

## Chapter 2 Definition of Terminology

Items	Explanation
ARP (Address Resolution Protocol)	A protocol used to obtain MAC address by using IP address of the partner on Ethernet LAN
Bridge	A device used to connect two networks together, which may be similar or dissimilar types, so that they work as if they are one network. Bridge is also used to divide a large network into two small ones in order to improve performance
Client	A user of network service or a computer or a program using the resources of another computer. (mainly the part demanding service)
CSMA/CD (Carrier Sense Multiple Access with Collision Detection)	An access method in which each client checks (Carrier Sense) before sending a message on network whether there are signals. If the network is empty, it can send its data. At this time, every client has the same right to send its message (Multiple Access). If more than two signals of clients collide at exactly the same time, the client, which has detected it (Collision Detect), retries to send its signal after the fixed time
DNS (Domain Name System)	A method used to convert the alphabetic domain name on the Internet into the corresponding Internet number (IP address)
Dot Address	An IP address expressed as '100.100.100.100'. Each number is expressed in the decimal system, and it possesses 1 byte each out of the total 4 bytes
E-mail Address	An address of a user possessing his login account in the specific machine connected through the Internet. It is generally given in the format of 'user's ID@ domain name (machine name)'. For example, it is like ' <u>hjje@microsoft.com</u> , and @ is here called 'at' and will be shown when pressing 'shift+2' on the key board. The name after @ is the domain name of specific company, school, institute, etc. connected with the Internet, and the name before @ is the ID of the user who is registered in the machine. The last letter group of the domain name is that of the top level. The following abbreviations are the most frequently used examples in the U.S.A., and '.kr' is used for Korea as nationality in Korea. .com : mostly for company/ .edu : mostly for educational institute like university (education). / In Korea, .ac(academy) is mainly used. / .gov : for government-related group, for example,

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E-mail Address	NASA is nasa.gov (government) / .mil : for military-related site. For example, U.S. Air Force is af.mil (military)/ .org : for non-profit organization / .au : for Australia / .uk : for United Kingdom / .ca : for Canada / .kr : for Korea / .jp : for Japan / .fr : for France / .tw : for Taiwan, etc.
Ethernet	The representative LAN access method (IEEE 802.3) developed in a joint venture by Xerox, Intel, DEC in the U.S.A. This network connection system has the transfer capability of 10Mbps, and is using a packet of 1.5kB. As Ethernet can connect various types of computer to a network, its name is now a synonym of LAN. Its product range is not limited to few enterprises any more, but so wide that every enterprise can get various Ethernet products on the market.
FTP (File Transfer Protocol)	One of the application programs offered by TCP/IP protocol, and is used to transfer files between computers. If a user possesses a login account in his computer, it can promptly log in and copy every file wherever it is located in the world.
Gateway	This software/hardware converts two different types of protocols so that they perform without problem. This plays a role as an entry/exit point to the network where information is exchanged between different systems.
Header	A part of packet containing the address of one's own station and the destination stations, the section for error controlling.
HTML	Hypertext Markup Language, standard language of WWW. It is namely a language system to write a hypertext. A document written with HTML can be seen through Web browser.
HTTP	Hypertext Transfer Protocol, standard protocol of WWW. A protocol supporting hypermedia method.
ICMP (Internet Control Message Protocol)	It creates error message and test packet to manage the Internet by IP address expansion protocol.
IP(Internet Protocol)	A protocol of network layer for the Internet.
IP Address (internet Protocol Address)	The address, written as numbers, on the Internet of each computer. It is binary number with a size of 32 bits (4 bytes) to differentiate each machine on the Internet. IP address is made up of two addresses, the network address used to differentiate the network and the host address used to differentiate the host. The network address and the host address are divided into 3 classes, A/B/C, according as how many bits are assigned to them. IP address can not be voluntarily selected because it is one and only all over the world. It is assigned by local NIC (Network Information Center) when subscribing the Internet. In Korea, it is a job of KRNIC to do so. Example) 165.244.149.190

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ISO (International Standards Organization)	An organization under the umbrella of the U.N. that sets and controls international standards.
LAN (Local Area Network)	It is also called local network or info-communication network within a area. This network allows users within a confined geographical area to exchange and share data each other with their personal computers connected to communication line.
MAC (Mandatory Access Control)	A method in a broadcast network in which the owner of data determines which device has access to the network within the time allowed
Node	Each personal computer connected to a network is called node.
Packet	A block of data as a basic unit used to transfer data through a network. It mostly makes a packet with dozens to hundreds of bytes, and attaches a header at the front of it, in which the information of the packet's destination and other information required are written.
PORT number	A number used to distinguish a application on a TCP/UDP. Example) 21/tcp : Telnet
PPP (Point-to-Point Protocol)	Telephone communication protocol that allows packet transmission when accessing to Internet. It is namely the most popular protocol of the Internet allowing a computer to be connected to TCP/IP by using normal telephone circuit and modem. It is similar to SLIP, but it demonstrates more excellent performance than the SLIP because it contains modern communication protocol elements such as error detection, data compression, etc.
Protocol	Standards on the method of data transmission between the computers connected to network. It can also means the message exchange standards of low and high level. In other words, interfaces between machines are described in detail by the low level which bit/byte, for example, must go through the line, and the file transfer is performed in Internet by the high level.
Router	A device used when transferring data packet between networks. It transfers data packet to the final destination, if the network is busy, it waits for a moment, and then retries. It judges at plural LAN branch points as well to which LAN it should be connected. In other words, it is a special computer/software that manages more than 2 network connection.
Server	A side meeting a client's demand manually and containing its own resources.

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<p>TCP (Transmission Control Protocol)</p>	<p>A transport layer protocol for the Internet</p> <ul style="list-style-type: none"> <li>- Sends and receiving data by using connection</li> <li>- Multiplexing</li> <li>- Reliable sending</li> <li>- Supports urgent data sending</li> </ul>
<p>TCP/IP (Transmission Control Protocol/Internet Protocol )</p>	<p>Transmission protocol for the communications between different types of computer. It allows them to communicate possibly between general PC and medium-sized host, between IBM PC and MAC PC, and between medium- and large-sized computers of other companies. It is used as a generic name to transport information between computer networks, and includes FTP, Telnet, SMTP. TCP segments data into packets, and is sent by IP. The packet sent by IP is bundled by TCP again</p>
<p>Telnet</p>	<p>It allows a user to perform remote login from a host to a host through Internet. If he wants to log in on the remote host with TELNET, he in general, must have his account on it. However, he can log in freely on the hosts that offers several public services such as white page directory, even if he does not have his own personal account.</p>
<p>Token Ring</p>	<p>A local area network (LAN) containing physically ring structure, and using token to access to a network. It is also one of the node access methods in network. When a node sending data gains control by getting a token, it can send its message packet. IEEE 802.5, ProNet-1080 and FDDI are good realized examples for it. The term 'ring' is often used as the substitute for IEEE 802.5 as well.</p>
<p>UDP (User Datagram Protocol)</p>	<p>A transport layer protocol for the Internet</p> <ul style="list-style-type: none"> <li>- Makes high-speed communication possible by sending and receiving data without connection</li> <li>- Multiplexing</li> <li>- Low reliability of data transport compared with TCP. In other words, if data have not reached the partner station, it does not try to send them again.</li> </ul>