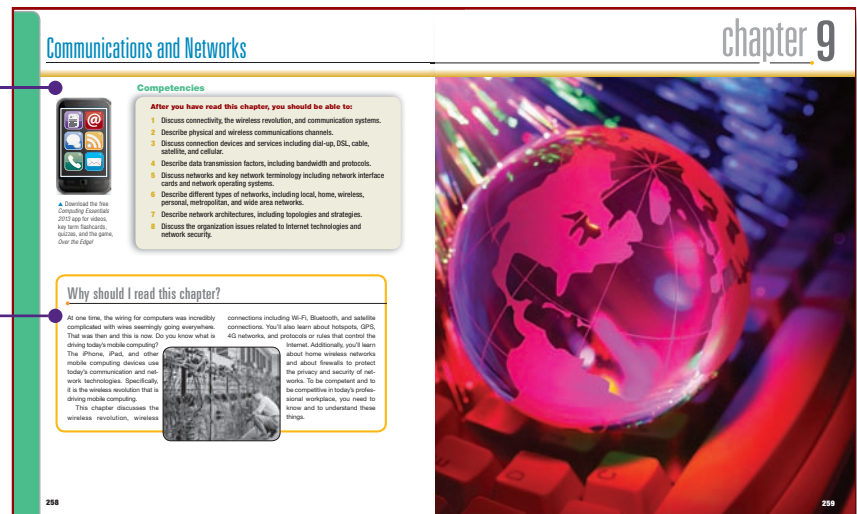


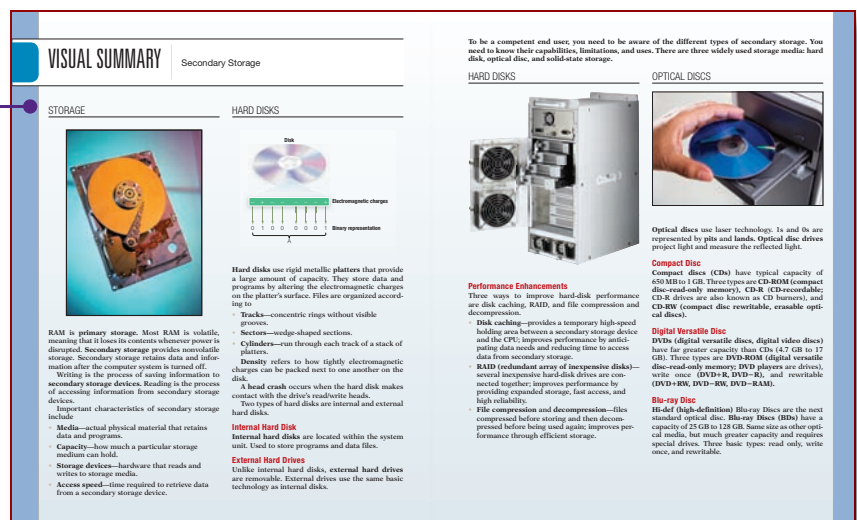
VISUAL CHAPTER OPENERS

Each chapter begins with a list of chapter competencies or objectives and provides a brief introduction to what will be covered in the chapter. Additionally, the “Why Should I Read This?” feature provides relevance through a brief discussion of the content’s historical context.



VISUAL SUMMARIES

Visual summaries appear at the end of every chapter and summarize major concepts covered throughout the chapter. Like the chapter openers, these summaries use graphics to reinforce key concepts in an engaging and meaningful way.



MAKING IT WORK FOR YOU


Making IT work for you

CLOUD STORAGE

Do you ever need to share large files with others? Perhaps you have found many video and other types of files can be too large to effectively send as an e-mail attachment. You could distribute large files on a CD or DVD, or by using an FTP site. A simpler alternative is to use a cloud storage service. Using a cloud storage service makes it easy to upload and share files with anyone quickly.

Create a Custom Address The first step is to choose a custom URL where your files will be located and upload your files to that address. To do this using the sendspace file-sharing service:

- 1 Visit <http://www.sendspace.com>
 - Click the **Browse** button to locate the file to share.
 - Optionally, enter the recipient's e-mail and your e-mail to automatically receive a message with your custom address.
 - Click the **Upload** button to upload your selected file.
 - After the file has finished uploading, you will be given a custom address for it.



Custom address

Delete File Link

Special-interest topics are presented in the Making IT Work for You section found within nearly every chapter. These topics include using Job Searches, Google Docs, Virus Protection, Internet Security, and Cloud Storage.

Reinforcing Key Concepts

CONCEPT CHECKS

Located at points throughout each chapter, the Concept Check cues you to note which topics have been covered and to self-test your understanding of the material already discussed.



CONCEPT CHECK



What are search services, spiders, and search engines?

What is the difference between a search engine and a Web directory?

Compare metasearch and specialized search engines.

What are the four considerations for evaluating Web site content?

KEY TERMS

address (36, 38)	filter (54)	social networking (40)
Advanced Research Project Agency Network (ARPANET) (32)	friend (39)	spam (39)
Ajax (37)	header (38)	spam blocker (39)
applets (37)	hit (46)	spam filter (39)
attachment (38)	hyperlink (36)	specialized search engine (47)
auction house site (50)	Hypertext Markup Language (HTML) (36)	spider (46)
BitTorrent (55)	instant messaging (IM) (39)	streaming (42)
blog (42)	Internet (32)	subject (38)
browser (35)	Internet security suite (56)	subject directory (46)
business-to-business (B2B) (50)	Internet service provider (ISP) (35)	surf (35)
business-to-consumer (B2C) (49)	Java (37)	top-level domain (TLD) (36)
cable (35)	JavaScript (37)	Twitter (42)
carder (51)	link (36)	uniform resource locator (URL) (36)
Center for European Nuclear Research (CERN) (32)	LinkedIn (41)	universal instant messenger (40)
client-based e-mail account (38)	location (36)	uploading (55)
cloud computing (52)	message (39)	virus (39)
consumer-to-consumer (C2C) (50)	metasearch engine (47)	Web (32)
digital cash (51)	microblog (42)	Web 1.0 (32)
domain name (36)	mobile browser (37)	Web 2.0 (32)
downloading (55)	MySpace (40)	Web 3.0 (32)
DSL (35)	online (32)	Web auction (50)
e-commerce (49)	online banking (50)	Web-based e-mail account (38)
e-learning (33)	online shopping (50)	Web-based file transfer services (55)
electronic commerce (49)	online stock trading (50)	Webcasts (42)
electronic mail (38)	person-to-person auction site (50)	Web directory (46)
e-mail (38)	plug-in (54)	Web log (42)
e-mail client (38)	podcast (42)	Webmail (38)
Facebook (40)	protocol (36)	Webmail client (38)
Facebook groups (41)	search engine (46)	Webmaster (57)
Facebook Pages (40)	search service (46)	Web page (36)
Facebook Profile (40)	secure file transfer protocol (SFTP) (55)	wiki (43)
file transfer protocol (FTP) (55)	signature (39)	wireless modem (35)

To test your knowledge of these key terms with animated flash cards, visit our Web site at www.computing2013.com and enter the keyword **terms2**.

KEY TERMS

Throughout the text, the most important terms are presented in **bold** and are defined within the text. You will also find a list of key terms at the end of each chapter and in the glossary at the end of the book.

MULTIPLE CHOICE

Circle the correct answer.

- The network that connects computers all over the world.
a. CERN c. LAN
b. Internet d. Web
- The rules for exchanging data between computers.
a. DSL c. Web
b. protocols d. WWW
- Client-based e-mail accounts require this special program to be installed on your computer.
a. e-mail client c. Java
b. hyperlink d. utility
- Communities of individuals who share a common interest typically create Facebook:
a. clients c. pages
b. groups d. profiles
- E-mail that does not require an e-mail program installed on a user's computer is known as:
a. a blog c. Webmail
b. a podcast d. a utility
- A very well known microblog.
a. LinkedIn c. Twitter
b. MySpace d. Wikipedia
- These programs continually look for new information and update search services' database programs.
a. filters c. spiders
b. IM d. wikis
- A type of search engine that submits requests to other search engines, organizes their responses, eliminates duplicate responses, orders hits, and then provides an edited list.
a. directory search c. metasearch engine
b. ISP d. specialized search engine
- This is the Internet's equivalent to traditional cash.
a. digital cash c. icash
b. e-commerce d. Internet dollars
- Using file transfer utility software, you can copy files to your computer from specially configured servers on the Internet. This is called:
a. downloading c. blogging
b. filtering d. uploading

For an interactive multiple-choice practice test, visit our Web site at www.computing2013.com and enter the keyword **multiple2**.

CHAPTER REVIEW

Following the Visual Summary, the chapter review includes material designed to review and reinforce chapter content. It includes a Key Terms list that reiterates the terms presented in the chapter, Multiple Choice questions to help test your understanding of information presented in the chapter, Matching exercises to test your recall of terminology presented in the chapter, and Open-Ended questions or statements to help review your understanding of the key concepts presented in the chapter.

The Future of Information Technology

CAREERS IN IT

- **RAID systems**—larger versions of the specialized devices discussed earlier in this chapter that enhance organizational security by constantly making backup copies of files moving across the organization's networks.
- **Tape library**—device that provides automatic access to data archived on a library of tapes.
- **Organizational cloud storage**—high-speed Internet connection to a dedicated remote organizational cloud storage server.

Storage Area Network

A recent mass storage development is **storage area network (SAN)** systems. SAN is an architecture to link remote computer storage devices, such as enterprise storage systems, to computers such that the devices are as available as locally attached drives. In a SAN system, the user's computer provides the file system for storing data, but the SAN provides the disk space for data.

The key to a SAN is a high-speed network, connecting individual computers to mass storage devices. Special file systems prevent simultaneous users from interfering with each other. SANs provide the ability to house data in remote locations and still allow efficient and secure access.

CONCEPT CHECK

- Define mass storage and list five mass storage devices.
- What is an enterprise storage system?
- What is a storage area network system?



Careers in IT

Software engineers analyze users' needs and create application software. Software engineers typically have experience in programming but focus on the design and development of programs using the principles of mathematics and engineering.

A bachelor's or an advanced specialized associate's degree in computer science or information systems and an extensive knowledge of computers and technology are required by most employers. Internships may provide students with the kinds of experience employers look for in a software engineer. Those with specific experience with networking, the Internet, and Web applications may have an advantage over other applicants. Employers typically look for software engineers with good communication and analytical skills.

Software engineers can expect to earn an annual salary in the range of \$63,000 to \$98,500. Advancement opportunities are usually tied to experience. Experienced software engineers may be promoted to project manager or have opportunities in systems design. To learn about other careers in information technology, visit us at www.computing2013.com and enter the keyword **careers**.

Now that you've learned about secondary storage, let me tell you a little bit about my career as a software engineer.

Some of the fastest-growing career opportunities are in information technology. Each chapter highlights one of the most promising careers in IT by presenting job titles, responsibilities, educational requirements, and salary ranges. Among the careers covered are Webmaster, software engineer, and database administrator. You will learn how the material you are studying relates directly to a potential career path.

A LOOK TO THE FUTURE

Each chapter concludes with a brief discussion of a recent technological advancement related to the chapter material, reinforcing the importance of staying informed.

A LOOK TO THE FUTURE

Your Entire Life Recorded on a Single Disk

Imagine if you could store every conversation you ever had on a single disk. What if you could capture your entire life on

video stored on just a few discs? What if you could hold in your pocket the contents of the Library of Congress? Innovations in secondary storage capacity using molecular storage promise all of this and more.

Currently, information is stored on magnetic or optical discs. In the future, the electron state of atoms in a molecule will hold information at a much greater density. Currently, experiments have yielded densities of 200 gigabytes per square inch. If successfully brought to market, such a product would yield two terabytes on one disk, enough to hold every conversation a person has throughout his or her entire lifetime. Experiments with three-dimensional storing (where information is stored in height as well as area) and optical holography (where information is stored by light photons on specially treated crystals) promise to yield even greater storage in smaller packages.

The capability to store vast amounts of data offers a future both tantalizing and problematic. Although having a video of your life would be a wonderful memory tool, how could you sort and use so much information? Imagine having to search

through hours of video just to verify the time of a lunch date or to remember where you parked your car. Fortunately, computer scientists are developing computer programs that can rapidly sort through and understand audio and visual material. Great strides have been made in creating programs that can scan photos and videos searching for a particular person's face. This technology is currently being used in airports to identify suspected terrorists. In the future, you may use this technology to search for photos of a loved one or video of the family vacation.

Is there a downside to recording every event in a person's life? Could your personal video log be used to incriminate you in a court of law? Could someone else's video log be an invasion of your right to privacy? The technology will soon be here. Are you ready for it? Would you use it to record your every move?



In each chapter, *Making IT Work for You* presents questions designed to help you gain a better understanding of how technology is being used today. The first question is related directly to the chapter's *Making IT Work for You* topics. Other questions focus on interesting applications of technology that relate directly to you.



In each chapter, Ethics presents questions designed to explore ethical issues related to technology and to help you develop the ability to think critically and communicate effectively. Typically, the questions relate directly to the Ethics boxes within each chapter. Topics include free speech online, acquiring software, and digital photo manipulation.

In each chapter, Environment presents questions designed to explore environmental issues related to technology and to help you develop the ability to think critically and communicate effectively. Typically, the questions relate directly to the Environmental boxes within each chapter. Topics include spam, Green pcs, and environmental robots.

