©2005

RGNOS® ® ® Red-Giant 锐律®

NBR

NBR

RG-NBRxxx NBRxxx

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Terminal Display Terminal Display Courier New
8.5

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..... 1
1.1 NBR 1
1.1.1 NBR200 1
1.1.2 NBR1000E .....
1.1.3 NBR300 .....
1.1.4 NBR1200 .....
1.1.5 NBR2000 .....
1.2 2
1.2.1 2
1.2.2 3
1.2.3 3
1.2.4 3
1.2.5 3
1.3 4
..... 8
2.1 8
2.2 8
2.2.1 / 8
2.2.2 9
2.2.3 9
2.2.4 10
2.2.5

4.3 61
4.3.1 IP .....
4.3.2 PPPoE .....
4.3.3 DHCP IP .....
..... 74
5.1 74
5.2 74
5.3 75
..... 76
6.1 WAN 76
6.2 IP 77
6.2.1 IP 77
6.2.2 (ARP) 78
6.2.3 79
6.2.4 VLAN 80
6.2.5 IP 81
6.3 .....BDC BT

6.10.1 .....
6.10.2 .....
6.11 MAC/IP .....
6.11.1 MAC/IP .....
..... 101
7.1 ROM 104
7.1.1 ROM 104
7.1.2 ROM 104

(× ×)	44.4mm × 437mm × 210mm
	AC: 176~265V 47/53Hz
	20W
	0~40
	10~90%

SDRAM FLASH

1.1.1.3 NBR200

STATUS	
LINK/ACT	
100M	100M 10M
Reset	5 5

	AC: 176~265V 47/53Hz
	20W
	0~40
	10~90%

SDRAM FLASH

1.2

1.2.1

- RJ45 ARP
- TCP/IP IP ICMP IGMP TCP UDP
- IP RIP(V1/V2)
- SNMP
- TELNET
- DHCP Relay
- PPPoE
- X-MODEM
- NAT
- TFTP

1.2.2

-
-

1.2.3

- DEBUG
-
-
  a) Console
  b) TELNET
  c) TFTP

1.2.4

- IP
- PPP PAP CHAP
- MAC
- NAT

1.2.5

- X-MODEM (Windows 95 Windows NT UNIX DOS) Console

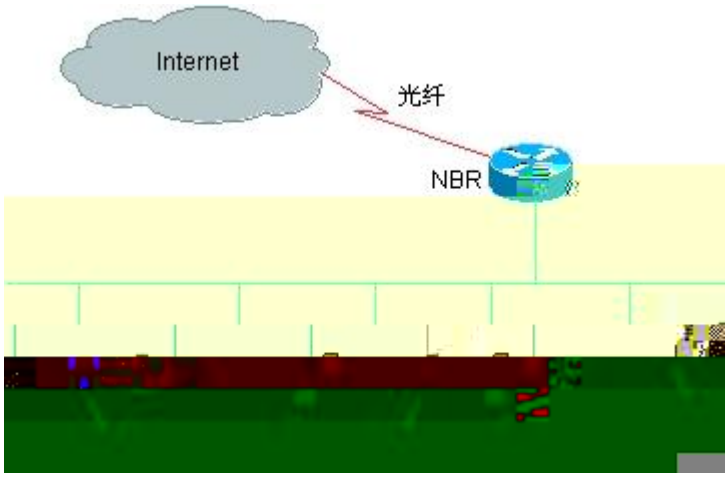
- TFTP
- BOOTROM

1.3

- **NBR**

NBR NBR200,NBR1000E

1-4



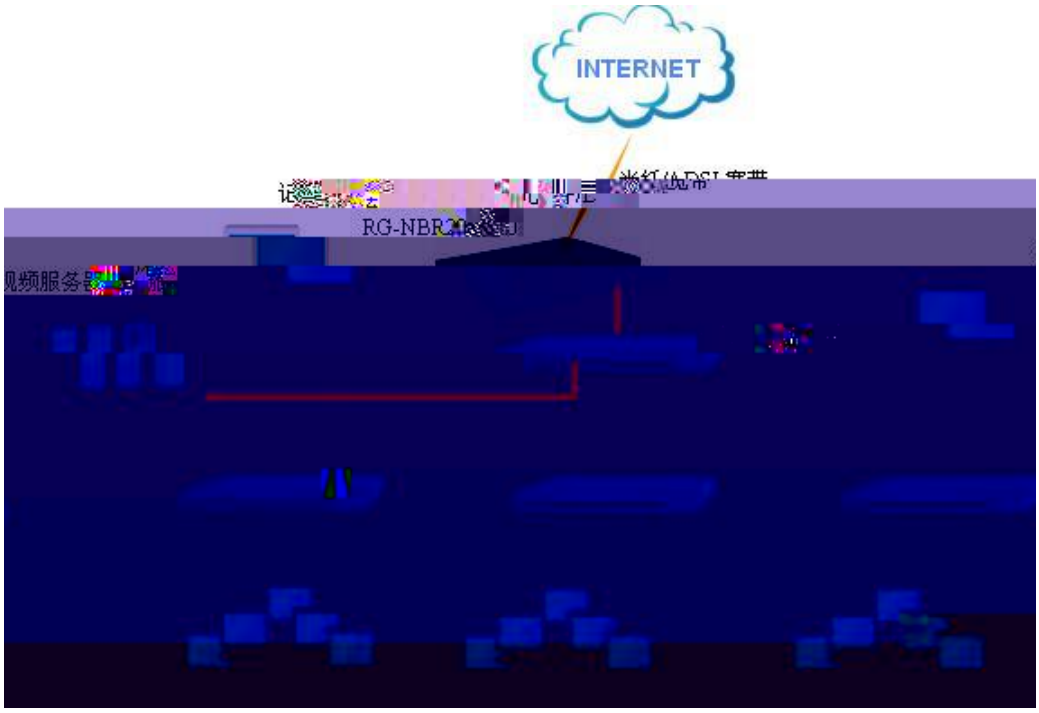
1-11 NBR

NBR Internet

1

2

3 DDOS



1000M 100M 200
2 3 2 NBR2000 2 3
3 3 3 3

1
2 100M
3
4 DDOS

●

NBR

2.1

-
-
-
-
-

-
- UPS

2.2

- /
-
-
-
-
-

2.2.1 /

🕮

1.5m

0.4m

48 15

5

2.2.2

(m)	0.5	1	3	5
( )	1.4×10^{7}	7×10^{5}	2.4×10^{5}	1.3×10^{5}

SO_2 H_2S NO_2 NH_3 Cl_2

	mg/m^3	mg/m^3
SO_2	0.2	1.5
H_2S	0	0.03
NO_2	0.04	0.15
NH_3	0.05	0.15
Cl_2	0.01	0.3

2.2.3

-
-
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-

●

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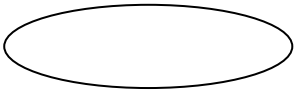
-
-
-

- HUB
- (Windows PC)
-

3.1



3.2

-
-

3.2.1

3.2.2

-
-
  10cm
-

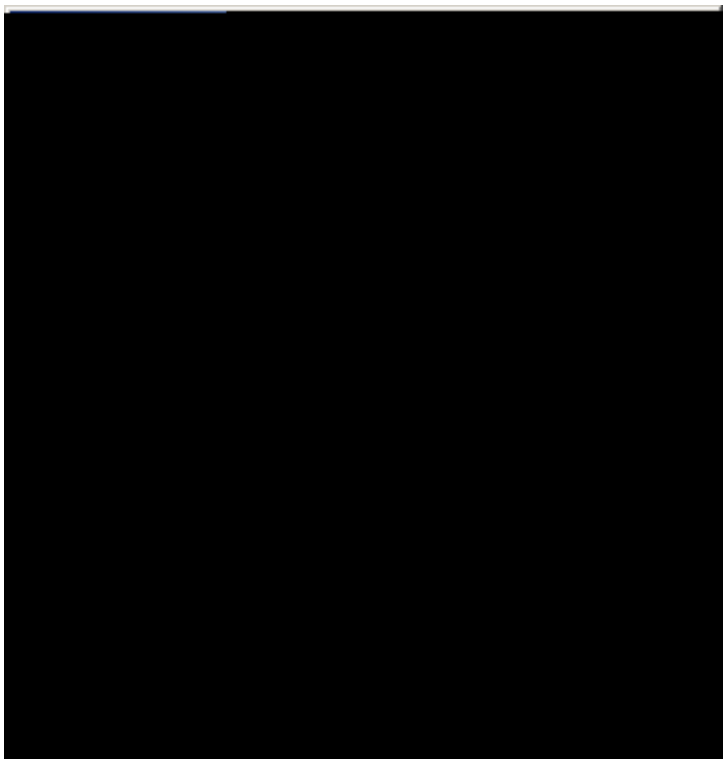
3.3

AC: 176~264V 50/60Hz

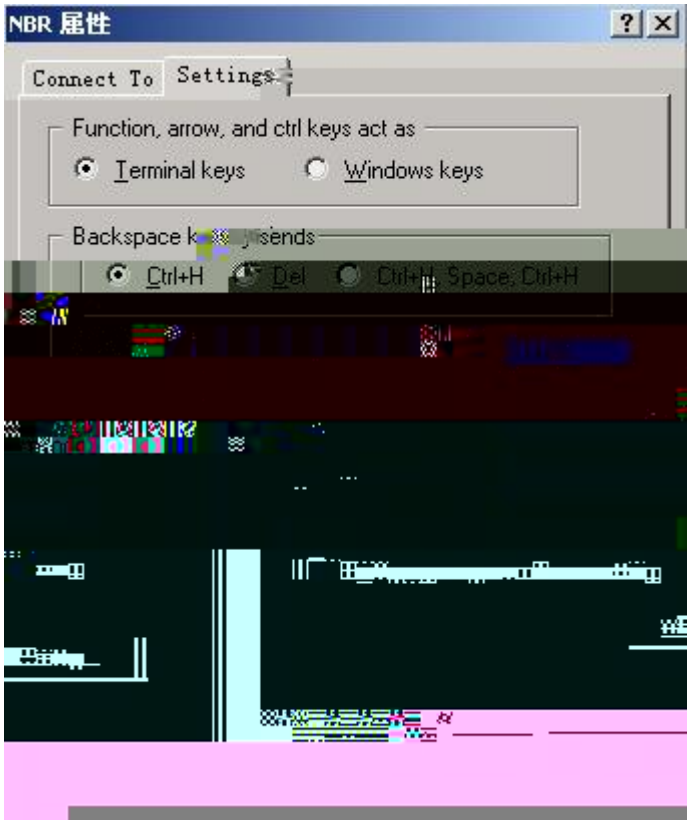
3.4

EIA/TIA-232 Console
WEB

NBR



4-4


NBR 属性
Connect To
Settings
Function, arrow, and ctrl keys act as
Terminal keys
Windows keys
Backspace k
sends
Ctrl+H
Del
Ctrl+
Space, Ctrl+H

4-5

```
!!!
```

4.1.5 Setup

setup *setup*

setup WAN0

IP WAN1 PPPoE

```
NBR#

       ------------             ----------------

    ctrl-c                        '[]'

         :
                                                  :nbr
                                 :aaa
     telnet                             :bbb

        internet   WAN  :
  0. WAN 0
  1. WAN 1
       (0 - 1):0

          :
  1.    IP
  2. PPPoE
  3. DHCP    IP
       (1 - 2):1
     WAN    IP:202.101.1.1
     WAN          :255.255.255.0
           IP    :202.101.1.254
ISP                        [no]:yes
               :202.101.1.1
               :202.101.1.3
        WAN            [yes]:


           (1.    DNS    ;2.    ping    ):1
             IP    :202.101.98.55
     ISP              Kbits  (1-1000000):10000

             WAN  [no]:yes

        internet   WAN  :
  0. WAN 0
  1. WAN 1
       (0 - 1):1

          :
  1.    IP
  2. PPPoE
  3. DHCP    IP
       (1 - 2):2
```

```
PPPoE       :user
PPPoE      :user
ISP              Kbits  (1-1000000):500
```

NBR *Setup*

NBR RGNOS CD-ROM

RGNOS

RGNOS

www.ruijie.com.cn

4.2 Web

Web Web

CD-ROM

4.2.1 Web

IP

Web IP

192.168.1.1 admin admin

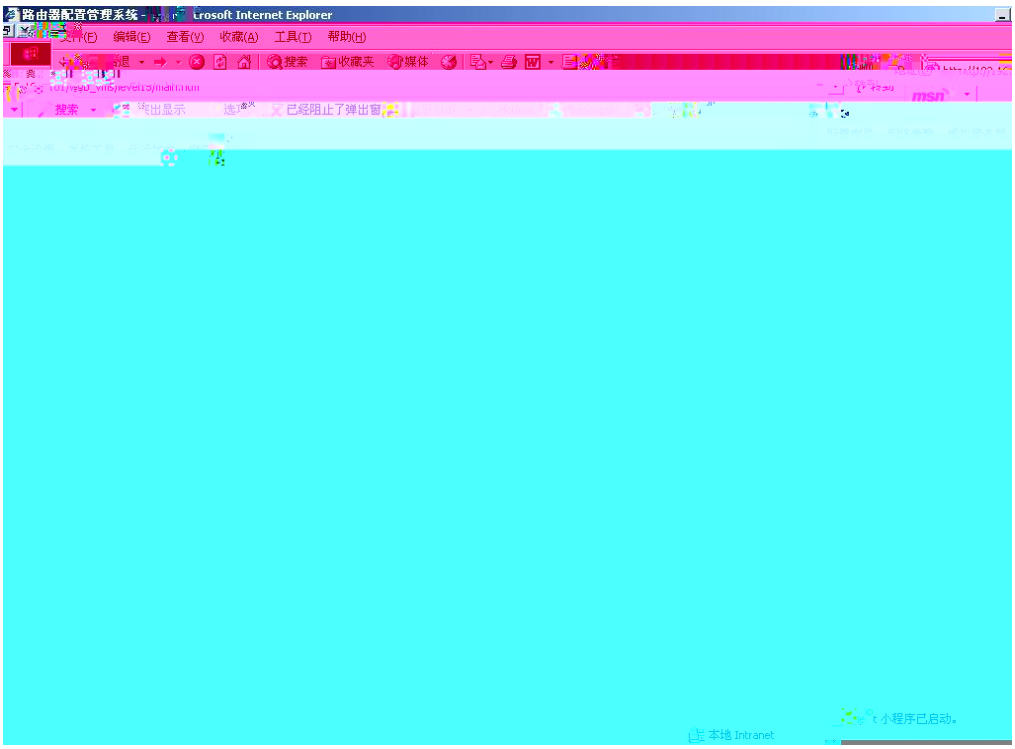
PC IP IP

web java windows java

java www.sun.com jre ,

windows jre 1˚ ע

NBR



2

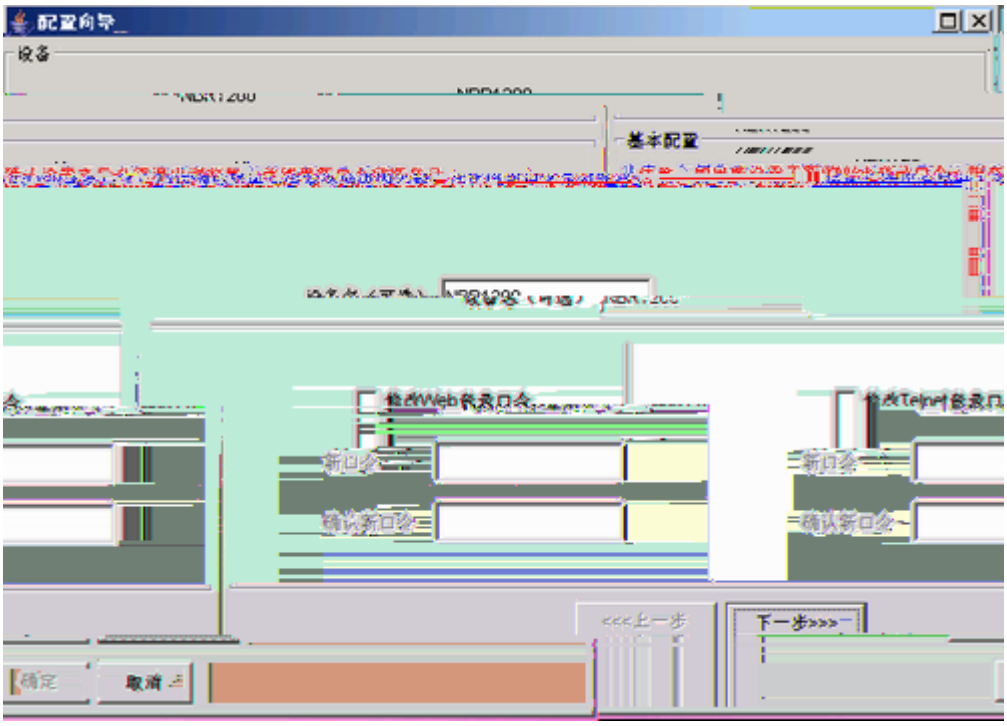
4.2.3

4.2.3.1

“ / ”

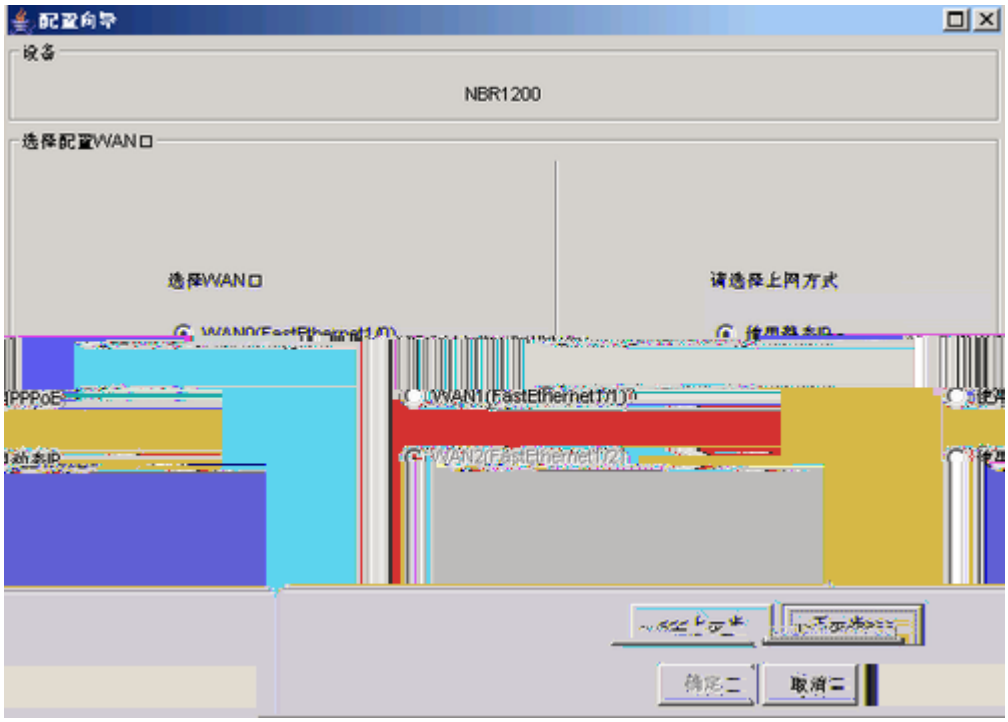
NBR

setup



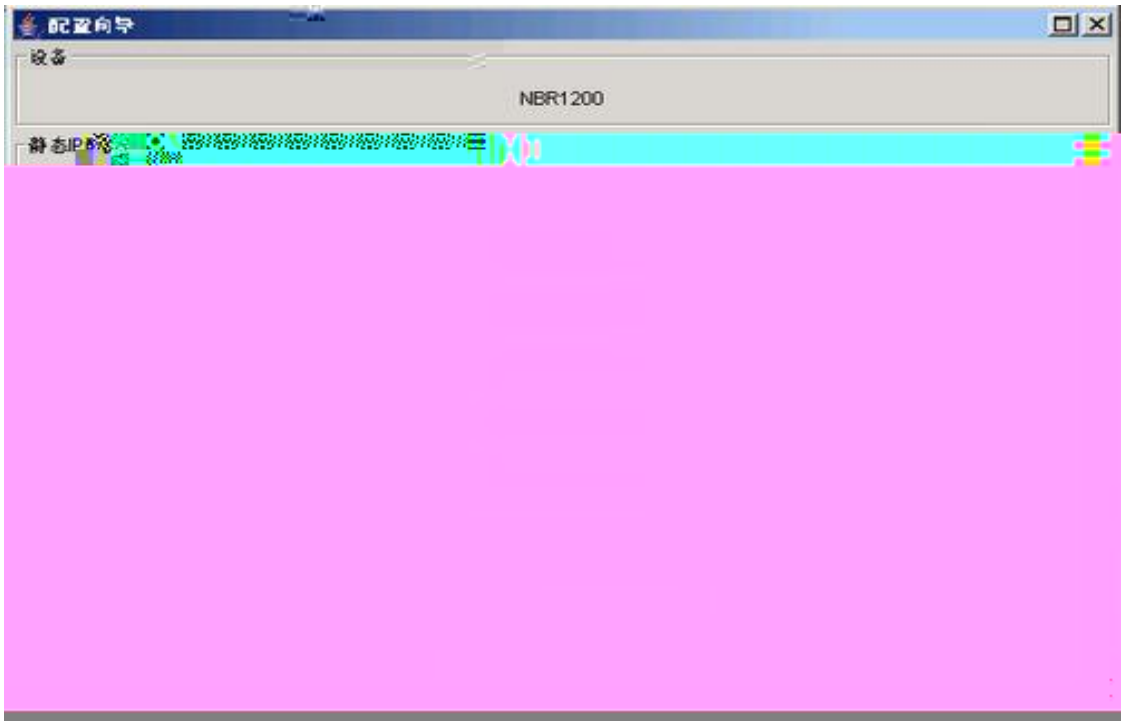
:

- NBR NBR1200
- **web** web



WAN :

- **WAN** WAN0 WAN1 WAN2 NBR200/NBR300 WAN0 NBR WAN0 GigabitEthernet 0/1 WAN1 FastEthernet 0/2
- IP PPPOE IP
- IP “ ” IP “ ” PPPOE



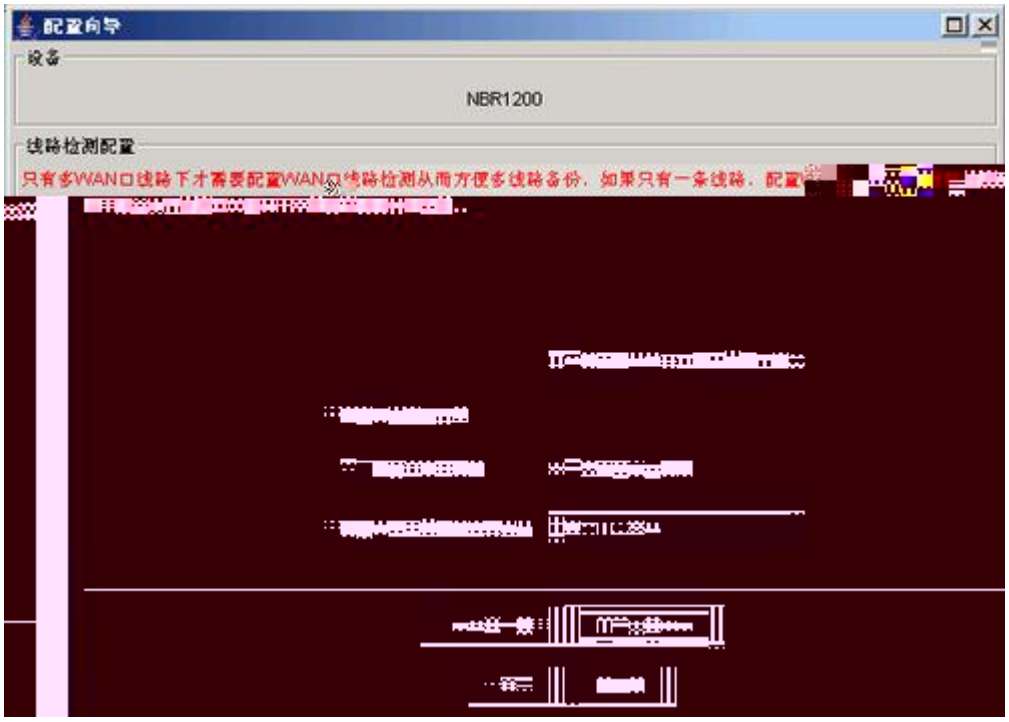
IP:

- **IP** **:** IP ISP IP
- **:** ISP
  255.255.255.0
- **:** ISP

ISP

ISP IP “ ”

- **IP** ISP
- **IP** ISP



IP

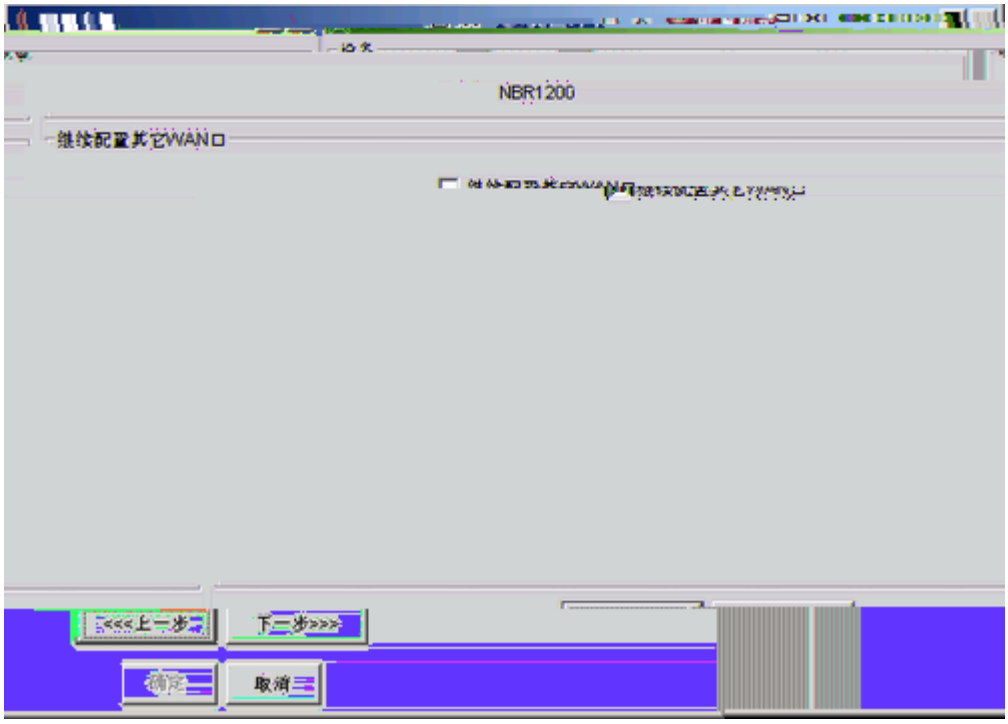
wan **wan**

wan

- DNS DNS
  ping ISP
  ping
- **IP** DNS ping IP

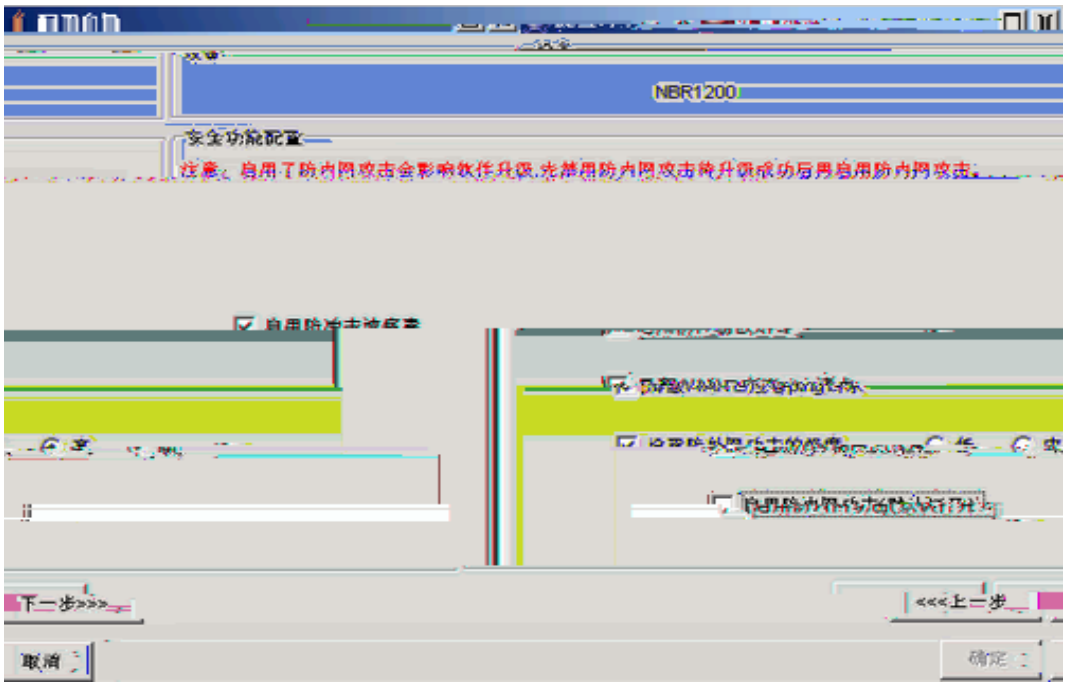
PPPOE pppoe

- ISP
- ISP
- **ISP** ISP
- **:** ε ş



wan

WAN



DOS

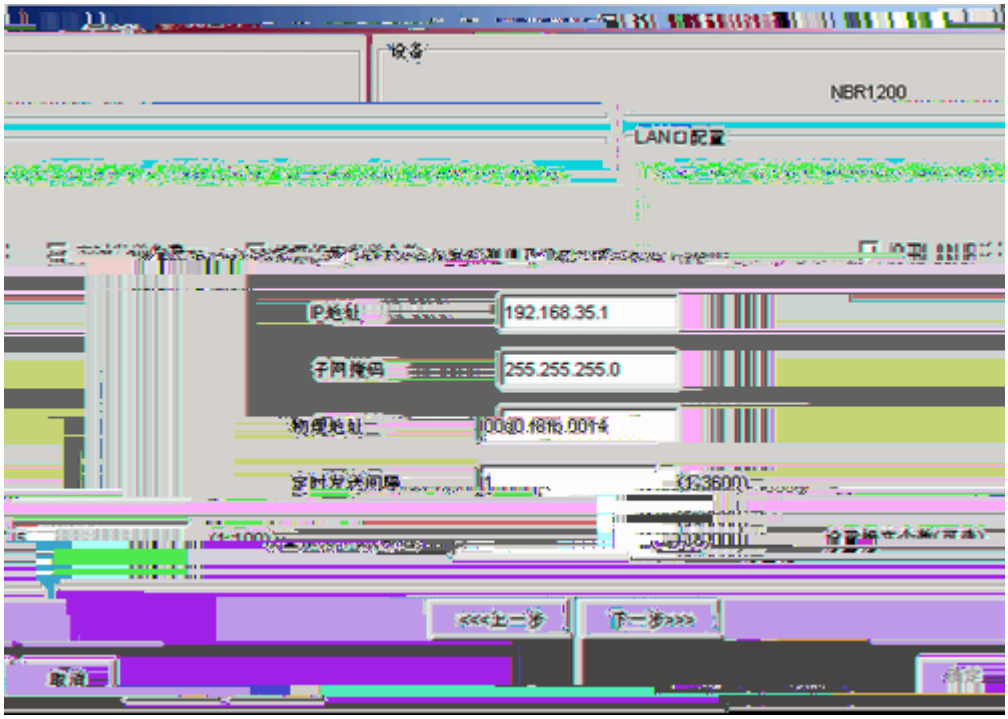
- UDP

- **WAN** **ping** ping
  ping
- DOS
-

NBR

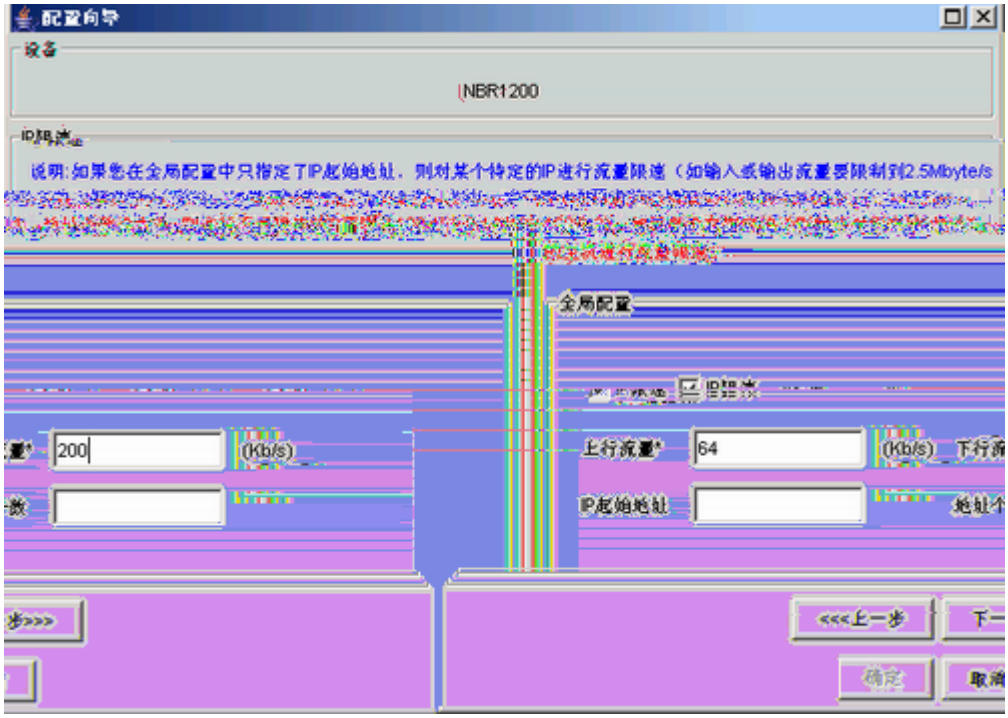
: 3 lan

- lan
- ( )
  ( ) ( )



LAN

- **IP** LAN IP IP 192.168.1.1 IP IP IP
- LAN IP
- **ARP** ARP ARP 1
- ARP 1 5

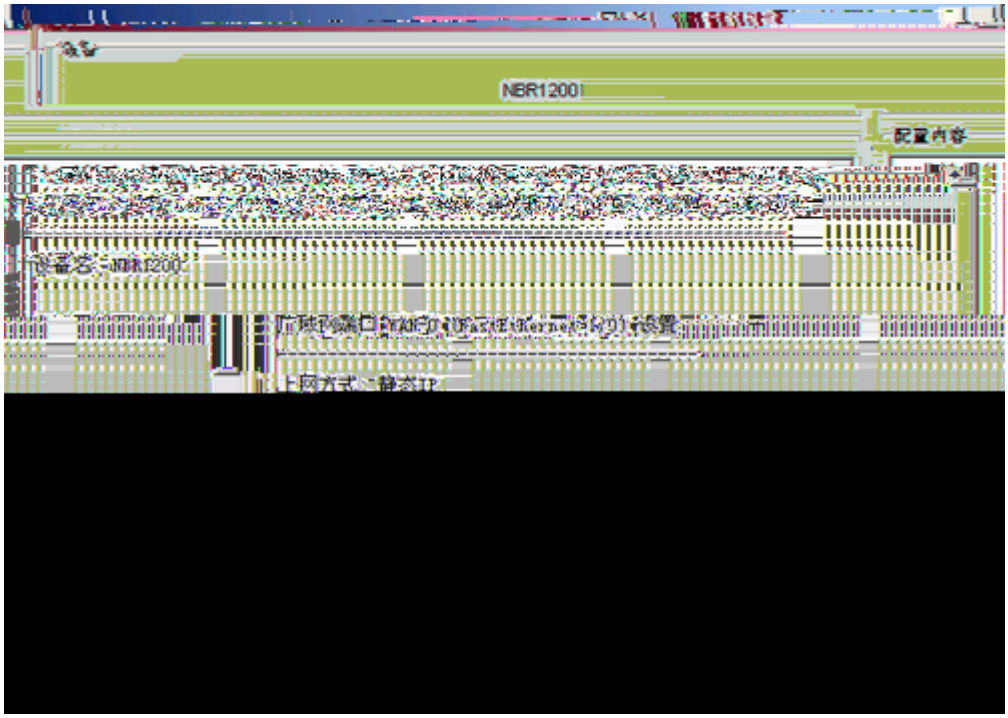


BT P2P IP

64kbyte/s 200kbyte/s

IP

“ ”



“ ”

“ ”

4.2.3.2

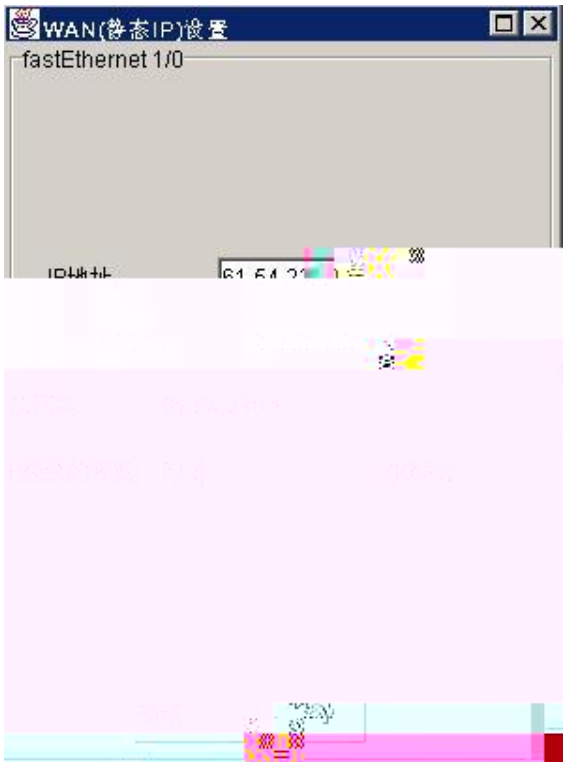
“ / ”

网络
设备
NBR1000
LAN设置
WAN设置
IP地址
192.168.200.111
子网掩码
255.255.255.0
取消
刷新

WAN0 WAN1 IP PPPOE IP

WAN0 fastethernet 1/0 WAN1 fastethernet 1/1

“ ” WAN



WAN IP “ ” “ IP ”

NBR

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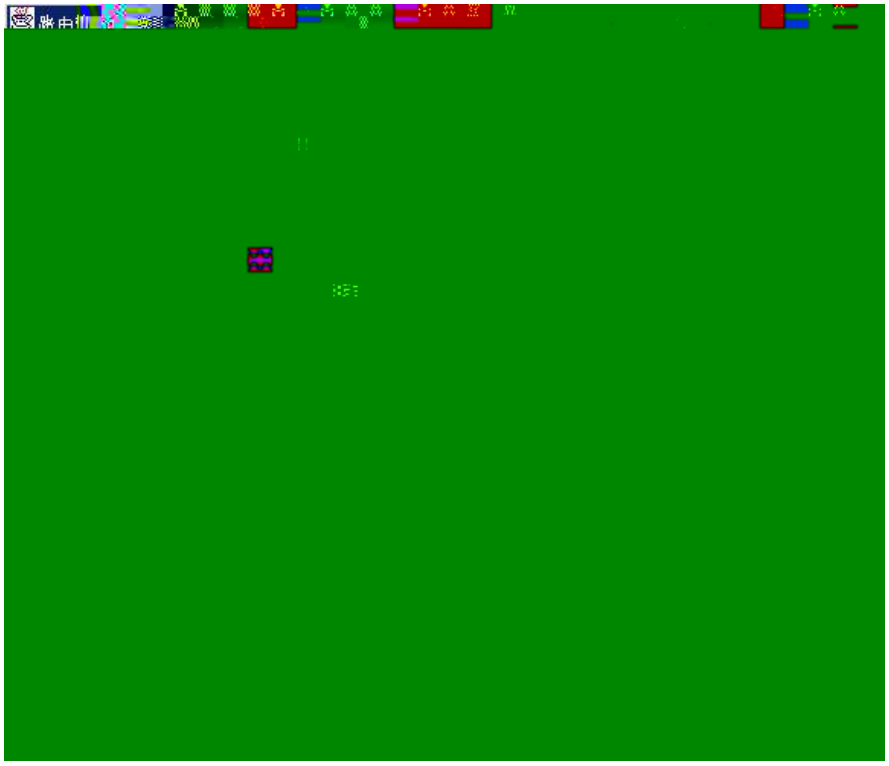
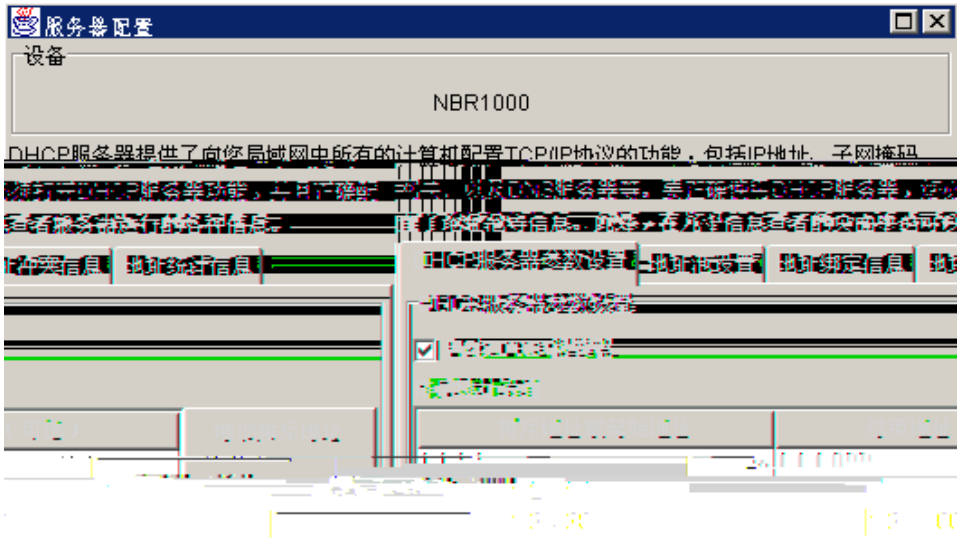
4.2.3.4

“　　/　/　　”



“　　”

NBR

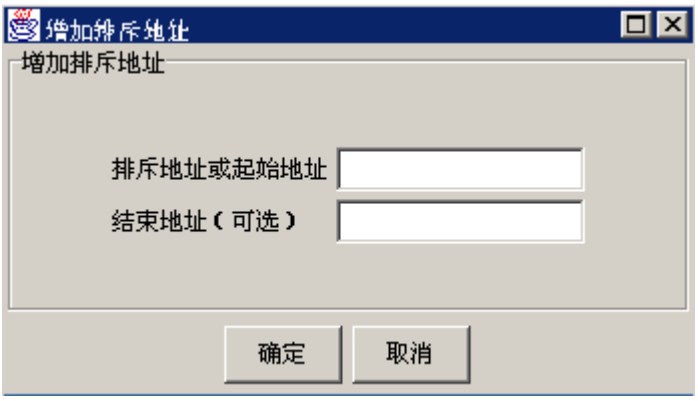


DHCP DHCP TCP/IP

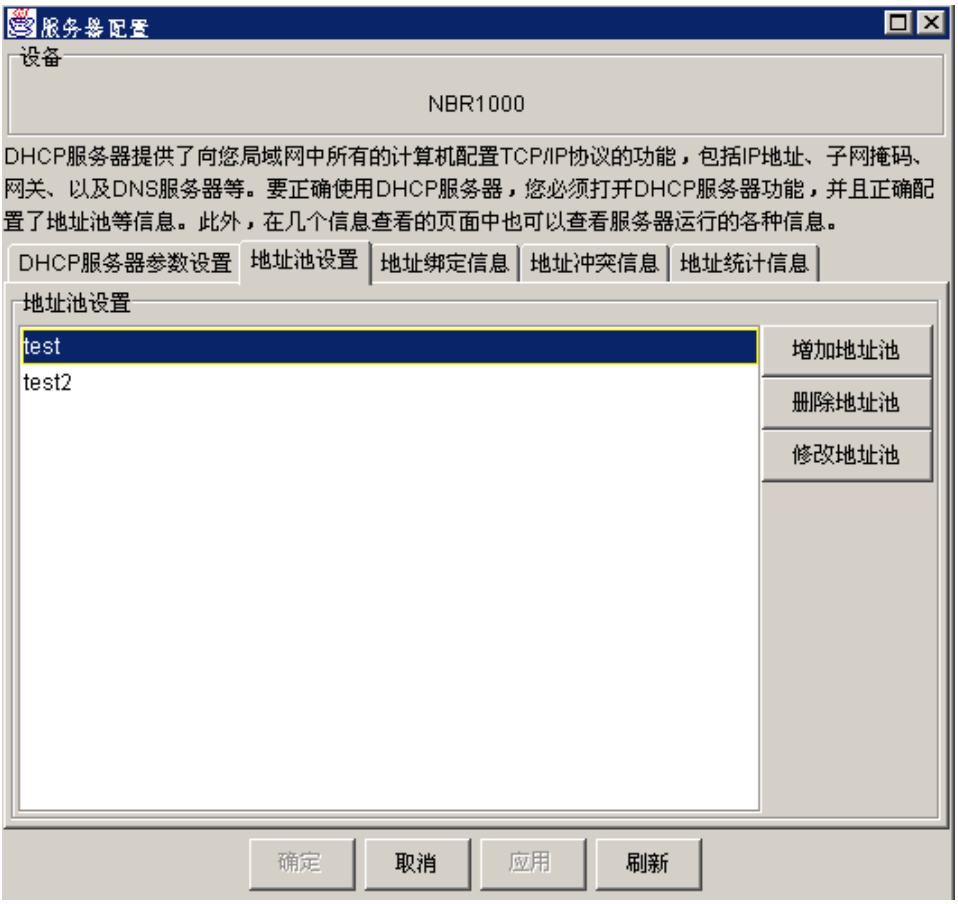
IP DNS

- - [redacted]

IP

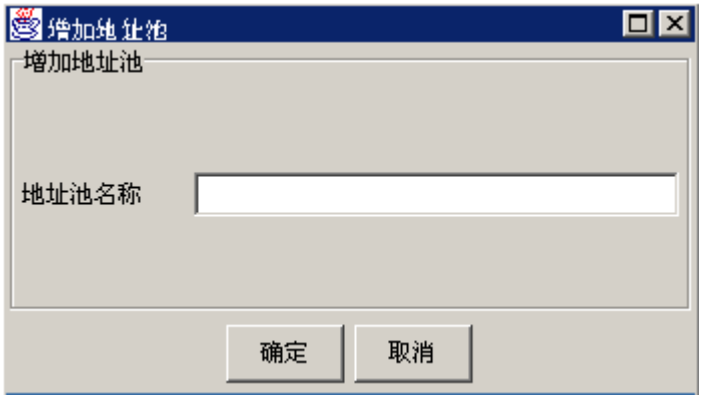

增加排斥地址
增加排斥地址
排斥地址或起始地址
结束地址（可选）
确定
取消

-
-
- “ ”

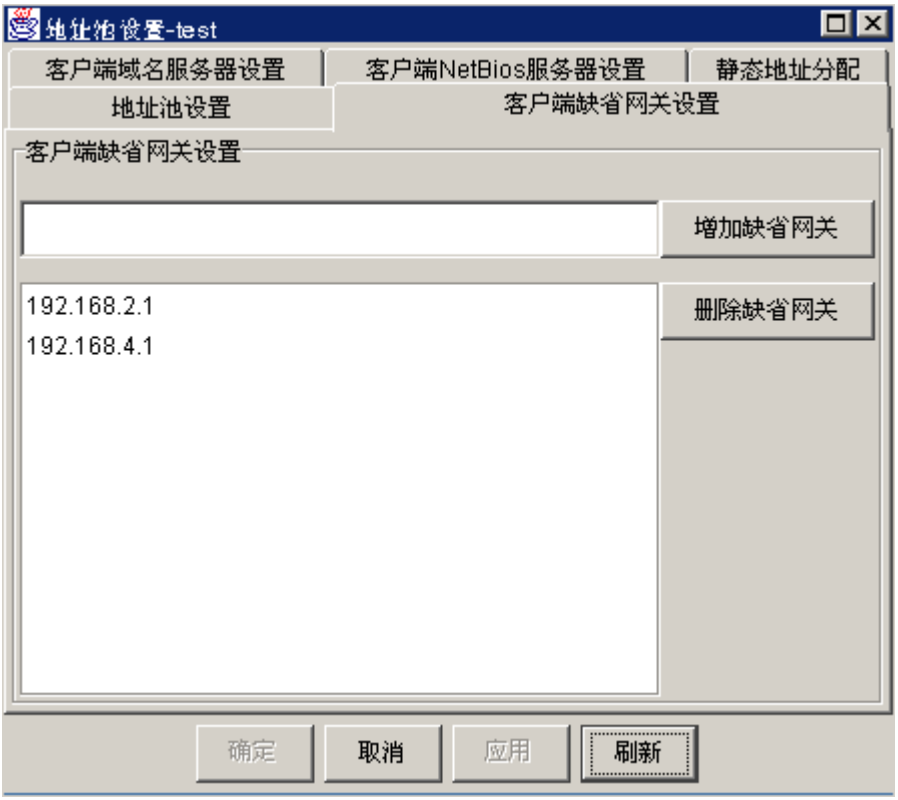

服务器配置
设备
NBR1000
DHCP服务器提供了向您局域网中所有的计算机配置TCP/IP协议的功能，包括IP地址、子网掩码、网关、以及DNS服务器等。要正确使用DHCP服务器，您必须打开DHCP服务器功能，并且正确配置了地址池等信息。此外，在几个信息查看的页面中也可以查看服务器运行的各种信息。
DHCP服务器参数设置
地址池设置
地址绑定信息
地址冲突信息
地址统计信息
地址池设置
test
test2
增加地址池
删除地址池
修改地址池
确定
取消
应用
刷新

DHCP

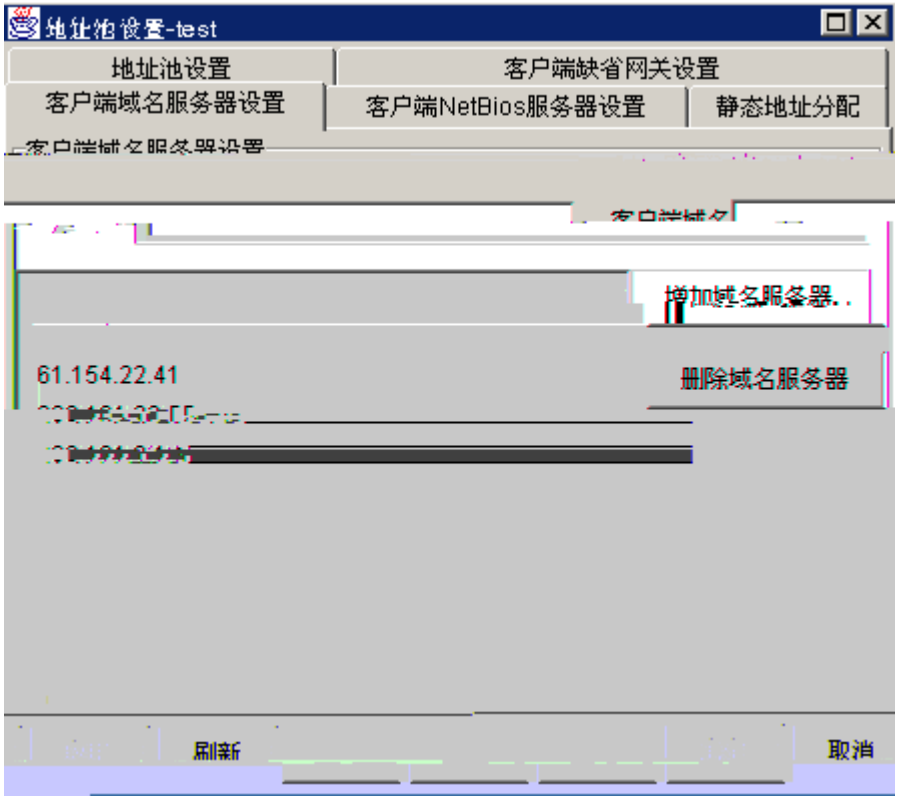
-
-
-
- “ ”

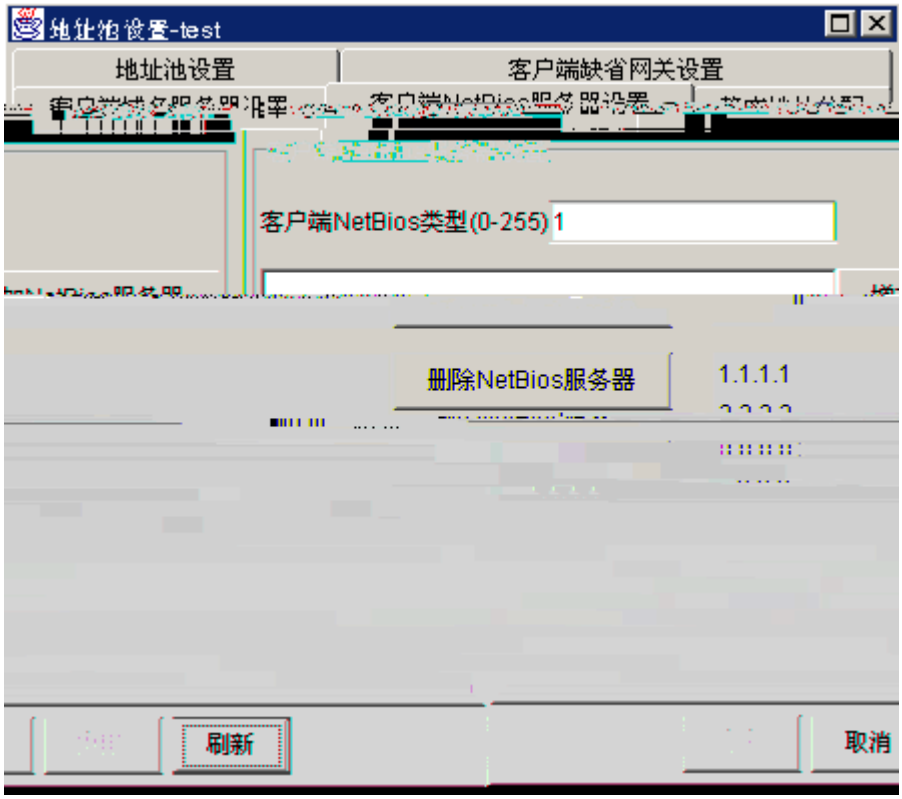

增加地址池
增加地址池
地址池名称
确定
取消

-
- “ ”


地址池设置-test
客户端域名服务器设置
客户端NetBios服务器设置
静态地址分配
地址池设置
客户端缺省网关设置
客户端缺省网关设置
增加缺省网关
192.168.2.1
192.168.4.1
删除缺省网关
确定
取消
应用
刷新

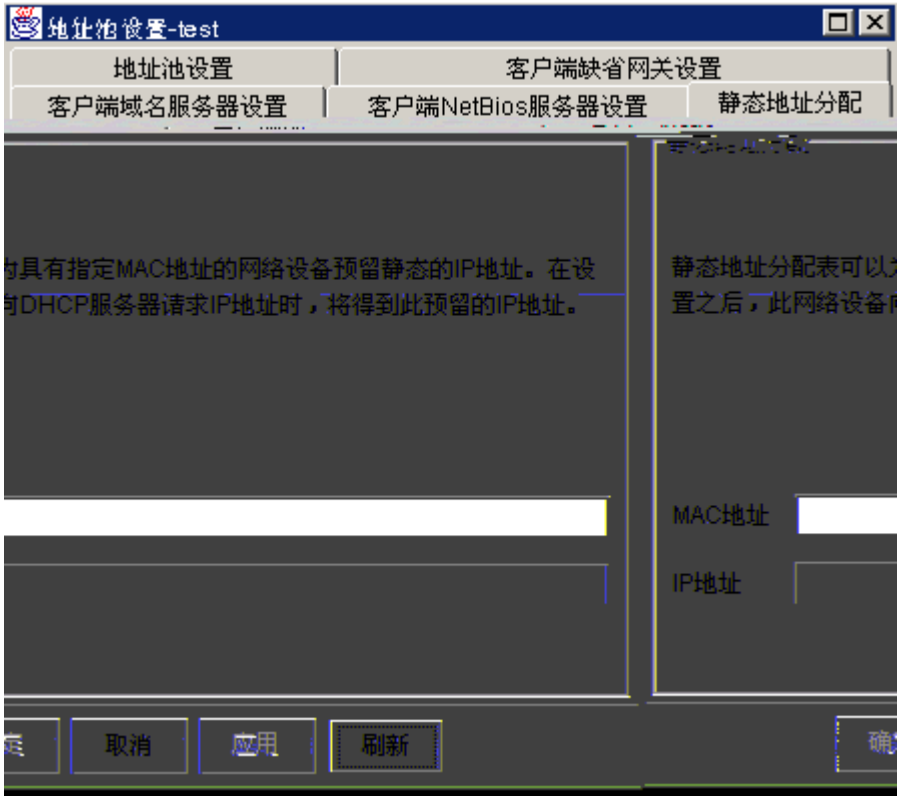
-
-
- “ ”


地址池设置-test
地址池设置
客户端缺省网关设置
客户端域名服务器设置
客户端NetBios服务器设置
静态地址分配
增加域名服务器...
61.154.22.41
删除域名服务器
刷新
取消



NetBios NetBios NetBios
NetBios

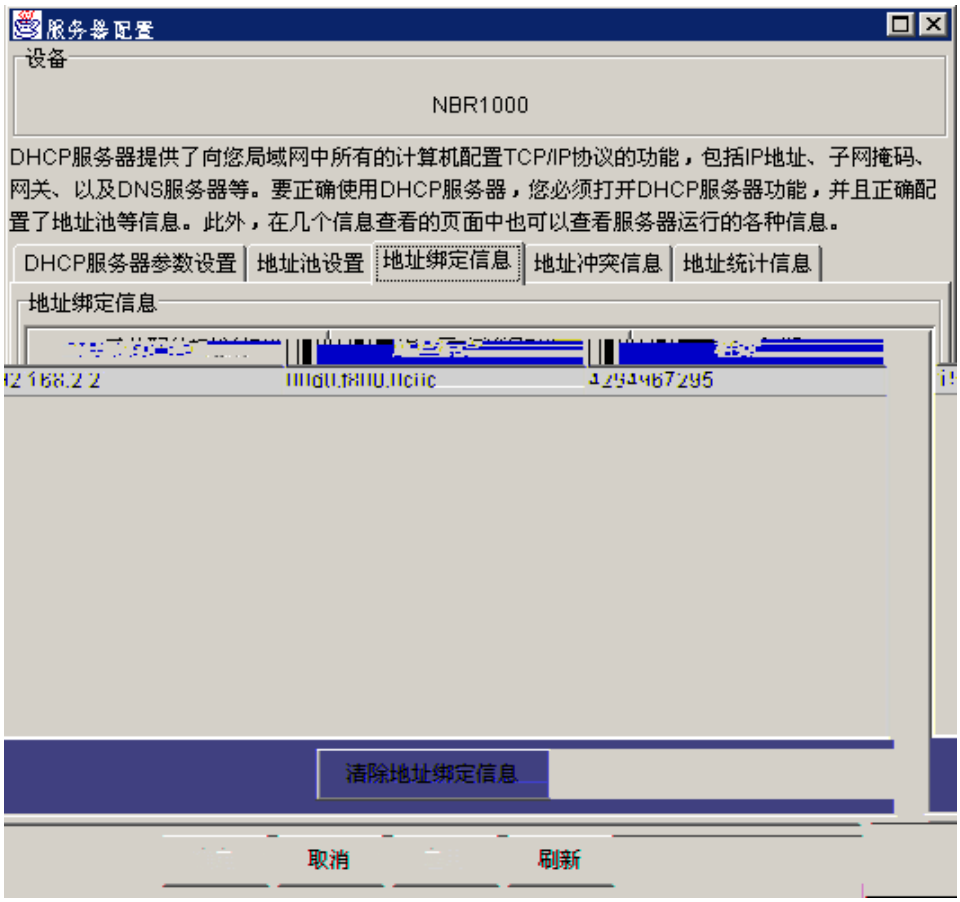
- **NetBios** NetBios 0 255
- **NetBios** NetBios
  NetBios
- **NetBios** NetBios
  NetBios
- “ ” NetBios
- “ ” NetBios



MAC IP

/

- **MAC** MAC
- **IP** MAC IP
- “ ”
- “ ”


服务器配置
设备
NBR1000
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DHCP服务器参数设置
地址池设置
地址绑定信息
地址冲突信息
地址统计信息
地址绑定信息
清除地址绑定信息
取消
刷新

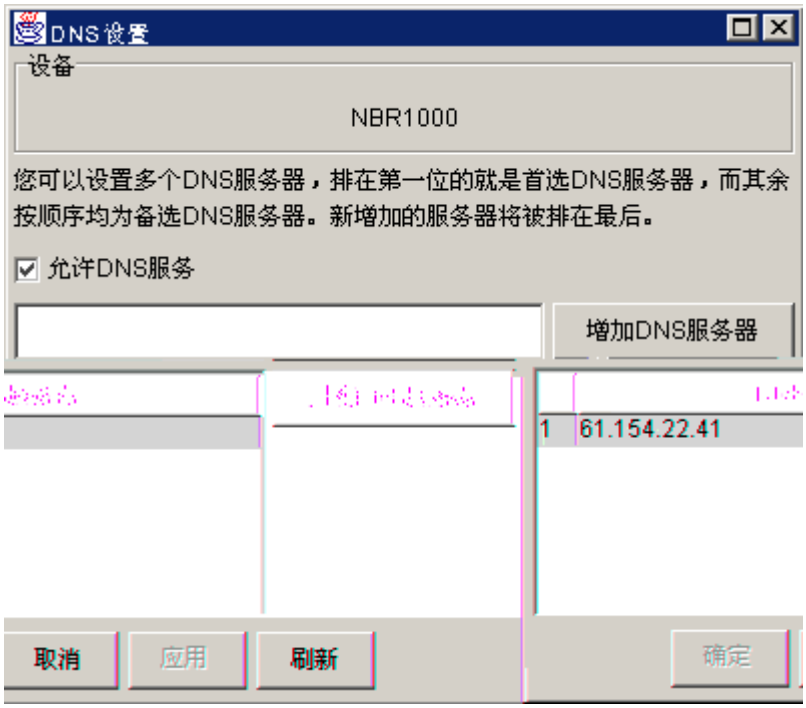
-
- “ ”

DHCP

- “ ”

4.2.3.6 DNS

“ /DNS ”



DNS DNS DNS ISP DNS DNS DNS DNS DNS DNS DNS

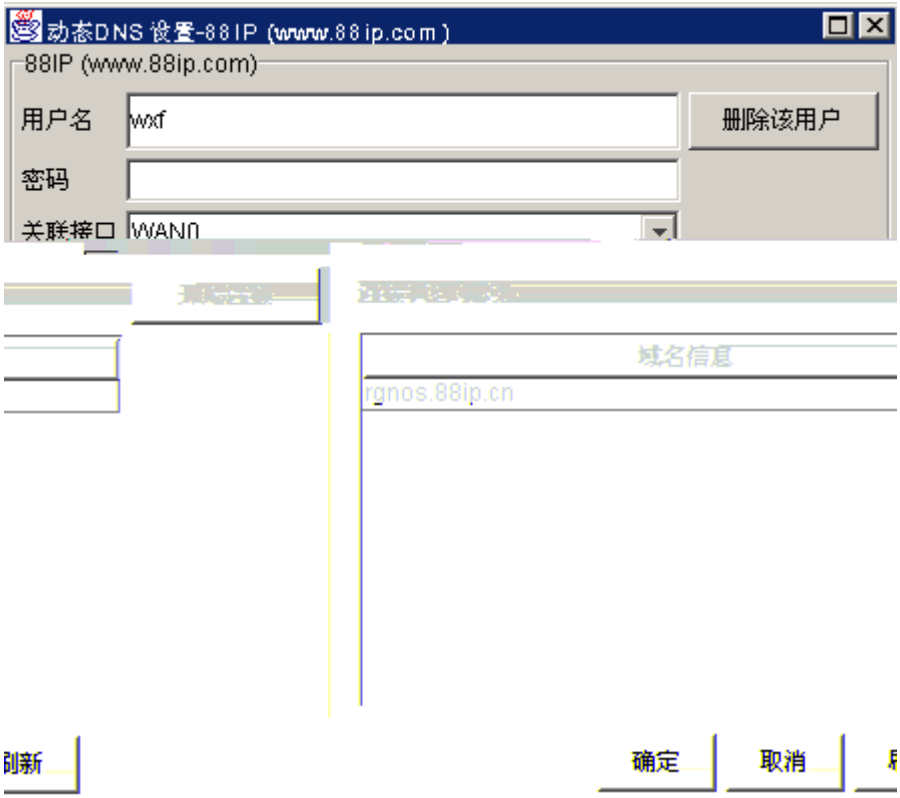
- **DNS** DNS DNS
- **DNS** DNS
- **DNS** DNS
- “ ” DNS
- “ ” DNS

4.2.3.7 DNS

“ / DNS ”

DNS DNS

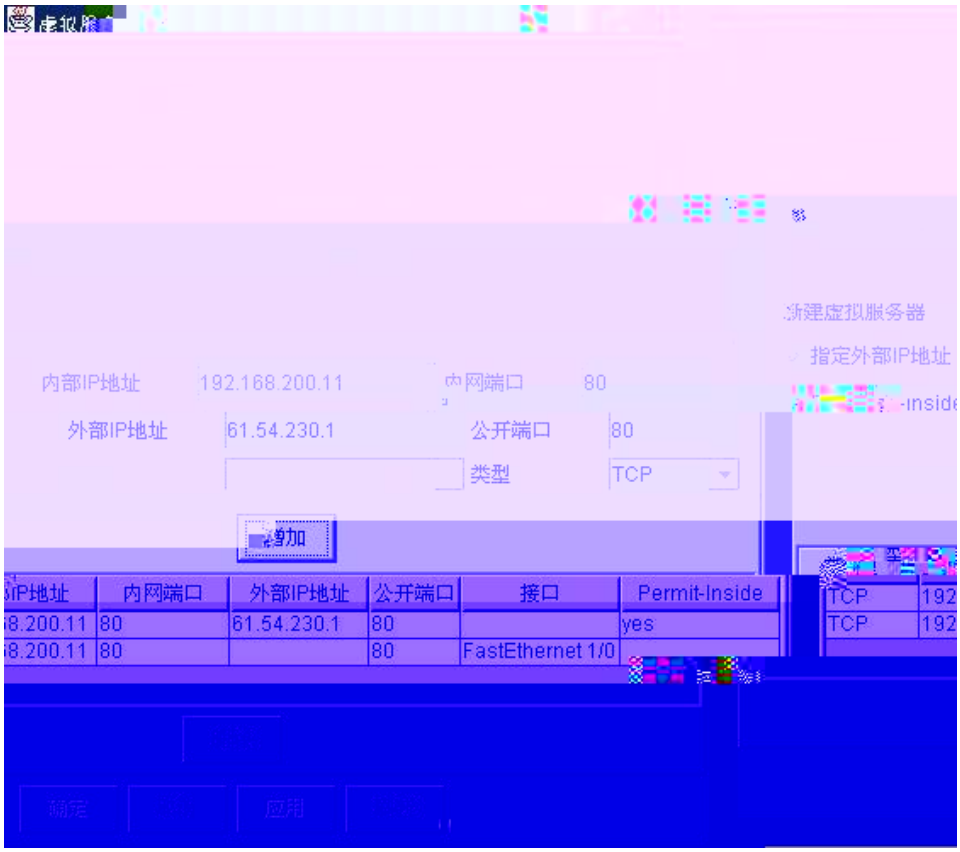
- “88IP” DNS
  “ ”
- “ ”



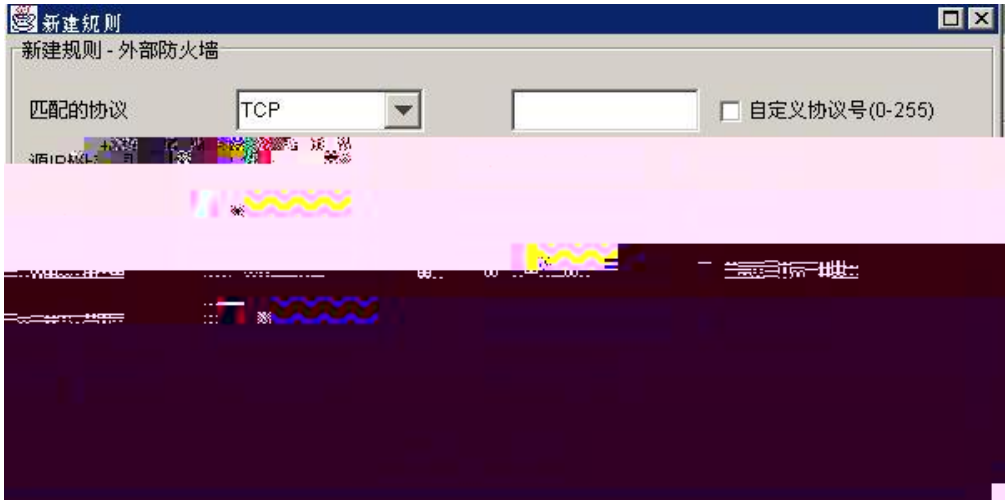
88IP **DNS** 88IP

4.2.3.8

“ / ”



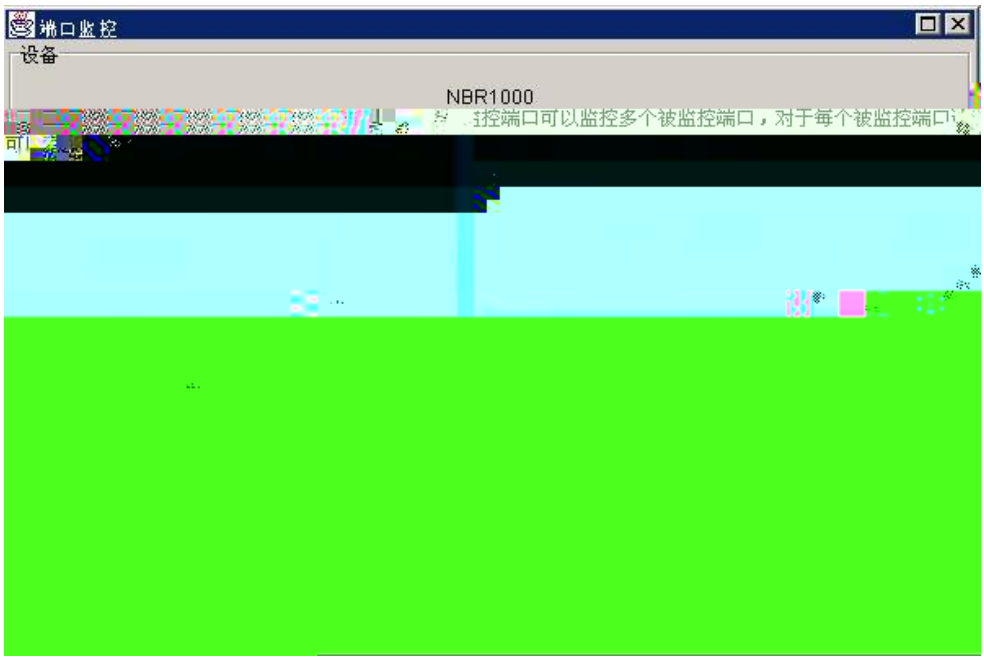
- **IP** IP
-
- **IP** ip IP
-
- IP IP
- tcp/ip
- “ ”
- “ ”
- “ ”
- “ ”



- : tcp/ip , , tcp/ip
- **ip** : ip ip ,
- : ,
- **ip** : ip ,
- : ,
- :
- :
- “ ”

4.2.3.10

“ / ”



, , lan1
lan2,lan3,lan0 , lan1 lan1 ,

- “ ”
- “ ”
- “ ”
- “ ”

4.2.3.11

“ / ”

NBR WEB Web 2.12

Web 2.0

“ ”

4.2.3.14

“ / ”

“ ” NBR

4.2.3.15 web

“ / web ”

4.2.3.18

“ / ”

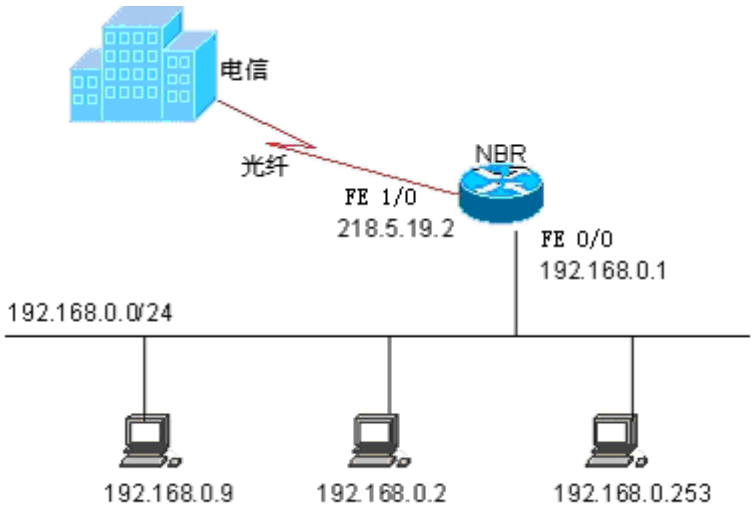
- **metal**
- **CDE/motif**
- **windows**

4.2.3.19

windows

4.39

61setern84s132B7C1>TJET EMC /P 4/MCID 8>BDC BT/F3 10.56 Tf1379027 2850 1 740.62 Tm0191385CD930C42[1185C1C6C0



4-1 IP

NBR

```
NBR>

NBR#

       ------------              ----------------

    ctrl-c                        '[]'



         :
                              [NBR]:
                                                    :
     telnet                                                  :
     WAN       (1-     ,2 -     ,3-     ,         )[1]:

         internet   WAN  :
  0. WAN 0
  1. WAN 1
       (0 - 1)[0]:

          :
  1.     IP
  2. PPPoE
```

NBR

DNS (DNS):
[yes]:

LAN IP telnet LAN IP !

```
  NBR1#
Building configuration...
Current configuration : 1962 bytes

!
version 9.0 (building 1) for NBR
enable password 7 073f07221c1c
!
access-list 3198 deny tcp any any eq 135
access-list 3198 deny tcp any any eq 445
access-list 3198 permit ip any any
access-list 3199 deny icmp any any echo
access-list 3199 deny tcp any any eq 135
access-list 3199 deny tcp any any eq 445
access-list 3199 permit ip any any
access-list 99 permit any
dialer-list 1 protocol ip permit
mirror master lan 0 slave lan 3 all              NBR
!
!
!
service sequence-numbers
service timestamps debug datetime
service timestamps log datetime
no service password-encryption
!
interface FastEthernet 0/0                  NBR LAN0        interface
GigabitEthernet 0/0
 ip nat inside
 ip access-group 3198 in
 no ip redirects
 no ip mask-reply
 no ip proxy-arp
 ip address 192.168.0.1 255.255.255.0
 arp gratuitous-send interval 1 5
!
interface FastEthernet 1/0                  NBR WAN0        interface
GigabitEthernet 0/1
 ip nat outside
 ip access-group 3199 in
 no ip redirects
 no ip mask-reply
 no ip proxy-arp
 ip address 218.5.19.2 255.255.255.0
 duplex auto
 speed auto
!     NBR200/300  FastEthernet1/1             NBR  WAN1     interface
FastEthernet 0/2
interface FastEthernet 1/1
 duplex auto
 speed auto
 shutdown
!
```

```
interface Null 0
!
ip nat pool nbr_setup_build_pool prefix-length 24
 address 218.5.19.2 218.5.19.2 match interface FastEthernet 1/0
!
ip nat inside source list 99 pool nbr_setup_build_pool
ip nat translation max-entries 7000
ip nat translation per-user 0.0.0.0 350
ip nat translation udp-timeout 150
ip nat translation icmp-timeout 30
ip nat translation tcp-timeout 600
ip nat translation finrst-timeout 20
ip nat translation dns-timeout 30
security anti-wan-attack level high
security anti-lan-attack
!
ip route 0.0.0.0 0.0.0.0 FastEthernet 1/0 218.5.19.1
!
line con 0
line vty 0
 login
 password 7 110022081d5e0834012e3e
line vty 1
 login
 password 7 072c06221a062210014f1f
line vty 2
 login
 password 7 093d101f2811175f1e2400
line vty 3
 login
 password 7 050a03330c3b1007340000
line vty 4
 login
 password 7 08112a181d330007590833
!
```

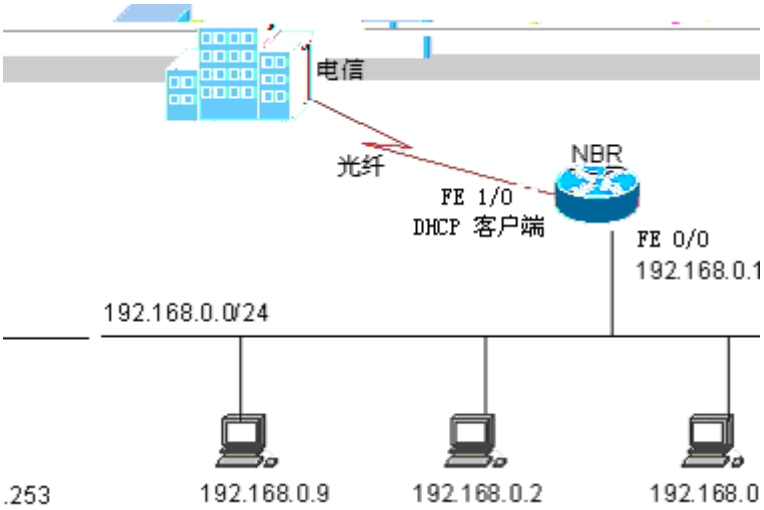
4.3.2 PPPoE

4-2 ADSL Internet ADSL Modem RJ-45

```
   access-list 3199 deny icmp any any echo
   access-list 3199 deny tcp any any eq 135
   access-list 3199 deny tcp any any eq 445
   access-list 3199 permit ip any any
   access-list 99 permit any
   dialer-list 1 protocol ip permit
   !
   !
   service sequence-numbers
   service timestamps debug datetime
   service timestamps log datetime
   no service password-encryption
   !
   interface  FastEthernet  0/0                NBR  LAN0         interface
GigabitEthernet 0/0
    ip nat inside
    ip access-group 3198 in
    no ip redirects
    no ip mask-reply
    no ip proxy-arp
    ip mtu 1488
    ip address 192.168.0.1 255.255.255.0
    arp gratuitous-send interval 1 5
   !
   interface  FastEthernet  1/0                NBR  WAN0         interface
GigabitEthernet 0/1
    no ip redirects
    no ip mask-reply
    no ip proxy-arp
    pppoe enable
    pppoe-client dial-pool-number 1 no-ddr
    duplex auto
    speed auto
   !      NBR
```

```
 address interface dialer 0 match interface dialer 0
!
ip nat inside source list 99 pool nbr_setup_build_pool
ip nat translation max-entries 7000
ip nat translation per-user 0.0.0.0 350
ip nat translation udp-timeout 150
ip nat translation icmp-timeout 30
ip nat translation tcp-timeout 600
ip nat translation finrst-timeout 20
ip nat translation dns-timeout 30
security anti-wan-attack level high
security anti-lan-attack
!
ip route 0.0.0.0 0.0.0.0 dialer 0
!
line con 0
line vty 0
 login
 password 7 04220b0ETBT6.5
```


417.5 568.75 Tm[( )] TJETBT1 0 8.75 406 0 557.23 Tm[(!)] TJETBT1 0 0 1 1406 0 557.23 Tm[( )] TJETBT1 0 8.75 3 0 32 6



4-3 DHCP IP

NBR

```
NBR >

    NBR#setup

          ------------              ----------------

       ctrl-c                        '[]'


            :
                                  [NBR]:
```


“ 6 ﻟ ﺽ ﻟ ﺩ

```
                                        (1 - 3600)[1]:
        1               (1 -100)[5]:

                             [no]:              NBR

                                [yes]:
                               [yes]:

                             :
              1.
              2.
              3.
                    (1 - 3)[3]:
                           [yes]:
            WAN          ping    [no]:
                         IP       [no]:

                         DNS      (DNS    )[no]:

                          :
                            :
                              :admin
                    telnet           :remoteuser
                                 :
                     WAN 0: DHCP        IP.
                          : 100 Mbps
                             :
                         : 192.168.0.1 255.255.255.0
                               ARP: 1 Seconds
                             :
                                       :
                                    :
                                    :
                    WAN          ping    :
                                  DNS      (DNS    ):
                             [yes]:
            NBR#
```

```
NBR#show running-config
Building configuration...
Current configuration : 1870 bytes

!
version 9.0 (building 1) for NBR
enable password 7 034233150f30
!
access-list 3198 deny tcp any any eq 135
access-list 3198 deny tcp any any eq 445
access-list 3198 permit ip any any
access-list 3199 deny icmp any any echo
access-list 3199 deny tcp any any eq 135
```

```
access-list 3199 deny tcp any any eq 445
access-list 3199 permit ip any any
access-list 99 permit any
dialer-list 1 protocol ip permit
!
service sequence-numbers
service timestamps debug datetime
service timestamps log datetime
no service password-encryption
!
interface FastEthernet 0/0             NBR LAN0      interface GigabitEthernet 0/0
 ip nat inside
 ip access-group 3198 in
 no ip redirects
 no ip mask-reply
 no ip proxy-arp
 ip address 192.168.0.1 255.255.255.0
 arp gratuitous-send interval 1 5
!
interface FastEthernet 1/0             NBR WAN0      interface GigabitEthernet 0/1
 ip nat outside
 ip access-group 3199 in
 no ip redirects
 no ip mask-reply
 no ip proxy-arp
 ip address dhcp
 duplex auto
 speed auto
!      NBR200/300   FastEthernet 1/1              NBR WAN1      interface FastEthernet
0/2
interface FastEthernet 1/1
 duplex auto
 speed auto
 shutdown
!
interface Null 0
!
!
ip nat pool nbr_setup_build_pool prefix-length 24
 address interface FastEthernet 1/0 match interface FastEthernet 1/0
!
ip nat inside source list 99 pool nbr_setup_build_pool
ip nat translation max-entries 7000
ip nat translation per-user 0.0.0.0 350
```

```
ip nat translation udp-timeout 150
ip nat translation iTdp
```

5.1

Stauts

Stauts Stauts

-
-

a

Stauts

5.2

-
-

9600 8 1
VT100

5.3

4 LAN 4
LINK/ACT 100M WAN
RJ45 LAN 100M
LINK/ACT
MODULE LINK/ACT

LINK/ACT		1 2 3 4
100M	100M 10M	1 2 10M
MODULE		1 2
Reset	5 5	2 5 3

NBR

WAN IP

PPPoE NAT

IP Internet

NBR

Setup

NBR RGNOSx.x

RGNOSx.x x.x 8.1 8.2

6.1 WAN

WAN

duplex speed WAN

duplex no

Red-Giant(config-if)# **duplex** {**full** | **half** | **auto**}	
Red-Giant(config-if)# **no duplex**	**auto**

speed no

Red-Giant(config-if)# **speed** {**10** | **100** | **auto**}	
Red-Giant(config-if)# **no speed**	**auto**

dulpex speed

	speed	

MAC

MAC

MAC

MAC

IP IP IP

IP

Red-Giant(config-if)# **ip unnumbered** *interface-type interface-number*	
Red-Giant(config-if)# **no ip unnumbered**	

RGNOS DHCP

Red-Giant(config-if)# **ip address dhcp**	DHCP
Red-Giant(config-if)# **no ip address dhcp**	DHCP

6.2.2 (ARP)

RGNOS к ɔ

RGNOS 1).
2).UDP 3). IP

IP IP IP
172.16.16.255

IP

ReD-19aD 19nt(config-if)#**ip directet -broadcast** [*access-list-number*]	
ReD-19aD 19nt(config-if)#**no ip directet -broadcD 19ast**	

UDP IP
BOOTP UDP

IP (Helper)
HeD 19lpD 19er UDP
BOOTP UDP

ReD-19aD 19nt(config-if)#**ip hD 19elpD 19er-aD 19ddress** *ip-address*	UDP IP DHCP
ReD-19aD 19nt(config-if)#**no ip helper-aD 19ddress** *ip-address*	UDP IP

“ 1 ” 2D 1955.2D 1955.255.255

2D 1955.2D 1955.255.255

NBR(config-subif)# **no encapsulation dot1Q** [*VLANID*]	

LAN IEEE 802.1Q LAN vlan

Nbr(config)#ip route 0.0.0.0 0.0.0.0 fastethernet 1/0 192.168.12.1

Nbr(config)#end

Nbr#

6.4

(access control lists) (access lists)

6.4.1

1) 2)

Red-Giant(config)# **access-list** *access-list-number* {**permit|deny**} [...]	( )
Red-Giant(config)# **interface** *type number*	( )
Red-Giant(config-if)# **ip access-group** *access-list-number* {**in|out**}	( )

6.4.2

```
interface FastEthernet0/0
 ip address 192.168.12.1 255.255.255.0
!
interface FastEthernet1/0
 ip address 2.2.2.2 255.255.255.0
 ip access-group 101 in
 ip access-group 101 out
!
ip route 0.0.0.0 0.0.0.0 FastEthernet1/0 2.2.2.1
!
access-list 101 permit tcp 192.168.12.0 0.0.0.255 anugw81 0.01permip a
```

-
-

6.5.1

1). PPPOE 2). C

Red-Giant(config-if)#**encapsulation ppp**	PPP
Red-Giant(config-if)#**mtu** *mtu-number*	
Red-Giant(config-if)#**dialer-group** *dialer-group-number*	dialer-list
Red-Giant(config-if)#**ppp pap sent-username** *username* **password** *password*	PAP
Red-Giant(config-if)#**ppp chap hostname** *username*	CHAP
Red-Giant(config-if)#**ppp chap password** *password*	CHAP

MTU 1492(1488 1488 1492)

ISP MTU ISP( )
MTU 1488 ISP MTU 1492

6.5.3

PPPoE 1).
2). (NAt) PPPoE
PPPoE

Red-Giant(config)#**dialer-list** *number dialer-group* **protocol** *protocol-name* {**permit** | **deny** | **list** *access-list*

6.6.1 NAT

NAT IP

IP

6.6.2 NAPT

NAT

NAPT( )

NAPT NAPT NAPT NAPT

NAT

NAPT

NBR

6.6.4 TCP

TCP TCP
NAT TCP NAT
TCP

Red-Giant(config)#**ip nat pool** *address-pool start-address end*	

6.6.6 nat pc

nat ip inbound outbound , nat ip

Red-Giant(config)# ip nat translation **net-flow**	nat ip
Red-Giant(config)# ip nat translation **net-flow time** *seconds*	60 300 60 1

6.6.7 nat pc

nat ip inbound outbound , nat ip

Red-Giant(config)# ip nat translation **rate-limit default inbound** *Kbit* **outbound** *Kbit*	nat ip host Kbit 10Kbit 100000Kbit
Red-Giant(config)# ip nat translation **rate-limit ip** *x.x.x.x* **inbound** *Kbit* **outboud** *Kbit*	nat ip host Kbit 10Kbit 100000Kbit
Red-Giant(config)# ip nat translation **rate-limit iprange** *downip upip* **inbound** *Kbit* **outbound** *Kbit*	nat ip Kbit 10Kbit 100000Kbit
Red-Giant# show ip nat translations **flowrate inbound/outbound**	nat ip host 1 inbound outbound inbound outbound

nat nat

nat nat

🕮

ip ip

100

6.6.8 NAT

-
-
-
- TCP
- NAT outside
- NAT

6.6.8.1

NAT net200

200.168.12.2~200.168.12.100 1

NAT

```
!
interface FastEthernet 0/0
 ip address 192.168.12.1 255.255.255.0
 ip nat inside
!
interface FastEthernet 0/1 397.03tD 9i349.03 397.03tD 9i349.03 397.03tD 9i
 ip address 200.168.12.1 255.255.255.0
 ip nat outside
!
ip nat pool net200 200.168.12.2 200.168.12.100 netmask 255.255.255.0
ip nat inside source list 1 pool net200
!
access-list 1 permit 192.168.12.0 0.0.0.255
```

6.6.8.2

NAPT RGNOS8.1 NAT

NAPT NAT net200

200.168.12.200 IP

1 NAT

```
!
interface FastEthernet 0/0
 ip address 192.168.12.
```

```
 ip nat outside
!
ip nat pool net200 200.168.12.200 200.168.12.200 netmask 255.255.255.0
ip nat inside source list 1 pool net200
access-list 1 permit 192.168.12.0 0.0.0.255
```

NAT

```
Red-Giant#
Pro Inside global     Inside local      Outside local     Outside global
tcp 200.168.12.200:2063 192.168.12.65:2063 168.168.12.1:23 168.168.12.1:23
```

6.6.8.3 NAPT

NAPT NAT

NBR NAPT

NBR

WEB 192.168.12.3 IP200.198.12.1

80

```
!
interface FastEthernet 0/0
 ip address 192.168.12.1 255.255.255.0
 ip nat inside
!
interface FastEthernet 1/0
 ip address 200.198.12.1 255.255.255.0
 ip nat outside
!
ip nat inside source static tcp 192.168.12.3 80 200.198.12.1 80
```

WEB 192.168.12.3

NAT

IP NAPT

permit-inside

```
!
interface FastEthernet 0/0
 ip address 192.168.12.1 255.255.255.0
 ip nat inside
 no ip redirects
!
interface FastEthernet 1/0
 ip address 200.198.12.1 255.255.255.0
 ip nat outside
!
ip nat inside source static tcp 192.168.12.4 7777 200.198.12.1 7777
```

IP200.198.12.1 192.168.12.4

inside no ip redirects inside

6.7

6.6.8.4

192.198.12.0/24

```
!
```

NAT

```
Red-Giant#
Pro Inside global   Inside local    Outside local          Outside global
tcp 10.10.10.100:23 10.10.10.2:23  100.100.100.100:1178 100.100.100.100:1178
tcp 10.10.10.100:23 10.10.10.3:23  200.200.200.200:1024 200.200.200.200:1024
```

6.6.8.6 (DNS relay)

NAT NAT DNS NAT inside IP DNS NAT inside DNS DNS DNS

DNS relay

NAT inside IP 192.168.1.1 DNS IP 202.101.98.55 DNS relay

```
!
access-list 1 permit 192.168.1.0 0.0.0.255
!
```

```
!
!       ACL                             internet
access-list 99 permit 192.168.0.0 0.0.0.255
!       dialer-list         PPPoE
dialer-list 1 protocol ip permit
!
!       NBR1000     LAN
interface FastEthernet 0/0
ip mtu 1488
 ip nat inside
!    PPPoE              LAN      mtu
ip address 192.168.0.1 255.255.255.0
!
!       WAN0            IP                  60          dns
interface FastEthernet 1/0
 ip nat outside
 ip address 218.5.19.2 255.255.255.0
 keepalive 60 dns 202.101.98.55
!       100M        Kbits
 bandwidth 100000
!
!       WAN1        ADSL        PPPoE
interface FastEthernet 1/1
 pppoe enable
!       PPPoE
 pppoe-client dial-pool-number 2 no-ddr
!
interface dialer 1
 encapsulation PPP
```

```
 ppp pap sent-username user password 7 072b102a07
 ip nat outside
 mtu 1488
 ip address negotiate
 dialer pool 2
 dialer idle-timeout 1200
 dialer-group 1
!       1M          Kbits
 bandwidth 1000
!
!       NAT                 NAT         outside         outside       FastEthernet 1/0
       218.5.19.2                outside       dialer 1     PPPoE                  dialer

ip nat pool nbr_setup_build_pool prefix-length 24
 address 218.5.19.2 218.5.19.2 match interface FastEthernet 1/0
 address interface dialer 1 match interface dialer 1
!       NAT
ip nat inside source list 99 pool nbr_setup_build_pool
!                          WAN
ip route 0.0.0.0 0.0.0.0 FastEthernet 1/0 202.101.98.1
ip route 0.0.0.0 0.0.0.0 dialer 1
!
```

6.6.8.8 NAT

nat pc ip

```
!
interface FastEthernet 0/0
 ip address 192.168.210.190 255.255.255.0
 ip nat inside
!
interface FastEthernet 1/0
 ip address 192.168.100.150 255.255.255.0
 ip nat outside
!
ip nat inside source list 1 interface FastEthernet 1/1
!
ip nat translation netflow
!
access-list 1 permit any
!
```

nat pc ip

ip 192.168.210.120 ip

```
!
interface FastEthernet 0/0
 ip address 192.168.210.190 255.255.255.0
 ip nat inside
!
interface FastEthernet 1/0
```

```
 ip address 192.168.100.150 255.255.255.0
 ip nat outside
!
ip nat inside source list 1 interface FastEthernet 1/1
!
ip nat translation rate-limit default inbound 1600 outbound 2400
!
ip nat translation rate-limit ip 192.168.210.120 inbound 4000 outbound 4000
!
access-list 1 permit any
!
```

show

```
Red-Giant#sh ip nat translations flowrate inbound
IP    Inbound(Kb/sec)     Outbound(Kb /sec)     IsLimit     IsSpecial
192.168.210.120          3         146     *     *
192.168.210.123          0           0     *     *
192.168.210.121          0           0     *     *
192.168.210.119          0           0     *     *
192.168.210.122          0           0     *     *
```

IsLimit “ * ” ip “ - ”

```
Red-Giant>

Red-Giant#
Enter configuration commands, one per line.  End with CNTL/Z.
!    WAN0
Red-Giant(config)#interface fastethernet 1/0
!    WAN
Red-Giant(config-if)#ip address 218.5.19.2 255.255.255.0
!    WAN            Internet
Red-Giant(config-if)#ip nat outside
!    WAN
Red-Giant(config-if)#no shut
!
Red-Giant(config-if)#end
Red-Giant#
!                        WAN         UP    (        ).
%LINK CHANGED: Interface FastEthernet 1/0, changed state to up
%LINE  PROTOCOL  CHANGE:  Interface  FastEthernet  1/0,  changed  state  to
UPRed-Giant#
Enter configuration commands, one per line.  End with CNTL/Z.

Red-Giant(config)#i

Red-Giant(config-if)#ip address 192.168.0.1 255.255.255.0
6 Ц

Red-Giant(config-if)#

Red-Giant(config-if)#
Red-Giant(config-if)#
Red-
```

```
Red-Giant(config)#
Red-Giant(config-line)#
Red-Giant(config-line)#
Red-Giant#
Red-Giant#
Enter configuration commands, one per line.  End with CNTL/Z.
Red-Giant(config)#

Red-Giant(config)#
NBR(config)#
NBR#
!
NBR#write
Building configuration...
[OK]
NBR#
!
NBR#show running-config
Building configuration...
Current configuration:
!
!
```

6.8 (DDNS)

Internet IP
Internet IP
Internet IP

IP
IP IP
Internet
IP

Wan DDNS NAT
Internet

DDNS 88IP(www.88ip.cn)

NBR(config)#**no ddns {88ip }** *usenam*	DDNS

DDNS DNS

NBR(config-ddns)# **ip domain-lookup**	DNS
NBR(config-ddns)# **ip name-server** 20 .101.98.55	DNS server

2 DDNS

DDNS

	show DDNS

NBR

1

6.9.2

6.9.3

6.10

7.1 ROM

7.1.1 ROM

BootROM RGNOS
BootROM
FLASH
BootROM RGNOS
BootROM
BootROM ROM ROM
BootROM RGNOS

7.1.2 ROM

BootROM FLASH RGNOS
Ɓ Ɓ

```
  4. X-Modem Download & Write Into File
  5. List Active Files
  6. List Deleted Files
  7. Run A File
  8. Erase A File
  9. Squeeze File System
  a. Format File System
  b. Other Utilities
```

Please select an item: **2** flash

File name[ ]: **router.bin**

Local IP[ ]: **100.100.100.100** ip

Remote IP[ ]: **100.100.100.171** tftp ip

Read Mac Addr from eeprom =00-D0-F8-0F-C2-02

%Now Begin Download File router.bin From 100.100.100.171

send download request. !!!!

```
  1. TFTP Download & Run
  2. TFTP Download & Write Into File
  3. X-Modem Download & Run
  4. X-Modem Download & Write Into File
  5. List Active Files
  6. List Deleted Files
  7. Run A File
  8. Erase A File
  9. Squeeze File System
  a. Format File System
  b. Other Utilities

Please select an item:
File name[          ]:
Local IP[               ]:                      ip
Remote IP[               ]:                tftp         ip
Read Mac Addr from eeprom =00-D01F-860F-C2-02==========================

               %Now Begin Download File debug.bin From 192.168.210.109

send download request.!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!
        %Mission Completion. FILELEN = 3558528

Red-Giant Operating System Software
RGNOS (tm) RELEASE SOFTWARE, Version 8.1(neibu) building 1
Copyright (c) 2004 by Red-Giant Network co.,Ltd
Compiled Jun  7 2004 13:21:37 by Lanjx

Red-Giant NBR1000 series NBR1000
Motorola Power PC processor with 16384K bytes of memory.
Processor board ID 00000001,with hardware revision 00000001

SDRAM: 16M
       Bank0: 00000000 - 00FFFFFF  16M

System power off accidentally last.
Parallel FLASH ID: 0000010F
       Size :512 KB
Serial FLASH ID: 0000ECE6
       Size :8192 KB
Init nand flash device information for NBR1000.


               pci information in the system
             =====================================
slot|seq|bus|int|dev|fun  start    end      config   devid   fbtb  name
 00  00  00  01  21  00  80001000 80001fff 8000a800 0020100b  1   Ethernet
 01  00  00  00  20  00  80000000 80000fff 8000a000 0020100b  1   Ethernet
```


107( )93( ) 1 156.02 219.89 Tm[( )] T0 1.86

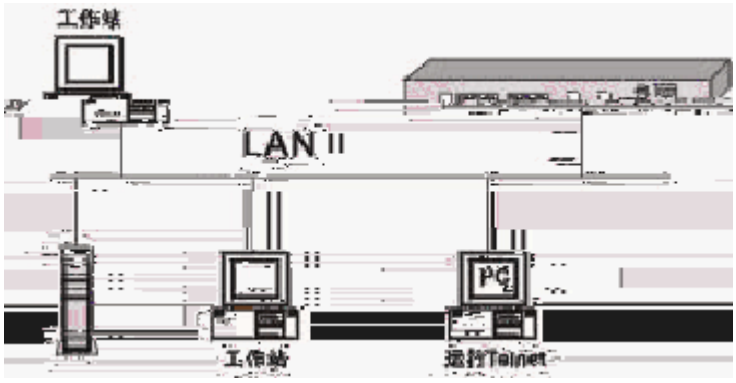
```
%INE PROTOCOL CHANGE: Interface dialer 0, changed state to DOWN
%INE PROTOCOL CHANGE: Interface dialer 1, changed state to DOWN
%INK CHANGED: Interface FastEthernet 1/1, changed state to administratively
down
%INK CHANGED: Interface FastEthernet 0/0, changed state to up
%INE PROTOCOL CHANGE: Interface FastEthernet 0/0, changed state to UP
NBR >
```

7.2

7.2.1

TFTP

TFTP COPY



4-1 Telnet

TFTP Server

IP IP

TFTP Server

Ping Ping

Ў У š web ˘ ў Ŏ Ў

7.2.2

NBR rgnos.bin WEB index.htm vms15.htm WebClt.jar

RGNOS8.1 RGNOS8.2

TFTP

Red-Giant#copy tftp flash

```
Red-Giant#
Address or name of remote host []?                TFTP
Source filename []?                               TFTP
Accessing tftp://100.100.100.171/debug.bin...
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Success : Transmission success,file length 2720256
Red-Giant #
Red-Giant #dir                                    RGNOS.bin          flash
Directory of flash:/
   3   an      68 0x64892209 Dec 29 2003 00:00:00 tftp_config.bin
   4   an  2720256 0x4c1467e3 Feb 17 2003 02:45:28 /RGNOS.bin
```

1 flash , RGNOS.bin, , RGNOS.bin, RGNOS.bin, bootrom

2 NBR Flash

Red-Giant#copy tftp update

```
SERVER2#
Address or name of remote host []?                TFTP
Source filename []?                               TFTP

The wired nand flash checking!It may take several minutes.
Sectors checking:  !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!
```

```
    config.text      2491   0xf043eb78  0xaf60d9d7  2037-01-09 21:31:46

Please press any key to continue.

Main Menu:

  1. TFTP Download & Run
  2. TFTP Download & Write Into File
```