

Complete naming, addressing, and identification operation

Figure 3.9 shows an example of the names, addresses, and identifiers used in the internet layers, both at a sending and receiving computer. The left part of the figure shows that a sending computer creates various names, addresses, and identifiers at different layers that are used by the peer layer of the receiving computer (the right part of the figure) to identify the destination, the protocols to invoke, and the functions to perform.

The user application at the sending computer (such as a JAVA or C application) is responsible for creating its own user name. Typically, user names are created in accordance with an organization's specific

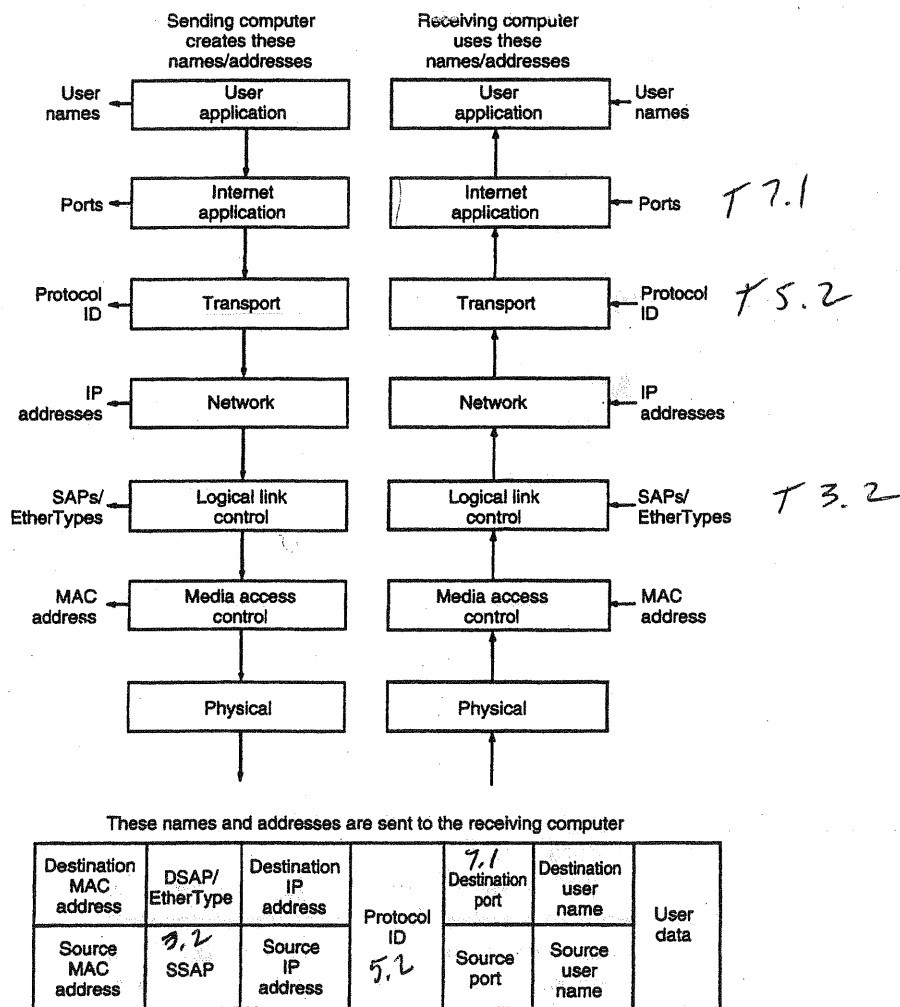


Figure 3.9 Relationship of Names and Addresses to Internet Layers.

80 level

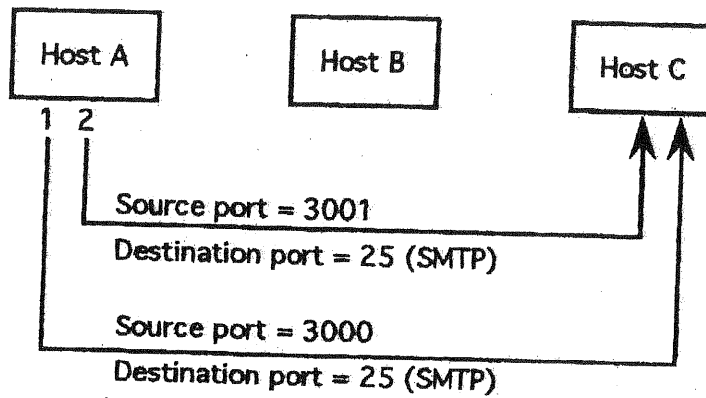
TCP port #

161-162
SNMP
UDP
ports

TABLE 7.1 Common Internet Port Numbers (Not Exhaustive)

Number	Name	Description
5	RJD	Remote job entry
7	ECHO	Echo
11	USERS	Active Users
13	DAYTIME	Daytime
20	FTP-DATA	File transfer (data)
21	FTP	File transfer (control)
23	TELNET	TELNET
25	SMTP	Simple mail transfer
37	TIME	Time
42	NAMESERV	Host name server
43	NICKNAME	Who is
53	DOMAIN	Domain name server
67	BOOTPS	Bootstrap protocol server
68	BOOTPC	Bootstrap protocol client
69	TFTP Trivial file transfer	
79	FINGER	Finger
101	HOSTNAME	NIC host name server
102	ISO-TSAP	ISO TSAP
103	X400	X400
104	X400SND	X400. SND
105	CSNET-NS	CSNET mailbox name server
109	POP2	Post office protocol 2
111	RPC	SUN RPC portmap
137	NETBIOS-NS	NETBIOS name service
138	NETBIOS-DG	NETBIOS datagram service
139	NETBIOS-SS	NETBIOS session service

Transmission Control Protocol and User Datagram Protocol



ports
T.7.1

Figure 7.2 Establishing Sessions with a Destination Port.

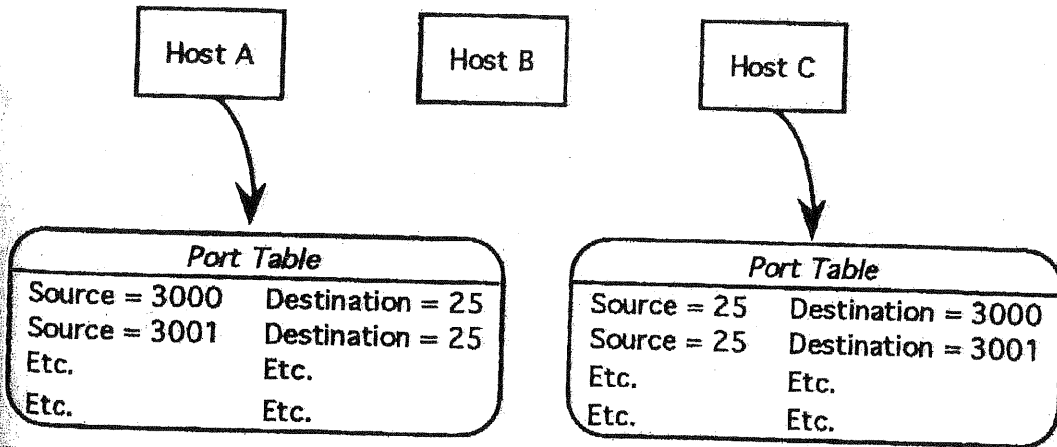


Figure 7.3 Binding with Port Numbers.

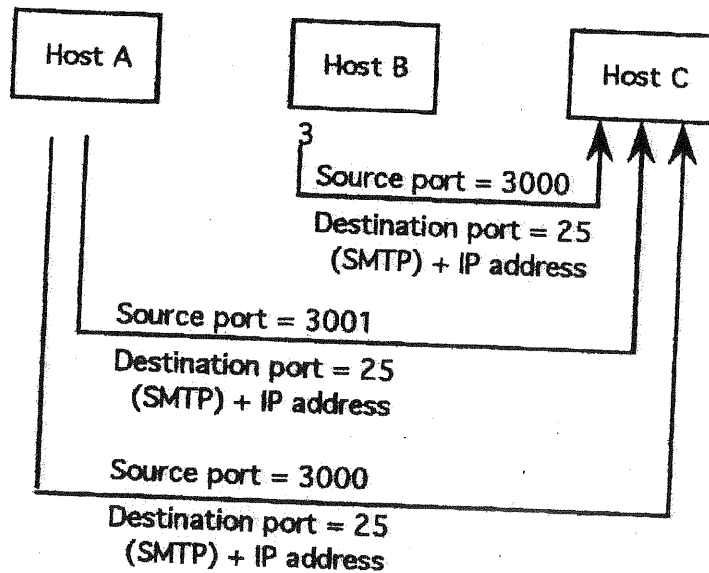


Figure 7.4 Distinguishing between Port Identifiers.

*Protocol ID
FIELD*

TABLE 5.2 Internet Protocol Numbers (Examples)

Decimal	Key word	Protocol
0	—	Reserved
1	ICMP	Internet Control Message Protocol
2	IGMP	Internet Group Management Protocol
3	GGP	Gateway-to-Gateway Protocol
4	—	Unassigned
5	ST	Stream
6	TCP	Transmission Control Protocol
7	UCL	UCL
8	EGP	Exterior Gateway Protocol
9	IGP	Interior Gateway Protocol
10	BBN-MON	BBN-RCC Monitoring
11	NVP-II	Network Voice Protocol
12	PUP	PUP
13	ARGUS	ARGUS
14	EMCON	EMCON
15	XNET	Cross Net Debugger
16	CHAOS	Chaos
17	UDP	User Datagram Protocol
18	MUX	Multiplexing
19	DCN-MEAS	DCN Measurment Subsystems
20	HMP	Host Monitoring Protocol
21	PRM	Packet Radio Monitoring
22	XNS-IDP	XEROX NS IDP
23	TRUNK-1	Trunk-1
24	TRUNK-2	Trunk-2
25	LEAF-1	Leaf-1
26	LEAF-2	Leaf-2
27	RDP	Reliable Data Protocol
28	IRTP	Internet Reliable TP
29	ISO-TP4	ISO Transport Class 4
30	NETBLT	Bulk Data Transfer
31	MFE-NSP	MFE Network Services
32	MERIT-INP	MERIT Internodal Protocol
33	SEP	Sequential Exchange
34-60	—	Unassigned
61	—	Any host internal protocol
62	CFTP	CFTP
63	—	Any local network
64	SAT-EXPAK	SATNET and Backroom EXPAK
65	MIT-SUBN	MIT Subnet Support
66	RVD	MIT Remote Virtual Disk
67	IPPC	Internet Plur. Packet Core
68	—	Any distributed file system
69	SAT-MON	SATNET Monitoring
70	—	Unassigned
71	IPCV	Packet Core Utility
72-75	—	Unassigned
76	BRSAT-MON	Backroom SATNET Monitoring
77	—	Unassigned
78	WB-MON	Wideband Monitoring
79	WB-EXPAK	Wideband EXPAK
80-254	—	Unassigned
255	—	Reserved

TABLE 3.1 The Link Service Access Point (LSAP).

IEEE binary	Internet decimal	Description
00000000	0	Null LSAP
01000000	2	Individual LLC sublayer management
11000000	3	Group LLC sublayer management
00100000	4	SNA path control
01100000	6	DOD Internet protocol
01110000	14	Proway-LAN
01110010	78	EIA-RS511
01110001	142	Proway-LAN
01010101	170	Subnetwork access protocol (SNAP)
01111111	254	ISO DIS 8473
11111111	255	Global DSAP

TABLE 3.2 EtherType Assignments (Examples).

Ethernet decimal	Hex	Description
1536	0600	XEROX NS IDP
2048	0800	DOD Internet protocol (IP)
2049	0801	X.75 Internet
2050	0802	NBS Internet
2051	0803	ECMA Internet
2052	0804	Chaosnet
2053	0805	X.25 level 3
2054	0806	Address resolution protocol (ARP)
2055	0807	XNS compatibility
4096	1000	Berkeley trailer
21000	5208	BBN Simnet
24577	6001	DEC MOP dump/load
24578	6002	DEC MOP remote console
24579	6003	DEC DECnet Phase IV
24580	6004	DEC LAT
24582	6005	DEC
24583	6006	DEC
32773	8005	HP probe
32784	8010	Excelan
32821	8035	Reverse ARP
32824	8038	DEC LANBridge
32823	8098	Appletalk