刪除: 3

刪除: 3

刪除: Operation and Administration

- SPI Mode - When enabled, the router records the information, such as IP address, port address, ACK, SEQ number and so on, of the packets that pass through the gateway. The Networking Gateway checks every incoming packet to detect whether it is valid.
- DoS Attack Detection - When enabled, the router detects and logs the DoS attack that comes from the Internet. Currently, the Networking Gateway can detect the following DoS attack: SYN Attack, WinNuke, Port Scan, Ping of Death, and Land Attack etc.

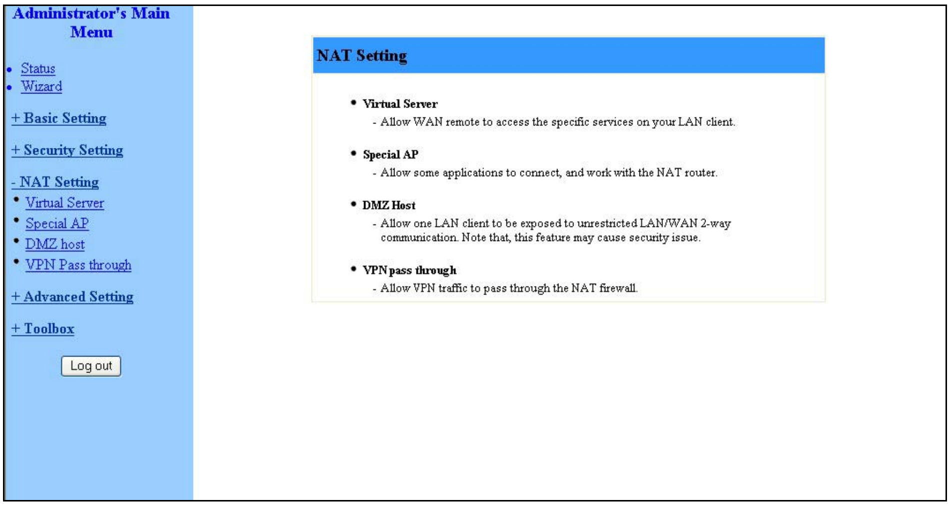
刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

NAT Setting

The NAT Setting page provides access to configuring the virtual server, special AP, DMZ host and VPN pass through.



NAT Setting

- **Virtual Server**
  - Allow WAN remote to access the specific services on your LAN client.
- **Special AP**
  - Allow some applications to connect, and work with the NAT router.
- **DMZ Host**
  - Allow one LAN client to be exposed to unrestricted LAN/WAN 2-way communication. Note that, this feature may cause security issue.
- **VPN pass through**
  - Allow VPN traffic to pass through the NAT firewall.

Figure 36: NAT Setting

Virtual Server

Virtual Server enables WWW, FTP and other services on your LAN to be accessible to Internet users.

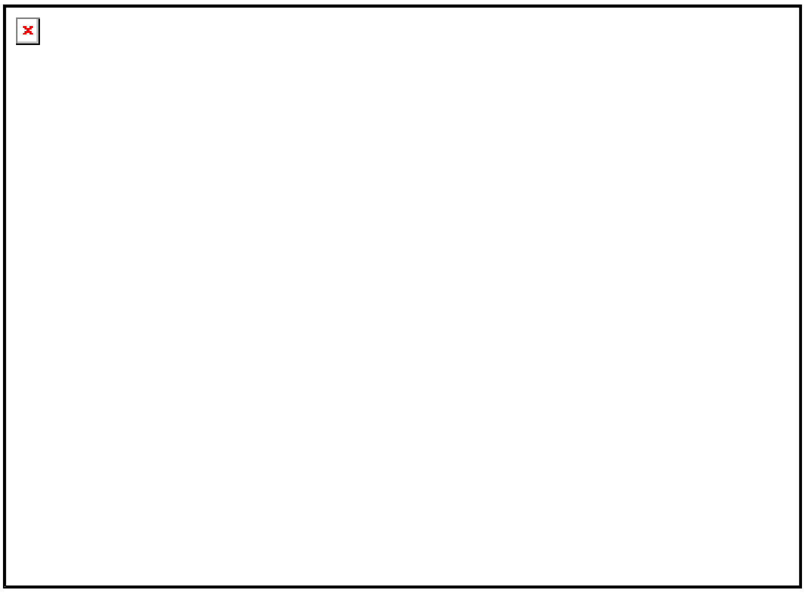


Figure 37: Virtual Server

刪除: 3

刪除: 3

刪除: Operation and Administration

Specify the following parameters for each ID:

- Protocol – Select from TCP, UDP, * (all). (the default setting is *).
- Service Ports – Enter a port number, or a range of ports.
- Server IP – Enter the server IP (the range is 1~254).
- Enable – Check to enable the rule. Each rule can be enabled/disabled individually.
- Use Rule# - *Virtual Server* can work with *Scheduling Rules*. For details, please refer to *Schedule Rule* on page 3-52.

格式化: 字型: 斜體

刪除: *Schedule Rule*

In addition, the Virtual Server page allows to easily select services from a pre-defined list, and to assign to them a pre-defined rule.

- Well known services – Select a service from the list of pre-defined services.
- Schedule rule – Facilitates the process of selecting a scheduling rule for each ID.

Special AP

Some applications, such as Internet games, Video conferencing, Internet telephony etc., require multiple connections. Because of the firewall function, these applications cannot work with a pure NAT router. The *Special Applications* window makes some of these applications work with NAT router.

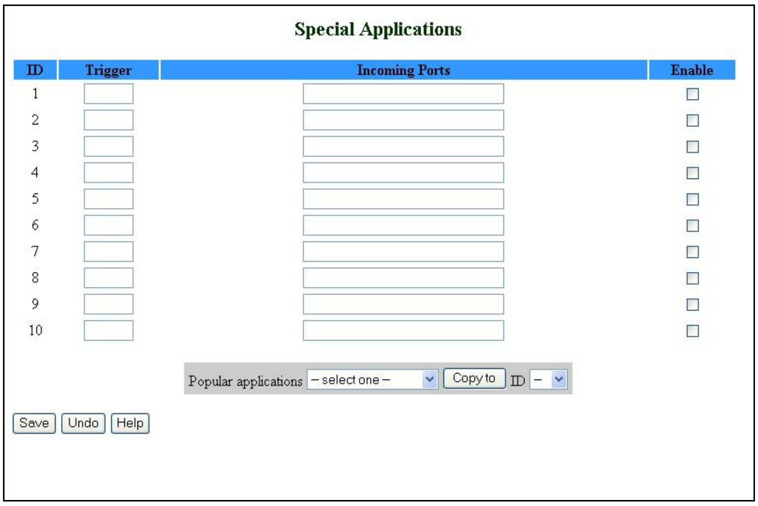
NOTE

Only one PC at a time can use each *Special Application*.

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard



Special Applications

ID	Trigger	Incoming Ports	Enable
1			□
2			□
3			□
4			□
5			□
6			□
7			□
8			□
9			□
10			□

Popular applications: -- select one -- | Copy to | ID: --

Figure 38: Special Applications

- Trigger – The outbound port number issued by the application.
- Incoming Ports – When the trigger packet is detected, the inbound packets to the specified port numbers are allowed to pass through the firewall.
- Enable – Check to enable the rule. Each rule can be enabled/disabled individually.

Some predefined settings are provided. Select an application from the pre-defined list, select the ID number (1-10) and click **Copy to**, to add the predefined setting to your list.

NOTE

If *Special Applications* fails to make an application work, try DMZ host instead.

DMZ Host

Demilitarized Zone (DMZ) Host is a host without the firewall protection. It allows a computer to be exposed to unrestricted 2-way communication for Internet games, Video conferencing, Internet telephony, and other special applications.

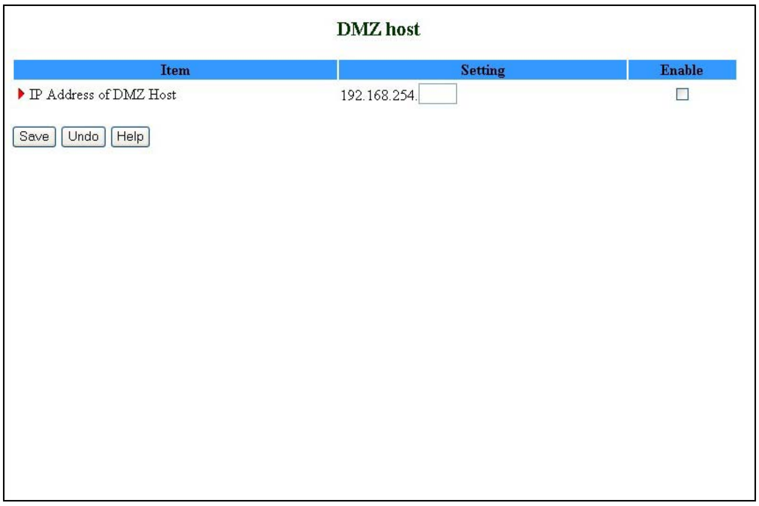
CAUTION

This feature exposes your computer and may cause security issues.

刪除: 3

刪除: 3

刪除: Operation and Administration



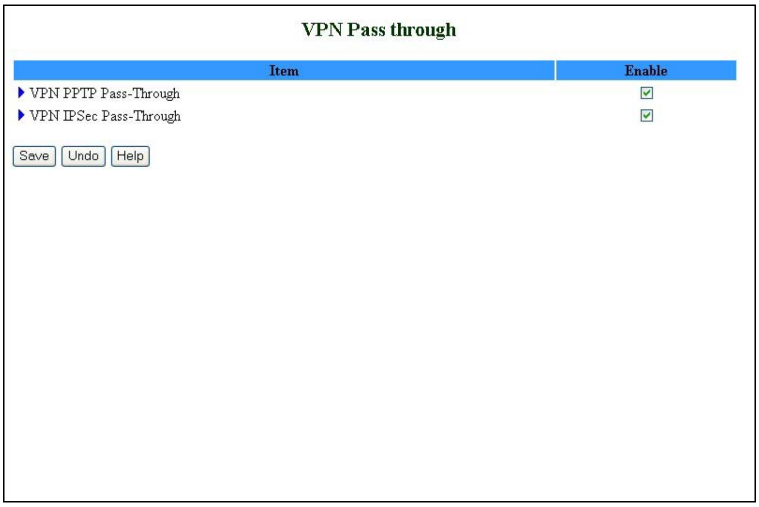
DMZ host

Item	Setting	Enable
IP Address of DMZ Host	192.168.254.	□

Figure 39: DMZ Host

Check the Enable box to enable this feature. One IP address should be set on the subnet of LAN.

VPN Pass Through



VPN Pass through

Item	Enable
VPN PPTP Pass-Through	☑
VPN IPSec Pass-Through	☑

Figure 40: VPN Pass Through

- VPN PPTP Pass-Through – Check to enable PPTP connection to pass through the device.
- VPN IPSec Pass-Through – Check to enable IPSec connection to pass through the device.

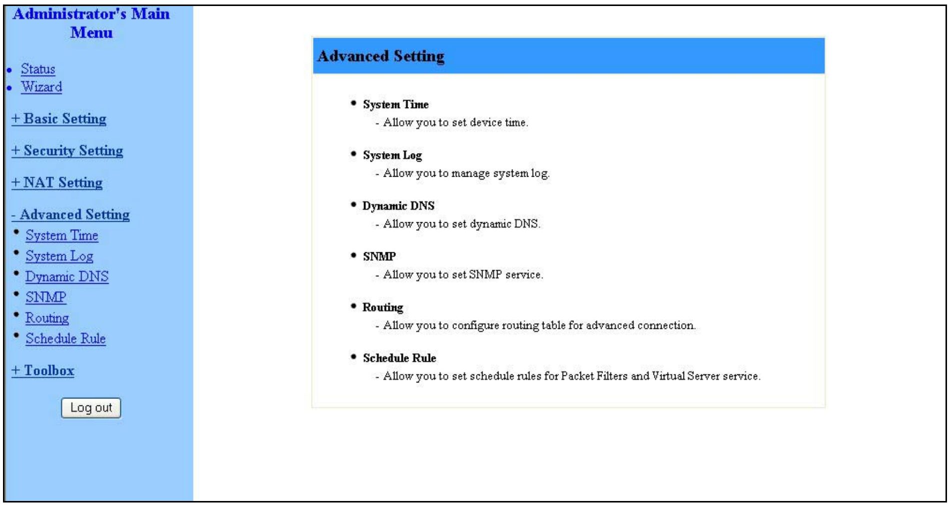
刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

Advanced Settings

The *Advanced Settings* menu provides access to configuring additional features, such as System Time, Log, Dynamic DNS, SNMP, Routing and Scheduling Rules.



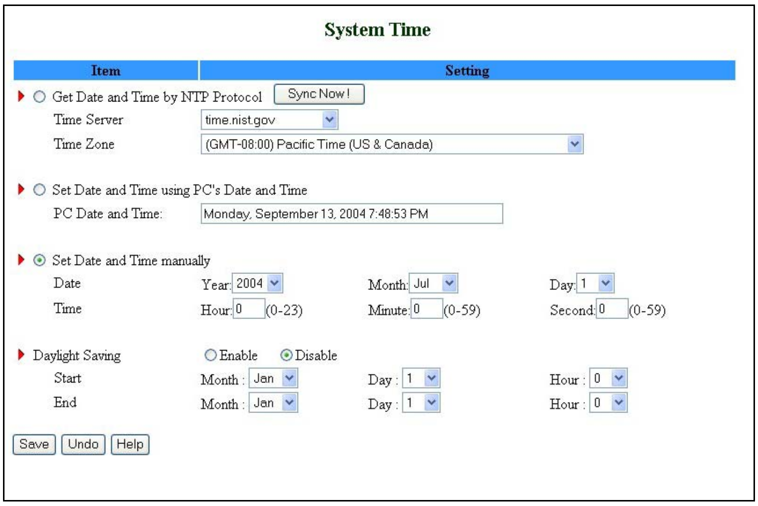
Advanced Setting

- **System Time**
  - Allow you to set device time.
- **System Log**
  - Allow you to manage system log.
- **Dynamic DNS**
  - Allow you to set dynamic DNS.
- **SNMP**
  - Allow you to set SNMP service.
- **Routing**
  - Allow you to configure routing table for advanced connection.
- **Schedule Rule**
  - Allow you to set schedule rules for Packet Filters and Virtual Server service.

Figure 41: Advanced Setting

System Time

The *System Time* window enables to set the device time.



System Time

Item	Setting		
○ Get Date and Time by NTP Protocol	Sync Now !		
Time Server	time.nist.gov		
Time Zone	(GMT-08:00) Pacific Time (US & Canada)		
○ Set Date and Time using PC's Date and Time			
PC Date and Time:	Monday, September 13, 2004 7:48:53 PM		
● Set Date and Time manually			
Date	Year: 2004	Month: Jul	Day: 1
Time	Hour: 0 (0-23)	Minute: 0 (0-59)	Second: 0 (0-59)
Daylight Saving	○ Enable ● Disable		
Start	Month : Jan	Day : 1	Hour : 0
End	Month : Jan	Day : 1	Hour : 0

Figure 42: System Time

From the *System Time* window, you can select one of the following ways to set the date and time of the device:

刪除: 3

刪除: 3

刪除: Operation and Administration

- Get Date and Time by NTP Protocol - Select if you want to set the device's internal clock using the Network Time Protocol (NTP).
  - Time Server - Select an NTP time server to consult UTC time.
  - Time Zone - Select a time zone where this device is located.
  - Sync Now! - Synchronize system time with network time server (alternatively, synchronization will be performed automatically from time to time).
- Set Date and Time using PC's Date and Time – Select if you want the device's internal clock to synchronize with the PC's clock.
- Set Date and Time manually - Select if you want to manually set the device's internal clock. You need to specify:
  - Date: Year, Month, Day
  - Time: Hours (0-23), Minutes (0-59), Seconds (0-59).
  - TBD – The clock is set upon clicking **Save**.

NOTE

The device time is displayed at the bottom of the *Status* window.

In addition, you can specify daylight saving time as follows:

- Daylight Saving - Enable/disable Daylight Saving and set start and end time of daylight saving time range.

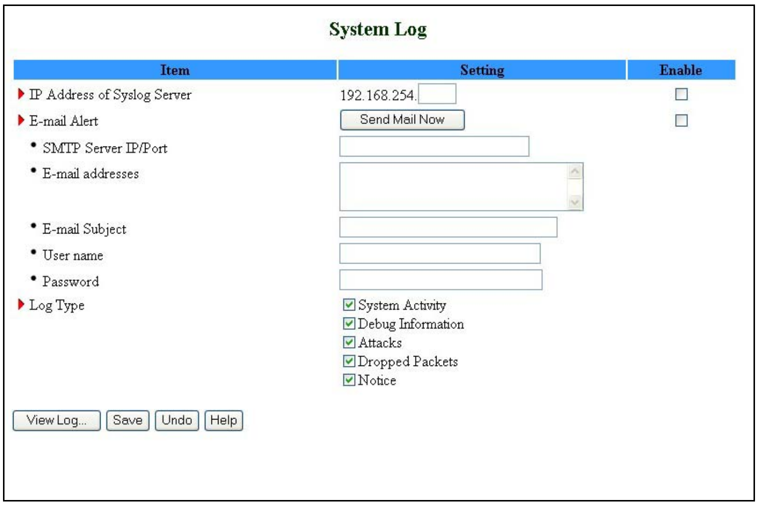
System Log

System Log enables to set parameters for exporting system logs to a specified destination. Two exporting methods are supported: syslog (UDP) and SMTP (TCP).

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard



System Log

Item	Setting	Enable
IP Address of Syslog Server	192.168.254.	□
E-mail Alert	Send Mail Now	□
• SMTP Server IP/Port		
• E-mail addresses		
• E-mail Subject		
• User name		
• Password		
Log Type	☑ System Activity ☑ Debug Information ☑ Attacks ☑ Dropped Packets ☑ Notice	

Figure 43: System Log

- IP Address for Syslog Server – Enter the IP address of the syslog server. It is valid only on your subnet LAN. Check to **Enable** this function.

- E-mail Alert Enable - Check if you want to enable Email alert (send syslog via email).

    - SMTP Server IP and Port - Enter the SMTP server IP and port, which are concatenate with ':'.For example, "mail.your_url.com" or "192.168.1.100:26". If you do not specify port number, the default value is 25.

    - E-mail addresses - The listed recipients will receive these logs. You can assign more than 1 recipient, using a semi-colon (;) or a comma (,) to separate the addresses.

    - E-mail Subject - The subject of email alert. This setting is optional.

    - Username and Password - To fill some SMTP server's authentication requirement, you may need to enter the Username and Password provided by your ISP.

- Log Type - Select the activities to be logged.

NOTE

The changes made in the System Log page become effective upon clicking **Save**. Rebooting the system is not required.

刪除: 3

刪除: 3

刪除: Operation and Administration

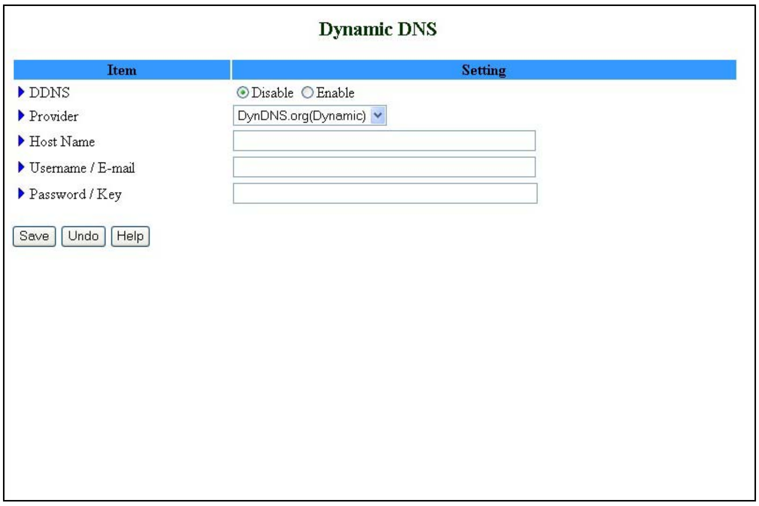
To view the system log:

Click on the **View Log…** button at the bottom of the screen. The *System Log* opens (see View Log on page 3-56, Figure 54)

Dynamic DNS

To host your server on a changing IP address, you need to use a Dynamic Domain Name Service (DDNS).

To reach your host, one needs to know its name. Dynamic DNS will map the name of your host to your current IP address, which changes each time you connect to your Internet service provider.



Dynamic DNS

Item	Setting
DDNS	● Disable ○ Enable
Provider	DynDNS.org(Dynamic)
Host Name	
Username / E-mail	
Password / Key	

Figure 44: Dynamic DNS

Before enabling Dynamic DNS, you need to register an account on of the Dynamic DNS servers listed here under Provider. Upon registration, you will receive your account details.

- DDNS - Click **Enable** or **Disable** to enable/disable **Dynamic DNS**,
- Provider – Select from the list of Dynamic DNS servers on which you have an account.
- Host Name – Enter to register a domain name to the DDNS provider. The full domain name is concatenated with the specified Host Name and a suffix, specified by the DDNS provider.
- Username/E-mail – Enter your Username or E-mail address according to the DDNS provider you selected.

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

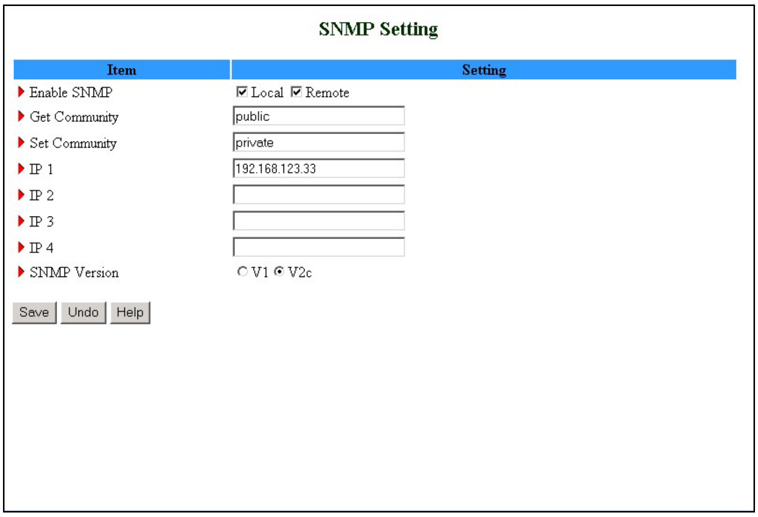
刪除: Wizard

- Password/Key – Enter your password or key according to the DDNS provider you selected.

After Dynamic DNS setting is configured, click **Save**.

SNMP Setting

The Simple Network Management Protocol (SNMP) provides the user with the capability to remotely manage a computer network by polling and setting terminal values and monitoring network events.



SNMP Setting

Item	Setting
Enable SNMP	☑ Local ☑ Remote
Get Community	public
Set Community	private
IP 1	192.168.123.33
IP 2	
IP 3	
IP 4	
SNMP Version	○ V1 ● V2c

Figure 45: SNMP Setting

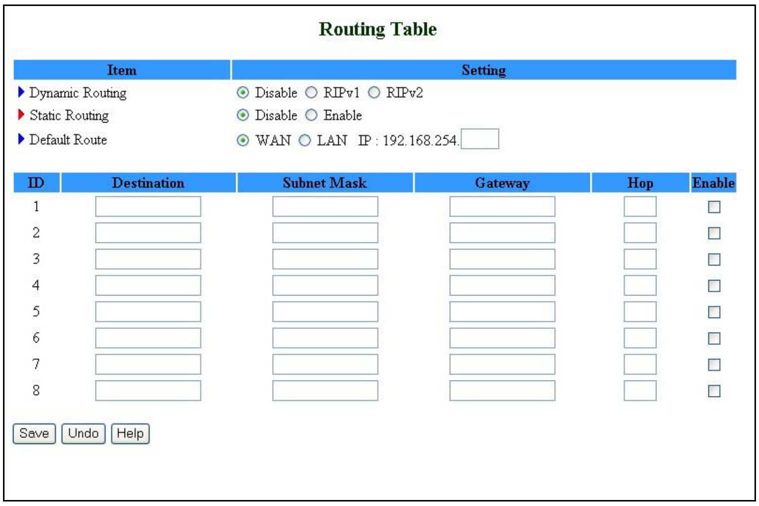
- Enable SNMP - You must check either Local or Remote or both to enable SNMP function.
    - ➢ Local - The device will respond to requests from LAN.
    - ➢ Remote – The device will respond to requests from WAN.
- Get Community – Set the password for GetRequest access rights to your device.
- Set Community - Setting the password for SetRequest access rights to your device.
- IP 1,IP 2,IP 3,IP 4 - Enter your SNMP addresses for allowed managers. The user has to configure to where this device should send SNMP Trap messages.
- SNMP Version - Select the proper SNMP Version supported by your SNMP Management software.

In the above figure:

- The device will respond to requests from both LAN and WAN.
- The device will respond to SNMP clients whose **get community** is set as "public".
- The device will respond to SNMP clients whose **set community** is set as "private".
- This device will send SNMP Trap messages to 192.168.123.33 (Using SNMP Version V2c).

Routing Table

Routing allows you to determine which physical interface address to use for outgoing IP data grams. If you have more than one gateway and subnet, you will need to enable Routing Table to allow packets to find the proper routing path and allow different subnets to communicate with each other.



Routing Table

Item	Setting
Dynamic Routing	● Disable ○ RIPv1 ○ RIPv2
Static Routing	● Disable ○ Enable
Default Route	● WAN ○ LAN IP : 192.168.254.

ID	Destination	Subnet Mask	Gateway	Hop	Enable
1					□
2					□
3					□
4					□
5					□
6					□
7					□
8					□

Figure 46: Routing Table

Routing Table settings are settings used to setup the functions of static and dynamic routing.

- Dynamic Routing - Routing Information Protocol (RIP) will exchange information on destinations for computing routes throughout the network. Select RIPv2 only if you have a different subnet on your network. Otherwise, select RIPv1 if you need this protocol.

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

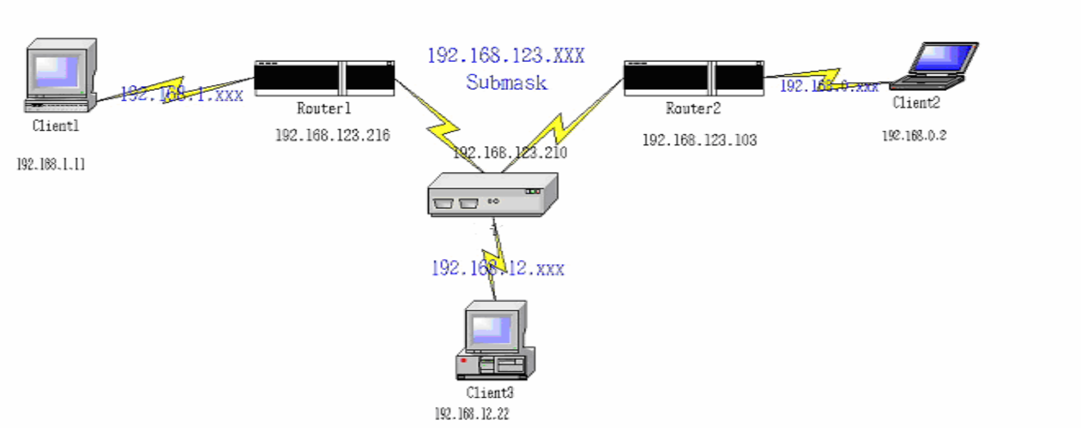
- Static Routing: For static routing, you can specify up to 8 routing rules. You can enter the destination IP address, subnet mask, and gateway, hop for each routing rule, and enable/disable the individual rule.
- Default Route: Sets the default route interface as WAN or LAN. For LAN, one IP for routing must be set.

刪除: 3

刪除: 3

刪除: Operation and Administration

Example:



Configuration on NAT Router

Destination	Subnet Mask	Gateway	Hop	Enabled
192.168.1.0	255.255.255.0	192.168.123.216	1	V
192.168.0.0	255.255.255.0	192.168.123.103	1	V

If, for example, Client3 wanted to send an IP data gram to 192.168.0.2 (Client2), he would use the above table to determine that he had to go via 192.168.123.103 (Gateway2).

And if he sends Packets to 192.168.1.11 he will go via 192.168.123.216 (Gateway1).

Each rule can be enabled or disabled individually.

After the Routing Table setting is configured, click **Save**.

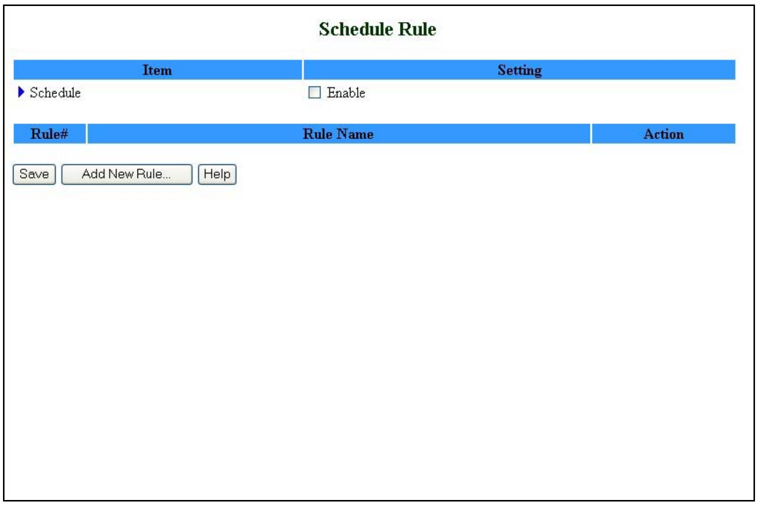
Schedule Rule

Schedule Rule allows you to set the schedule time for which a service will be turned on or off.

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard



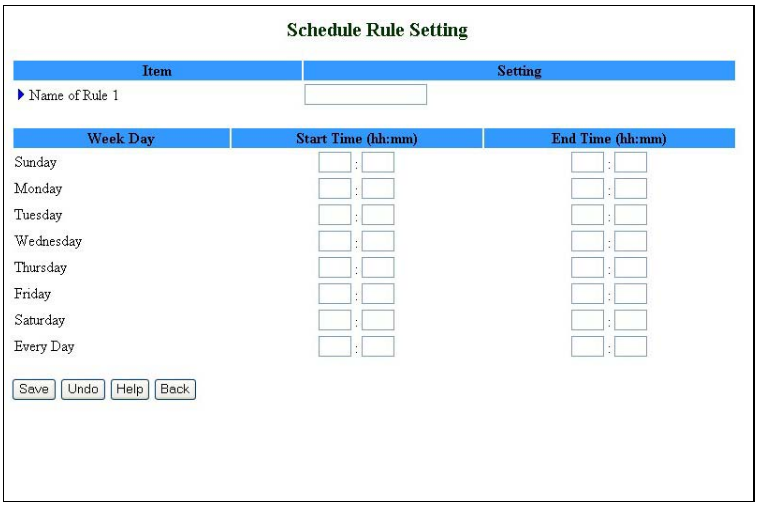
Schedule Rule

Item	Setting
Schedule	☐ Enable

Rule#	Rule Name	Action

Figure 47: Schedule Rule

- Schedule Enable - Selected if you want to Enable the Scheduler.
- Click **Add New Rule** to add a rule to the list. The *Schedule Rule Setting* window opens.



Schedule Rule Setting

Item	Setting
Name of Rule 1	

Week Day	Start Time (hh:mm)	End Time (hh:mm)
Sunday	:	:
Monday	:	:
Tuesday	:	:
Wednesday	:	:
Thursday	:	:
Friday	:	:
Saturday	:	:
Every Day	:	:

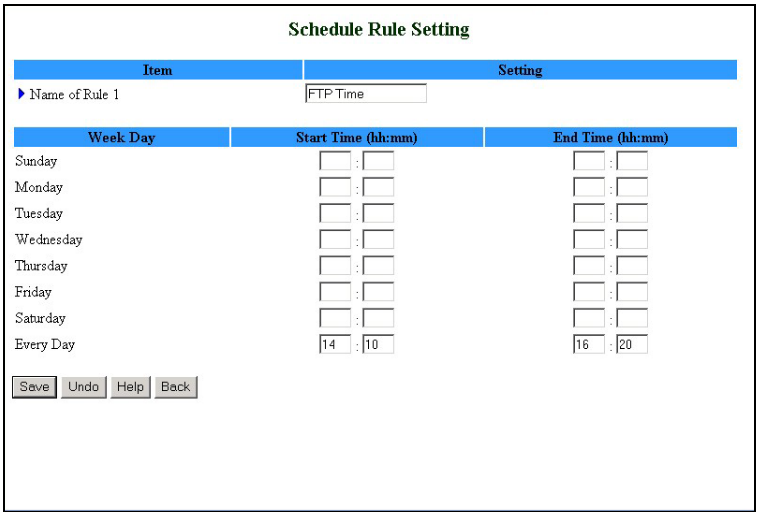
Figure 48: Schedule rule Setting

You can enter a rule name and set which day and what time to schedule from “Start Time” to “End Time”. In the following example, a rule named "FTP Time" is scheduled to operate every day between 14:10 and 16:20.

刪除: 3

刪除: 3

刪除: Operation and Administration



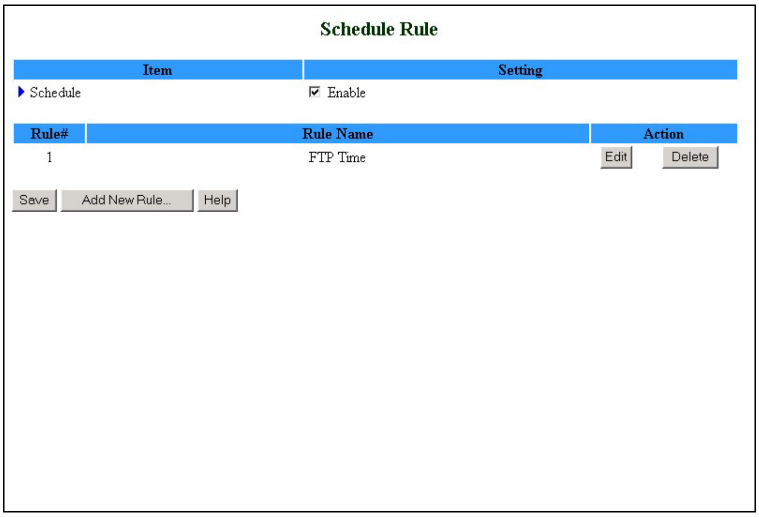
Schedule Rule Setting

Item	Setting
Name of Rule 1	FTP Time

Week Day	Start Time (hh:mm)	End Time (hh:mm)
Sunday	:	:
Monday	:	:
Tuesday	:	:
Wednesday	:	:
Thursday	:	:
Friday	:	:
Saturday	:	:
Every Day	14 : 10	16 : 20

Figure 49: Schedule Rule Setting – Example Step 1

After configuring Rule 1, click on **Save** to save the rule and return to the *Schedule Rule* window. The new rule is now displayed on the list.



Schedule Rule

Item	Setting
Schedule	☑ Enable

Rule#	Rule Name	Action
1	FTP Time	Edit Delete

Figure 50: Schedule Rule Setting – Example Step 2

Once rules are set, you can:

- Edit – Click to edit the specific rule.
- Delete – Click to delete the specific rule. When the rule is deleted, all subsequent rules are automatically renumbered.

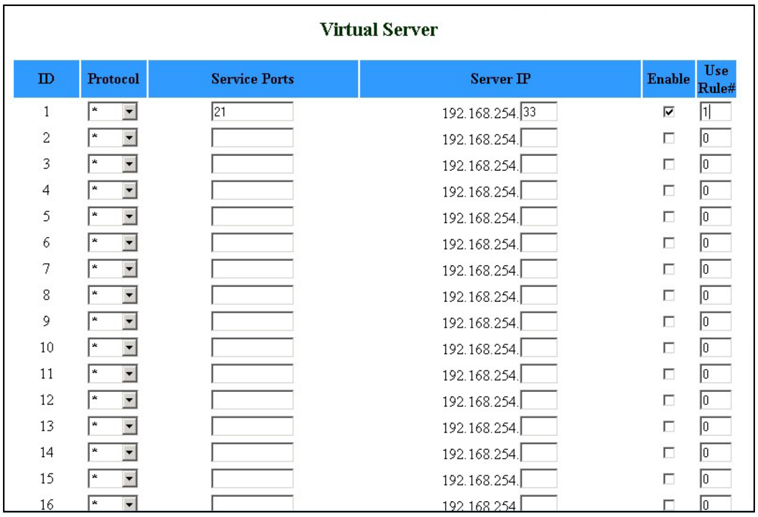
Schedule Rule can be applied to Virtual server and Packet Filter, for example:

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

Example1: **Virtual Server** – Apply Rule#1 (ftp time: every day 14:10 to 16:20).

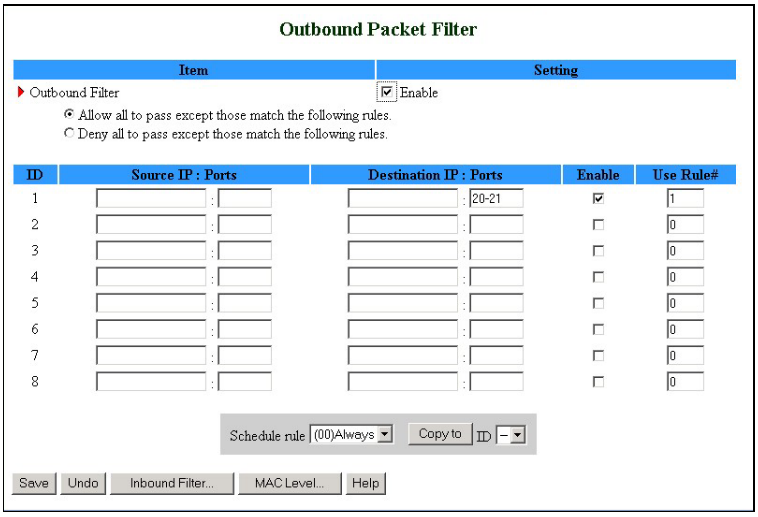


Virtual Server

ID	Protocol	Service Ports	Server IP	Enable	Use Rule#
1	*	21	192.168.254.33	☑	1
2	*		192.168.254.	☐	0
3	*		192.168.254.	☐	0
4	*		192.168.254.	☐	0
5	*		192.168.254.	☐	0
6	*		192.168.254.	☐	0
7	*		192.168.254.	☐	0
8	*		192.168.254.	☐	0
9	*		192.168.254.	☐	0
10	*		192.168.254.	☐	0
11	*		192.168.254.	☐	0
12	*		192.168.254.	☐	0
13	*		192.168.254.	☐	0
14	*		192.168.254.	☐	0
15	*		192.168.254.	☐	0
16	*		192.168.254	☐	0

Figure 51: Virtual Server - Schedule Rule#1

Example2: **Packet Filter** – Apply Rule#1 (ftp time: every day 14:10 to 16:20).



Outbound Packet Filter

Item	Setting
Outbound Filter	☑ Enable

● Allow all to pass except those match the following rules.
○ Deny all to pass except those match the following rules.

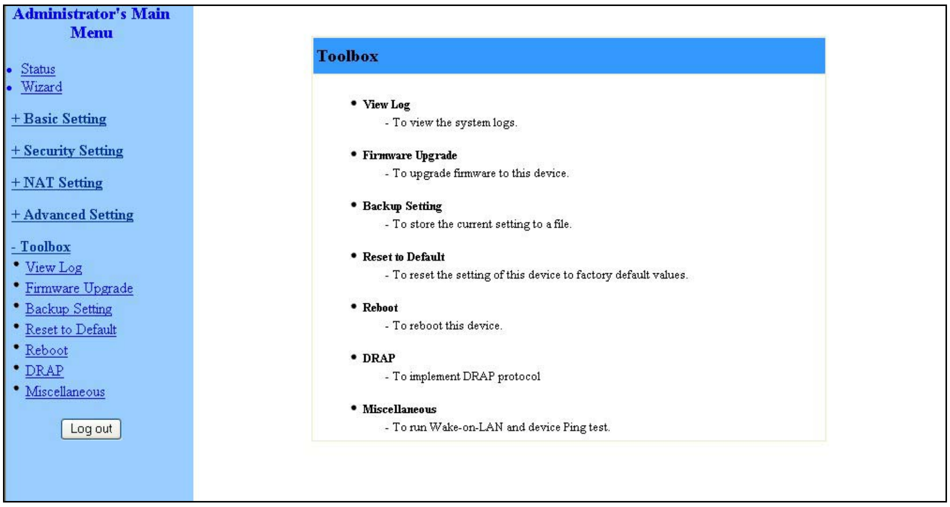
ID	Source IP : Ports	Destination IP : Ports	Enable	Use Rule#
1	:	: 20-21	☑	1
2	:	:	☐	0
3	:	:	☐	0
4	:	:	☐	0
5	:	:	☐	0
6	:	:	☐	0
7	:	:	☐	0
8	:	:	☐	0

Schedule rule (00)Always

Figure 52: Packet Filter - Schedule Rule#1

Toolbox

The Toolbox menu provides access to viewing the system log, to firmware upgrade, backup setting, resetting the system to the factory default values, to rebooting the system, implementing DRAP protocol, running Wake-on-LAN and performing Ping tests.



Toolbox

- **View Log**
  - To view the system logs.
- **Firmware Upgrade**
  - To upgrade firmware to this device.
- **Backup Setting**
  - To store the current setting to a file.
- **Reset to Default**
  - To reset the setting of this device to factory default values.
- **Reboot**
  - To reboot this device.
- **DRAP**
  - To implement DRAP protocol
- **Miscellaneous**
  - To run Wake-on-LAN and device Ping test.

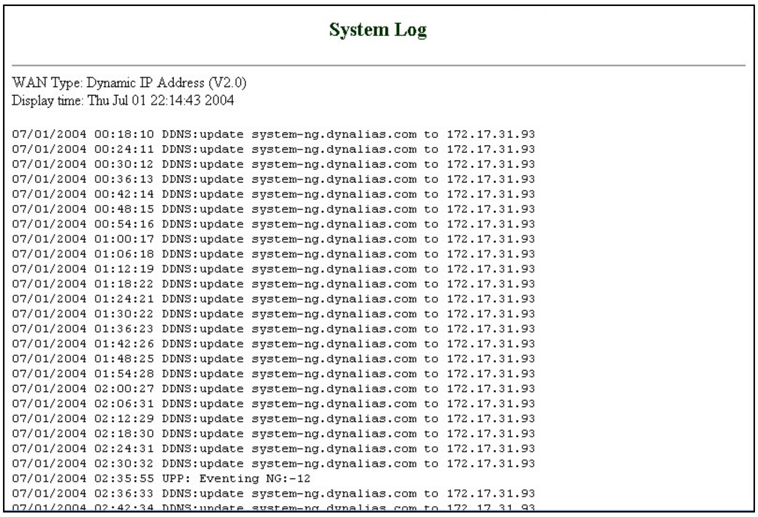
Figure 53: Toolbox

View Log

Clicking on *View Log* opens the *System Log* file. The System Log file can also be accessed from the *System Log* window in the *Advanced Setting* menu.

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard



System Log

WAN Type: Dynamic IP Address (V2.0)
Display time: Thu Jul 01 22:14:43 2004

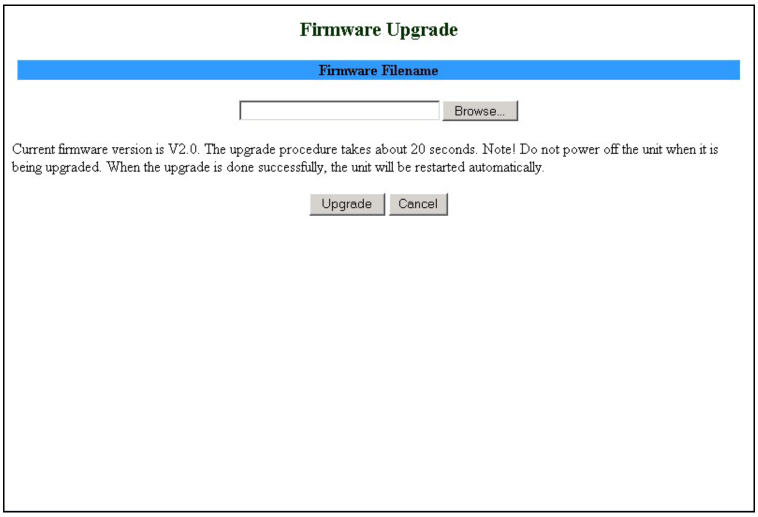
```
07/01/2004 00:18:10 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 00:24:11 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 00:30:12 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 00:36:13 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 00:42:14 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 00:48:15 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 00:54:16 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 01:00:17 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 01:06:18 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 01:12:19 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 01:18:22 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 01:24:21 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 01:30:22 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 01:36:23 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 01:42:26 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 01:48:25 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 01:54:28 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 02:00:27 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 02:06:31 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 02:12:29 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 02:18:30 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 02:24:31 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 02:30:32 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 02:35:55 UPP: Eventing NG:-12
07/01/2004 02:36:33 DDNS:update system-ng.dynalias.com to 172.17.31.93
07/01/2004 02:42:34 DDNS:update system-ng.dynalias.com to 172.17.31.93
```

Figure 54: View System Log

While in Log View, you can:

- Click **Back** to return to the *System Log* window.
- Click **Refresh** to manually update the Log.
- Click **Download** to download the Log file (***system.log***) and save it locally.
- Click **Clear** to clear the log file of its content.

Firmware Upgrade



Firmware Upgrade

Firmware Filename

Current firmware version is V2.0. The upgrade procedure takes about 20 seconds. Note! Do not power off the unit when it is being upgraded. When the upgrade is done successfully, the unit will be restarted automatically.

Figure 55: Firmware Upgrade

刪除: 3

刪除: 3

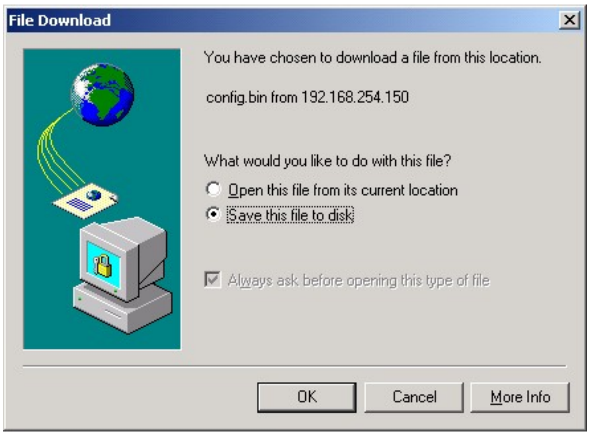
刪除: Operation and Administration

To upgrade the firmware, click on Browse to browse to the file's location and click **Upgrade** to begin the upgrading process, or **Cancel** to terminating it.

Backup Setting

Backup your settings by clicking *Backup Setting* in the menu list. This automatically opens the *File Download* window.

Select the **Save this file to disk** option and click **OK**. Follow the instructions on screen to save the file. The file is saved as a *.bin* file.



File Download

You have chosen to download a file from this location.

config.bin from 192.168.254.150

What would you like to do with this file?

○ Open this file from its current location

● Save this file to disk

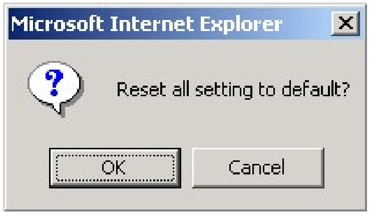
☑ Always ask before opening this type of file

Figure 56: Backup

To restore these settings, select **Firmware Upgrade** from the Menu list, browse to the *.bin* file you saved, and click **Upgrade** (see Firmware Upgrade on page 3-57).

Reset to Default

To reset this product to factory defaults, click *Reset to default* in the menu list. The following message appears.



Microsoft Internet Explorer

Reset all setting to default?

Figure 57: Reset to Default

Click **OK** to reset the settings to default, or **Cancel** to keep the current settings.

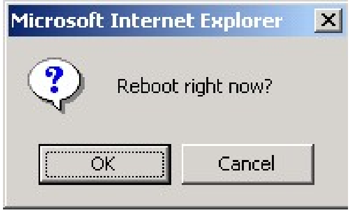
刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

Reboot

To reboot the system, click *Reboot* in the menu list. The following message appears.



Microsoft Internet Explorer

Reboot right now?

Figure 58: Reboot

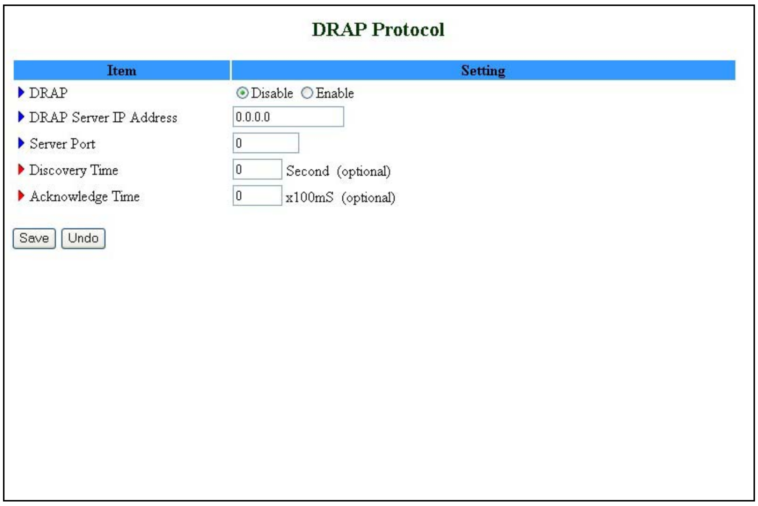
Click **OK** to reboot, or **Cancel** to continue working.

NOTE

Most of the configurations performed, require to reboot the system for them to take effect.

DRAP

Used for registration to the Base Station to which the SU is connected (by performing "Discovery"). The Network Gateway's WAN IP must be in the same subnet as the Base Station.



DRAP Protocol

Item	Setting
DRAP	● Disable ○ Enable
DRAP Server IP Address	0.0.0.0
Server Port	0
Discovery Time	0 Second (optional)
Acknowledge Time	0 x100mS (optional)

Figure 59: DRAP Protocol

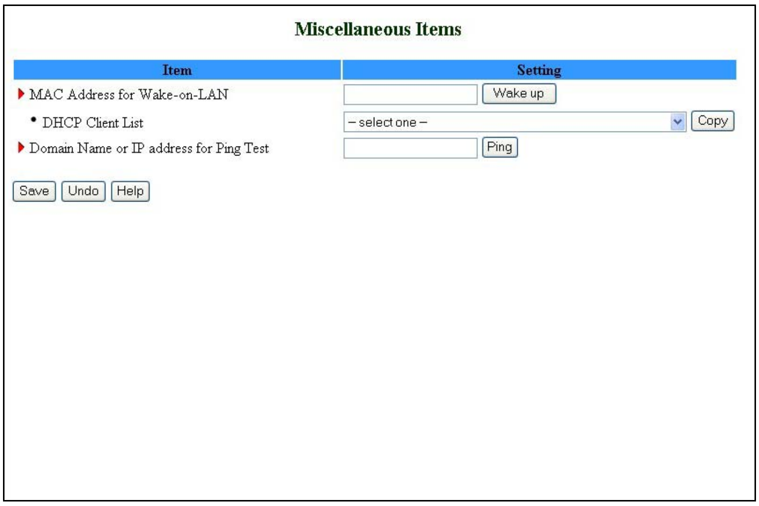
Set the following parameters:

- DRAP – Select Enable/Disable to enable/disable this feature.
- DRAP Server IP Address

- Server Port
- Discovery Time
- Acknowledge Time

Miscellaneous Items

From the Miscellaneous Items page, you can set the MAC Address for Wake-on-LAN, and the Domain name or IP address for performing ping tests to the device.



Miscellaneous Items

Item	Setting
MAC Address for Wake-on-LAN	Wake up
• DHCP Client List	– select one – Copy
Domain Name or IP address for Ping Test	Ping

Save Undo Help

Figure 60: Toolbox - Miscellaneous Items

- MAC Address for Wake-on-LAN - Wake-on-LAN enables to remotely power up a networked device. To use this feature, the target device must be Wake-on-LAN enabled and you need to know the device's MAC address, e.g., 00-11-22-33-44-55. Click on **Wake up** to have the gateway immediately send the wake-up frame to the target device.
  - ➢ DHCP Client List – Select a client from the dropdown list for which you want to perform Wake-on-LAN.
  - ➢ Copy – Click to copy the DHCP client's MAC Address to the Wake-on-LAN.
- Domain Name or IP address for Ping Test - Allows you to configure an IP, and ping the device. You can ping a specific IP to test that it is up and running.

Click on **Save** to save your settings.

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

Web Configuration Server's Parameters Summary

刪除: 3

Table 錯誤! 尚未定義樣式。-3: Web Configuration Server's Parameters Summary

Parameter	Range/Options	Default
Status		
Printer (USB0) Status	■ Not Ready ■ Off-line or no paper ■ Printing ■ Ready ■ Device error	
Primary Setup		
WAN Type	■ Static IP Address ■ Dynamic IP Address ■ Dynamic IP Address with RRSM ■ PPP over Ethernet ■ PPTP	Dynamic IP Address with RRSM
Primary Setup - Static IP Address		
WAN IP Address	x.x.x.x	0.0.0.0
WAN Subnet Mask	x.x.x.x	255.255.255.0
WAN Gateway	x.x.x.x	0.0.0.0
Primary DNS	x.x.x.x	0.0.0.0
Secondary DNS	x.x.x.x	0.0.0.0
NAT Disable	Check/Uncheck	Uncheck
Primary Setup - Dynamic IP Address		
Host Name	A string of maximum 39 characters	
WAN's MAC Address		

刪除: 3

刪除: 3

刪除: Operation and Administration

刪除: 3

Table 錯誤! 尚未定義樣式。-3: Web Configuration Server's Parameters Summary

Parameter	Range/Options	Default
Renew IP Forever Enable	Check/Uncheck	Check
NAT Disable	Check/Uncheck	Uncheck
Primary Setup - Dynamic IP Address with Road Runner Session Management		
Account	A string of maximum 53 characters	
Password	A string of maximum 53 characters	
Login Server	A string of maximum 31 characters	
Renew IP Forever	Enable Check/Uncheck	Check
NAT	Disable Check/Uncheck	Uncheck
Primary Setup – PPP over Ethernet		
PPPoE Account	A string of maximum 53 characters	
PPPoE Password	A string of maximum 53 characters	
Primary DNS	x.x.x.x	0.0.0.0
Secondary DNS	x.x.x.x	0.0.0.0
Maximum Idle Time	0~65535	300 seconds
Connection Control	■ Connect-on-demand ■ Auto Reconnect(always on) ■ Manually	Auto Reconnect(always on)
MTU	0~9999	1492
Primary Setup - PPTP		
IP Mode	■ Dynamic IP Address ■ Static IP Address	Dynamic IP Address
My IP Address	x.x.x.x	0.0.0.0

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

刪除: 3

Table 錯誤! 尚未定義樣式。-3: Web Configuration Server's Parameters Summary

Parameter	Range/Options	Default
My Subnet Mask	x.x.x.x	0.0.0.0
WAN Gateway IP	x.x.x.x	0.0.0.0
Server IP Address/Name		
PPTP Account	A string of maximum 53 characters	
PPTP Password	A string of maximum 53 characters	
Connection ID	(Optional)	
Maximum Idle Time	0~65535	300 seconds
Connection Control	■ Connect-on-demand ■ Auto Reconnect(always on) ■ Manually	Auto Reconnect(always on)
LAN Setup		
LAN IP Address	x.x.x.x	192.168.254.253
LAN Subnet Mask	x.x.x.x	255.255.255.0
DHCP Server	■ Disable ■ Enable	Enable
DHCP Proxy	■ Disable ■ Enable ■ Proxy IP x.x.x.x	Disable 0.0.0.0
LAN Setup – DHCP Enabled		
Range of IP addresses Pool	■ Start: 1~254 ■ End: 1~254	192.168.254.100 192.168.254.199
Domain suffix	A string of maximum 31 characters	
Primary DNS	x.x.x.x	0.0.0.0

刪除: 3

刪除: 3

刪除: Operation and Administration

刪除: 3

Table 錯誤! 尚未定義樣式。-3: Web Configuration Server's Parameters Summary

Parameter	Range/Options		Default
Secondary DNS	x.x.x.x		0.0.0.0
Primary WINS	x.x.x.x		0.0.0.0
Secondary WINS	x.x.x.x		0.0.0.0
Lease Time	0~99999		0
MAC Address Control/Fixed Mapping			
MAC Address Control Enable	Check/Uncheck		Uncheck
Connection Control	■ Check/Uncheck ■ Allow/Deny		■ Uncheck ■ Deny
Connection Control	■ Check/Uncheck ■ Allow/Deny		■ Uncheck ■ Deny
MAC Address Rules 1-4	MAC Address	A string of maximum 32 characters	
	IP Address	1~254	
	C	Check/Uncheck	Uncheck
	A	Check/Uncheck	Uncheck
Wireless Setting			
Wireless Enable	Check/Uncheck		Check
Network ID(SSID)	A string of maximum 32 characters		default
Channel	1~13		1
Security	■ None ■ WEP ■ 802.1X ■ WPA-PSK ■ WPA		None

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

刪除: 3

Table 錯誤! 尚未定義樣式。-3: Web Configuration Server's Parameters Summary

Parameter	Range/Options	Default
Advanced Wireless Setting		
Beacon Interval	1~1000 msec	100 msec
RTS Threshold	256~2432 bytes	2432 bytes
Fragmentation Threshold	256~2346 bytes - even numbers only	2346 bytes
DTIM Interval	1~65535	3
Wireless Mode	■ 802.11b only ■ 802.11g only ■ mixed	Mixed
TX Rates	Dropdown List	Auto
Preamble Type	■ Short Preamble ■ Long Preamble ■ Auto	Auto
Authentication Type	■ Open System ■ Shared Key ■ Both	Both
SSID broadcast	■ Enable ■ Disable	Enable
Antenna Transmit Power	■ 100 17dBM ■ 50 15dBM ■ 25 12dBM ■ 12.5 10dBM	100 17dBM
Change Password		
Administrator Password	A string of maximum 9 characters	private
User Password	A string of maximum 9 characters	public
Outbound Packet Filter		
Outbound Filter Enable	Check/Uncheck	Uncheck

刪除: 3

刪除: 3

刪除: Operation and Administration

刪除: 3

Table 錯誤! 尚未定義樣式。-3: Web Configuration Server's Parameters Summary

Parameter	Range/Options	Default
Outbound Filter Mode	■ Allow all…except ■ Deny all…except	Allow all…except
Outbound Rules 1-8	■ Source IP: x.x.x.x ■ Source Port: 065535 ■ Destination IP: x.x.x.x ■ Destination Port: 0~65535 ■ Enable Check/Uncheck ■ Use Rule#: 1~10	0
InBound Packet Filter		
Inbound Filter Enable	Check/Uncheck	Uncheck
Inbound Filter Mode	■ Allow all…except ■ Deny all…except	Allow all…except
Inbound Rules 1-8	■ Source IP: x.x.x.x ■ Source Port: 065535 ■ Destination IP: x.x.x.x ■ Destination Port: 0~65535 ■ Enable Check/Uncheck ■ Use Rule#: 1~10	0
URL Blocking		
URL Blocking Enable	Check/Uncheck	Uncheck
URL Rules 1-10	■ URL: A string of maximum 50 characters ■ Enable Check/Uncheck ■ Use Rule#: 1-10	Uncheck 0
Domain Filter		
Domain Filter Enable	Check/Uncheck	

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

刪除: 3

Table 錯誤! 尚未定義樣式。-3: Web Configuration Server's Parameters Summary

Parameter	Range/Options		Default
Log DNS Query Enable	Check/Uncheck		
Privilege IP Addresses Range	■ From:1~254 ■ To: 1~254		
Domain Filter Rules 1-10	■ Domain Suffix 1-9		
	■ Drop Check/Uncheck		■ Uncheck
	■ Log Check/Uncheck		■ Uncheck
	■ Enable Check/Uncheck		■ Uncheck
Firewall			
Firewall Rules 1-8	Source Interface	■ All ■ LAN ■ WAN	All
	Source IP	x.x.x.x	
	Destination Interface	■ All ■ LAN ■ WAN	All
	Destination IP	x.x.x.x	
	Protocol	■ All ■ TCP ■ UDP ■ ICMP	All
	Destination Port	■ 0~65535	
	Action	■ Allow ■ Deny	Allow
	Enable Check/Uncheck		Uncheck
Miscellaneous Items			
Remote Administrator Host	x.x.x.x		0.0.0.0

刪除: 3

刪除: 3

刪除: Operation and Administration

刪除: **3**

Table 錯誤! 尚未定義樣式。-3: Web Configuration Server's Parameters Summary

Parameter	**Range/Options**		**Default**
Remote Administrator Port	0~65535		88
Enable Remote Administrator	Check/Uncheck		Check
Administrator Time-out	0~9999 sec (0=never)		120
TFTP Access Client	x.x.x.x		0.0.0.0
TFTP Access Port	0~65535		69
Enable TFTP Access	Check/Uncheck		Uncheck
Discard PING from WAN side Enable	Check/Uncheck		Check
SPI mode Enable	Check/Uncheck		Uncheck
DoS Attack Detection Enable	Check/Uncheck		Uncheck
Virtual Server			
Virtual Server Rules 1-20	■ Protocol	■ All ■ TCP ■ UDP	All
	■ Service Ports	■ 0~65535	
	■ Server IP	■ 1~254	
	■ Enable	■ Check/Uncheck	Uncheck
	■ Use Rule#	■ 1~10	0
Special Applications			
Rules 1-10	■ Trigger Port	■ 0~65535	

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

刪除: 3

Table 錯誤! 尚未定義樣式。-3: Web Configuration Server's Parameters Summary

Parameter	Range/Options		Default
	■ Incoming Ports	■ A string of max 119 characters	
	■ Enable	■ Check/Uncheck	Uncheck
DMZ Host			
IP Address of DMZ Host	1~254 Enable: Check/Uncheck		Uncheck
VPN Pass through			
VPN PPTP Pass-Through Enable	Check/Uncheck		Check
VPN IPSec Pass-Through Enable	Check/Uncheck		Check
System Time			
System Time Source	■ Get Date and Time by NTP Protocol ■ Set Date and Time using PC's Date and Time ■ Set Date and Time Manually		Set Date and Time Manually
Time Server	■ time.nist.gov ■ time-nw.nist.gov ■ time.windows.com ■ utcnist.colorado.edu		time.nist.gov
Time Zone	From dropdown list		GMT-08:00
Date	■ Year: 2002~2020 ■ Month: Jan~Dec ■ Day: 1~31		■ 2004 ■ Aug ■ 1
Time	■ Hour: 0~23 ■ Minute: 0~59 ■ Second: 0~59		■ 0 ■ 0 ■ 0

刪除: 3

刪除: 3

刪除: Operation and Administration

刪除: 3

Table 錯誤! 尚未定義樣式。-3: Web Configuration Server's Parameters Summary

Parameter	Range/Options	Default
Daylight Saving	■ Enable ■ Disable	Disable
Daylight Saving Start	■ Month: Jan~Dec ■ Day: 1~31 ■ Hour: 0~23	■ Jan ■ 1 ■ 0
Daylight Saving End	■ Month: Jan~Dec ■ Day: 1~31 ■ Hour: 0~23	■ Jan ■ 1 ■ 0
System Log		
IP Address of Syslog Server	1~254	
Enable IP Address	Check/Uncheck	Uncheck
E-mail Alert Enable	Check/Uncheck	Uncheck
SMTP Server IP/Port	x.x.x.x	
E-mail addresses	A string of maximum 127 characters	
E-mail Subject	A string of maximum 63 characters	
User name	A string of maximum 25 characters	
Password	A string of maximum 25 characters	
Log Type	■ System Activity: Check/Uncheck ■ Debug Information: Check/Uncheck ■ Attacks: Check/Uncheck ■ Dropped Packets: Check/Uncheck ■ Notice: Check/Uncheck	■ Uncheck ■ Uncheck ■ Uncheck ■ Uncheck ■ Uncheck
Dynamic DNS		
DDNS	■ Disable ■ Enable	Disable

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

刪除: 3

Table 錯誤! 尚未定義樣式。-3: Web Configuration Server's Parameters Summary

Parameter	Range/Options	Default
Provider	■ DnyDNS.org(Dynamic) ■ DnyDNS.org(Custom) ■ TZO.com ■ dhs.org	DnyDNS.org(Dynamic)
Host Name	A string of maximum 63 characters	
Username/E-mail	A string of maximum 63 characters	
Password/Key	A string of maximum 63 characters	
SNMP Setting		
Enable SNMP	■ Local: Check/Uncheck ■ Remote: Check/Uncheck	■ Uncheck ■ Check
Get Community	A string of maximum 27 characters	Public
Set Community	A string of maximum 27 characters	Private
IP 1-4	x.x.x.x	
SNMP Version	■ V1 ■ V2c	V2c
Routing Table		
Dynamic Routing	■ Disable ■ RIPv1 ■ RIPv2	Disable
Static Routing	■ Disable ■ Enable	Disable
Default route	■ WAN ■ LAN IP	WAN

Table 錯誤! 尚未定義樣式。-3: Web Configuration Server's Parameters Summary

Parameter	Range/Options	Default
Routing Rules 1-8	■ Destination ■ Subnet Mask ■ Gateway ■ Hop ■ Enable Check/Uncheck	Uncheck
Schedule Rule		
Schedule Enable	Check/Uncheck	Uncheck
Schedule Rule Setting		
Name of Rule 1-10	A string of maximum 31 characters	
Sunday-Saturday, Every Day	Start Time: hh:mm End Time: hh:mm	
Firmware Upgrade		
Browse		
DRAP Protocol		
DRAP	■ Disable ■ Enable	Disable
DRAP Server IP Address	x.x.x.x	0.0.0.0
Server Port		0
Discovery Time		0
Acknowledge Time		0
Miscellaneous Items		
MAC Address for Wake-on-LAN		

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

刪除: 3

Table 錯誤! 尚未定義樣式。-3: Web Configuration Server’s Parameters Summary

Parameter	Range/Options	Default
DHCP Client List	From dropdown list	
Domain Name or IP address for Ping Test		

4

Chapter 4 - Glossary

A

Appendix A - Print Server

This Wireless Networking Gateway provides the function of network print server for MS Windows NT/2000/XP and Unix based platforms [TBD – what about Windows 2003]. The device comes with a USB port for connecting the printer. This Appendix will guide you through configuring the Print Server. (If the product you purchased does not have a USB port, skip this chapter. TBD – are there such devices?)

刪除: C

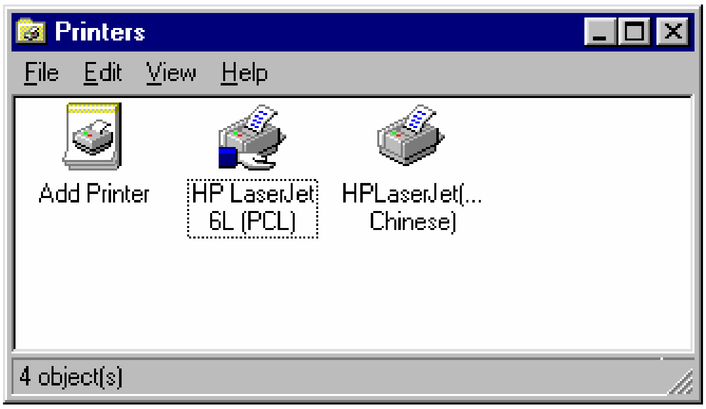
刪除: A

刪除: 802.1x Setting

刪除: Print Server

Configuring on Windows 95/98 Platforms

After installing the software (see Chapter 2), you need to configure your printer to be able to operate the printer connected to the device's printer port (the printer server). On a Windows 95/98 platform, open the **Printers** window in the **My Computer** menu:

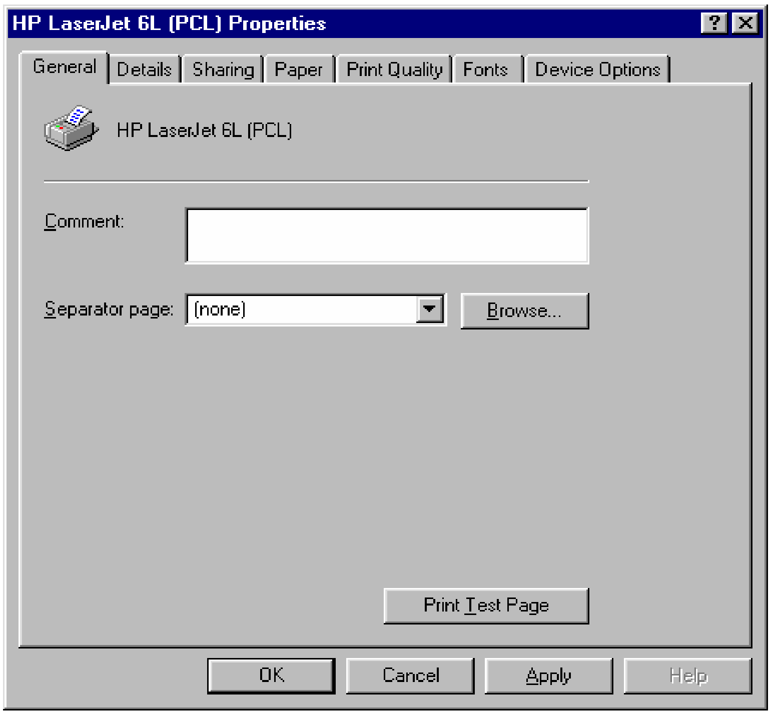


Now, yon can configure the print server of this product:

1. Find out the corresponding icon of your server printer, for example, the **HP LaserJet 6L**. Click the mouse’s right button on that icon, and then select the **Properties** item:

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard



HP LaserJet 6L (PCL) Properties

HP LaserJet 6L (PCL)

Comment:

Separator page: (none)

2. Click the Details item:

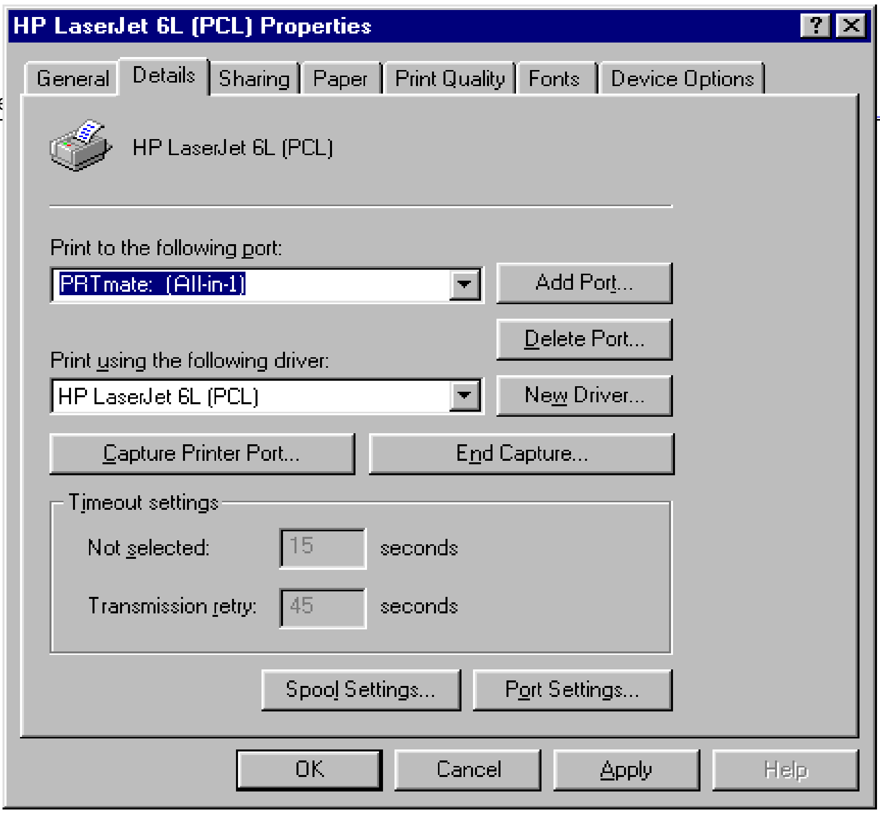
3. Choose the "PRTmate: (All-in-1)" from the list attached at the Print To item. Be sure that the Printer Driver item is configured to the correct driver of your server printer.

刪除: C

刪除: A

刪除: 802.1x Setting

刪除: Print Server



HP LaserJet 6L (PCL) Properties

HP LaserJet 6L (PCL)

Print to the following port: PRTmate: (All-in-1)

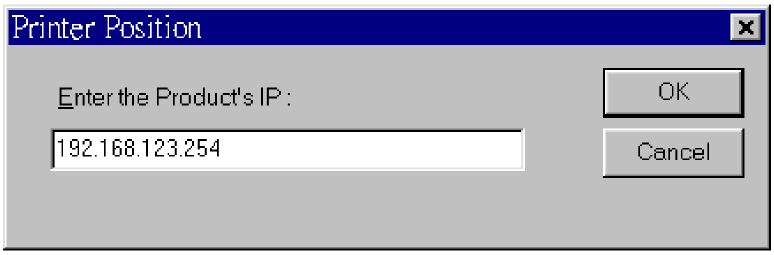
Print using the following driver: HP LaserJet 6L (PCL)

Timeout settings

Not selected: 15 seconds

Transmission retry: 45 seconds

4. Click on the button of **Port Settings**:



Printer Position

Enter the Product's IP : 192.168.123.254

5. Types in the IP address of this product and then click the **OK** button.

6. Make sure that all settings mentioned above are correct and then click the **OK** button.

NOTE

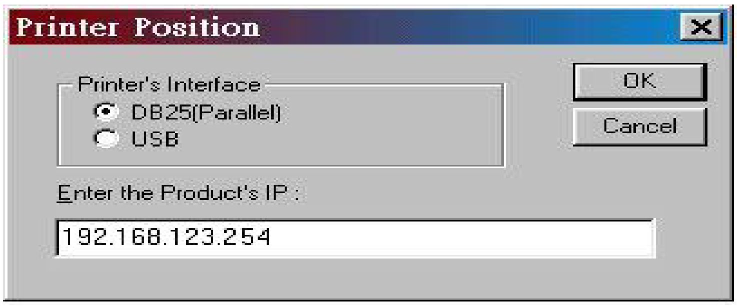
If the router has USB and Parallel port at the same time, Please be careful to setup.

- Use USB to print

  Queue Name: lp

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard



Printer Position

Printer's Interface

● DB25(Parallel)

○ USB

Enter the Product's IP : 192.168.123.254

刪除: C

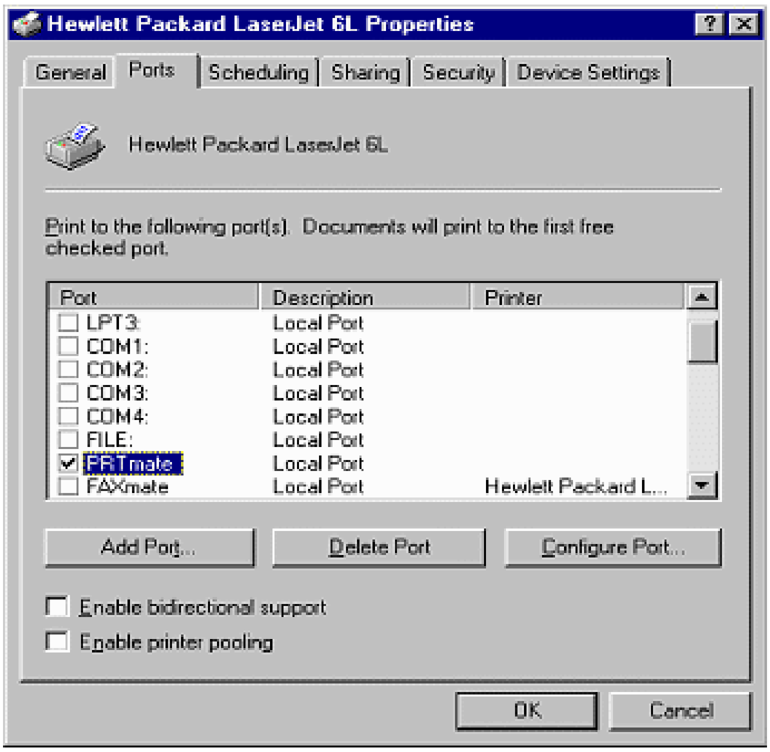
刪除: A

刪除: 802.1x Setting

刪除: Print Server

Configuring on Windows NT Platforms

The configuration procedure for a Windows NT platform is similar to that of Windows 95/98 except the screen of printer **Properties**:



Hewlett Packard LaserJet 6L Properties

Hewlett Packard LaserJet 6L

Print to the following port(s). Documents will print to the first free checked port.

Port	Description	Printer
□ LPT3:	Local Port	
□ COM1:	Local Port	
□ COM2:	Local Port	
□ COM3:	Local Port	
□ COM4:	Local Port	
□ FILE:	Local Port	
☑ PRTmate	Local Port	
□ FAXmate	Local Port	Hewlett Packard L...

□ Enable bidirectional support

□ Enable printer pooling

Compared to the procedure in last section, the selection of **Details** is equivalent to the selection of **Ports**, and **Port Settings** is equivalent to **Configure Port**.

NOTE

If the router has USB and Parallel port at the same time, Please be careful to setup.

- Use Parallel to print

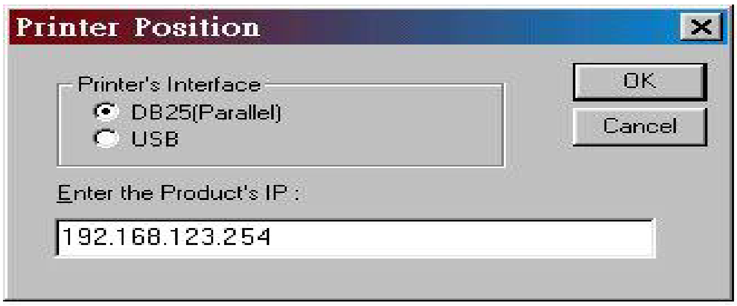
  Queue Name: lp

- Use USB to print

  Queue Name: lpUSB0

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard


Printer Position

Printer's Interface

● DB25(Parallel)

○ USB

Enter the Product's IP :

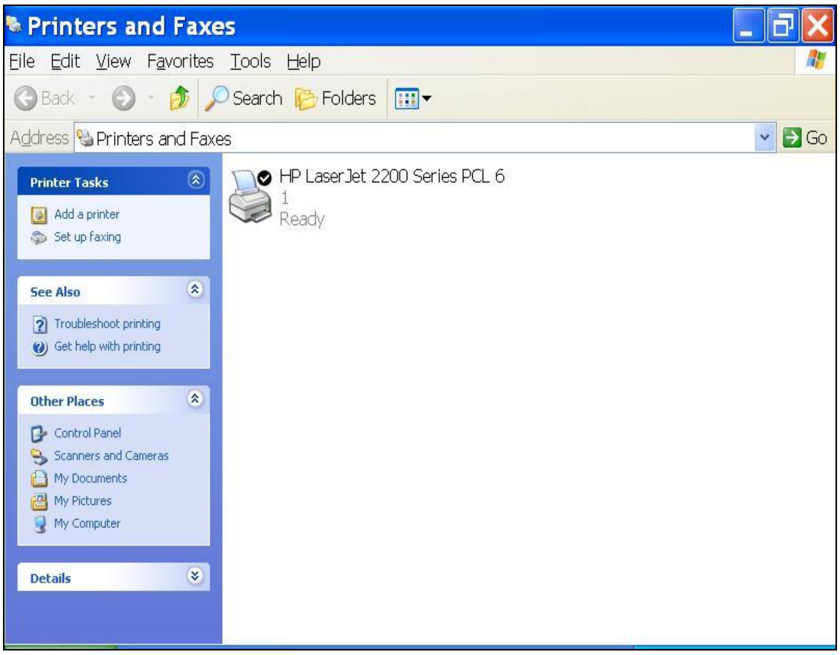
192.168.123.254

Configuring on Windows 2000 and XP Platforms

Windows 2000 and XP have built-in LPR client, users could utilize this feature to Print.

You have to install your Printer Driver on LPT1 or other ports before you preceded the following sequence.

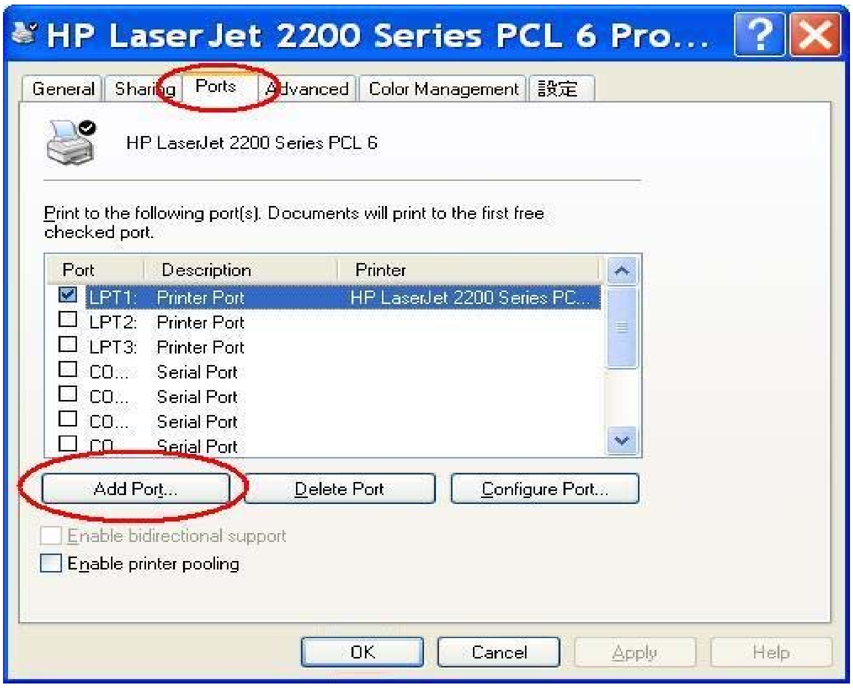
1. Open Printers and Faxes.



2. Select “Ports” page, Click “Add Port…”

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard



HP LaserJet 2200 Series PCL 6

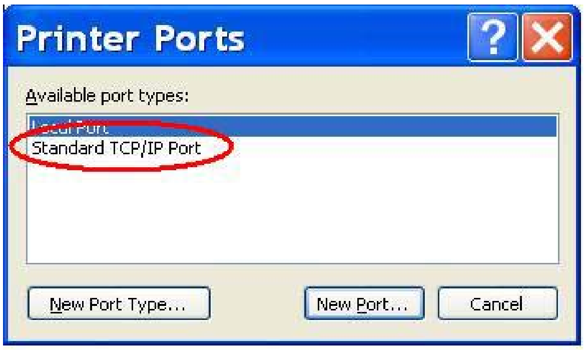
Print to the following port(s). Documents will print to the first free checked port.

	Port	Description	Printer
☑	LPT1:	Printer Port	HP LaserJet 2200 Series PC...
☐	LPT2:	Printer Port	
☐	LPT3:	Printer Port	
☐	CO...	Serial Port	
☐	CO...	Serial Port	
☐	CO...	Serial Port	
☐	CO...	Serial Port	

☐ Enable bidirectional support

☐ Enable printer pooling

3. Select “Standard TCP/IP Port”, and then click “New Port…”



Available port types:

Local Port

Standard TCP/IP Port

4. Click Next and then provide the following information:

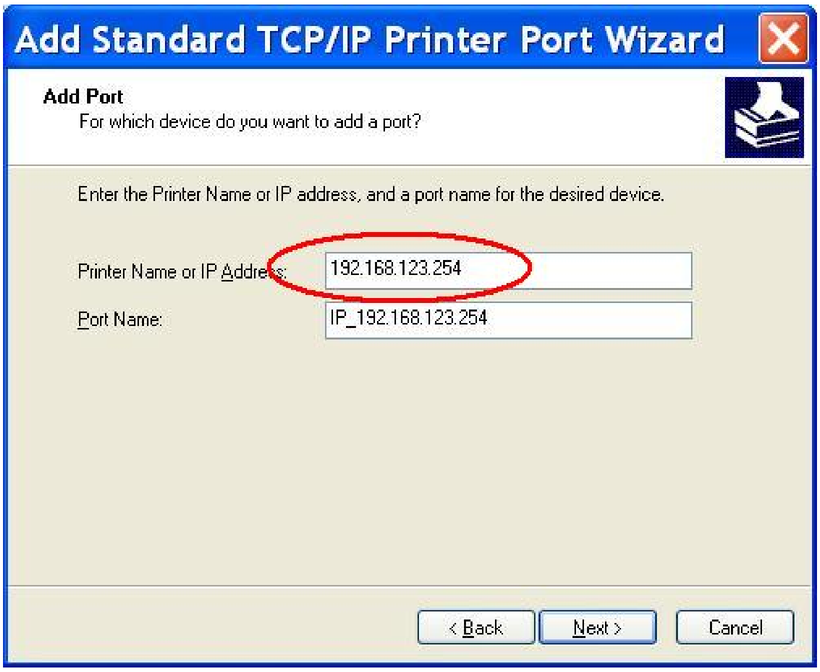
5. Type the address of a server providing LPD that is our NAT device: 192.168.123.254

删除: C

删除: A

删除: 802.1x Setting

删除: Print Server



Add Standard TCP/IP Printer Port Wizard

Add Port

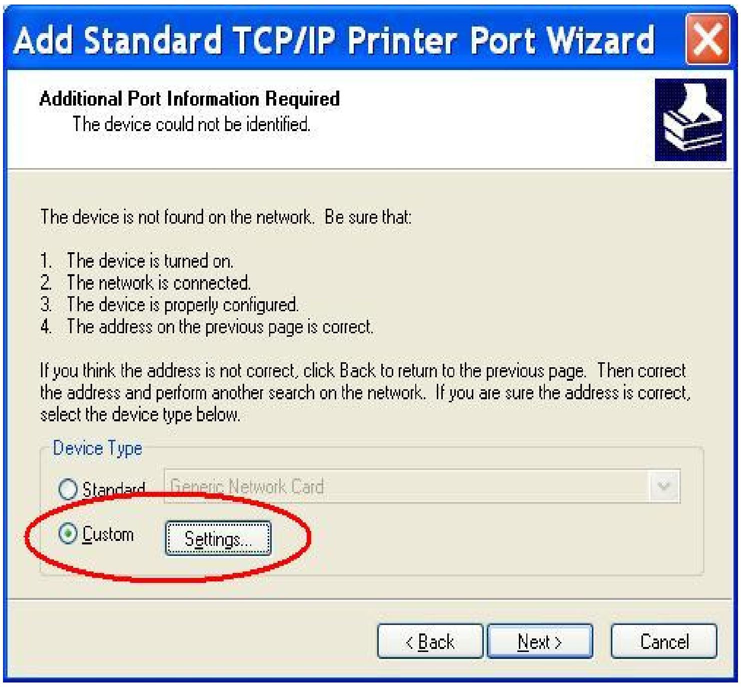
For which device do you want to add a port?

Enter the Printer Name or IP address, and a port name for the desired device.

Printer Name or IP Address: 192.168.123.254

Port Name: IP_192.168.123.254

6. Select Custom, and then click “Settings…”



Add Standard TCP/IP Printer Port Wizard

Additional Port Information Required

The device could not be identified.

The device is not found on the network. Be sure that:

1. The device is turned on.
2. The network is connected.
3. The device is properly configured.
4. The address on the previous page is correct.

If you think the address is not correct, click Back to return to the previous page. Then correct the address and perform another search on the network. If you are sure the address is correct, select the device type below.

Device Type

○ Standard Generic Network Card

● Custom Settings...

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

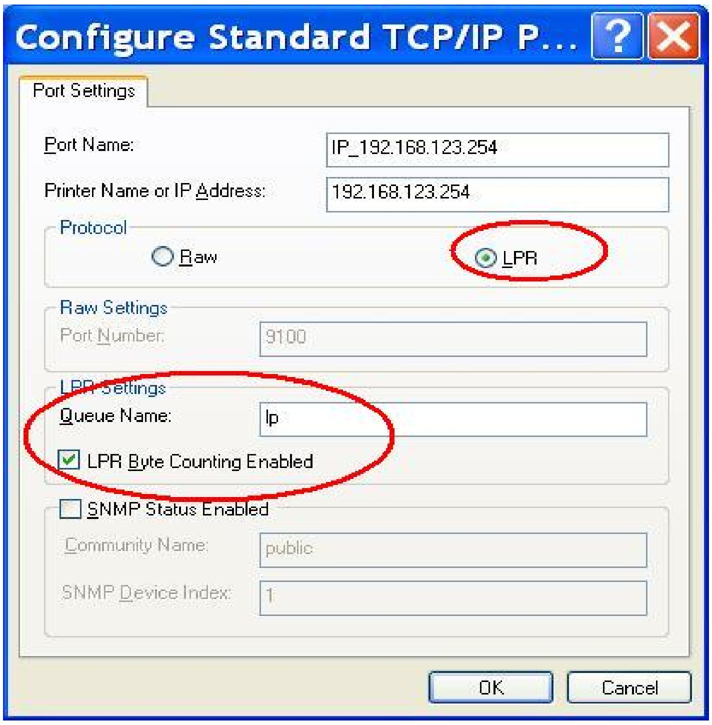
7. Select “LPR”; type ” **lp**“ lowercase letter in “Queue Name:” and enable “LPR Byte Counting Enabled”.

NOTE

If the router has USB and Parallel port at the same time, Please be careful to setup.

- Use USB to print

  Queue Name: lp



Configure Standard TCP/IP P...

Port Settings

Port Name: IP_192.168.123.254

Printer Name or IP Address: 192.168.123.254

Protocol

○ Raw ● LPR

Raw Settings

Port Number: 9100

LPR Settings

Queue Name: lp

☑ LPR Byte Counting Enabled

☐ SNMP Status Enabled

Community Name: public

SNMP Device Index: 1

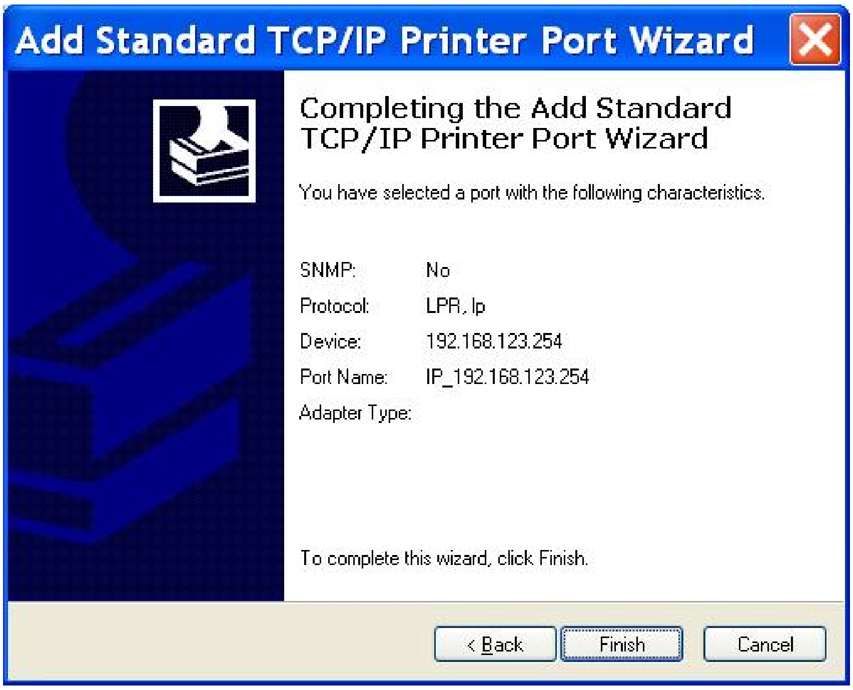
8. Apply your settings

刪除: C

刪除: A

刪除: 802.1x Setting

刪除: Print Server



Add Standard TCP/IP Printer Port Wizard

Completing the Add Standard TCP/IP Printer Port Wizard

You have selected a port with the following characteristics.

SNMP: No

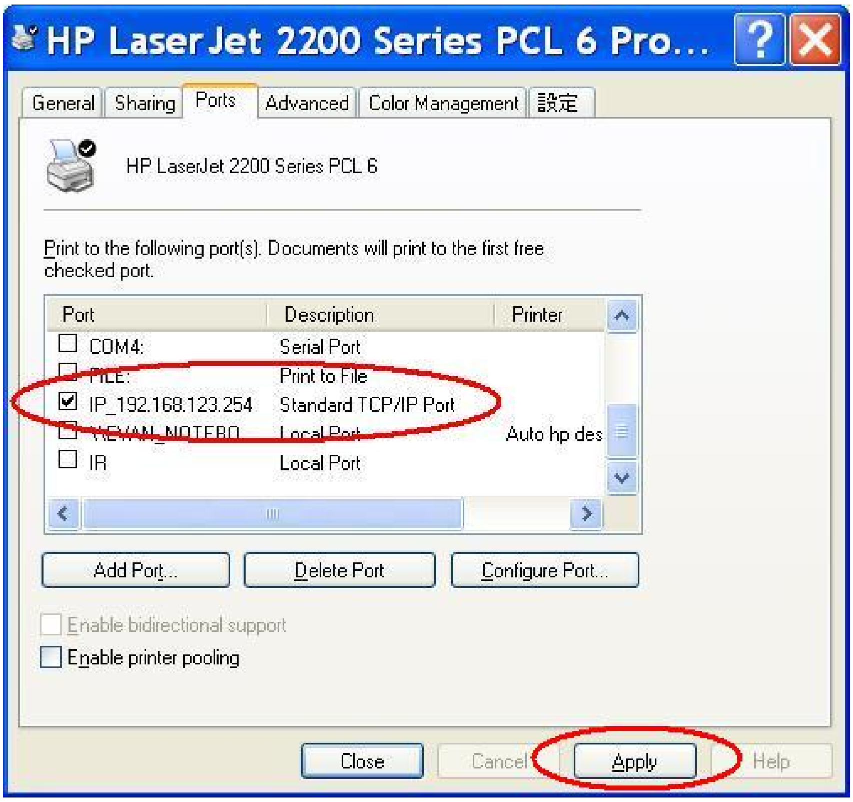
Protocol: LPR, lp

Device: 192.168.123.254

Port Name: IP_192.168.123.254

Adapter Type:

To complete this wizard, click Finish.



HP LaserJet 2200 Series PCL 6

Print to the following port(s). Documents will print to the first free checked port.

Port	Description	Printer
□ COM4:	Serial Port	
□ FILE:	Print to File	
☑ IP_192.168.123.254	Standard TCP/IP Port	
□ \\KEVAN_NOTEBO...	Local Port	Auto hp des
□ IR	Local Port	

□ Enable bidirectional support

□ Enable printer pooling

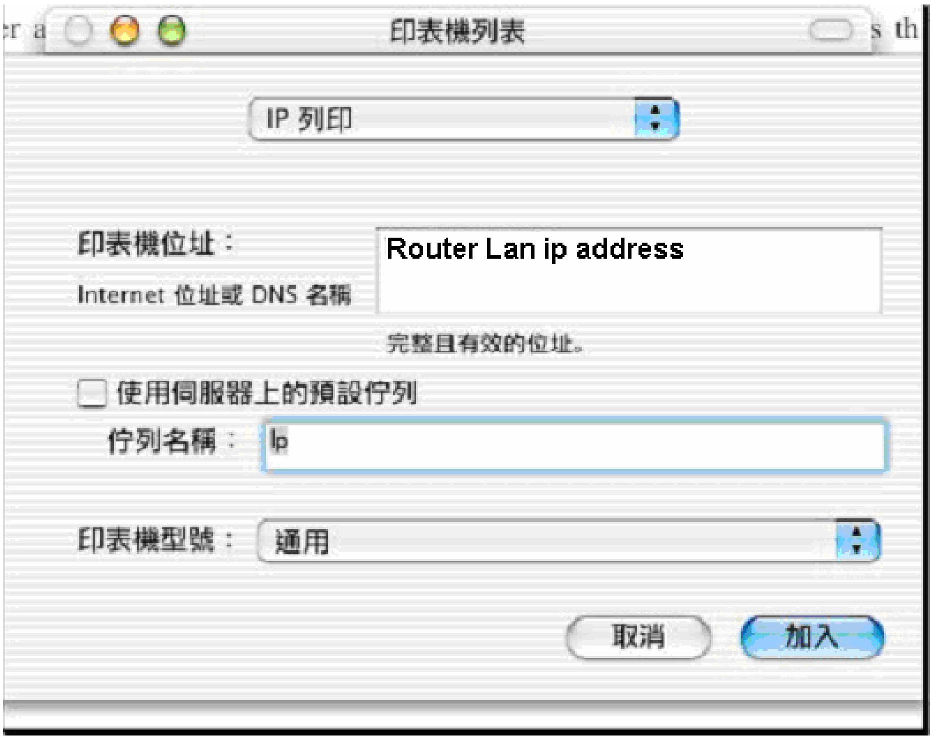
刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

Configuring on Apple PC

TBD – is this necessary? It doesn't specify that the printer server is supported by MAC.

1. First, go to Printer center (Printer list) and add printer



IP 列印

印表機位址：Router Lan ip address

Internet 位址或 DNS 名稱

完整且有效的位址。

□ 使用伺服器上的預設佇列

佇列名稱：lp

印表機型號：通用

2. Choose IP print and setup printer IP address (router LAN IP address).

3. Disable “Default Queue of Server.” And fill in ‘ lp ‘ in Queue name item.

4. Printer type: Choose “General”.

NOTE

If the router has USB and Parallel port at the same time, Please be careful to setup.

- Use Parallel to print

  Queue Name: lp

- Use USB to print

  Queue Name: lpUSB0

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

TBD – what about UNIX? Delete.

B

Appendix B - TCP/IP Configuration for Windows 95/98

TBD – what about Windows NT, 2000, XP, UNIX?

This section introduces you how to install TCP/IP protocol into your personal computer. And suppose you have been successfully installed one network card on your personal computer. If not, please refer to your network card manual. Moreover, the Section B.2 tells you how to set TCP/IP values for working with this NAT Router correctly.

刪除: C

刪除: A

刪除: 802.1x Setting

刪除: Print Server

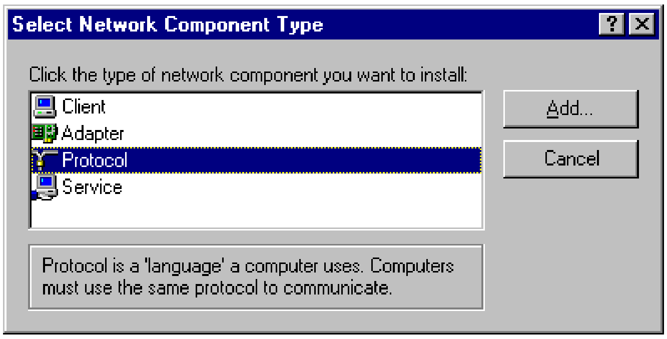
Installing TCP/IP Protocol on Your PC

1. Click Start button and choose Settings, then click Control Panel.

2. Double click Network icon and select Configuration tab in the Network window.

3. Click Add button to add network component into your PC.

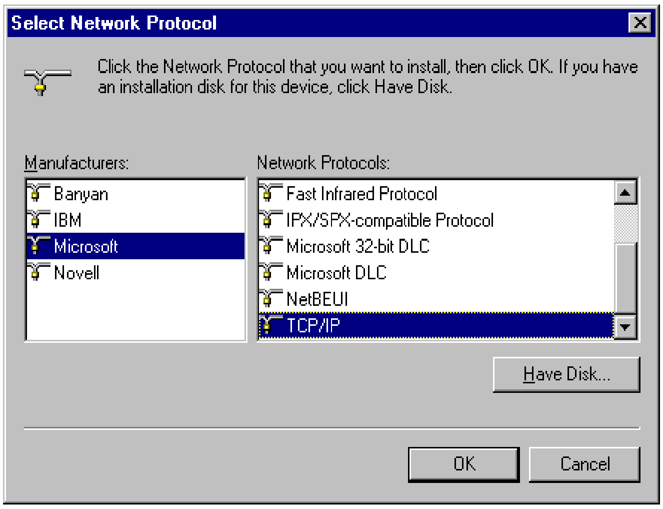
4. Double click Protocol to add TCP/IP protocol.


Select Network Component Type

Click the type of network component you want to install:

Protocol is a 'language' a computer uses. Computers must use the same protocol to communicate.

5. Select **Microsoft** item in the manufactures list. And choose **TCP/IP** in the Network Protocols. Click **OK** button to return to Network window.


Select Network Protocol

Click the Network Protocol that you want to install, then click OK. If you have an installation disk for this device, click Have Disk.

6. The TCP/IP protocol shall be listed in the Network window. Click **OK** to complete the install procedure and restart your PC to enable the TCP/IP protocol.

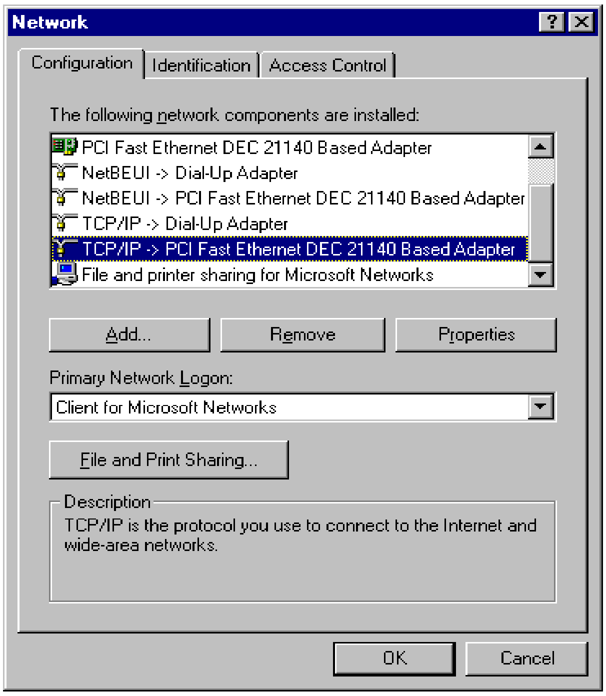
刪除: TCP/IP Configuration for Windows 95/98

刪除: Print Server

Set TCP/IP Protocol for Working with NAT Router

1. Click **Start** button and choose **Settings**, then click **Control Panel**.

2. Double click **Network** icon. Select the TCP/IP line that has been associated to your network card in the **Configuration** tab of the Network window.



Network

Configuration | Identification | Access Control

The following network components are installed:

- PCI Fast Ethernet DEC 21140 Based Adapter
- NetBEUI -> Dial-Up Adapter
- NetBEUI -> PCI Fast Ethernet DEC 21140 Based Adapter
- TCP/IP -> Dial-Up Adapter
- TCP/IP -> PCI Fast Ethernet DEC 21140 Based Adapter
- File and printer sharing for Microsoft Networks

Primary Network Logon: Client for Microsoft Networks

Description
TCP/IP is the protocol you use to connect to the Internet and wide-area networks.

3. Click **Properties** button to set the TCP/IP protocol for this NAT Router.

4. Now, you have two setting methods:

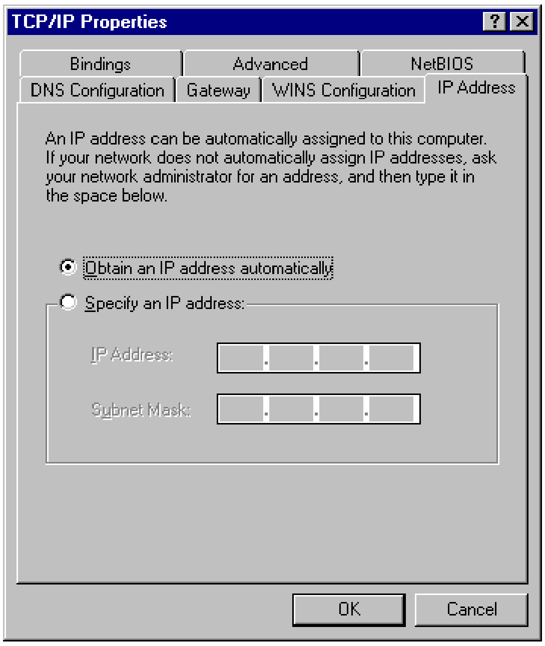
   - Select Obtain an IP address automatically in the IP Address tab.

刪除: C

刪除: A

刪除: 802.1x Setting

刪除: Print Server



An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.

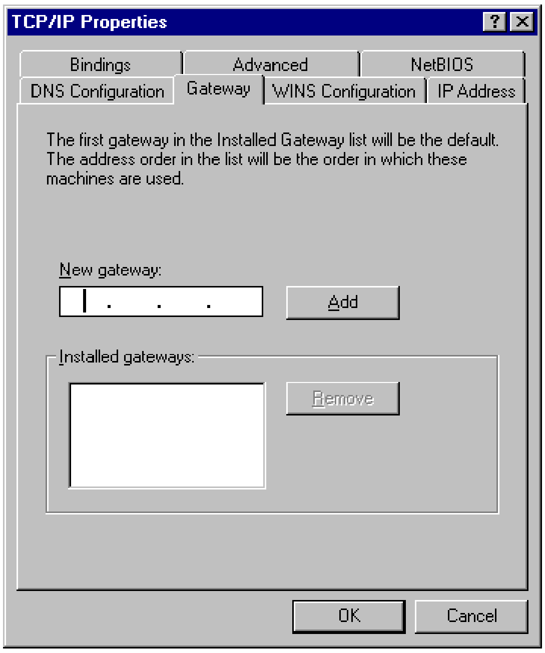
● Obtain an IP address automatically

○ Specify an IP address:

IP Address: . . .

Subnet Mask: . . .

➢ Don't input any value in the Gateway tab.



The first gateway in the Installed Gateway list will be the default. The address order in the list will be the order in which these machines are used.

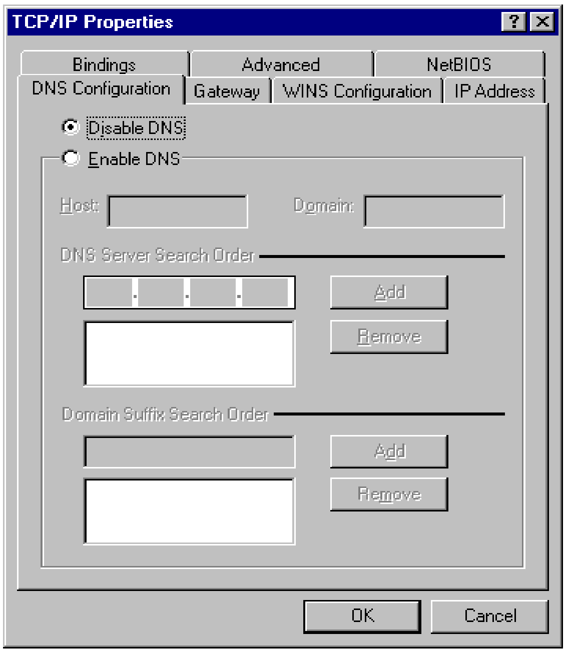
New gateway: . . .

Installed gateways:

刪除: TCP/IP Configuration for Windows 95/98

刪除: Print Server

- Choose **Disable DNS** in the DNS Configuration tab.



TCP/IP Properties

● Disable DNS

○ Enable DNS

Host:

Domain:

DNS Server Search Order

Domain Suffix Search Order

5. Configure IP manually

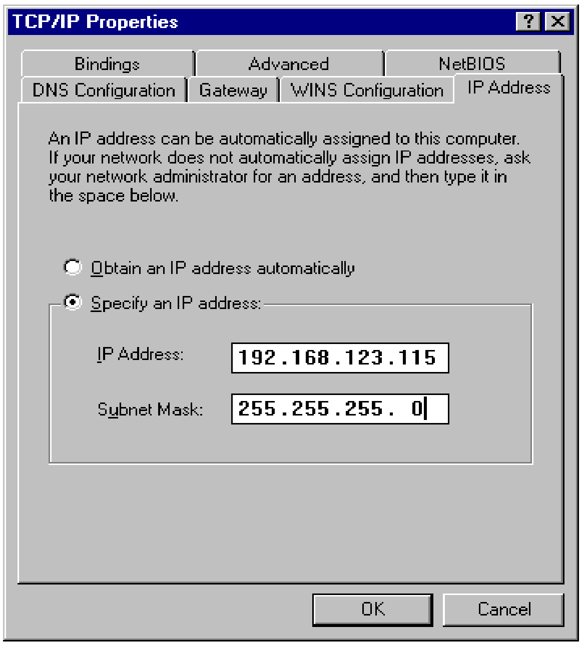
- Select **Specify an IP address** in the IP Address tab. The default IP address of this product is 192.168.123.254. So please use 192.168.123.xxx (xxx is a number between 1 and 253) for IP Address field and 255.255.255.0 for Subnet Mask field.

刪除: C

刪除: A

刪除: 802.1x Setting

刪除: Print Server



An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.

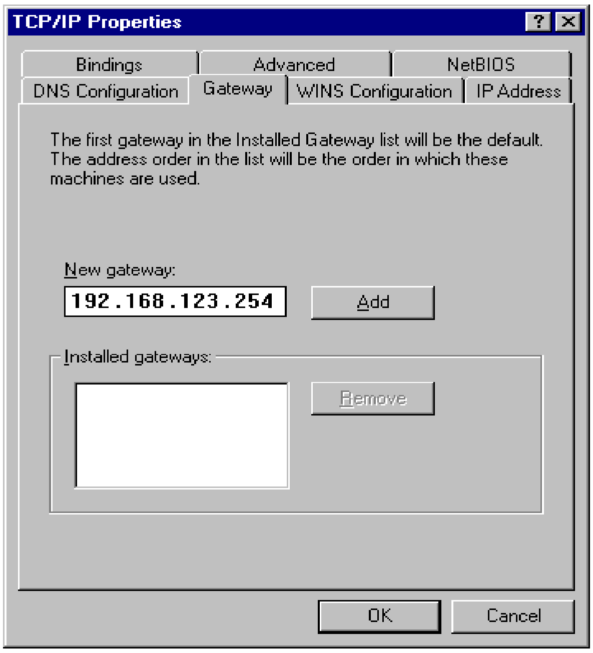
○ Obtain an IP address automatically

● Specify an IP address:

IP Address: 192.168.123.115

Subnet Mask: 255.255.255. 0

- In the Gateway tab, add the IP address of this product (default IP is 192.168.123.254) in the New gateway field and click **Add** button.



The first gateway in the Installed Gateway list will be the default. The address order in the list will be the order in which these machines are used.

New gateway: 192.168.123.254

Installed gateways:

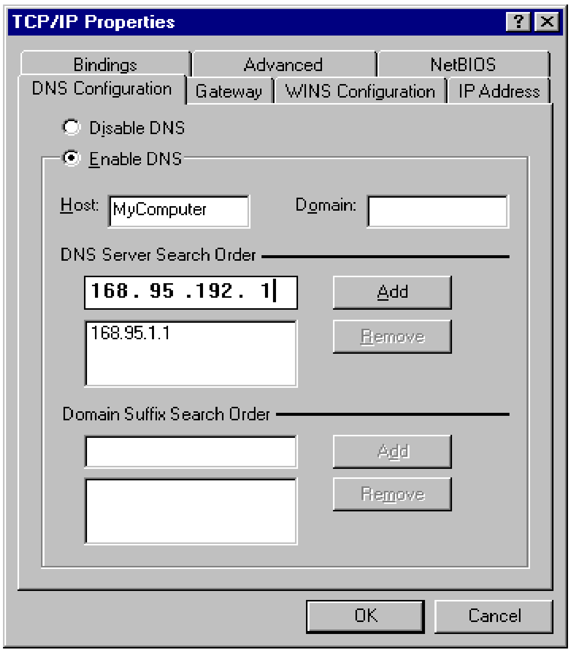
刪除: TCP/IP Configuration for Windows 95/98

刪除: Print Server

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

- ➢ In the DNS Configuration tab, add the DNS values which are provided by the ISP into DNS Server Search Order field and click **Add** button.



○ Disable DNS

● Enable DNS

Host: MyComputer

Domain:

DNS Server Search Order

168 . 95 .192 . 1

168.95.1.1

Domain Suffix Search Order

C

Appendix C - 802.1x Setting

TBD – check this section on a lab compuer.

刪除: C

刪除: A

刪除: 802.1x Setting

刪除: Print Server

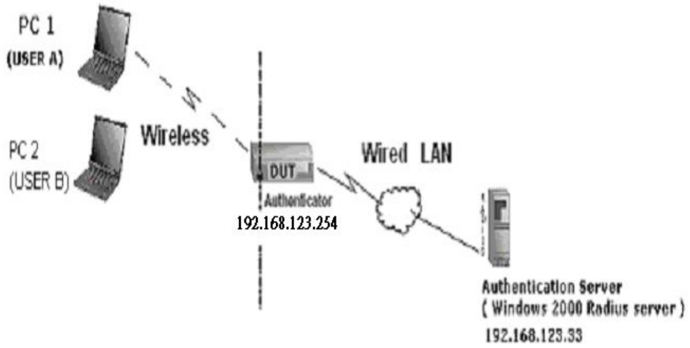


Figure 1: Testing Environment (Use Windows 2000 Radius Server)

- Equipment Details
  - PC1:
    Microsoft Windows XP Professional without Service Pack 1.
    D-Link DWL-650+ wireless LAN adapter
    Driver version: 3.0.5.0 (Driver date: 03.05.2003)
  - PC2:
    Microsoft Windows XP Professional with Service Pack 1a.
    Z-Com XI-725 wireless LAN USB adapter
    Driver version: 1.7.29.0 (Driver date: 10.20.2001)
  - Authentication Server: Windows 2000 RADIUS server with Service Pack 3 and HotFix Q313664.

NOTE

Windows 2000 RADIUS server only supports PEAP upgraded to service pack 3 and HotFix Q313664 (You can receive additional information from http://support.microsoft.com/default.aspx?scid=kb; en-us;313664)

- DUT
  - Configuration:
    - □ Enable DHCP server.
    - □ WAN setting: static IP address.
    - □ LAN IP address: 192.168.123.254/24.
    - □ Set RADIUS server IP.
    - □ Set RADIUS server shared key.
    - □ Configure WEP key and 802.1X setting.

刪除: 802.1x Setting

刪除: TCP/IP Configuration for Windows 95/98

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

The following test uses the inbuilt 802.1X authentication method such as, EAP_TLS, PEAP_CHAPv2 (Windows XP with SP1 only), and PEAP_TLS (Windows XP with SP1 only) using the Smart Card or other Certificate of the Windows XP Professional.

■ DUT and Windows 2000 Radius Server Setup

➢ Setup Windows 2000 RADIUS Server

Change authentication method to MD5_Challenge or using smart card or other certificate on RADIUS server according to the test condition.

➢ Setup DUT

1. Enable the 802.1X (check the "Enable checkbox").
2. Enter the RADIUS server IP.
3. Enter the shared key. (The key shared by the RADIUS server and DUT).
4. Change 802.1X encryption key length to fit the variable test condition.

➢ Setup Network adapter on PC

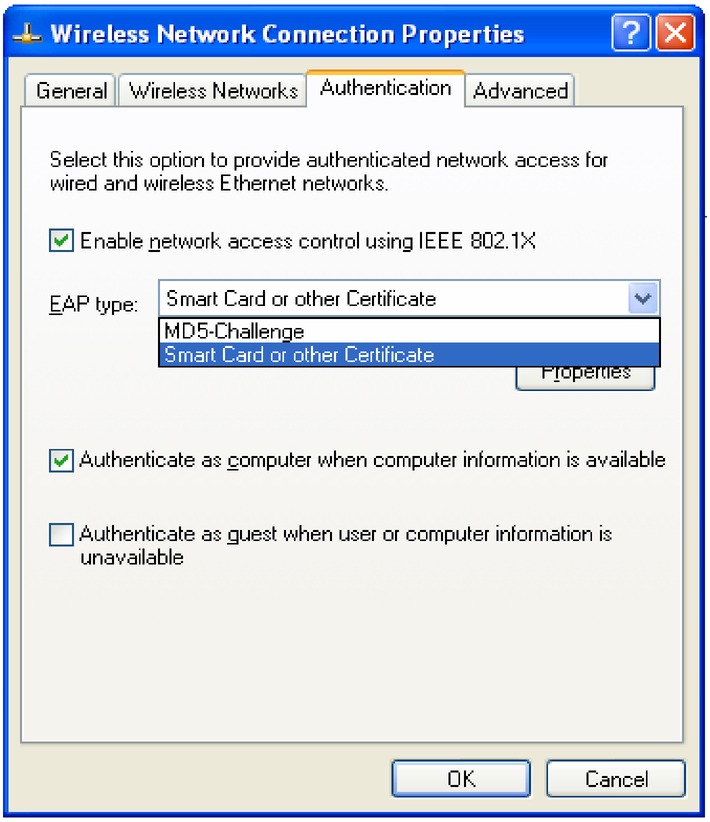
1. Select the IEEE802.1X as the authentication method.

刪除: C

刪除: A

刪除: 802.1x Setting

刪除: Print Server



Select this option to provide authenticated network access for wired and wireless Ethernet networks.

☑ Enable network access control using IEEE 802.1X

EAP type: Smart Card or other Certificate
- MD5-Challenge
- Smart Card or other Certificate

☑ Authenticate as computer when computer information is available

□ Authenticate as guest when user or computer information is unavailable

Figure 61: Enable IEEE 802.1X Access Control

NOTE

Figure 61 is a setting picture of Windows XP without service pack 1. If users upgrade to service pack 1, they will not see MD5-Challenge from EAP type list, but they will receive a new Protected EAP (PEAP) option.

2. Select MD5-Challenge or Smart Card or other Certificate as the EAP type

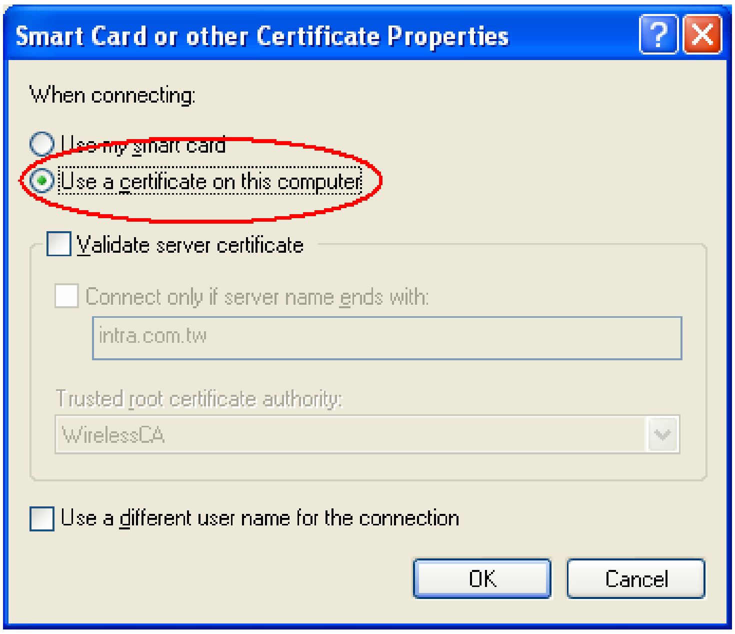
3. If use smart card or the certificate is selected as the EAP type, select to use a certificate on this computer.

刪除: 802.1x Setting

刪除: TCP/IP Configuration for Windows 95/98

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard



Smart Card or other Certificate Properties

When connecting:

○ Use my smart card

● Use a certificate on this computer

□ Validate server certificate

□ Connect only if server name ends with:

intra.com.tw

Trusted root certificate authority:

WirelessCA

□ Use a different user name for the connection

Figure 62: Smart Card or Certificate Properties

4. Change EAP type to fit the variable test condition.

- Windows 2000 RADIUS server Authentication testing:

  - DUT authenticate PC1 using certificate. (PC2 follows the same test procedures.)

5. Download and install the certificate on PC1. (Fig 4)

6. PC1 choose the SSID of DUT as the Access Point.

7. Set authentication type of wireless client and RADIUS server both to EAP_TLS.

8. Disable the wireless connection and enable again.

9. The DUT will send the user's certificate to the RADIUS server, and then

10. send the message of authentication result to PC1. (Fig 5)

11. Windows XP will prompt that the authentication process is success or fail and end the authentication procedure. (Fig 6)

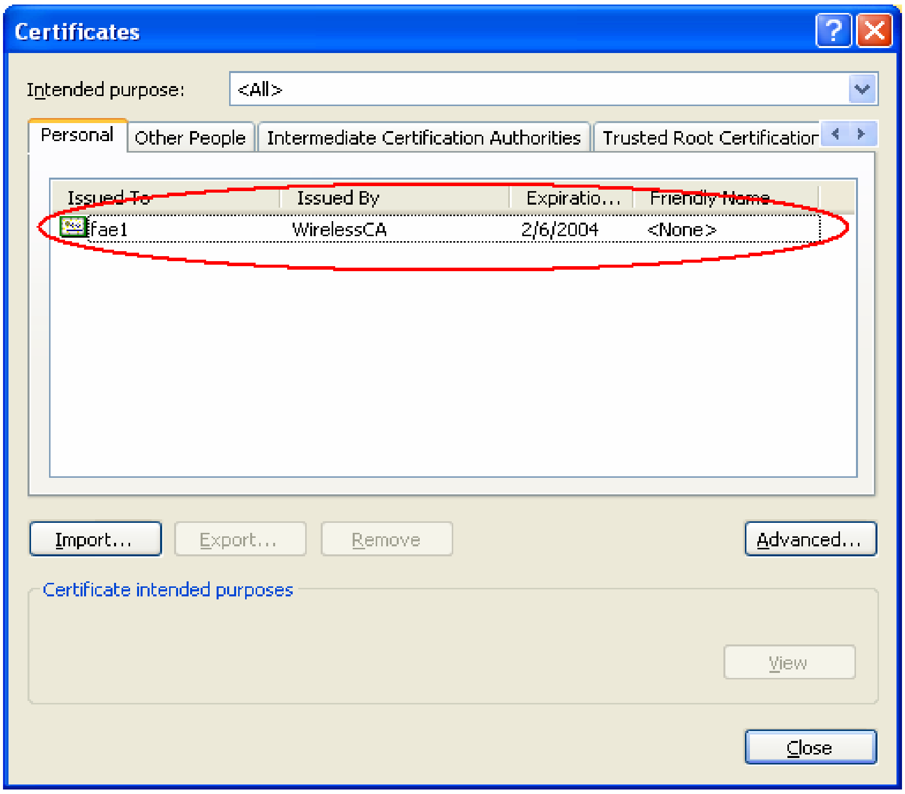
12. Terminate the test steps when PC1 get dynamic IP and PING remote host successfully.

刪除: C

刪除: A

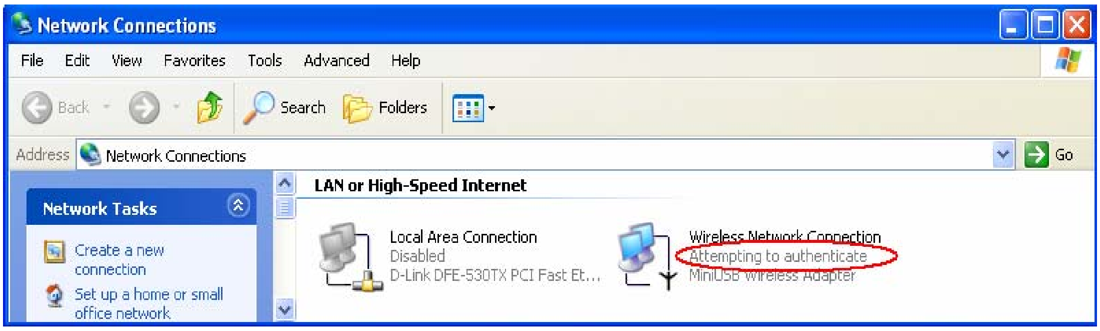
刪除: 802.1x Setting

刪除: Print Server



Issued To	Issued By	Expiratio...	Friendly Name
fae1	WirelessCA	2/6/2004	<None>

Figure 4: Certificate information on PC1



Local Area Connection
Disabled
D-Link DFE-530TX PCI Fast Et...

Wireless Network Connection
Attempting to authenticate
MiniUSB Wireless Adapter

Figure 5: Authenticating

刪除: 802.1x Setting

刪除: TCP/IP Configuration for Windows 95/98

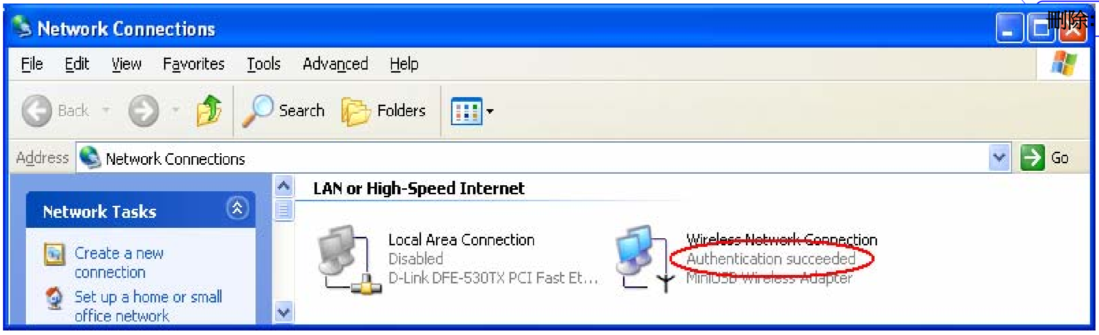

Network Connections
File Edit View Favorites Tools Advanced Help
Back
Search
Folders
Address Network Connections
Go
Network Tasks
Create a new connection
Set up a home or small office network
LAN or High-Speed Internet
Local Area Connection
Disabled
D-Link DFE-530TX PCI Fast Et...
Wireless Network Connection
Authentication succeeded
MiniUSB Wireless Adapter

Figure 6: Authentication success

- ➢ DUT authenticate PC2 using PEAP-TLS.

1. PC2 choose the SSID of DUT as the Access Point.
2. Set authentication type of wireless client and RADIUS server both to PEAP_TLS.
3. Disable the wireless connection and enable again.
4. The DUT will send the user's certificate to the RADIUS server, and then send the message of authentication result to PC2.
5. Windows XP will prompt that the authentication process is success or fail and end the authentication procedure.
6. Terminate the test steps when PC2 get dynamic IP and PING remote host successfully.

- ■ Support Type: The router supports the types of 802.1x Authentication:

PEAP-CHAPv2 and PEAP-TLS.

NOTE

- ■ PC1 is on Windows XP platform without Service Pack 1.
- ■ PC2 is on Windows XP platform with Service Pack 1a.
- ■ PEAP is supported on Windows XP with Service Pack 1 only.
- ■ Windows XP with Service Pack 1 allows 802.1x authentication only when data encryption function is enable.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution:. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

RF Exposure Warning: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment must be installed and operated with a minimum distance of 20 centimeters between the radiator and your body. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.