

Memory Tables

Chapter 1

TABLE 1-1

Kilobyte, Megabyte, Gigabyte, Terabyte

Term	Size (Bytes)	Size (2 ⁿ Bytes)	Rounded Size (Bytes)
Kilobyte	1024		
Megabyte	1,048,576		
Gigabyte	1,073,741,824		
Terabyte	1,099,511,627,776		

TABLE 1-2

Unsigned Integers in Computers, Various Sizes

Size of Storage	Number of Bits	Decimal Range	Range, From 0 to 2 ⁿ – 1
Byte		0 – 255	
Word		0 – 65,535	
Double word		0 – 4,294,967,296	

TABLE 1-5

Key Comparison Points, USB Flash and Hard Disk Drives

Short Description	Hard Disk	USB Flash Drive	Optical Disc
Internal or external?			
Removable media?			
Solid state?			
Read/write speed vs. internal HDD	N/A		
Price/GB, at publication, vs. HDD	N/A		N/A ²

Chapter 3

TABLE 3-2
TCP/IP Model Summary

Layer Name	Key Functions	Focus: Host or Network	Device Focus
Physical			
Data Link			
Network (Internet)			
Transport			
Application			



Chapter 4

TABLE 4-1
Common Features Used by Encoding Schemes

Wave Feature	Definition of the Graph	Electrical Feature It Represents
Amplitude		
Frequency		
Phase		
Period		

TABLE 4-2
SONET Optical Carrier (OC) Names and (Rounded) Line Speeds

Name	(Rounded) Line Speed
OC-1	
OC-3	
OC-12	
OC-24	

TABLE 4-2

Continued

Name	(Rounded) Line Speed
OC-48	
OC-96	
OC-192	

Chapter 5

TABLE 5-1

Key Original IEEE 802 LAN Standards

Working Group	Common Reference	Purpose
802.2		
802.3		
802.5		

TABLE 5-2

Gigabit Ethernet Standards and Cable Lengths

Standard	Shortcut Family Name	Specific Shortcut Name	Year Standardized	Cabling	Maximum Length*
802.3z		1000BASE-LX	1998		
802.3z		1000BASE-SX	1998		
802.3ab		1000BASE-T	1999		

TABLE 5-3

Informal Ethernet Names Based on Speeds

Speed	Informal Name	Other Common Informal Names
10 Mbps		—
100 Mbps		Fast E
1 Gbps		Gig E, 1 GbE
10 Gbps		10 GbE
40 Gbps		40 GbE
100 Gbps		100 GbE

TABLE 5-5
Ethernet Header and Trailer Fields

Field	Description	Shorthand Reminder
Preamble		
SFD		
Destination MAC Address		
Source MAC Address		
Type		
Data		
Pad		
FCS		

Chapter 6

TABLE 6-2
Comparing 802.3 Wired LANs with 802.11 Wireless LANs

Topic	Wired	Wireless
Uses cables.		
UTP cable distance/wireless range is defined by the standard and not significantly affected by local site conditions.		
A single LAN standard specifies a single speed, rather than a set of allowed speeds.		
Allows full duplex on each link, rather than sharing bandwidth among all devices using half duplex.		

TABLE 6-3
Comparisons of Wireless LAN Topologies

Feature	IBSS (Ad Hoc)	BSS	ESS
Number of APs used			
Data frame flow			
Connects clients to some other network?			
Allows roaming?			

TABLE 6-4
Summary of 802.11 Standards and Differences

	802.11a	802.11b	802.11g	802.11n	802.11n ¹
Year ratified					
Channel width (MHz)					
Encoding class					
Frequency band (ISM at 2.4 GHz, UNII at 5 GHz)					
Nonoverlapping channels, USA (FCC)					
Maximum bit rate, one stream (Mbps)					
Supports up to four streams on one device ²					

Chapter 7

TABLE 7-4
HDLC Header and Trailer Fields

Field	Description	Shorthand Reminder	Similar to Ethernet...
Flag			
Address			
Control			
Data			
FCS			

Chapter 8

TABLE 8-1
Other TCP/IP Network Layer Protocols

Short Name	Full Name	Comments
ICMP		
ARP		
DHCP		
DNS		
RIP		
EIGRP		
OSPF		

TABLE 8-2
Summary of IPv4 Address Classes Based on First-Octet Values

First Octet	Class	Purpose
0		
1 – 126		
127		
128 – 191		
192 – 223		
224 – 239		
240 – 255		



TABLE 8-3

Example Class A Networks

Network ID	Class A IP Network Concept	Size (Number of Addresses)
1.0.0.0	All addresses with a first octet equal to 1	> 16,000,000
2.0.0.0		
3.0.0.0		
4.0.0.0		
...	Skipping many...	> 16,000,000
126.0.0.0		

TABLE 8-4

Example Class B Networks

Network ID	Concept	Size (Number of Addresses)
128.1.0.0	All with the first two octets equal to 128.1	> 65,000
128.2.0.0		
128.3.0.0		
150.48.0.0		
180.255.0.0		
191.200.0.0		

TABLE 8-5

Example Class C Networks

Network ID	Concept	Size (Number of Addresses)
192.1.1.0	All with the first three octets equal to 192.1.1	254
192.1.2.0		
192.1.3.0		
200.200.200.0		
220.255.0.0		
223.1.1.0		

TABLE 8-7
Summary of IPv4 Address Classes Based on First-Octet Values

Class	First-Octet Values	Number of Network Octets	Grouping Concept
A			
B			
C			

Chapter 9

TABLE 9-3
Internet Access Link Comparison Points

Name	Analog Circuit	DSL	Cable
Physical link			
Always on?			
Allows voice at the same time over the same medium?			
Asymmetric? (Faster downlink possible)			
Approximate real-life downlink speeds			

TABLE 9-4
Regional Internet Registries (RIR)

Name	Locations Served
AfriNIC	
APNIC	
ARIN	
LACNIC	
RIPE NCC	

TABLE 9-5
Number and Sizes of Classful IP Networks

Class	Number of Networks	Size (Number of Host Addresses)
A		
B		
C		

TABLE 9-6
Private IP Networks

Class	Number of Networks	Network IDs
A		
B		
C		

Chapter 10

TABLE 10-1
Common Application Protocols and Their Well-Known Port Numbers

Application Protocol	Transport Protocol	Port Number	Description
HTTP			
Telnet			
SSH			
FTP			
DNS			
SMTP			
POP3			
IMAP			
SSL			
SNMP			

TABLE 10-3
TCP and UDP Comparisons

Feature	TCP	UDP
Delivering data between two applications		
Identifying servers using well-known ports		
Segmenting data		
Guaranteed delivery through error recovery		
In-order delivery		
Flow control		

