_\_ is a device that contains a variety of input and output jacks, plus audio-processing circuitry. Sound card

Adobe Illustrator is not an video editing software

Graphics files that contain both bitmap and vector data are called \_\_\_\_\_.  
metafiles

The audio CDs you buy at your favorite music store are recorded at a sampling rate of 44.1 kHz

Professionals opt to have at least \_\_\_\_ of RAM on their computer's hard disk.  
4 GB

When should you use a digital camera rather than a scanner? When you want to create an image of a real object.

Microwaves cannot be aimed in a single direction and have less carrying capacity than radio waves. False

MAC addresses are used for some low-level network functions and can also be employed to establish network security. True

IP Addresses can be assigned by ISPs or system managers. True

Accessing Internet mobility is possible with most of today's wired or wireless Internet technologies. False

One of the most common ways of gaining unauthorized access to a network is by looking for open ports. True

Cloud computing is the term given to analyzing cloud patterns and, with the help of the computer, predicting the weather. False

The www in a URL is part of a domain name. False

Some modems allow you to temporarily suspend data transfers while answering a voice call. True

You must pay for a domain name. True

To use portable satellite technology you must take your satellite with you. True

BitTorrent uses P2P technology. True

All IP addresses are dynamic. False

Most Firewall software is preconfigured to block only unnecessarily open ports targeted by hackers. True

The framework for an HTML document consists of two sections: a head and a body. True

HTML is called a markup language because authors mark up their documents by inserting HTML tags, which represent special instructions that specify how the document should appear when displayed on a computer screen or printed. True

HTTP is a markup language that works with TCP/IP to deliver Web resources to the desktop. False

When configuring local e-mail, the incoming and outgoing servers must have the same settings. False

E-mail is based on store-and-forward technology. True

A C2C e-commerce transaction occurs when individual consumers purchase goods and services from online merchants. False

A conversion process called MIME provides a clever way of disguising digital photos, sounds, and other media as plain ASCII code that can travel over the Internet as e-mail attachments. True

Many search engines keep records of your query True

S-HTTP creates a secure connection between a client and a server over which any amount of data can be sent securely. False

Each pixel in a monochrome bitmap grid, is stored as a bit. True

Free file-sharing sites, popular in the 1990s, had a devastating effect on the recording industry. True

An infrared port will transfer a digital photo from a camera to a computer faster than a serial USB, or Firewire port. False

Digital video formats are often referred to as container formats, because they serve as a receptacle for all the elements of a video. True

With videos shown on a small computer screen at a fairly low resolution, recording with an inexpensive camera will not make a difference on the quality of the final video. False

A vector graphic resizes better than a comparable bitmap graphic. True

A scanner creates a vector graphic. False

Whether you acquire an image from a digital camera or a scanner, bitmap graphics tend to require very little storage space. False