

Chapter 05

Internet

01 Internet and TCP/IP

02 WWW and Internet Service

03 Computer Security

04 ARPANET

05 Self Check

06 Practical English

- **Internet is spelled as Internet or INTERNET to distinguish from the internet, the abbreviation of the internetwork, meaning a set of network connecting among communication networks. It has been growing from LANs connecting small-sized communication networks to the global-sized set. We'll learn the related protocols such as TCP/IP, and the services such as www, ftp, and telnet in this chapter.**

Section 01 Internet and TCP/IP(1)

■ Internet 인터넷

- Internet is a global network connecting millions of computers. More than 100 countries are linked into exchanges of data, news and opinions.
- Unlike online services, which are centrally controlled, the Internet is decentralized by design. Each Internet computer, called a host, is independent.
- Its operators can choose which Internet services to use and which local services to make available to the global Internet community. Remarkably, this anarchy by design works exceedingly well.
- There are a variety of ways to access the Internet. Most online services offer access to some Internet services. It is also possible to gain access through a commercial Internet Service Provider (ISP).

Section 01 Internet and TCP/IP(2)

■ TCP/IP

- TCP/IP, abbreviation for Transmission Control Protocol/Internet Protocol, is the suite of communications protocols used to connect hosts on the Internet. TCP/IP uses several protocols, the two main ones being TCP and IP. TCP/IP is built into the UNIX operating system and is used by the Internet. Even network operating systems that have their own protocols, such as Netware, also support TCP/IP.

Section 02 WWW and Internet Service(1)

■ WWW

- WWW is a system of Internet servers that support specially formatted documents. The documents are formatted in a markup language called HTML (HyperText Markup Language) that supports links to other documents, as well as graphics, audio, and video files. This means you can jump from one document to another simply by clicking on hot spots. Not all Internet servers are part of the World Wide Web.
- There are several applications called Web browsers that make it easy to access the World Wide Web; Two of the most popular being Google's Chrome and Microsoft's Internet Explorer.



Section 02 WWW and Internet Service(2)

■ Internet Service 인터넷 서비스

- The services those can be used in the Internet are e-mail, telnet, ftp, WWW and so on. The new services such as real-time broadcasting service or video conferencing using motion pictures or voice data are developed to be used. The Internet is called as a sea of information because of the such various services and rich informational resources.

Section 02 WWW and Internet Service(3)

■ E-mail 이메일

- E-mail, short for electronic mail, is the transmission of messages over communications networks. The messages can be notes entered from the keyboard or electronic files stored on disk. Most mainframes, minicomputers, and computer networks have an e-mail system. Some electronic-mail systems are confined to a single computer system or network, but others have gateways to other computer systems, enabling users to send electronic mail anywhere in the world. Companies that are fully computerized make extensive use of e-mail because it is fast, flexible, and reliable.

Section 02 WWW and Internet Service(4)

■ Telnet 텔넷

- Telnet is a terminal emulation program for TCP/IP networks such as the Internet. The Telnet program runs on your computer and connects your PC to a server on the network. You can then enter commands through the Telnet program and they will be executed as if you were entering them directly on the server console. This enables you to control the server and communicate with other servers on the network. To start a Telnet session, you must log in to a server by entering a valid username and password. Telnet is a common way to remotely control Web servers.

Section 02 WWW and Internet Service(5)

■ FTP

- FTP, short for File Transfer Protocol, is the protocol for exchanging files over the Internet. FTP works in the same way as HTTP and SMTP. HTTP is for transferring Web pages from a server to a user's browser. And, SMTP is for transferring electronic mail across the Internet. Like these technologies, FTP uses the Internet's TCP/IP protocols to enable data transfer.

Section 02 WWW and Internet Service(6)

■ SNS

■ Facebook

- Facebook is a popular free social networking website that allows registered users to create profiles, upload photos and video, send messages and keep in touch with friends, family and colleagues. The site, which is available in 37 different languages, includes public features such as:
 - Marketplace: allows members to post, read and respond to classified ads.
 - Groups: allows members who have common interests to find each other and interact.
 - Events: allows members to publicize an event, invite guests and track who plans to attend.
 - Pages: allows members to create and promote a public page built around a specific topic.

■ Twitter

- Twitter is a free social networking microblogging service that allows registered members to broadcast short posts called tweets. Twitter members can broadcast tweets and follow other users' tweets by using multiple platforms and devices. Tweets and replies to tweets can be sent by cell phone text message, desktop client or by posting at the Twitter.com website.

Section 03 Computer Security(1)

■ Computer Security 컴퓨터 보안

- Computer security is a branch of technology known as information security as applied to computers. The objective of computer security can include protection of information from theft or corruption, or the preservation of availability, as defined in the security policy.

Section 03 Computer Security(2)

■ Security Threat 보안 위협

- Threats to security include:
 - Viruses: Computer programs written by devious programmers and designed to replicate themselves and infect computers when triggered by a specific event
 - Trojan horse programs: Delivery vehicles for destructive code, which appear to be Chapter 05. Internet 155 harmless or useful software programs such as games
 - Vandals: Software applications or applets that cause destruction
 - Data interception: Involves eavesdropping on communications or altering data packets being transmitted
 - Social engineering: Obtaining confidential network security information through nontechnical means, such as posing as a technical support person and asking for people's passwords
 - phishing: To try to obtain financial or other confidential information from Internet users, typically by sending an e-mail that looks as if it is from a legitimate organization, contains a link to a fake website that replicates the real one.
 - Cookie: A HTTP header that consists of text-only data commonly contains the domain, path, lifetime, and value of a variable that you set. If the lifetime of this variable is longer than the time the user spends at your site, then this string is saved to file for future reference.

Section 03 Computer Security(3)

■ Security Tool 보안 툴

- Security tools include:
 - Antivirus software packages: These packages counter most virus threats if regularly updated and correctly maintained.
 - Virtual Private Networks (VPN): These networks provide access control and data encryption between two different computers on a network. They allow remote workers to connect to the network without the risk of hackers or thieves intercepting data.
 - Encryption: Encryption ensures that messages cannot be intercepted or read by anyone other than the authorized recipient.
- None of these approaches alone will be sufficient to protect a network but when they are layered together, they can be highly effective in keeping a network safe from attacks and other threats to security. In addition, well-thought-out corporate policies are critical to determine and control access to various parts of the network.

Section 04 ARPANET(1)

- ARPANET was a packet-switching network developed in the early 1970s. ARPANET was funded by ARPA (Advanced Research Projects Agency), which later became DARPA (Defense Advanced Research Projects Agency). The ARPANET network linked defense facilities, government research laboratories, and university sites. It evolved into the backbone of the Internet, and the term "ARPANET" was officially retired in 1990. However, MILNET (military network) was spun off from ARPANET in 1983. In addition, ARPANET introduced the most important protocol suites available today, TCP/IP (Transmission Control Protocol/Internet Protocol). TCP/IP is a set of communications procedures and standards that provide a basis for interconnecting dissimilar computers.
- DARPA was interested in interlinking the many different computer systems that were spread out across the country as part of the nation's research and development effort. DARPA's goal was to create a set of nonproprietary communications protocols that would make it easy to connect many different computers together. Much of the original work was done at the Massachusetts Institute of Technology and with the help of companies such as BBN. In 1980, the first TCP/IP modules were installed.

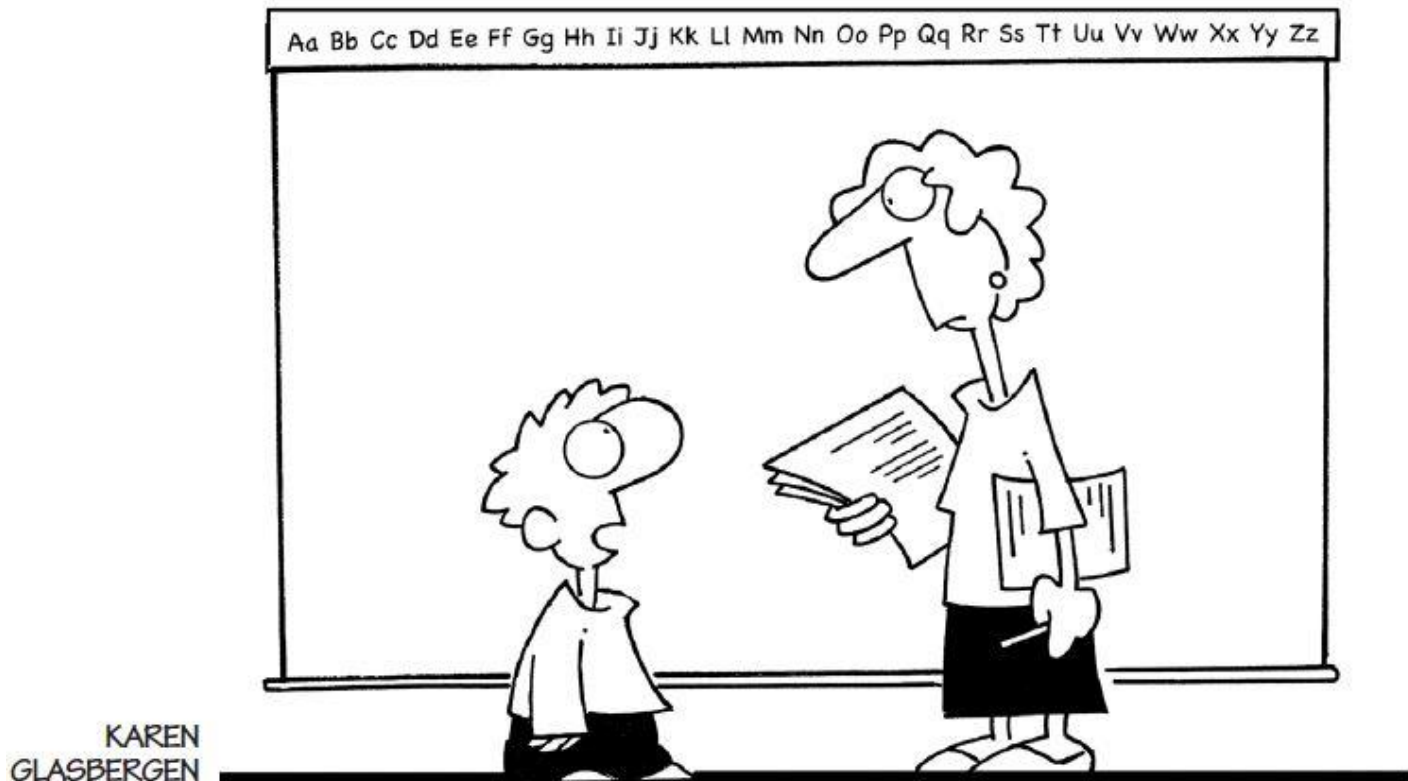
Section 04 ARPANET(2)

- One of the most important aspects of TCP/IP's development was the program of testing and certification carried out by the government to ensure that developers met published TCP/IP standards, which were (and still are) available to the public free of licensing arrangements. This ensured that developers did not alter the standard to fit their own needs and possibly cause confusion in the rest of the TCP/IP community. Today, the use of TCP/IP protocols virtually assures interconnection among systems that use it for communications.

Section 05 Self Check

- The Internet protocols are the world's most popular open-system (nonproprietary) protocol suite because they can be used to communicate across any set of interconnected networks and are equally well suited for LAN and WAN communications. The Internet protocols consist of a suite of communication protocols, of which the two best known are the Transmission Control Protocol (TCP) and the Internet Protocol (IP). The Internet protocol suite not only includes lower-layer protocols (such as TCP and IP), but it also specifies common applications such as electronic mail, terminal emulation, and file transfer.
- Documentation of the Internet protocols (including new or revised protocols) and policies are specified in technical reports called Request For Comments (RFC), which are published and then reviewed and analyzed by the Internet community. Protocol refinements are published in the new RFC.

Section 06 Practical English(1)



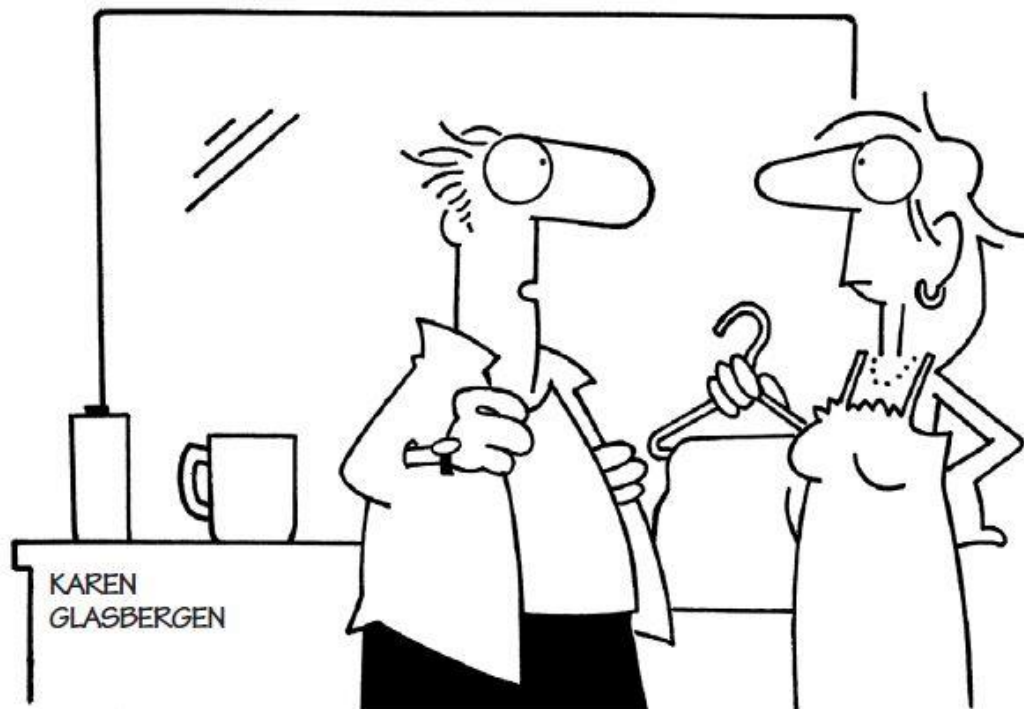
“Yes, I copied off Norman’s paper.

Is it my fault if information security is lax around here?”

응용문장

- Is it my fault if my son is fatter than other kids?

Section 06 Practical English(2)



응용문장

“I get to the office around 8:45, pour myself a cup of coffee, turn on my computer, delete all the spam, and then it’s time to go home.”

- Turn on the light!
- Turn off the light!
- It’s time to have lunch.

Section 06 Practical English(3)



“Sorry about the odor.

I have all my passwords tattooed between my toes."

응용문장

- I have all my cheat sheets located between my fingers.
- I have all my computer books donated to the library.

Section 06 Practical English(4)



**“The identity I stole was a fake!
Boy, you just can’t trust people these days!”**

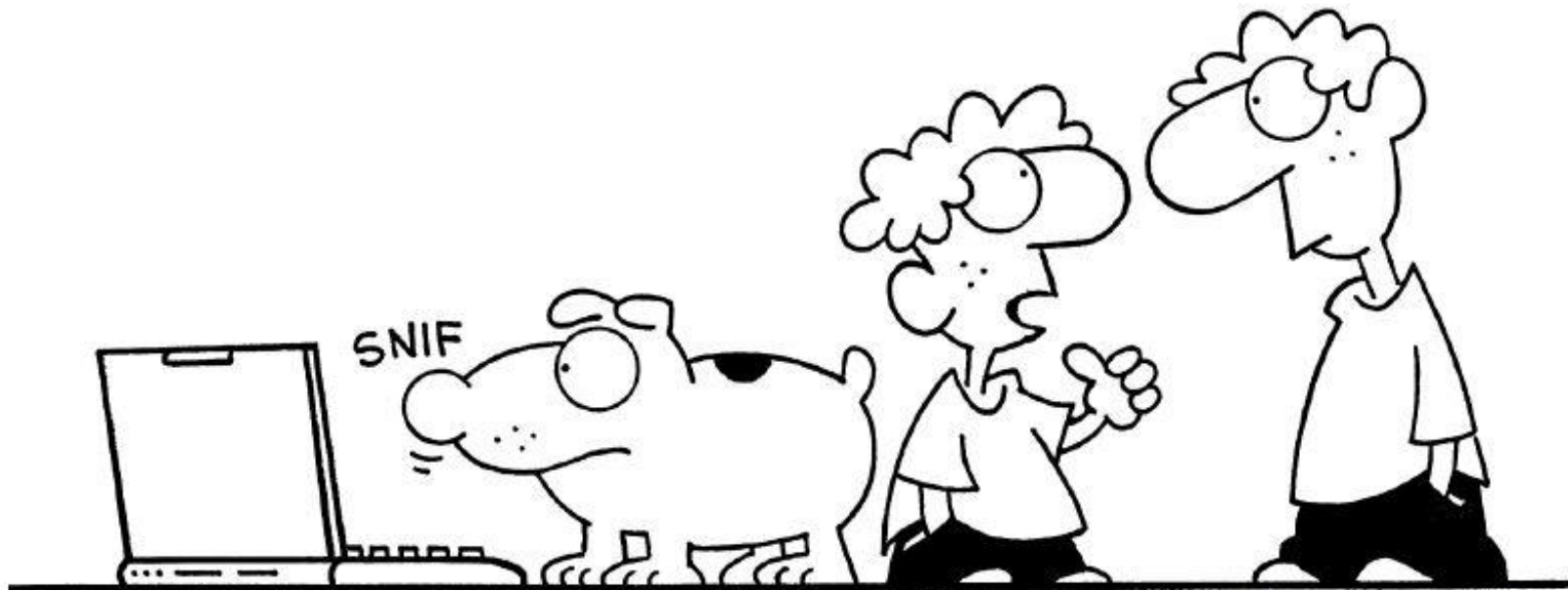
Section 05 Practical English(5)

OUR LOCAL NEWSPAPER IS
MOVING TO THE INTERNET.
YOU MUST BE PRETTY
HAPPY ABOUT THAT.

WHAT'S A
NEWSPAPER?



Section 05 Practical English(6)



KAREN GLASBERGEN

“I know this is the Digital Age, but do we really want to paper train our dog on an electronic newspaper?”

Section 05 Practical English(7)

WHEN PINOCCHIO TALKS
TO GIRLS ONLINE....

