

# IP

1.

IPv4 . IPv6 가 IP  
IPv6 가 IP 가  
IP . IP  
IP .

2. IP

IP IP IP . IP IP  
IP IP IP . host (ex,pc) IP .  
ISP . ADSL host IP  
IP Local Network ( LAN) host  
IP .  
가 " local IP PC 가 가?"  
IP IP PC 가  
IP host IP IP  
host 가 .  
80 8 256

32

Class

. IP A, B, C  
가 .

- A class

bit가 "0"

0.0.0.0 127.255.255.255

". " 4 가 3

16,777.214(256\*256\*256 - 2) A class

LAN

- B class

bits가 "10"

128.0.0.0 191.255.255.255

". " 4 가 B class  
2

65,534(256\*256 - 2) LAN

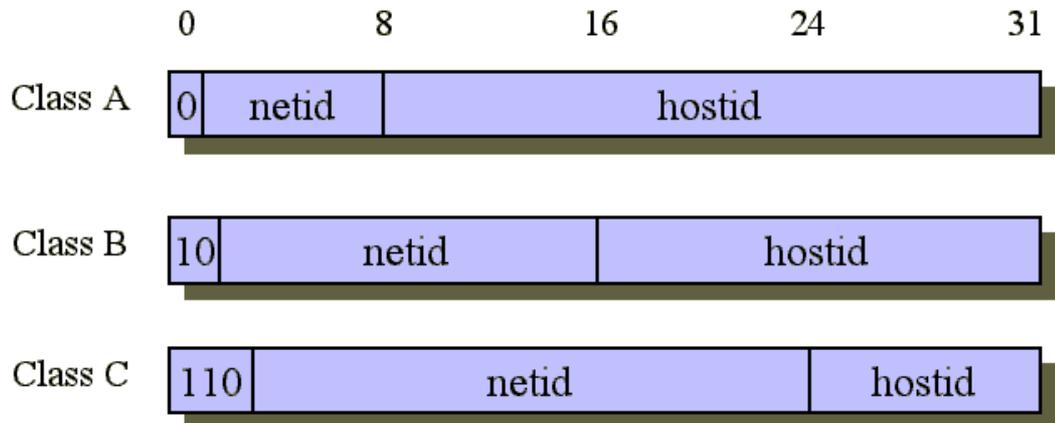
- C class

bits가 "110"

192.0.0.0 223.255.255.255

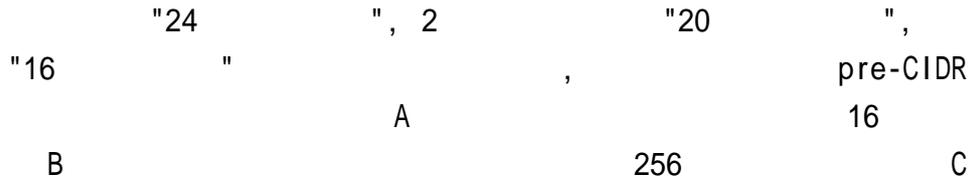
". " 4 가 C class  
1

254(256 - 2) LAN



# IANA

- 10.0.0.0 - 10.255.255.255 (10/8 prefix)
- 172.16.0.0 - 172.31.255.255 (172.16/12 prefix)
- 192.168.0.0 - 192.168.255.255 (192.168/16 prefix)



IP

IANA

IP

가

IP

3.

IP

IP

IP

- Proxy server

- NAT(Network Address Translation)

- DHCP(Dynamic Host Configuration Protocol)

### 3.1. Proxy Server

#### 3.1.1.

Proxy Server [ 3-1]  
가

가

- IP

IP

IP

IP

IP

IP

가

-

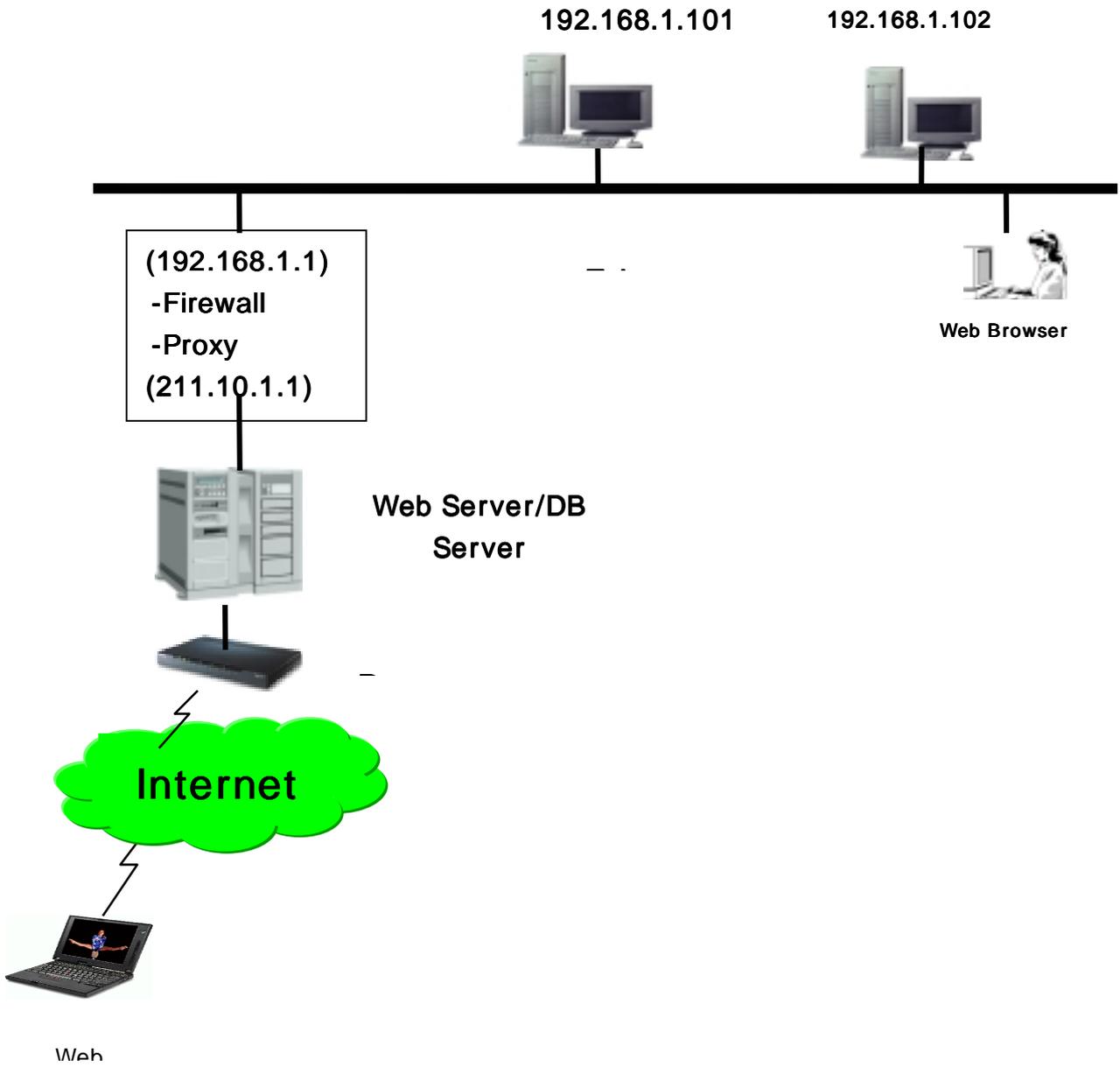
가가

가

-

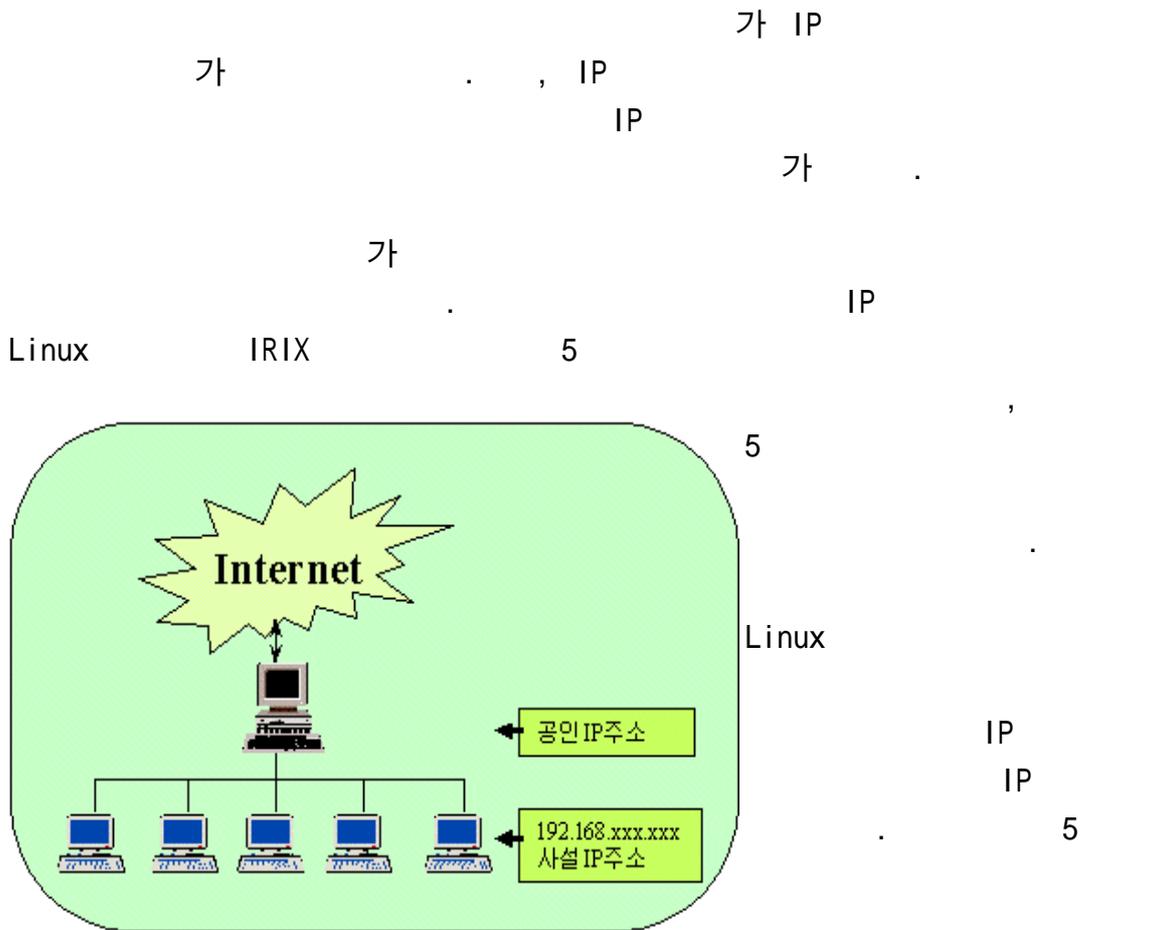
proxy firewalls

IP



### 3.1 Proxy

#### - Proxy Server



< 3-2 >

IP , (IRIX) Linux Linux Linux Linux  
 gateway , /etc/resolv.conf [ 3-1 ]  
 resolv.conf Default

- domain sena.ac.kr <-
- nameserver 203.244.128.51 <- *IP*
- hostresorder local bind

< 3-1> Resolv.conf

default gateway Linux [ 3-2]

%route add default 192.168.10.10 <- Linux IP

< 3-2> Default gateway

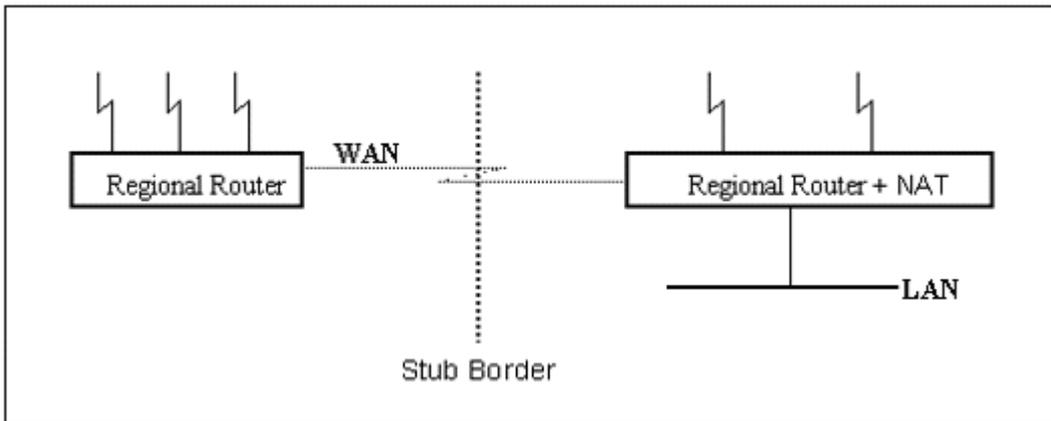
5 Linux

IP IRIX  
 , IRIX 가 IRIX  
 Linux

### 3.2. NAT(Network Address Translation)

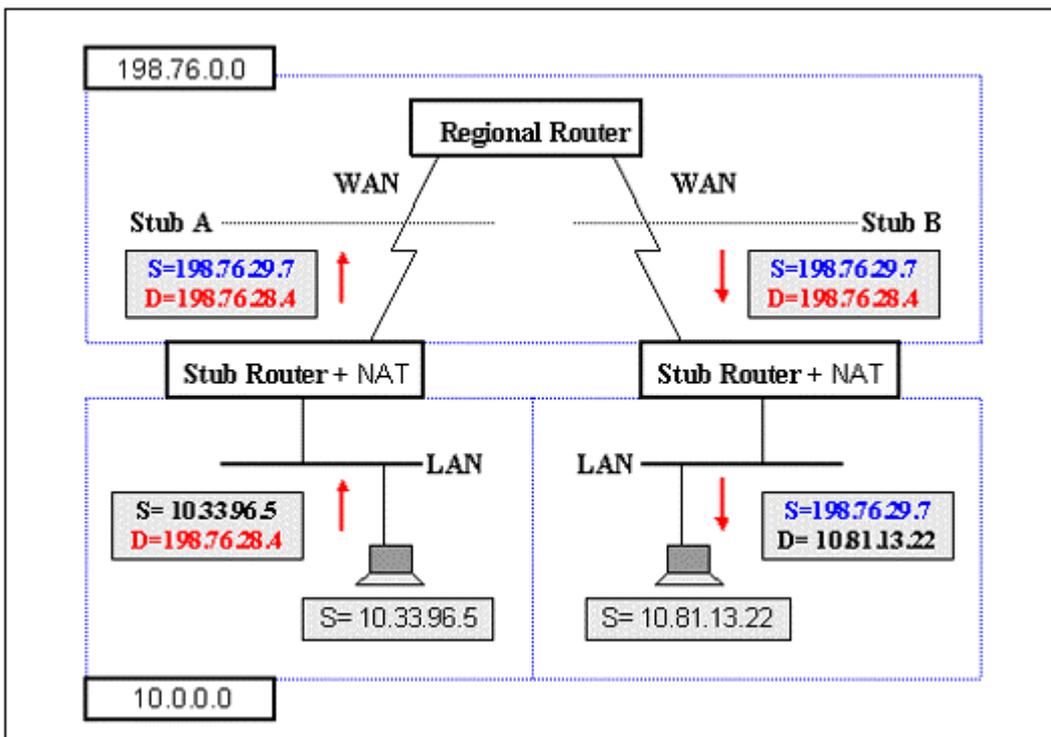
#### 3.2.1.

Stub Domain IP Stub Domain  
 IP , A  
 Stub Domain , NAT Stub  
 Domain Exit point .



< 3-3 >

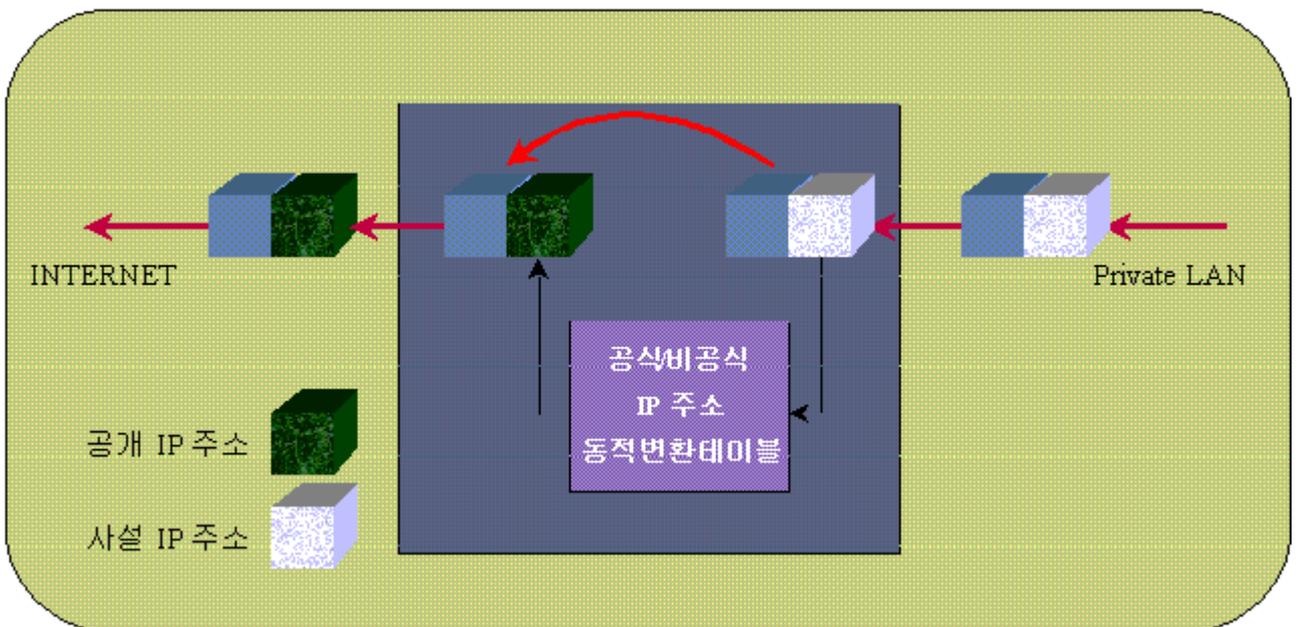
NAT IP (Translation Table) Exit point 가 NAT [ 3-4 ]



< 3-4 >

[ 3-4] , Stub A B 가 A 10.0.0.0  
 , Stub A NAT C 203.244.128.0 , Stub B NAT  
 C 203.244.148.0 IR 가 . Stub  
 A (10.33.96.5)가 Stub B (10.81.13.22)  
 , 203.244.148.4  
 (Primary Router) . Stub Router 198.76.0.0  
 (Static Route) 가 WAN .  
 NAT 10.33.96.5 203.244.128.7  
 , NAT 가  
 - (Dynamic Address Allocation)

Private LAN IP Pool  
 IP 가 Private LAN IP Pool 가  
 IP Private LAN IP  
 IP



< 3-5 >

- (Static Address Allocation)

Private LAN 가 ( , , ) 가 IP 가 IP . 가 1 1 . IP Private LAN IP IP IP .

### 3.2.2. NAT

NAT IP . , IP .

### 3.3. DHCP (Dynamic Host Configuration Protocol)

DHCP RFC 1541 . OS 가 NOS 가 DHCP(Dynamic Host Configuration Protocol) IP . IP 가 . 300 200 , DHCP 300 IP . 가 IP 가 IP IP IP . 가 IP IP IP .

, 가 DHCP IP  
 DHCP IP , 가 IP  
 . IP  
 . DHCP IP  
 가 IP 가 IP  
 . , DHCP IP

### 3.4.

#### - WinGate(Proxy )

(Deerfield Communication) WinGate

. WinGate ISDN,  
 가 ,  
 WinGate

가

WinGate ISDN  
 (proxy) 가  
 LAN ISP(Internet

Service Provider)

, , www, ftp(file transfer protocol),  
 , , telnet, WAIS(Wide-Area Information Service)

(White Pine Software) (InfoGear Technology) iPhone (proxy)  
CU-SeeMe UDP(User Datagram Protocol)  
WinGate Rules UDP  
가 , Rules  
E-mail .