Mis412 chapter 3

InternetAn interconnected network of thousands of networks and millions of computers linking businesses, educational institutions, government agencies, and individuals

World Wide Webone of the Internet's most popular services, providing access to over 50 billion Web pages

Packet Switchinga method of slicing digital messages into packets, sending the packets along different communication paths as they become available, and then reassembling the packets once they arrive at their destination

Packetthe discrete units into which digital messages are sliced for transmission over the Internet

Routerspecial-purpose computer that interconnects the computer networks that make up the Internet and routes packets to their ultimate destination as they travel the Internet

Routing Algorithmcomputer program that ensures that packets take the best available path toward their destination

Protocola set of rules and standards for data transfer

Transmission Control Protocol/Internet Protocol (Tcp/Ip)the core communications protocol for the internet

Tcpprotocol that establishes the connections among sending and receiving Web computers and handles the assembly of packets at the point of transmission, and their reassembly at the receiving end

Ipprotocol that provides the Internet's addressing scheme and is responsible for the actual delivery of the packets

Network Interface Layerresponsible for placing packets on and receiving them from the network medium

Internet Layerresponsible for addressing, packaging, and routing messages on the Internet

Transport Layerresponsible for providing communication with the application by acknowledging and sequencing the packets to and from the application

Application Layerprovides a wide variety of applications with the ability to access the services of the lower layers

Internet AddressInternet address expressed as a 32-bit number that appears as a series of four separate numbers marked off by periods, such as 64. 49. 254. 91

Domain NameIP address expressed in natural language

Domain Name System (Dns)system for expressing numeric IP addresses in natural language

Uniform Resource Locator (Url)the address used by a Web browser to identify the location of content on the Web

Client/Server Computinga model of computing in which powerful personal computers are connected in a network together with one or more servers

Clienta powerful personal computer that is part of a network

Servernetworked computer dedicated to common functions that the client computers on the network need

Cloud Computingmodel of computing in which firms and individuals obtain computing power and software over the Internet

Hypertext Transfer Protocol (Http)the internet protocol used for transferring Web pages

Simple Mail Transfer Protocol (Smtp)the Internet protocol used to send mail to a server

Post Office Protocol 3 (Pop3)a protocol used by the client to retrieve mail from an Internet server

Internet Message Access Protocol (Imap)a more current e-mail protocol that allows users to search, organize, and filter their mail prior to downloading it from the server

File Transfer Protocol (Ftp)one of the original Internet services. Part of the TCP/IP protocol that permits users to transfer files from the server to their client computer, and vice versa

Telneta terminal emulation program that runs in TCP/IP

Secure Sockets Layer (Ssl)a protocol that secures communications between the client and the server

Pinga program that allows you to check the connection between your client and the server

Tracertone of several route-tracing utilities that allow you to follow the path of a message you send from your client to a remote computer on the Internet

Pathpingcombines the functionality offered by Ping and Tracert

Network Technology Substrate Layerlayer of Internet technology that is composed of telecommunications networks and protocols

Transport Services And Representation Standards Layerlayer of Internet architecture that houses the TCP/IP protocol

Applications Layerlayer of Internet architecture that contains client applications

Middleware Services Layerthe " glue" that ties the applications to the communications networks, and includes such services as security, authentication, addresses, and storage repositories

Network Service Provider (Nsp)owns and controls one of the major networks comprising the Internet's backbone

Backbonehigh-bandwidth fiber-optic cable that transports data across the Internet

Bandwidthmeasures how much data can be transferred over a communications medium within a fixed period of time; is usually expressed in bits per second (bps), kilobits per second (Kbps), megabits per second (Mbps), or gigabits per second (Gbps)

Redundancymultiple duplicate devices and paths in a network

Internet Exchange Point (Ixp)hub where the backbone intersects with local and regional networks and where backbone owners connect with one another

Campus Area Networks (Can)generally, a local area network operating within a single organization that leases access to the Web directly from regional and national carriers

Internet Service Provider (Isp)firm that provides the lowest level of service in the multi-tiered Internet architecture by leasing Internet access to home owners, small businesses, and some large institutions

Narrowbandthe traditional telephone modem connection, now operating at 56. 6 Kbps

Broadbandrefers to any communication technology that permits clients to play streaming audio and video files at acceptable speeds—generally anything above 100 Kbps

Digital Subscriber Line (Dsl)delivers high-speed Access through ordinary telephone lines found in homes or businesses

Cable Modempiggybacks digital Access to the Internet on top of the analog video cable providing television signals to a home

T1an international telephone standard for digital communication that offers guaranteed delivery at 1. 54 Mbps

T3an international telephone standard for digital communication that offers guaranteed delivery at 45 Mbps

Intraneta TCP/IP network located within a single organization for purposes of communications and information processing

Extranetformed when firms permit outsiders to access their internal TCP/IP networks

Latencydelays in messages caused by the uneven flow of information packets through the network

Internet2®a consortium of more than 200 universities, government agencies, and private businesses that are collaborating to find ways to make the Internet more efficient

Gigapopa regional Gigabit Point of Presence, or point of access to the Internet2 network, that supports at least one gigabit (1 billion bits) per second information transfer

Fiber-Optic Cableconsists of up to hundreds of strands of glass or plastic that use light to transmit data

Photonicsthe study of communicating with light waves

Wi-Fi (Wireless Fidelity)also referred to as 802. 11b, 802. 11a (Wi-Fi5), and 802. 16 (WiMAX). Wireless standard for Ethernet networks with greater speed and range than Bluetooth

Bluetoothnew technology standard for short-range wireless communication under 10 meters

Zigbeea less-expensive, lowpower, and simpler form of radio network operating in the 2. 4 GHz band and other bands that allows small appliances and sensors to talk with one another

Ip Multicastinga set of technologies that enables efficient delivery of data to many locations on a network

Diffserv (Differentiated Quality Of Service)a new technology that assigns levels of priority to packets based on the type of data being transmitted

MosaicWeb browser with a graphical user interface (GUI) that made it possible to view documents on the Web graphically

Universal Computingthe sharing of files, information, graphics, sound, video, and other objects across all computer platforms in the world, regardless of operating system

Netscape Navigatorthe first commercial Web browser

Internet ExplorerMicrosoft's Web browser

Hypertexta way of formatting pages with embedded links that connect documents to one another, and that also link pages to other objects such as sound, video, or animation files

Hypertext Markup Language (Html)one of the next generation of GMLs that is relatively easy to use in Web page design. HTML provides Web page

designers with a fixed set of markup " tags" that are used to format a Web page

Extensible Markup Language (Xml)a markup language specification developed by the World Wide Web Consortium (W3C) that is designed to describe data and information

Web Server Softwaresoftware that enables a computer to deliver Web pages written in HTML to client computers on a network that request this service by sending an HTTP request

Database Serverserver designed to access specific information with a database

Ad Serverserver designed to deliver targeted banner ads

Mail Serverserver that provides e-mail messages

Video Serverserver that serves video clips

Web Clientany computing device attached to the Internet that is capable of making HTTP requests and displaying HTML pages, most commonly a Windows PC or Macintosh

Electronic Mail (E-Mail)the most-used application of the Internet. Uses a series of protocols to enable messages containing text, images, sound, and video clips to be transferred from one Internet user to another

Attachmenta file inserted within an e-mail message

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