Bandwidth Manager

User’s Manual

Contents

System

The device Bandwidth Manager administration and monitoring control is set by the system Administrator. The System Administrator can add or modify System settings and monitoring mode. The sub Administrators can only read System settings but not modify them. In **System**, the System Administrator can:

(1) Add and change the sub Administrator's names and passwords;
(2) Back up all Bandwidth Manager settings into local files;
(3) Set up alerts for Hackers invasion.

What is System?

"System" is the managing of settings such as the privileges of packets that pass through the Bandwidth Manager and monitoring controls. Administrators may manage, monitor, and configure Bandwidth Manager settings. All configurations are "read-only" for all users other than the Administrator; those users are not able to change any settings for the Bandwidth Manager.

The eleven sub functions under **System** are **Admin, Setting, Date/Time, Multiple Subnet, Hack Alert, Route Table, DHCP, DNS Proxy, DDNS, Language, Permitted IP, SNMP, Logout** and **Software Update.**

Admin: has control of user access to the Bandwidth Manager. He/she can add/remove users and change passwords.

Setting: The Administrator may use this function to backup Bandwidth Manager configurations and export (save) them to an **"Administrator"** computer or anywhere on the network; or restore a configuration file to the device; or restore the Bandwidth Manager back to default factory settings. Under **Setting**, the Administrator may enable e-mail alert notification. This will alert Administrator(s) automatically whenever the Bandwidth Manager has experienced unauthorized access or a network hit (hacking or flooding). Once enabled, an IP address of a SMTP(Simple Mail Transfer protocol) Server is required. Up to two e-mail addresses can be entered for the alert notifications.

Date/Time: This function enables the Bandwidth Manager to be synchronized either with an Internet Server time or with the client computer's clock.

Lanugage The software provides **Traditional Chinese Version**，**Simplified Chinese Version** and **English version** for you to choose.

Permitted IPs Only the authorized IP address is permitted to manage the Bandwidth Manager.

Multiple Subnet This function allows local port to set multiple subnet works and connect with the internet through different WAN 1 IP Addresses.

Hacker Alert When abnormal conditions occur, the will send an e-mail alert to notify the Administrator, and also display warning messages in the **Event** window of **Alarm.**

Route Table Use this function to enable the Administrator to add static routes for the networks when the dynamic route is not efficient enough.

DHCP Administrator can configure DHCP (Dynamic Host Configuration Protocol) settings for the LAN (LAN) network.

DNS-Proxy The Bandwidth Manager Administrator may use the DNS Proxy function to make the Bandwidth Manager act as a DNS Server for the LAN. All DNS requests to a specific Domain Name will be routed to the Bandwidth Manager's IP address. The outside Internet world may access the mail server of the organization easily by its domain name, providing that the Administrator has set up Virtual Server or Mapped IP settings correctly. However, for the users in the LAN network, their WAN DNS server will assign them a public IP address for the mail server. So for the LAN network to access the mail server, they would have to go out to the Internet, then come back through the Bandwidth Manager to access the mail server. Essentially, the LAN network is accessing the mail server by a real public IP address, while the mail server serves their request by a NAT address and not a real one.

DDNS The DDNS (require DDNS Service) allows you to alias a dynamic IP address to a static hostname, allowing your device to be more easily accessed by specific name. When this function is enabled, the IP address in DDNS Server will be automatically updated with the new IP address provided by ISP

Logout Administrator logs out the Bandwidth Manager. This function protects your system while you are away.

Software Update: Administrators may visit distributor's web site to download the latest firmware. Administrators may update the device firmware to optimize its performance and keep up with the latest fixes for intruding attacks.

Admin

On the left hand menu, click on **Setup**, and then select **Admin** below it. The current list of Administrator(s) shows up.

Settings of the Administration table

Administrator Name: The username of Administrators for the Bandwidth Manager. The user **admin** cannot be removed.

Privilege: The privileges of Administrators (Admin or Sub Admin)
The username of the main Administrator is **Administrator** with **read / write** privilege.
Sub Admins may be created by the **Admin** by clicking **New Sub Admin.** Sub Admins have **read only** privilege.

Configure: Click **Modify** to change the “Sub Administrator’s” password and click **Remove** to delete a “Sub Administrator.”

Adding a new Sub Administrator

Step 1. In the **Admin** window, click the **New Sub Admin** button to create a new **Sub Administrator.**

Step 2. In the **Add New Sub Administrator** window:

- **Sub Admin Name:** enter the username of new **Sub Admin.**
- **Password:** enter a password for the new **Sub Admin.**
- **Confirm Password:** enter the password again.

Step 3. Click **OK** to add the user or click **Cancel** to cancel the addition.

Modify the Sub-Administrator's Password

Step 1. In the **Admin** window, locate the **Administrator** name you want to edit, and click on **Modify** in the **Configure** field.

Step 2. The **Modify Administrator Password** window will appear. Enter in the required information:

- **Password:** enter original password.
- **New Password:** enter new password
- **Confirm Password:** enter the new password again.

Step 3. Click **OK** to confirm password change or click **Cancel** to cancel it.

Removing a Sub Administrator

Step 1. In the Administration table, locate the Administrator name you want to edit, and click on the Remove option in the Configure field.

Step 2. The Remove confirmation pop-up box will appear.

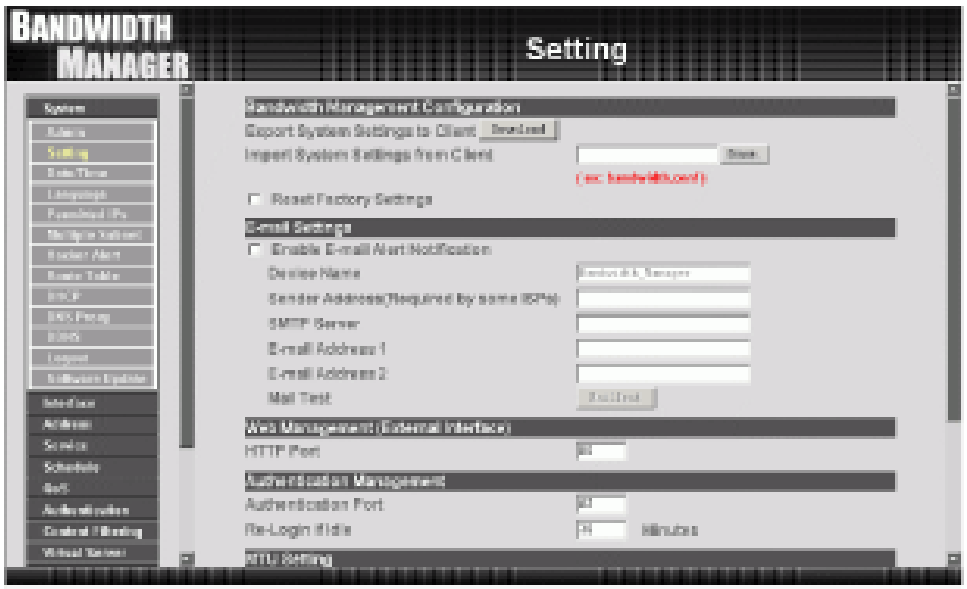
Step 3. Click **OK** to remove that Sub Admin or click **Cancel** to cancel.

Settings

The Administrator may use this function to backup Bandwidth Manager configurations and export (save) them to an **"Administrator"** computer or anywhere on the network; or restore a configuration file to the device; or restore the Bandwidth Manager back to default factory settings.

Entering the Settings window

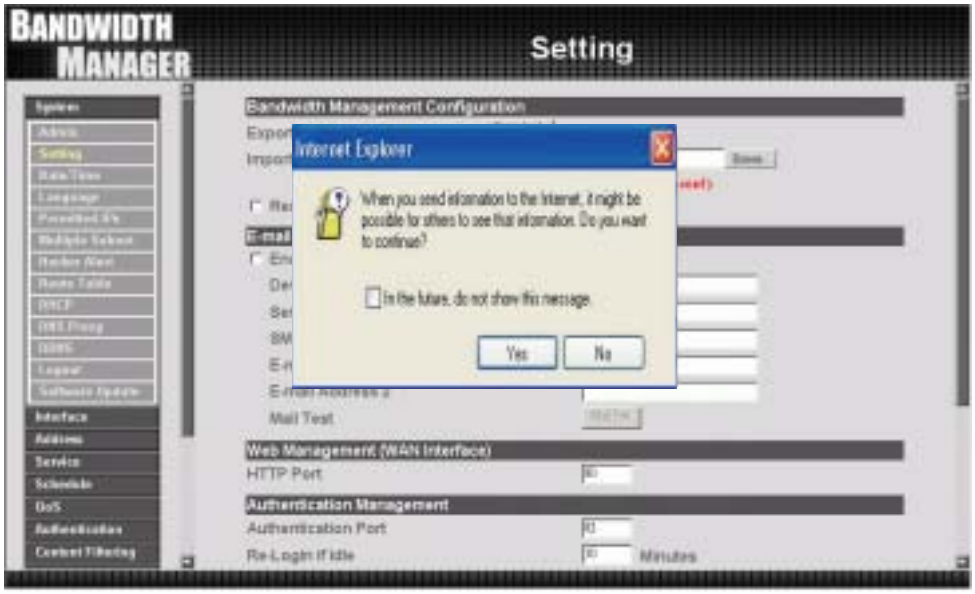
Click **Setting** in the **System** menu to enter the **Settings** window. The **Bandwidth Manager Configuration** settings will be shown on the screen.



Exporting Bandwidth Manager Gateway settings

Step 1. Under **Bandwidth Manager Configuration**, click on the **Download** button next to **Export System Settings to Client**.

Step 2. When the **File Download** pop-up window appears, choose the destination place in which to save the exported file. The **Administrator** may choose to rename the file if preferred.



Importing Bandwidth Manager settings

Step 1. Under **Bandwidth Manager Configuration**, click on the **Browse** button next to **Import System Settings**. When the **Choose File** pop-up window appears, select the file to which contains the saved Bandwidth Manager Settings, then click **OK**.

Step 2. Click **OK** to import the file into the **Bandwidth Manager** or click **Cancel** to cancel importing.

Restoring Factory Default Settings

Step 1. Select **Reset Factory Settings** under **Bandwidth Manager Configuration**.

Step 2. Click **OK** at the bottom-right of the screen to restore the factory settings.

Enabling E-mail Alert Notification

Step 1. Select **Enable E-mail Alert Notification** under **E-Mail Settings**. This function will enable the Bandwidth Manager to send e-mail alerts to the System Administrator when the network is being attacked by hackers or when emergency conditions occur.

Step 2. **Device Name:** Enter the Device Name.

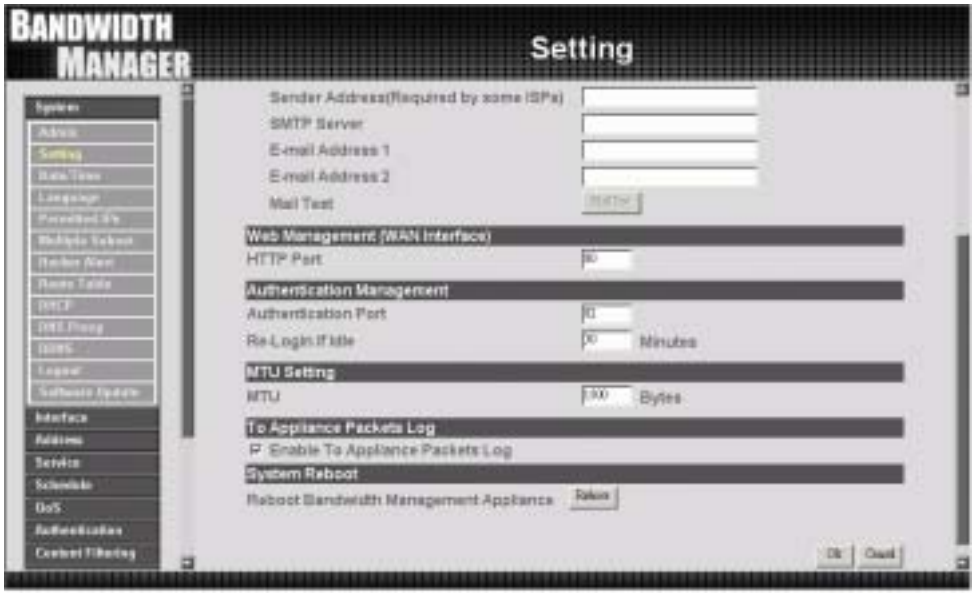
Step 3. **Sender Address (Required by some ISPs):** Enter the Sender Address.(Some ISPs need Required.)

Step 4. **SMTP Server IP:** Enter SMTP server's IP address.

Step 5. **E-Mail Address 1:** Enter the first e-mail address to receive the alarm notification.

Step 6. **E-Mail Address 2:** Enter the second e-mail address to receive the alarm notification. (Optional)

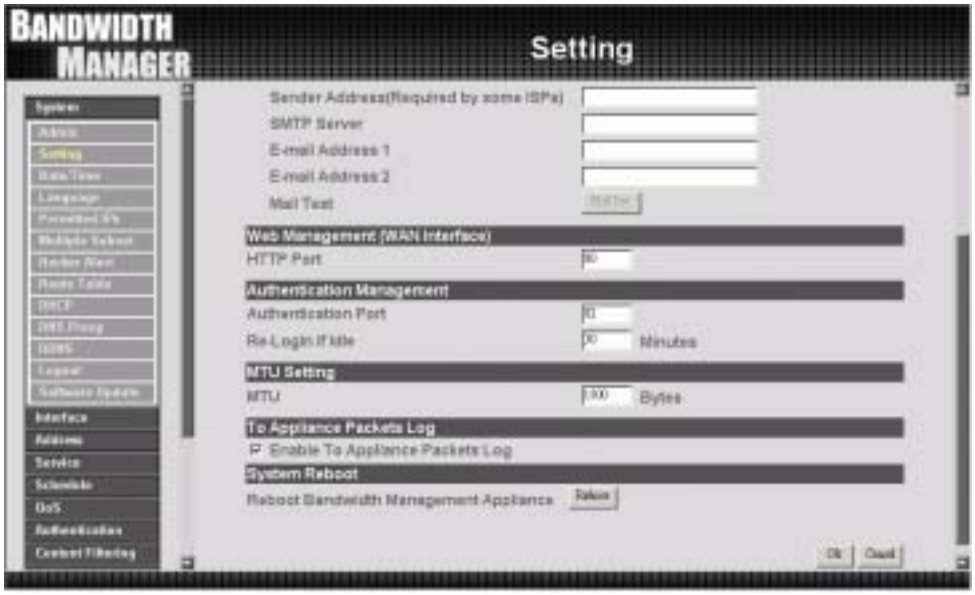
Step 7. Click **OK** on the bottom-right of the screen to enable E-mail alert notification.



Web Management (WAN Interface) (Remote UI management)

The administrator can change the port number used by HTTP port anytime. (Remote UI management)

Step 1. **Set Web Management (WAN Interface).** The administrator can change the port number used by HTTP port anytime.



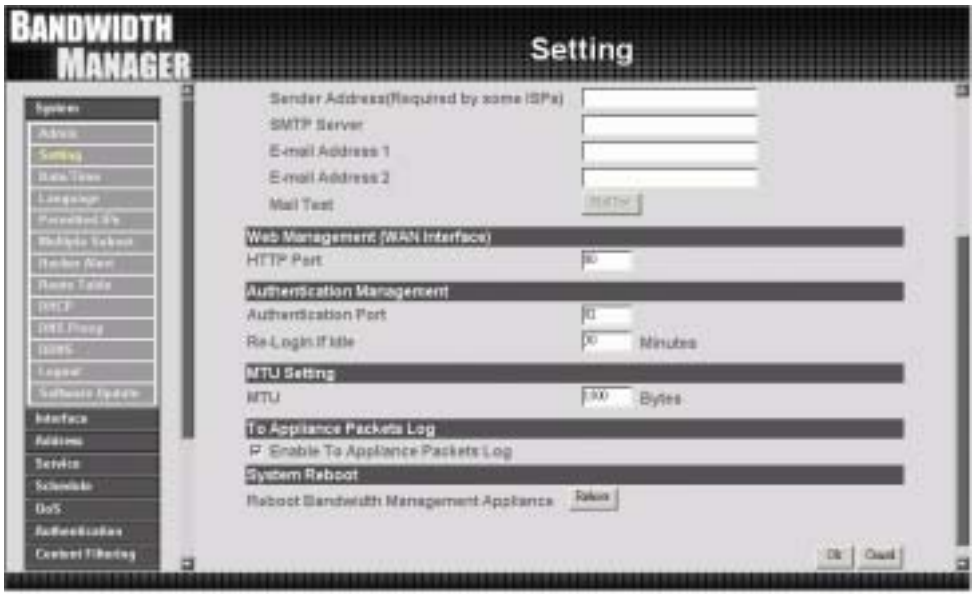
Authentication

The administrator could provide the authentication port and time for LAN's users connect to WAN via authentication management. (Need configure authentication Table in advance)

The definition of authentication:

Authentication Port: For LAN's user connect to WAN again when the connection time is overtime by entering the port of authentication account and password.

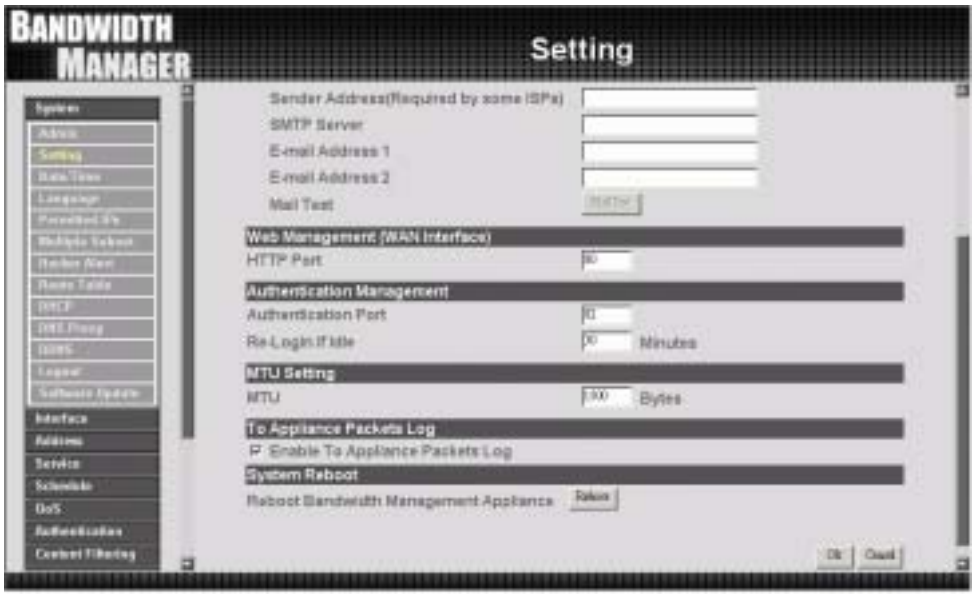
Re-Login if Idle：If LAN's user's connection time is overtime, it will be disconnection.



MTU (set networking packet length)

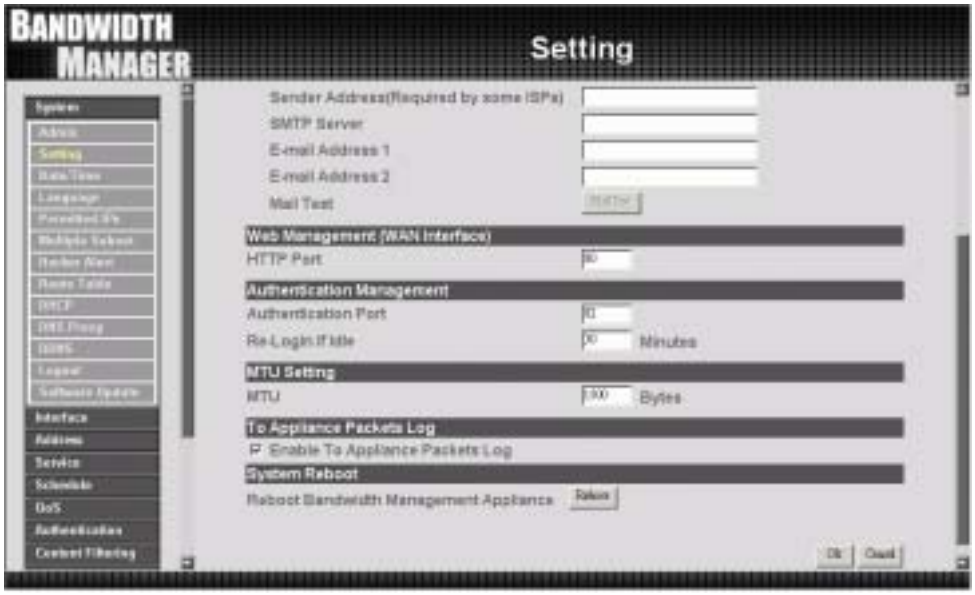
The administrator can modify the networking packet length.

Step 1. **MTU Setting.** The administrator can modify the networking packet length.



To-Bandwidth Manager Packets Log

The administrator select this option to the device's **To-Bandwidth Manager Packets Log.** Once this function is enabled, every packet to this appliance will be recorded for system manager to trace.



Bandwidth Manager Reboot

The administrator select this option to the device's **Bandwidth Manager Reboot.** Once this function is enabled, **the Bandwidth Manager will be reboot**.

Step 1. Click **Setting** in the **Administration** menu to enter the settings window.

Step 2. Reboot Bandwidth Manager：Click **Reboot.**

Step 3. A confirmation pop-up box will appear.

Step 4. Follow the confirmation pop-up box, click **OK** to restart Bandwidth Manager or click **Cancel** to discard changes.

Date/Time

Synchronizing the Bandwidth Manager with the System Clock

The administrator can configure the Bandwidth Manager.s date and time by either syncing to an Internet Network Time Server (NTP) or by syncing to your computer.s clock.

Follow these steps to sync to an Internet Time Server

Step 1. Enable synchronization by checking the box.

Step 2. Click the down arrow to select the offset time from GMT.

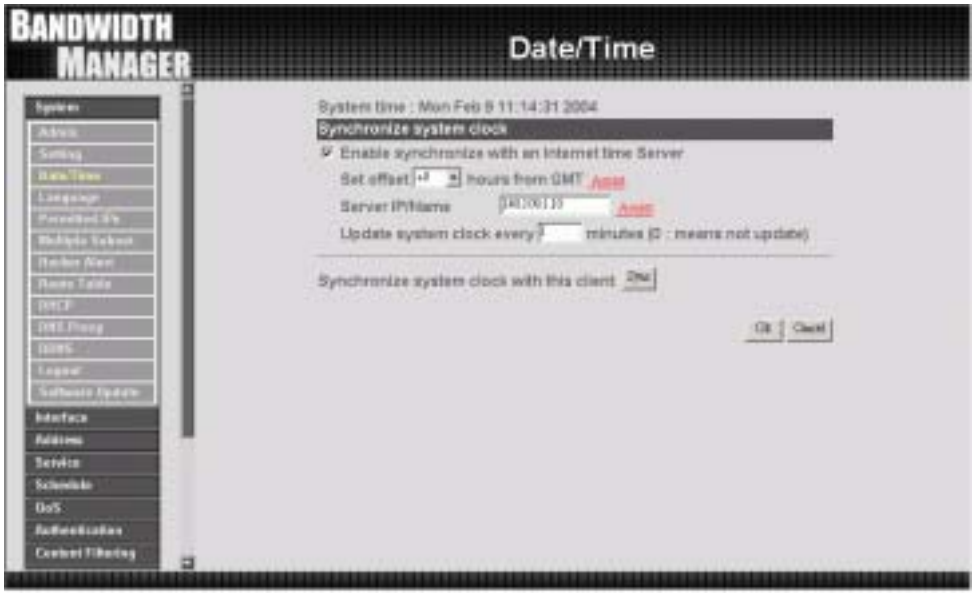
Step 3. Enter the Server IP Address or Server name with which you want to synchronize.

Step 4. Update system clock every 5 minutes You can set the interval time to synchronize with outside servers. If you set it to 0, it means the device will not synchronize automatically.

Follow this step to sync to your computer's clock.

Step 1. Click on the **Sync** button.

Click the **OK** button below to apply the setting or click **Cancel** to discard changes.



Language

The administrator can configure the Bandwidth Manager Select the Language version.

Step 1. Select the Language version (**English Version**/**Traditional Chinese Version** or **Simplified Chinese Version**).

Step 2. Click 【**OK**】to set the Language version or click **Cancel** to discard changes.

Permitted IPs

Only the authorized IP address is permitted to manage the Bandwidth Manager.

Add a Permitted IP Address

Step 1. Click **New Entry** button.

Step 2. In IP Address field, enter the LAN IP address or WAN IP address.

- **IP address**：Enter the LAN IP address or WAN IP address.
- **Netmask**：Enter the netmask of LAN/WAN.
- **Ping**：Select this to allow the WAN network to ping the IP Address of the Firewall.
- **WebUI**：Check this item, Web User can use HTTP to connect to the Setting window of Bandwidth Manager.

Step 3. Click **OK** to add Permitted IP or click **Cancel** to discard changes.

Modify a Permitted IP Address

Step 1. In the table of **Permitted IPs**, highlight the IP you want to modify, and then click **Modify**.

Step 2. In **Modify Permitted IP**, enter new IP address.

Step 3. Click **OK** to modify or click **Cancel** to discard changes.

Remove a Permitted IP addresses

Step 1. In the table of **Permitted IPs**, highlight the IP you want to remove, and then click **Remove**.

Step 2. In **Remove Permitted IP**, enter new IP address.

Step 3. In the confirm window, click **OK** to remove or click **Cancel** to discard changes.

Multiple Subnet

NAT mode

Multiple Subnet allows local port to set multiple subnet works and connect with the internet through different WAN IP Addresses.

For instance：The lease line of a company applies several real IP Addresses 168.85.88.0/24, and the company is divided into R&D department, service, sales department, procurement department, accounting department, the company can distinguish each department by different subnet works for the purpose of convenient management. The settings are as the following：

1.R&D department subnet work：192.168.1.11/24(LAN) ←→ 168.85.88.253(WAN 1)

2. Service department subnet work： 192.168.2.11/24(LAN) ←→ 168.85.88.252(WAN 1)

3.Sales department subnet work： 192.168.3.11/24(LAN) ←→ 168.85.88.251(WAN 1)

4. Procurement department subnet work

192.168.4.11/24(LAN) ←→ 168.85.88.250(WAN 1)

5. Accounting department subnet work

192.168.5.11/24(LAN) ←→ 168.85.88.249(WAN 1)

The first department(R&D department) was set while setting interface IP, the other four ones have to be added in Multiple Subnet, after completing the settings, each deparm ent use the different WAN IP Address to connect to the internet. The settings of each department are as the following

Service IP Address：192.168.2.1

Subnet Mask：255.255.255.0

Default Gateway：192.168.2.11

The other departments are also set by groups, this is the function of Multiple Subnet.

Multiple Subnet settings

Click **Multiple Subnet** in the **System** menu to enter Multiple Subnet window.

Multiple Subnet

- **Forwarding Mode:** Display forwarding Mode. NAT mode / Routing Mode.
- **WAN Interface IP**：Display WAN Port IP Address.
- **Alias IP of Int. Interface / Netmask**： Local port IP Address and subnet Mask.
- **Modify**：Modify the settings of Multiple Subnet. Click **Modify** to modify the parameters of Multiple Subnet or click **Delete** to delete settings.

Add a Multiple Subnet NAT Mode.

Step 1. Click the **Add** button below to add Multiple Subnet.

Step 2. Enter the IP Address in the website name column of the new window.

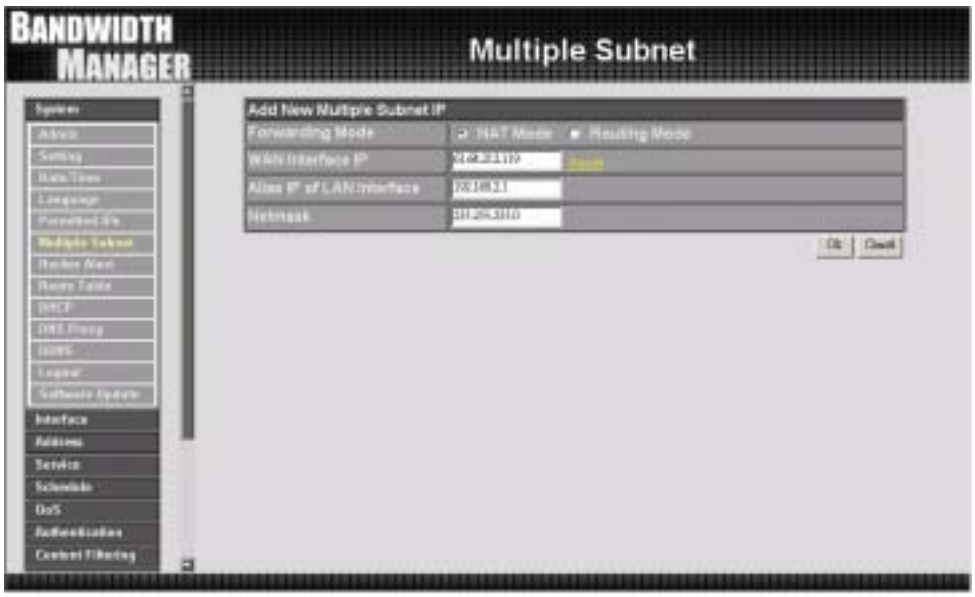
Forwarding Mode Click the NAT button below to setting.

Alias IP of LAN Interface： Enter Local port IP Address.

Netmask：Enter Local port subnet Mask.

WAN Interface IP: Add WAN IP Address.

Step 3. Click **OK** to add Multiple Subnet or click **Cancel** to discard changes.

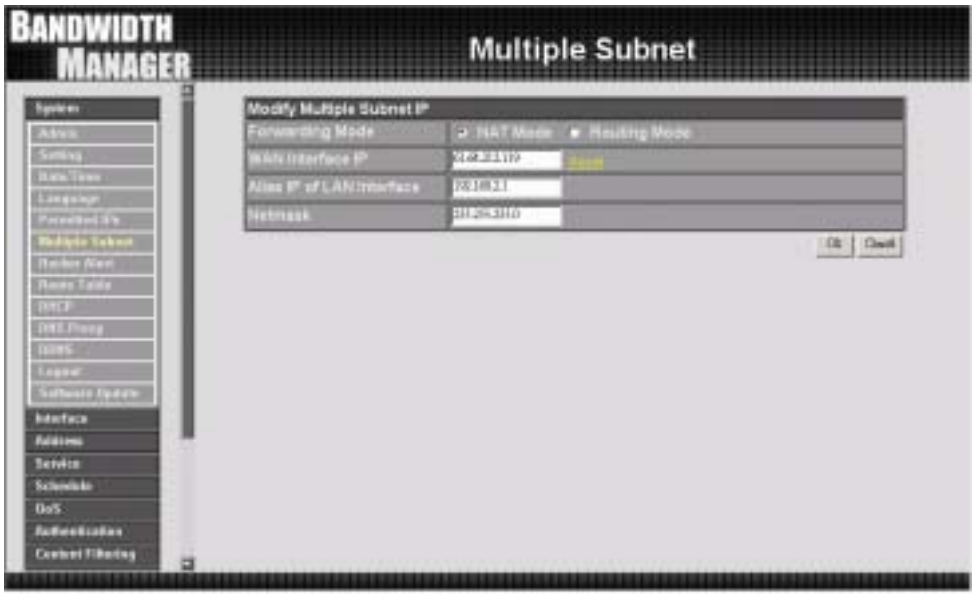


Modify a Multiple Subnet

Step 1. Find the IP Address you want to modify and click **Modify**

Step 2. Enter the new IP Address in **Modify Multiple Subnet** window.

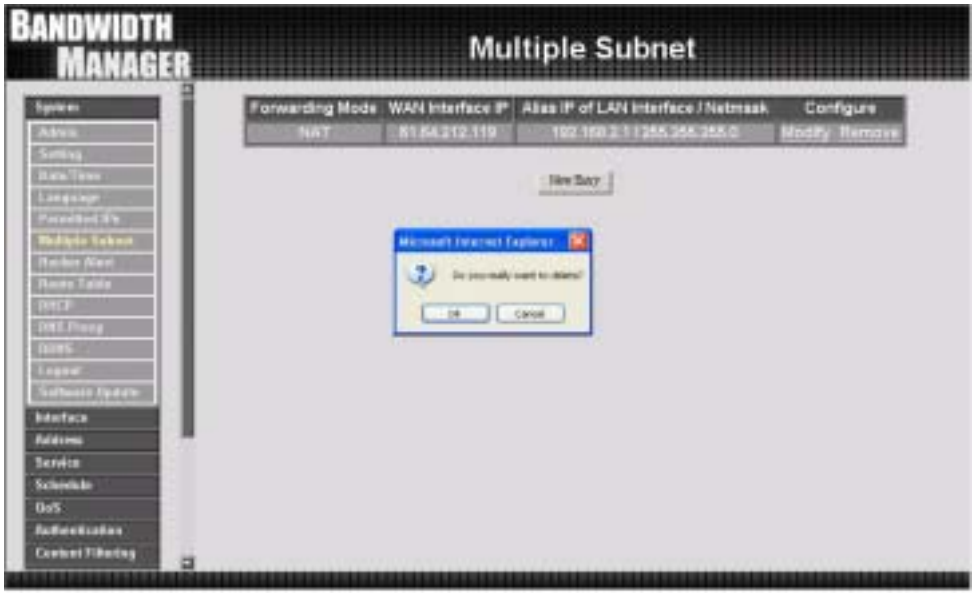
Step 3. Click the **OK** button below to change the setting or click **Cancel** to discard changes.



Removing a Multiple Subnet

Step 1. Find the IP Address you want to delete and click **Delete**.

Step 2.A confirmaion pop-up box will appear, click OK to delete the setting or click Cancel to discard changes.

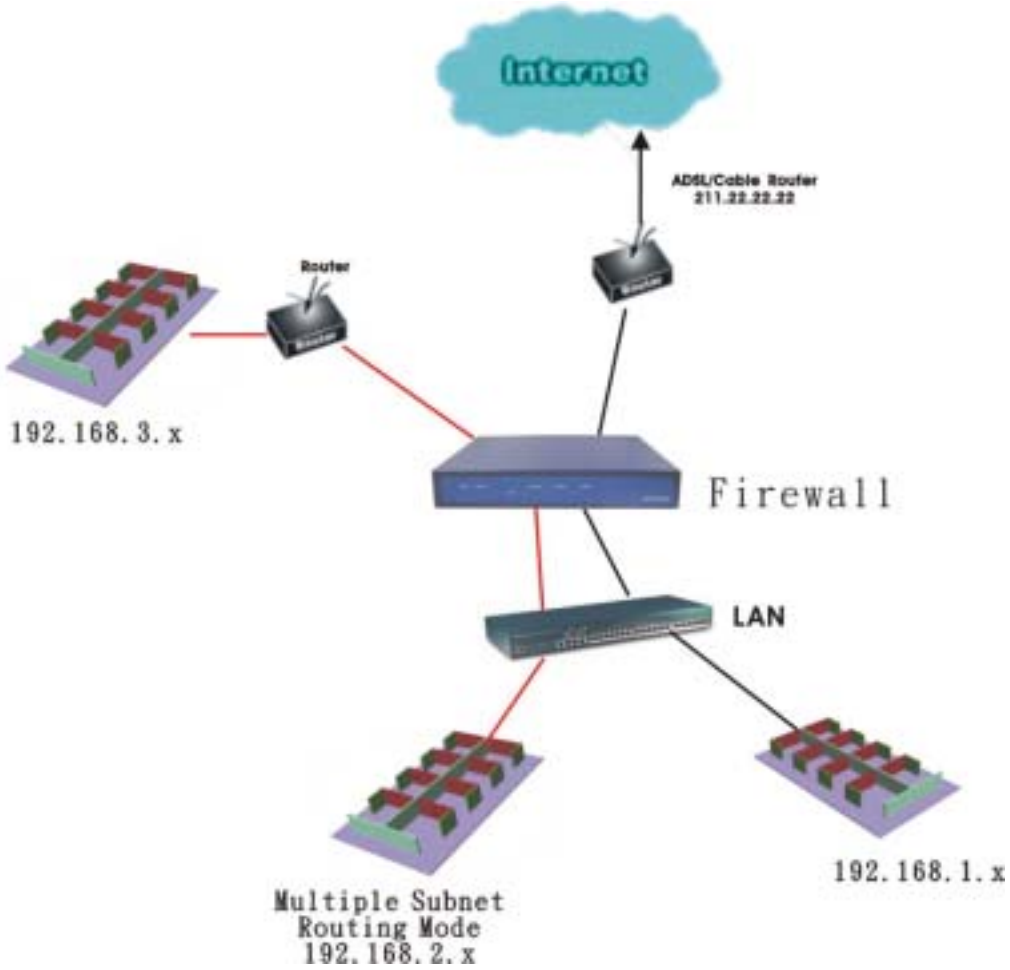


Routing Mode

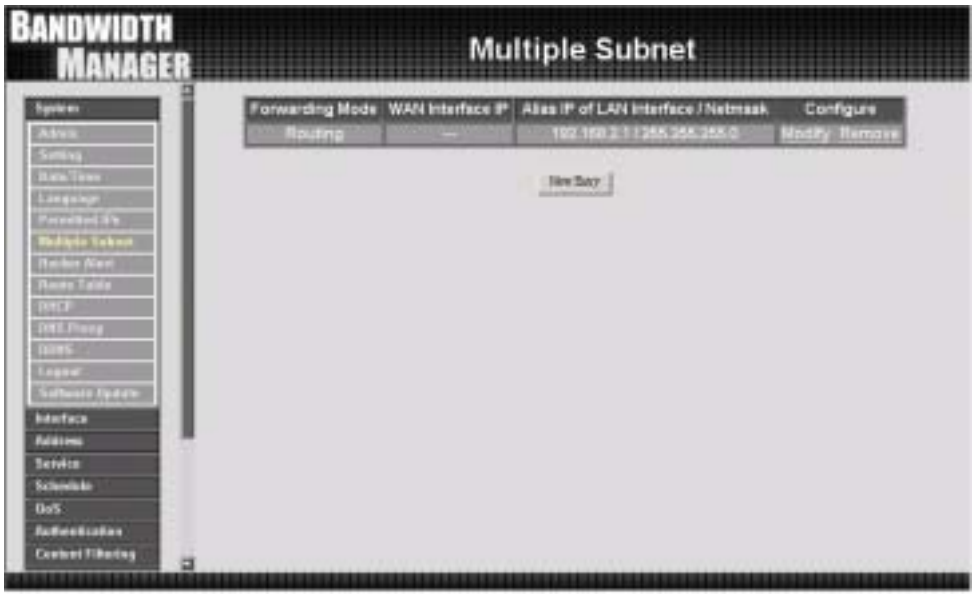
Multiple Subnet allows local port to set Multiple Subnet Routing Mode works and connect with the internet through different WAN IP Addresses.

For example, the leased line of a company applies several real IP Addresses 192.168.2.0/24 and the company is divided into R&D, Customer Service, Sales, Procurement, and Accounting Department. The company can distinguish each department by different subnet works for the purpose of convenient management.

The settings are as the following：



Step 1. Click **System Configuration** on the left side menu bar, then click **Multiple Subnet** below it. Enter **Multiple Subnet** window.



Step 2. **The definition of** Multiple Subnet :

- **Forwarding Mode**：Display Forwarding Mode which is NAT Mode or Routing Mode.
- **WAN Interface IP:** Display WAN Port IP Address.
- **Alias IP of Int. Interface / Subnet Mask**： Local port IP Address and subnet Mask.
- **Modify**：Modify the settings of Multiple Subnet. Click **Modify** to modify the parameters of Multiple Subnet or click **Delete** to delete settings.

Adding a Multiple Subnet Routing Mode

Step 1. Click the **Add** button below to add Multiple Subnet.

Step 2. Enter the IP Address in **Add Multiple Subnet** window.

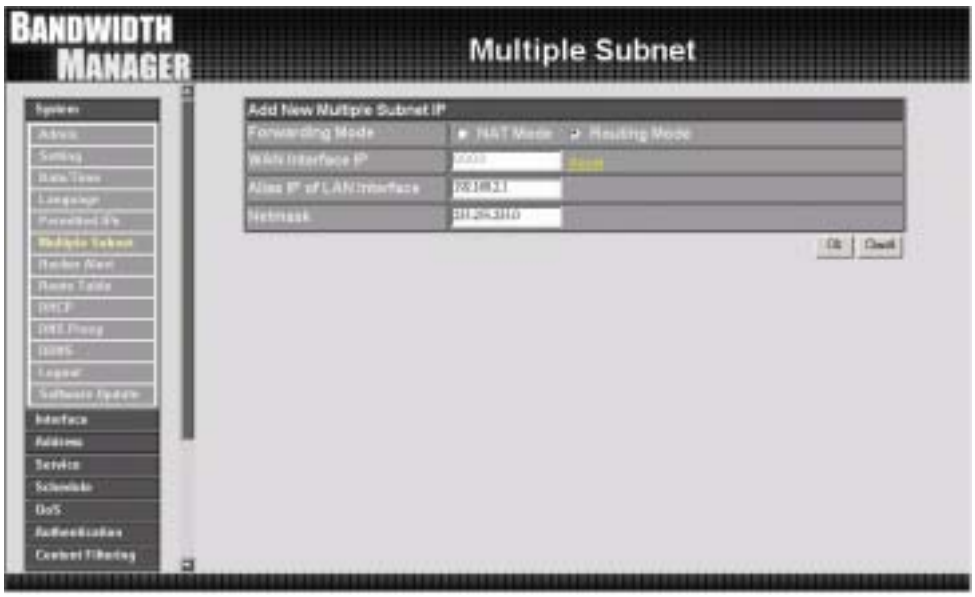
Forwarding Mode : Click the Routing button below to setting

WAN Interface IP : Add WAN IP.

Alias IP of LAN Interface： Enter Local port IP Address.

Netmask：Enter Local port subnet Mask.

Step 3. Click **OK** to add Multiple Subnet or click **Cancel** to discard changes.



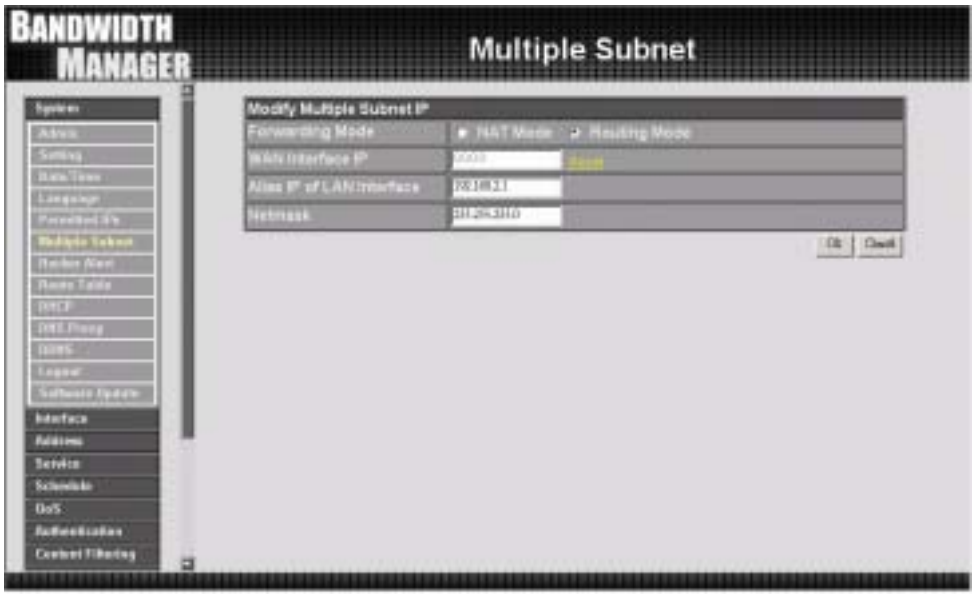
Step 4: Adding a new Incoming Policy. In the incoming window, click the **New Entry** button.

Modify a Multiple Subnet Routing Mode

Step 1. Find the IP Address you want to modify in **Multiple Subnet** menu, then click **Modify** button, on the right side of the service providers, click **OK**.

Step 2. Enter the new IP Address in **Modify Multiple Subnet** window.

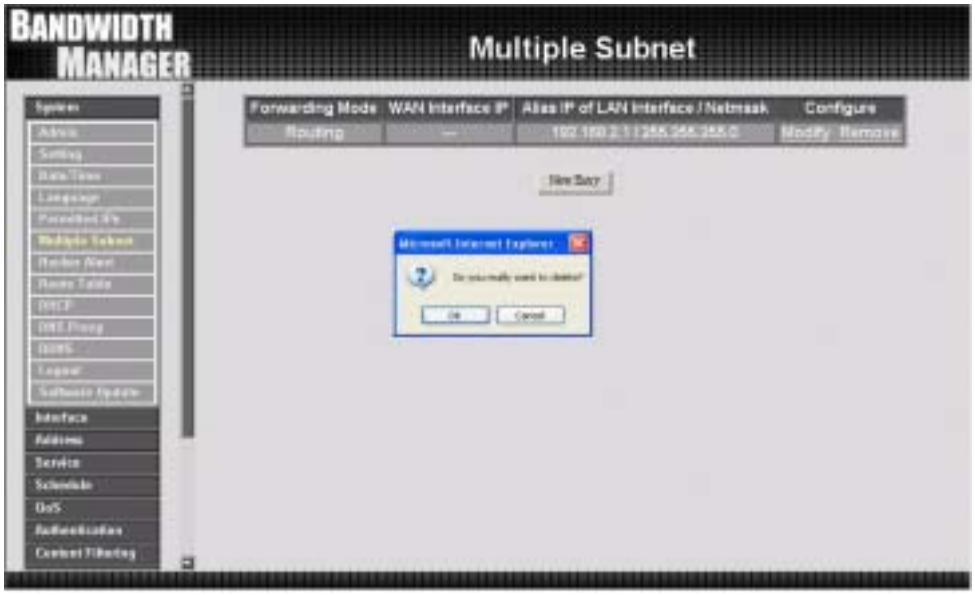
Step 3. Click the **OK** button below to change the setting or click **Cancel** to discard changes.



Removing a Multiple Subnet Routing Mode

Step 1. Find the IP Address you want to delete in **Multiple Subnet** menu, then click **Delete** button, on the right side of the service providers, click **OK**.

Step 2. A confirmation pop-up box will appear, click **OK** to delete the setting or click **Cancel** to discard changes.



Hacker Alert

The Administrator can enable the device's auto detect functions in this section. When abnormal conditions occur, the Bandwidth Manager will send an e-mail alert to notify the Administrator, and also display warning messages in the **Event** window of **Alarm.**

Auto Detect functions

- **Detect SYN Attack:** Select this option to detect TCP SYN attacks that hackers send to server computers continuously to block or cut down all the connections of the servers. These attacks will prevent valid users from connecting to the servers.

  【SYN Flood Threshold(Total) Pkts/Sec】: The System Administrator can enter the maximum number of SYN packets per second that is allow to enter the network/Bandwidth Manager.

  【SYN Flood Threshold(Per Source IP) Pkts/Sec】: The System Administrator can enter the maximum number of SYN packets per second from attacking source IP Address that is allow to enter the network/Bandwidth Manager.

【SYN Flood Threshold Blocking Time (Per Source IP) Seconds】: The System Administrator can enter the blocking time when the number of SYN packets per second from attacking source IP Address that is allow to enter the network/Bandwidth Manager exceed the maximum number (define as above). After blocking for certain seconds, the device will start to calculate the max number of SYN packets per second from attacking source IP Address, if the max number still exceed the define value, it will block the attacking IP Address continuously.

- **Detect ICMP Attack:** Select this option to detect ICMP flood attacks. When hackers continuously send PING packets to all the machines of the LAN networks or to the Bandwidth Manager via broadcasting, your network is experiencing an ICMP flood attack.

  【ICMP Flood Threshold(Total) Pkts/Sec】: The System Administrator can enter the maximum number of ICMP packets per second that is allow to enter the network/Bandwidth Manager.

  【ICMP Flood Threshold(Per Source IP) Pkts/Sec】: The System Administrator can enter the maximum number of ICMP packets per second from attacking source IP Address that is allow to enter the network / Bandwidth Manager.

  【ICMP Flood Threshold Blocking Time (Per Source IP) Seconds】: The System Administrator can enter the blocking time when the number of ICMP packets per second from attacking source IP Address that is allow to enter the network / Bandwidth Manager exceed the maximum number (define as above). After blocking for certain seconds, the device will start to calculate the max number of ICMP packets per second from attacking source IP Address, if the max number still exceed the define value, it will block the attacking IP Address continuously.

- **Detect UDP Attack:** The same as ICMP Flood.

  【UDP Flood Threshold(Total) Pkts/Sec】: The System Administrator can enter the maximum number of UDP packets per second that is allow to enter the network/Bandwidth Manager.

【UDP Flood Threshold(Per Source IP) Pkts/Sec】: The System Administrator can enter the maximum number of UDP packets per second from attacking source IP Address that is allow to enter the network/Bandwidth Manager.

【UDP Flood Threshold Blocking Time (Per Source IP) Seconds】: The System Administrator can enter the blocking time when the number of UDP packets per second from attacking source IP Address that is allow to enter the network/Bandwidth Manager exceed the maximum number (define as above). After blocking for certain seconds, the device will start to calculate the max number of UDP packets per second from attacking source IP Address, if the max number still exceed the define value, it will block the attacking IP Address continuously.

- **Detect Ping of Death Attack:** Select this option to detect the attacks of tremendous trash data in PING packets that hackers send to cause System malfunction This attack can cause network speed to slow down, or even make it necessary to restart the computer to get a normal operation.
- **Detect IP Spoofing Attack:** Select this option to detect spoof attacks. Hackers disguise themselves as trusted users of the network in **Spoof attacks**. They use a fake identity to try to pass through the Bandwidth Manager System and invade the network.
- **Detect Port Scan Attack:** Select this option to detect the port scans hackers use to continuously scan networks on the Internet to detect computers and vulnerable ports that are opened by those computers.
- **Detect Tear Drop Attack:** Select this option to detect tear drop attacks. These are packets that are segmented to small packets with negative length. Some Systems treat the negative value as a very large number, and copy enormous data into the System to cause System damage, such as a shut down or a restart.
- **Filter IP Source Route Option:** Each IP packet can carry an optional field that specifies the replying address that can be different from the source address specified in packet's header. Hackers can use this address field on disguised packets to invade LAN networks and send LAN networks' data back to them.

- **Detect Land Attack:** Some Systems may shut down when receiving packets with the same source and destination addresses, the same source port and destination port, and when **SYN** on the TCP header is marked. Enable this function to detect such abnormal packets.

After enabling the needed detect functions, click **OK** to activate the changes.

Route Table

In this section, the Administrator can add static routes for the networks.

Entering the Route Table screen

Click **System** on the left side menu bar, then click **Route Table** below it. The Route Table window appears, in which current route settings are shown.

Route Table functions

- **Interface:** Destination network , LAN or WAN networks.
- **Destination IP:** IP address of destination network.
- **NetMask:** Netmask of destination network.
- **Gateway:** Gateway IP address for connecting to destination network.
- **Configure:** Change settings in the route table.

Adding a new Static Route

Step 1. In the Route Table window, click the New Entry button.

Step 2. In the Add New Static Route window, enter new static route information.

Step 3. In the Interface field's pull-down menu, choose the network to connect (LAN, WAN).

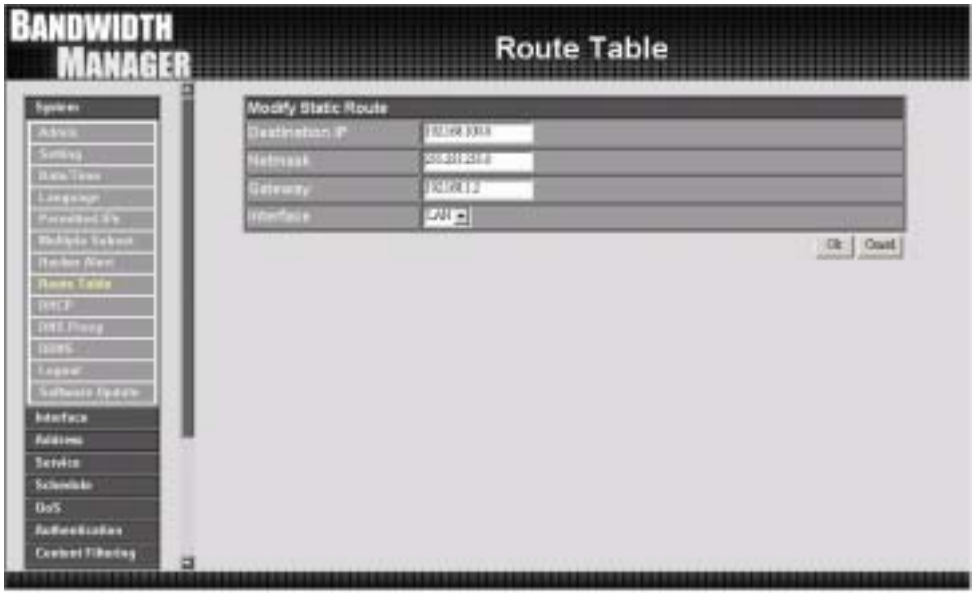
Step 4. Click **OK** to add the new static route or click **Cancel** to cancel.

Modifying a Static Route:

Step 1. In the Route Table menu, find the route to edit and click the corresponding Modify option in the Configure field.

Step 2. In the Modify Static Route window, modify the necessary routing addresses.

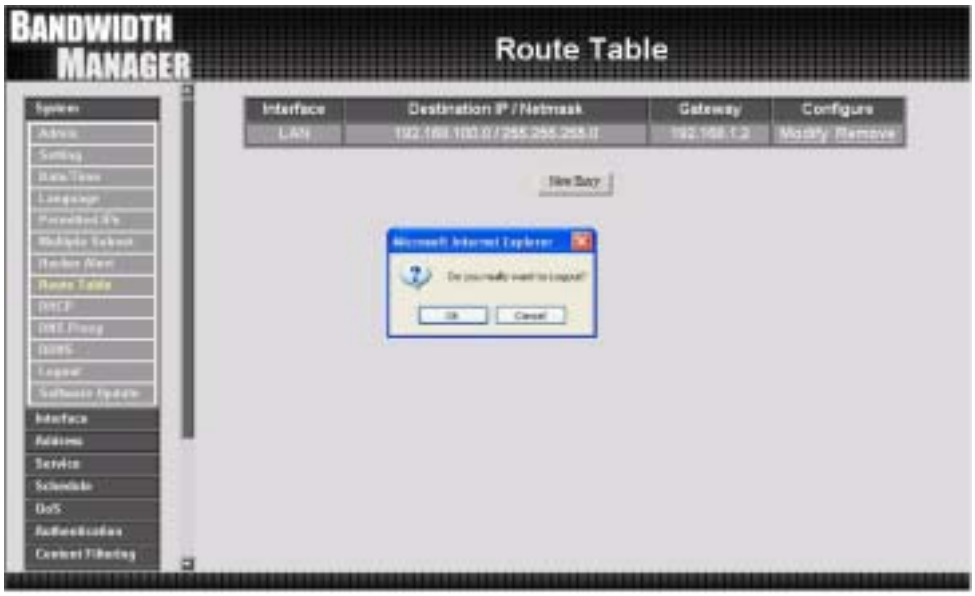
Step 3. Click **OK** to apply changes or click **Cancel** to cancel it.



Removing a Static Route

Step 1. In the Route Table window, find the route to remove and click the corresponding Remove option in the Configure field.

Step 2. In the Remove confirmation pop-up box, click **OK** to confirm removing or click **Cancel** to cancel it.



DHCP

In the section, the Administrator can configure DHCP (Dynamic Host Configuration Protocol) settings for the LAN (LAN) network.

Entering the DHCP window

Step 1. Click **System** on the left hand side menu bar, then click **DHCP** below it. The DHCP window appears in which current DHCP settings are shown on the screen.

DHCP Address functions

Enable DHCP Support：Enable /Disable DCHP Support

- **Domain Name**：Enter the Domain Name of DHCP

Automatically Get DNS：Automatically detect DNS Server.

- **DNS Server 1** : Enter the distributed IP address of DNS Server1.
- **DNS Server 2** : Enter the distributed IP address of DNS Server2.
- **WINS Server 1** : Enter the distributed IP address of WINS Server1.
- **WINS Server 2** : Enter the distributed IP address of WINS Server2.

LAN Interface :

- **Client IP Address Range 1:** Enter the starting and the ending IP address dynamically assigning to DHCP clients.
- **Client IP Address Range 2:** Enter the starting and the ending IP address dynamically assigning to DHCP clients. (Optional)
- **Leased Time:** Enter the leased time for DHCP.

Enabling DHCP Support

Step 1. In the Dynamic IP Address window, click **Enable DHCP Support**.

Step 2.

Enable DHCP Support：Enable /Disable DCHP Support

- **Domain Name**：Enter the Domain Name of DHCP

Automatically Get DNS：Automatically detect DNS Server.

- **DNS Server 1** : Enter the distributed IP address of DNS Server1.
- **DNS Server 2** : Enter the distributed IP address of DNS Server2.
- **WINS Server 1** : Enter the distributed IP address of WINS Server1.
- **WINS Server 2** : Enter the distributed IP address of WINS Server2.

LAN Interface :

- **Client IP Address Range 1:** Enter the starting and the ending IP address dynamically assigning to DHCP clients.
- **Client IP Address Range 2:** Enter the starting and the ending IP address dynamically assigning to DHCP clients. (Optional)
- **Leased Time:** Enter the leased time for DHCP.

Step 3. Click **OK** to enable DHCP support.

DNS-Proxy

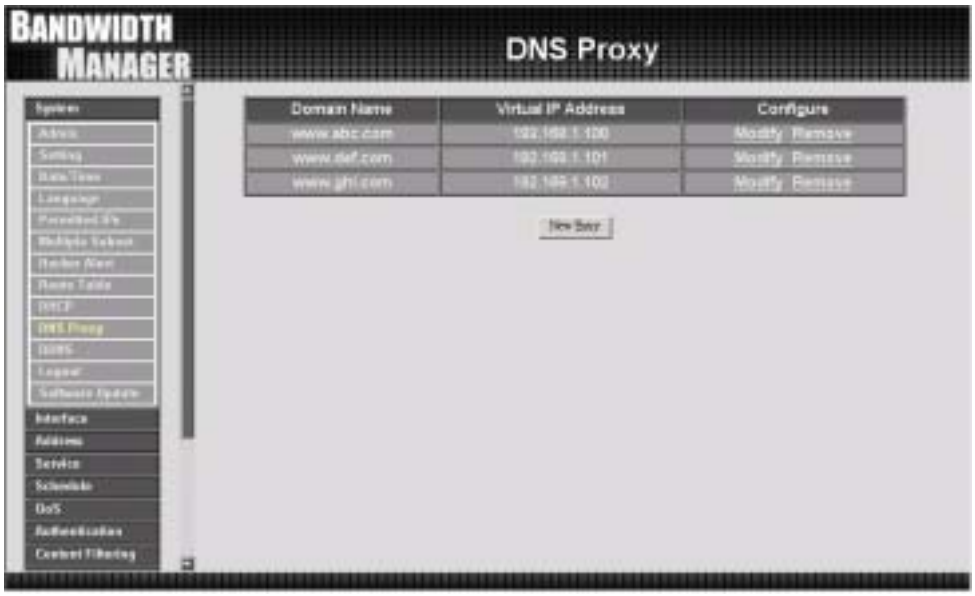
The Bandwidth Manager's Administrator may use the DNS Proxy function to make the Bandwidth Manager act as a DNS Server for the LAN. All DNS requests to a specific Domain Name will be routed to the Bandwidth Manager's IP address. The outside Internet world may access the mail server of the organization easily by its domain name, providing that the Administrator has set up Virtual Server or Mapped IP settings correctly. However, for the users in the LAN network, their WAN DNS server will assign them a public IP address for the mail server. So for the LAN network to access the mail server (mail.MH2000.com), they would have to go out to the Internet, then come back through the Bandwidth Manager to access the mail server. Essentially, the LAN network is accessing the mail server by a real public IP address, while the mail server serves their request by a NAT address and not a real one.

This odd situation occurs when there are servers in the DMZ network and they are binded to real IP addresses. To avoid this, set up DNS Proxy so all the LAN network computers will use the Bandwidth Manager as a DNS server, which acts as the DNS Proxy.

If you want to use the DNS Proxy function of the device, the end user's main DNS server IP address should be the same IP Address as the device.

Entering the DNS Proxy window

Click on **System** in the menu bar, then click on **DNS Proxy** below it. The DNS Proxy window will appear.



Below is the information needed for setting up the **DNS Proxy**:

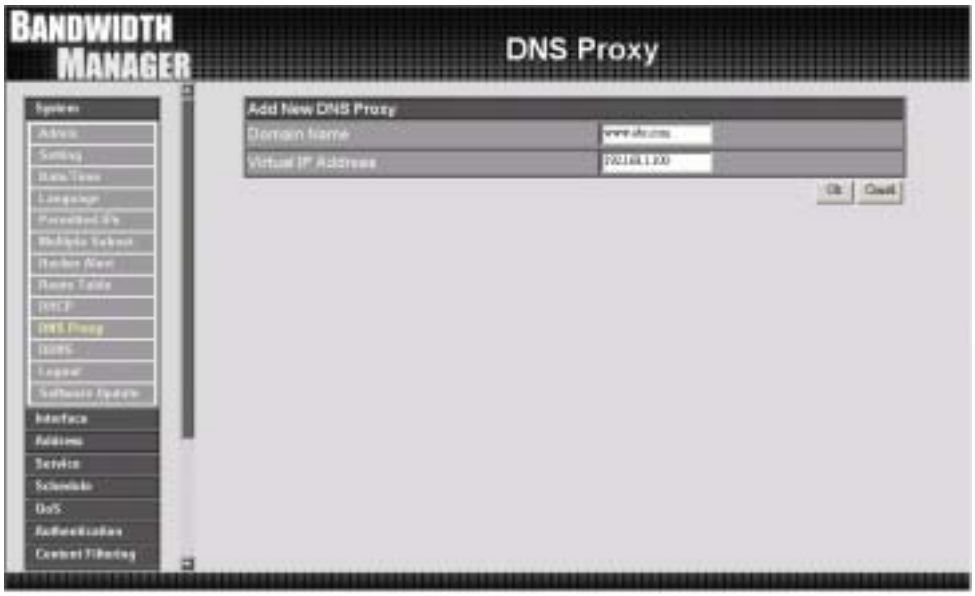
- **Domain Name:** The domain name of the server
- **Virtual IP Address:** The virtual IP address respective to DNS Proxy
- **Configure:** modify or remove each DNS Proxy policy

Adding a new DNS Proxy

Step 1: Click on the **New Entry** button and the **Add New DNS Proxy** window will appear.

Step 2: Fill in the appropriate settings for the domain name and virtual IP address.

Step 3: Click **OK** to save the policy or **Cancel** to cancel.

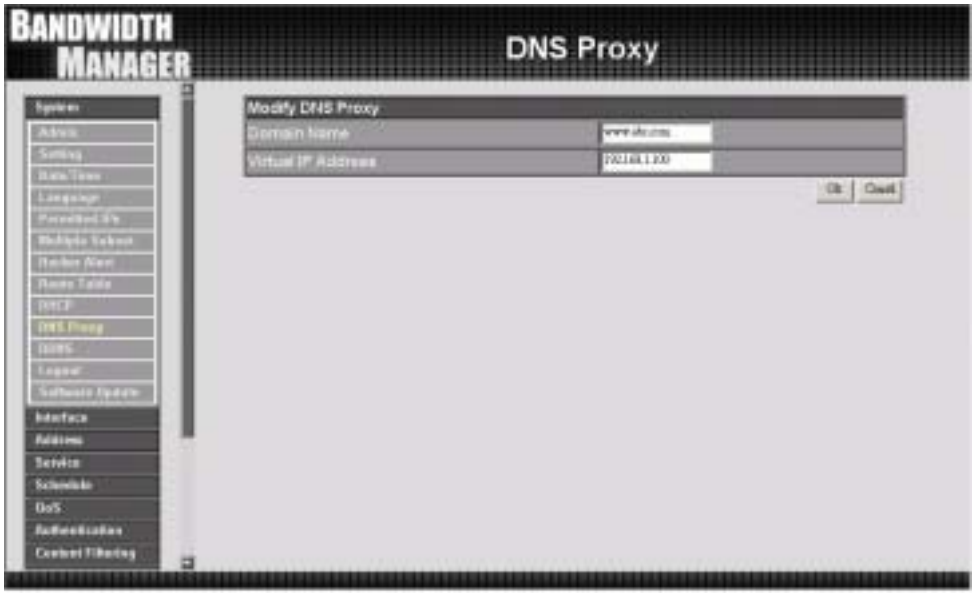


Modifying a DNS Proxy

Step 1: In the DNS Proxy window, find the policy to be modified and click the corresponding **Modify** option in the **Configure** field.

Step 2: Make the necessary changes needed.

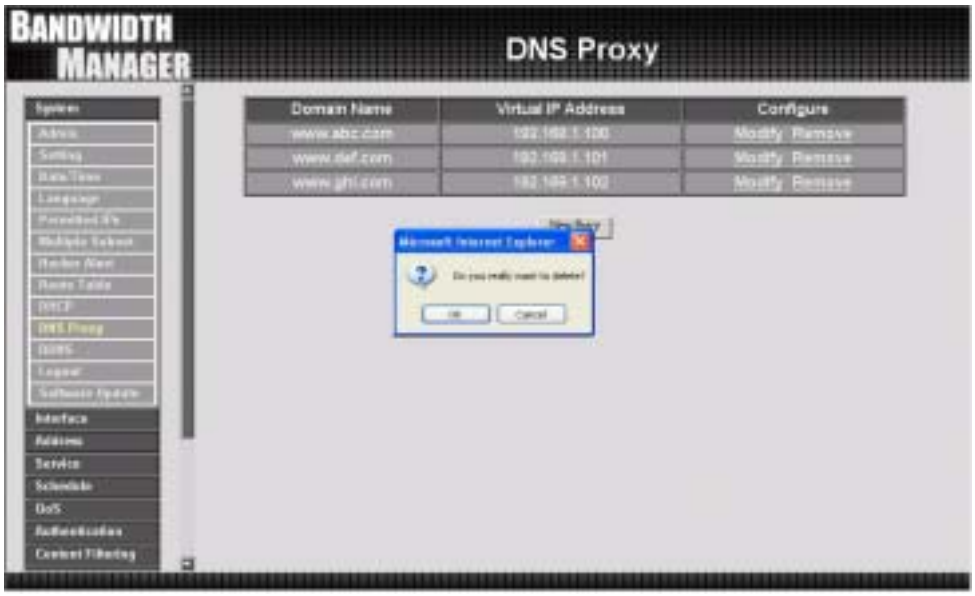
Step 3: Click **OK** to save changes or click on **Cancel** to cancel modifications.



Removing a DNS Proxy

Step 1: In the **DNS Proxy** window, find the policy to be removed and click the corresponding **Remove** option in the **Configure** field.

Step 2: A confirmation pop-up box will appear, click **OK** to remove the DNS Proxy or click **Cancel**.



DDNS

The **DDNS** (require DDNS Service) allows you to alias a dynamic IP address to a static hostname, allowing your device to be more easily accessed by specific name. When this function is enabled, the IP address in DDNS Server will be automatically updated with the new IP address provided by ISP.

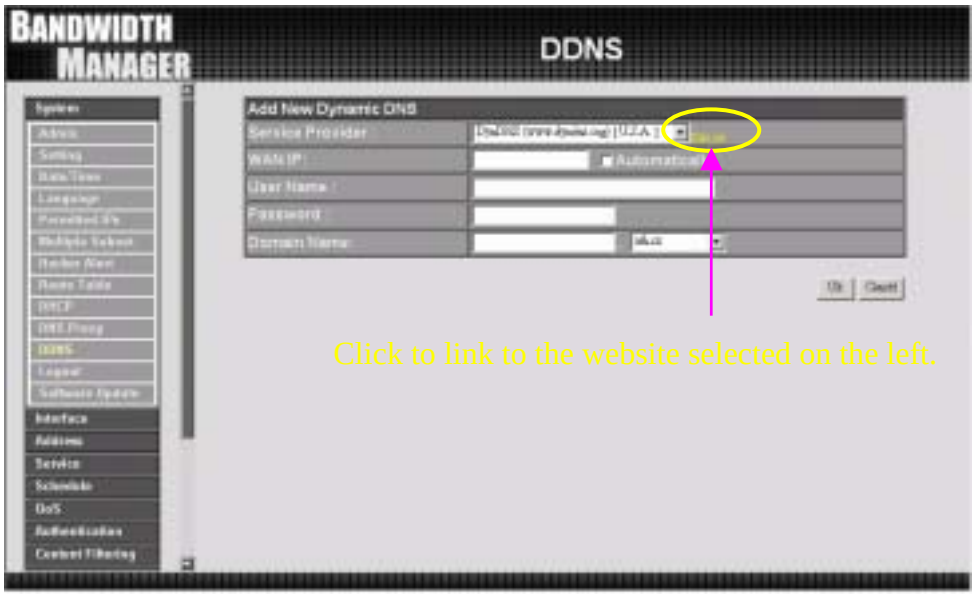
Click **DDNS** in the **System** menu to enter DDNS window.

1. The nouns in DDNS window：
   - **Update Status**【Connecting; Update succeed; Update fail; Unidentified error】
   - **Domain name**：Enter the password provided by ISP.
   - **WAN IP Address**：IP Address of the WAN port.
   - **Modify**：Modify DDNS settings. Click **Modify** to change the DNS parameters; click Delete to delete the settings.
2. How to use DDNS：

   The Bandwidth Manager provides 3 service providers, users have to regidter first to use this function. For the usage regulations, see the providers' websites.

How to register：First, Click **DDNS** in the **System** menu to enter DDNS window, then click **Add** button, on the right side of the service providers, click **Register**, the service peroviders' website will appear, please refer to the website for the way of registration.

How to register：Firstly, Click **DDNS** in the **System** menu to enter DDNS window, then click **Add** button, on the right side of the service providers, click **Register**, the service providers' website will appear, please refer to the website for the way of registration.



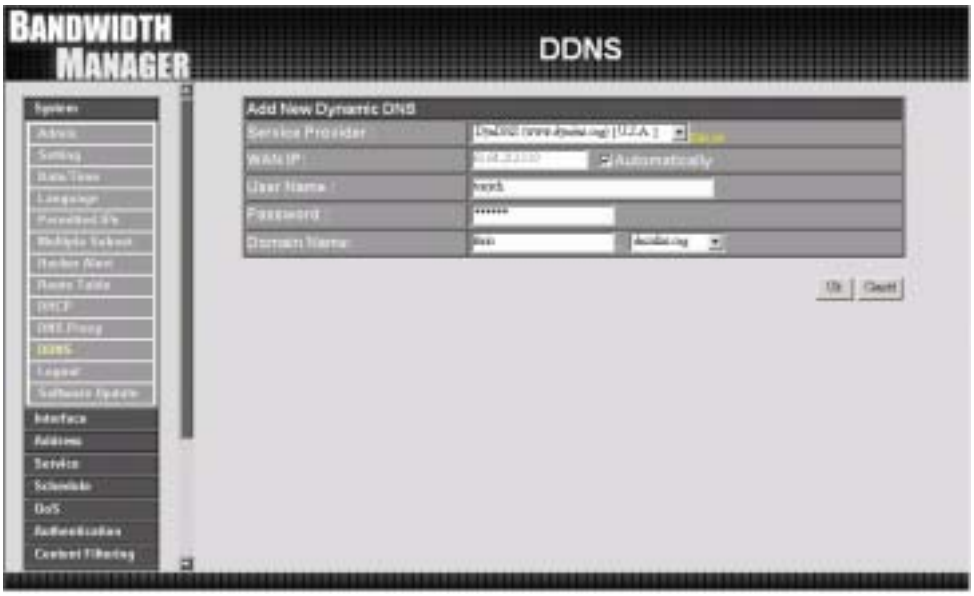
DDNS settings

Step 1: Click **Add** button.

Step 2: Click the information in the column of the new window.

- **Service providers**：Select service providers.
- **Register**：to the service providers' website.
- **WAN IP Address**：IP Address of the WAN port.
- ☐ **automatically fill in the WAN IP**：Check to automatically fill in the WAN IP.。
- **User Name**：Enter the registered user name.
- **Password**：Enter the password provided by ISP(Internet Service Provider).
- **Domain name**：Your host domain name provided by ISP.

Step 4: Click **OK** to add DDNS or click **Cancel** to discard changes.

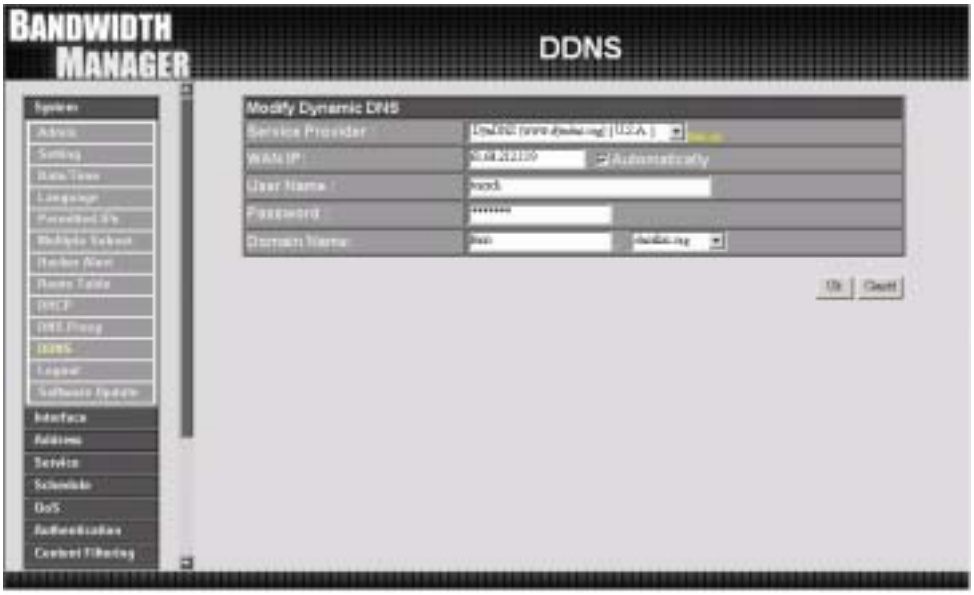


Modify a DDNS

Step 1: Find the item you want to change and click **Modify**.

Step 2: Enter the new information in the Modify DDNS window.

Step 3: Click **OK** to change the settings or click **Cancel** to discard changes.



Removing a DDNS

Step 1: Find the item you want to change and click **Delete**.

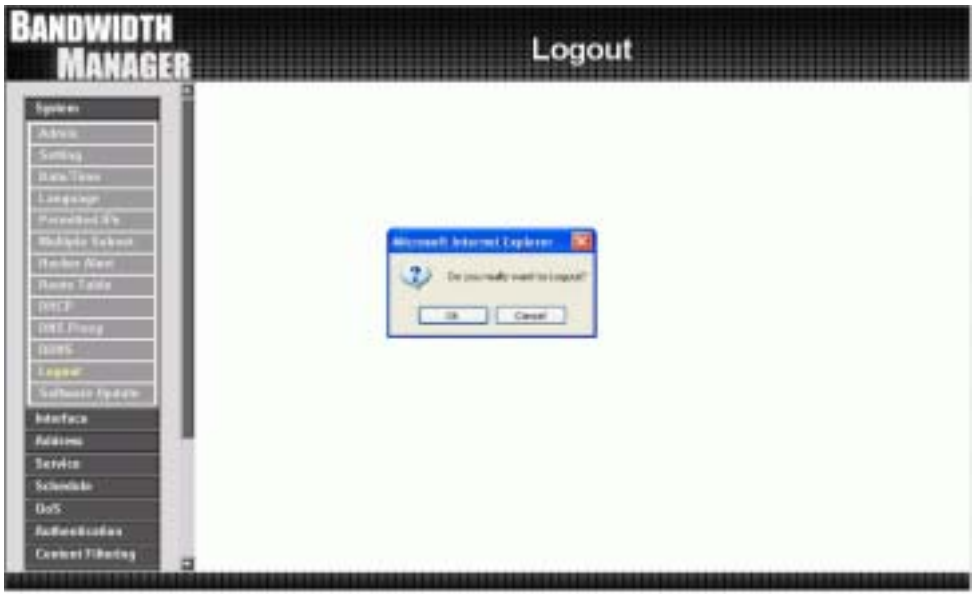
Step 2: A confirmation pop-up box will appear, click OK to delete the settings or click Cancel to discard changes.

Logout

Select this option to the device's **Logout** the Bandwidth Manager. This function protects your system while you are away.

Step 1. Click Logout the Bandwidth Manager.

Step 2. Click OK to logout or click Cancel to discard the change.



Software Update

Under **Software Update**, the admin may update the device's software with a newer software.

Interface

In this section, the Administrator can set up the IP addresses for the office network. The Administrator may configure the IP addresses of the LAN network, the WAN network. The netmask and gateway IP addresses are also configured in this section.

LAN

Entering the Interface menu

Click on **Interface** in the left menu bar. Then click on **LAN** below it. The current settings of the interface addresses will appear on the screen.

Configuring the Interface Settings

LAN Interface

Using the LAN **Interface**, the Administrator sets up the LAN network. The LAN network will use a private IP scheme. The private IP network will not be routable on the Internet.

IP Address: The private IP address of the Bandwidth Manager's LAN network is the IP address of the LAN port of the device. The default IP address is 192.168.1.1.

If the new LAN IP Address is not 192.168.1.1, the Administrator needs to set the IP Address on the computer to be on the same subnet as the Bandwidth Manager and restart the System to make the new IP address effective. For example, if the Bandwidth Manager's new LAN IP Address is 172.16.0.1, then enter the new LAN IP Address 172.16.0.1 in the URL field of browser to connect to Bandwidth Manager.

NetMask: This is the netmask of the LAN network. The default netmask of the device is 255.255.255.0.

Ping: Select this to allow the LAN network to ping the IP Address of the Bandwidth Manager. If set to enable, the device will respond to ping packets from the LAN network.

WebUI: Select this to allow the device WEBUI to be accessed from the LAN network.

WAN

Entering the Interface menu

Click on **Interface** in the left menu bar. Then click on **WAN** below it. The current settings of the interface addresses will appear on the screen.

WAN Interface

Using the **WAN Interface**, the Administrator sets up the **WAN** network. These IP Addresses are real public IP Addresses, and are routable on the Internet.

For PPPoE (ADSL User): This option is for PPPoE users who are required to enter a username and password in order to connect, such as ADSL users.

Current Status: Displays the current line status of the PPPoE connection.

IP Address: Displays the IP Address of the PPPoE connection

Username: Enter the PPPoE username provided by the ISP.

Password: Enter the PPPoE password provided by the ISP.

IP Address provided by ISP:

Dynamic: Select this if the IP address is automatically assigned by the ISP.

Fixed: Select this if you were given a static IP address. Enter the IP address that is given to you by your ISP.

Max. Upstream/Downstream Bandwidth: The bandwidth provided by ISP.

Service-On-Demand:

Auto Disconnect: The PPPoE connection will automatically disconnect after a length of idle time (no activities). Enter in the amount of idle minutes before disconnection. Enter '0' if you do not want the PPPoE connection to disconnect at all.

Ping: Select this to allow the WAN network to ping the IP Address of the Bandwidth Manager. This will allow people from the Internet to be able to ping the Bandwidth Manager. *If set to enable, the device will respond to echo request packets from the WAN network.*

WebUI: Select this to allow the device WEBUI to be accessed from the WAN network. This will allow the WebUI to be configured from a user on the Internet. Keep in mind that the device always requires a username and password to enter the WebUI.


BANDWIDTH MANAGER
Interface

For Dynamic IP Address (Cable Modem User): This option is for users who are automatically assigned an IP address by their ISP, such as cable modem users.

The following fields apply:

IP Address: The dynamic IP address obtained by the Bandwidth Manager from the ISP will be displayed here. This is the IP address of the WAN port of the device.

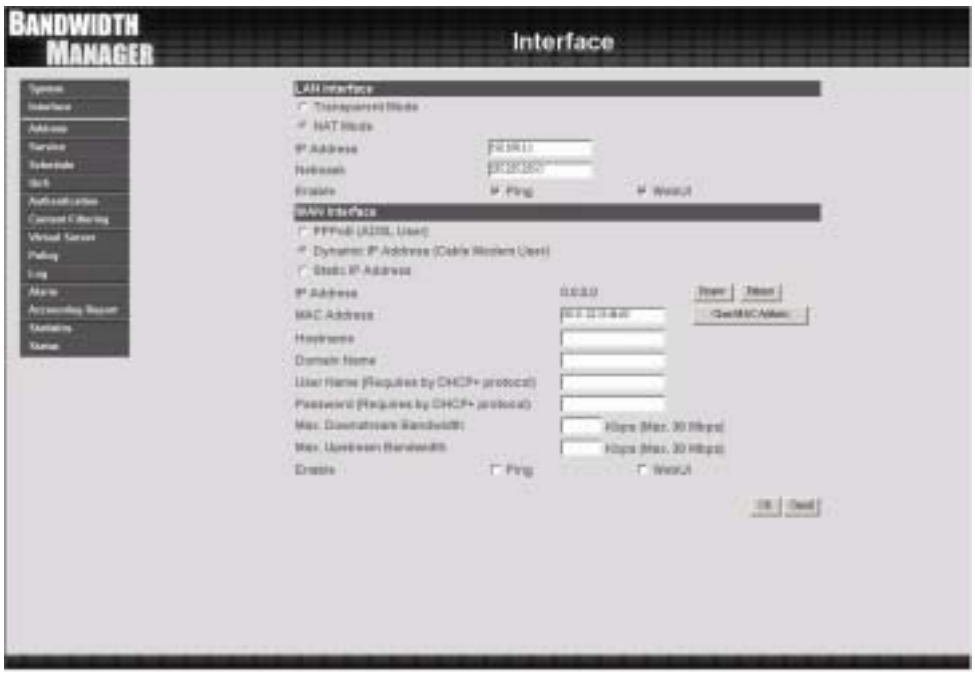
MAC Address: This is the MAC Address of the device.

Hostname: This will be the name assign to the device. Some cable modem ISP assign a specific hostname in order to connect to their network. Please enter the hostname here. If not required by your ISP, you do not have to enter a hostname.

Ping: Select this to allow the WAN network to ping the IP Address of the Bandwidth Manager. This will allow people from the Internet to be able to ping the Bandwidth Manager. *If set to enable, the device will respond to echo request packets from the WAN network.*

Max. Upstream/Downstream Bandwidth: The bandwidth provided by ISP.

WebUI: Select this to allow the device WEBUI to be accessed from the WAN network. This will allow the WebUI to be configured from a user on the Internet. Keep in mind that the device always requires a username and password to enter the WebUI.



For Static IP Address: This option is for users who are assigned a static IP Address from their ISP.Your ISP will provide all the information needed for this section such as IP Address, Netmask, Gateway, and DNS.Use this option also if you have more than one public IP Address assigned to you.

IP Address: Enter the static IP address assigned to you by your ISP. This will be the public IP address of the WAN port of the device.

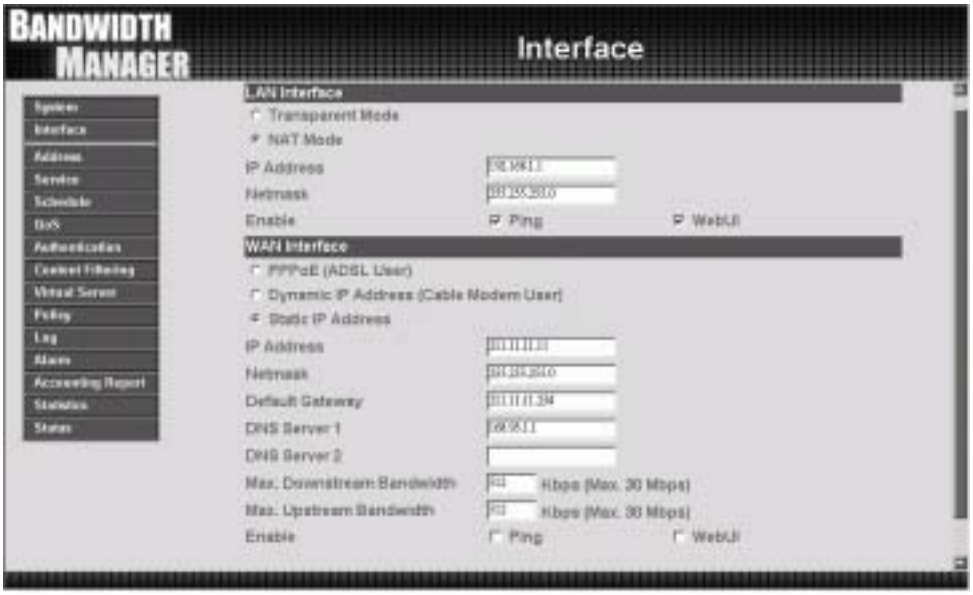
Netmask: This will be the Netmask of the WAN network. (i.e. 255.255.255.0)

Default Gateway: This will be the Gateway IP address.

Domain Name Server (DNS): This is the IP Address of the DNS server.
Max. Upstream/Downstream Bandwidth: The bandwidth provided by ISP.

Ping: Select this to allow the WAN network to ping the IP Address of the Bandwidth Manager. This will allow people from the Internet to be able to ping the Bandwidth Manager. *If set to enable, the device will respond to echo request packets from the WAN network.*

WebUI: Select this to allow the device WEBUI to be accessed from the WAN network. This will allow the WebUI to be configured from a user on the Internet. Keep in mind that the device always requires a username and password to enter the WebUI.



Address

The Bandwidth Manager allows the Administrator to set Interface addresses of the LAN network, LAN network group, WAN network, WAN network group.

What is the Address Table?

An IP address in the Address Table can be an address of a computer or a sub network. The Administrator can assign an easily recognized name to an IP address. Based on the network it belongs to, an IP address can be an LAN IP address, WAN IP address. If the Administrator needs to create a control policy for packets of different IP addresses, he can first add a new group in the LAN Network Group or the WAN Network Group and assign those IP addresses into the newly created group. Using group addresses can greatly simplify the process of building control policies.

With easily recognized names of IP addresses and names of address groups shown in the address table, the Administrator can use these names as the source address or destination address of control policies. The address table should be built before creating control policies, so that the Administrator can pick the names of correct IP addresses from the address table when setting up control policies.

LAN

Entering the LAN window

Step 1. Click LAN under the **Address** menu to enter the LAN window. The current setting information such as the name of the LAN network, IP and Netmask addresses will show on the screen.

Adding a new LAN Address

Step 1. In the LAN window**,** click the **New Entry** button.

Step 2. In the **Add New Address** window, enter the settings of a new LAN network address.

Step 3. Click **OK** to add the specified LAN network or click **Cancel** to cancel the changes.

Modifying an LAN Address

Step 1. In the LAN window, locate the name of the network to be modified. Click the **Modify** option in its corresponding **Configure** field. The **Modify Address** window appears on the screen immediately.

Step 2. In the **Modify Address** window, fill in the new addresses.

Step 3. Click **OK** to save changes or click **Cancel** to discard changes.

Removing an LAN Address

Step 1. In the LAN window, locate the name of the network to be removed. Click the **Remove** option in its corresponding **Configure** field.

Step 2. In the **Remove** confirmation pop-up box, click **OK** to remove the address or click **Cancel** to discard changes.

LAN Group

Entering the LAN Group window

The LAN Addresses may be combined together to become a group.

Click LAN **Group** under the **Address** menu to enter the LAN Group window. The current setting information for the LAN network group appears on the screen.

Adding an LAN Group

Step 1. In the LAN **Group** window, click the **New Entry** button to enter the **Add New Address Group** window.

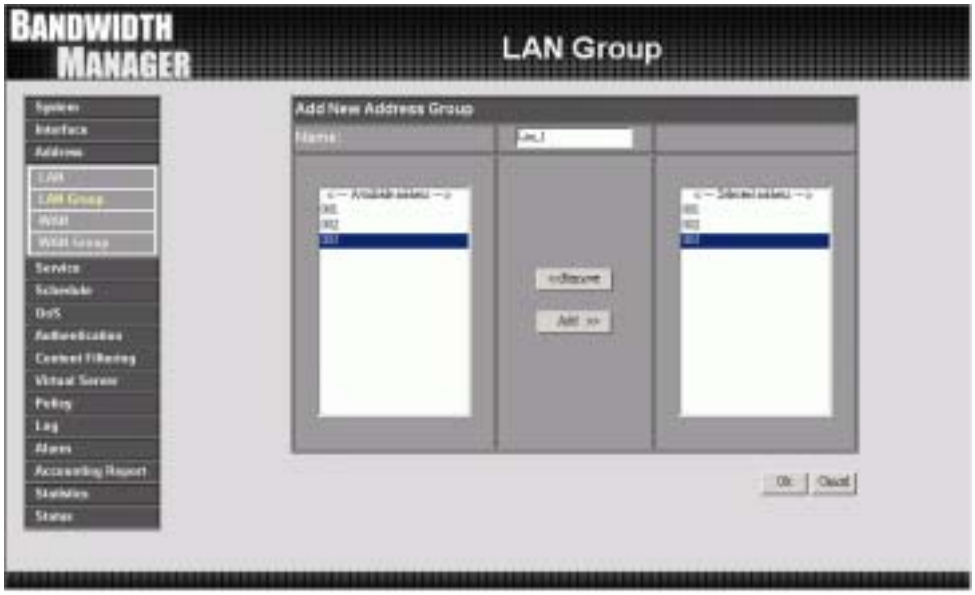
Step 2. In the **Add New Address Group** window:

- **Available Address:** list the names of all the members of the LAN network.
- **Selected Address:** list the names to be assigned to the new group.
- **Name:** enter the name of the new group in the open field.

Step 3. **Add members:** Select names to be added in Available Address list, and click the **Add>>** button to add them to the Selected Address list.

Step 4. **Remove members:** Select names to be removed in the Selected Address list, and click the **<<Remove** button to remove these members from Selected Address list.

Step 5. Click **OK** to add the new group or click Cancel to discard changes.



Modifying an LAN Group

Step 1. In the LAN **Group** window, locate the network group desired to be modified and click its corresponding **Modify** option in the **Configure** field.

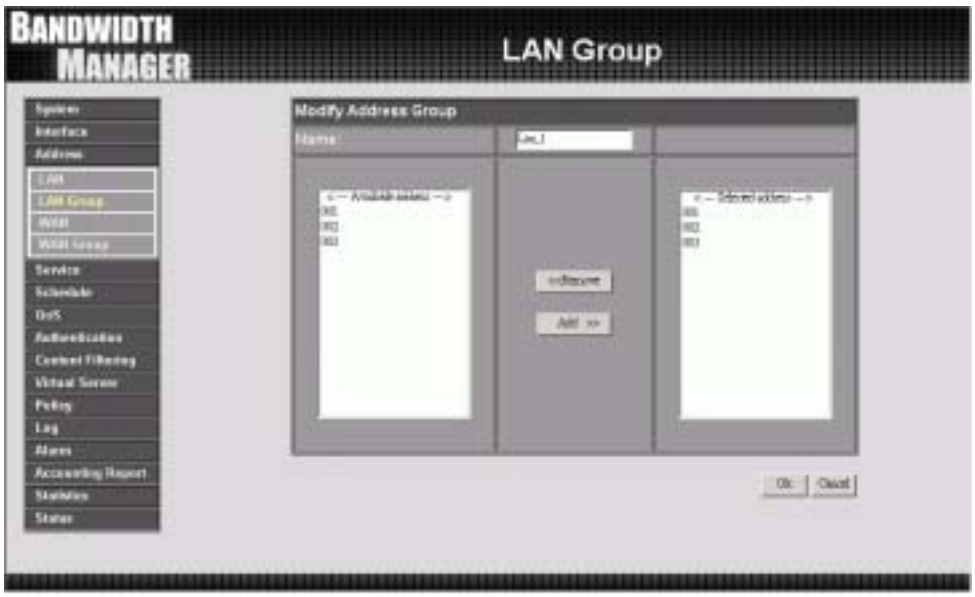
Step 2. A window displaying the information of the selected group appears:

- **Available Address:** list names of all members of the LAN network.
- **Selected Address:** list names of members which have been assigned to this group.

Step 3. **Add members:** Select names in **Available Address** list, and click the **Add>>** button to add them to the **Selected Address** list.

Step 4. **Remove members:** Select names in the **Selected Address** list, and click the **<<Remove** button to remove these members from the **Selected Address** list.

Step 5. Click **OK** to save changes or click **Cancel** to discard changes.



Removing an LAN Group

Step 1. In the LAN **Group** window, locate the group to be removed and click its corresponding **Remove** option in the **Configure** field.

Step 2. In the **Remove** confirmation pop-up box, click **OK** to remove the group or click **Cancel** to discard changes.

WAN

Entering the WAN window

Click **WAN** under the **Address** menu to enter the WAN window. The current setting information, such as the name of the WAN network, IP and Netmask addresses will show on the screen.

Adding a new WAN Address

Step 1. In the WAN window, click the **New Entry** button.

Step 2. In the **Add New Address** window, enter the settings for a new WAN network address.

Step 3. Click **OK** to add the specified WAN network or click **Cancel** to discard changes.

Modifying an WAN Address

Step 1. In the WAN table, locate the name of the network to be modified and click the **Modify** option in its corresponding **Configure** field.

Step 2. The **Modify Address** window will appear on the screen immediately. In the **Modify Address** window, fill in new addresses.

Step 3. Click **OK** to save changes or click **Cancel** to discard changes.

Removing an WAN Address

Step 1. In the **WAN** table, locate the name of the network to be removed and click the **Remove** option in its corresponding **Configure** field.

Step 2. In the **Remove confirmation** pop-up box, click **OK** to remove the address or click **Cancel** to discard changes.

WAN Group

Entering the WAN Group window

Click the **WAN Group** under the **Address** menu bar to enter the WAN window. The current settings for the WAN network group(s) will appear on the screen.

Adding an WAN Group

Step 1. In the **WAN Group** window, click the **New Entry** button and the **Add New Address Group** window will appear.

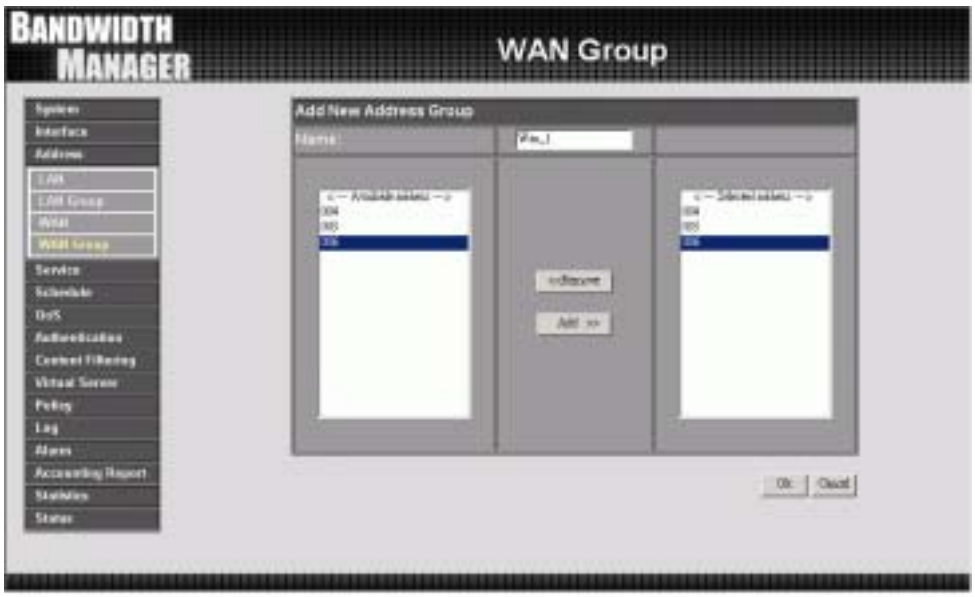
Step 2. In the **Add New Address Group** window the following fields will appear:

- **Name:** enter the name of the new group.
- **Available Address:** List the names of all the members of the WAN network.
- **Selected Address:** List the names to assign to the new group.

Step 3. **Add members:** Select the names to be added in the **Available Address** list, and click the **Add>>** button to add them to the **Selected Address** list.

Step 4. **Remove members:** Select the names to be removed in the **Selected Address** list, and click the **<<Remove** button to remove them from the **Selected Address** list.

Step 5. Click **OK** to add the new group or click **Cancel** to discard changes.



Modify an WAN Group

Step 1. In the **WAN Group** window, locate the network group to be modified and click its corresponding **Modify** button in the **Configure** field.

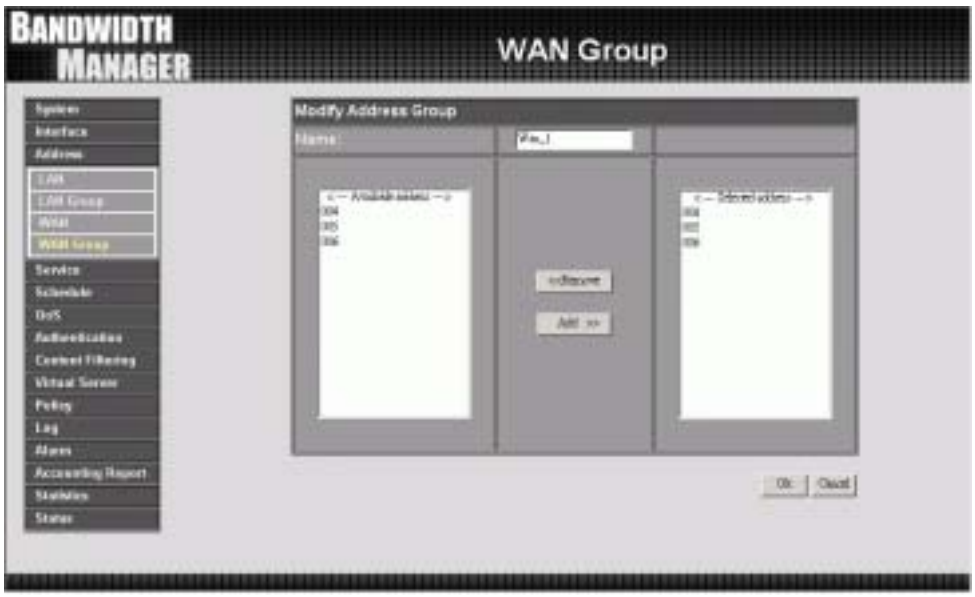
Step 2. A window displaying the information of the selected group appears:

- **Available Address:** list the names of all the members of the WAN network.
- **Selected Address:** list the names of the members that have been assigned to this group.

Step 3. **Add members:** Select the names to be added in the **Available Address** list, and click the **Add>>** button to add them to the **Selected Address** list.

Step 4. **Remove members:** Select the names to be removed in the **Selected Address** list, and click the **<<Remove** button to remove them from the **Selected Address** list.

Step 5. Click **OK** to save changes or click **Cancel** to discard changes.



Removing an WAN Group

Step 1. In the **WAN Group** window, locate the group to be removed and click its corresponding **Modify** option in the **Configure** field.

Step 2. In the **Remove confirmation** pop-up box, click **OK** to remove the group or click **Cancel** to discard changes.

Service

In this section, network services are defined and new network services can be added. There are three sub menus under Service which are: **Pre-defined**, **Custom**, and **Group**. The Administrator can simply follow the instructions below to define the protocols and port numbers for network communication applications. Users then can connect to servers and other computers through these available network services.

What is Service?

TCP and UDP protocols support varieties of services, and each service consists of a TCP Port or UDP port number, such as TELNET(23), SMTP(21), POP3(110),etc. The 10/100M 2 WAN/ LAN Bandwidth Manager defines two services: pre-defined service and custom service. The common-use services like TCP and UDP are defined in the pre-defined service and cannot be modified or removed. In the custom menu, users can define other TCP port and UDP port numbers that are not in the pre-defined menu according to their needs. When defining custom services, the client port ranges from 1024 to 65535 and the server port ranges from 0 to 1023.

How do I use Service?

The Administrator can add new service group names in the **Group** option under **Service** menu, and assign desired services into that new group. Using service group the Administrator can simplify the processes of setting up control policies. For example, there are 10 different computers that want to access 5 different services on a server, such as HTTP, FTP, SMTP, POP3, and TELNET. Without the help of service groups, the Administrator needs to set up 50 (10x5) control policies, but by applying all 5 services to a single group name in the **service** field, it takes only one control policy to achieve the same effect as the 50 control policies.

Pre-defined

Entering a Pre-defined window

Click **Service** on the menu bar on the left side of the window. Click **Pre-defined** under it. A window will appear with a list of services and their associated IP addresses. This list cannot be modified.

Custom

Entering the Custom window

Click **Service** on the menu bar on the left side of the window. Click **Custom** under it. A window will appear with a table showing all services currently defined by the Administrator.

Adding a new Service

Step 1. In the **Custom** window, click the **New Entry** button and a new service table appears.

Step 2. In the new service table:

- **New Service Name:** This will be the name referencing the new service.
- **Protocol**: Enter the network protocol type to be used, such as TCP, UDP, or Other (please enter the number for the protocol type).
- **Client Port:** enter the range of port number of new clients.
- **Server Port:** enter the range of port number of new servers.

The client port ranges from 1024 to 65535 and the server port ranges from 0 to 1023.

Step 3. Click **OK** to add new services, or click **Cancel** to cancel.

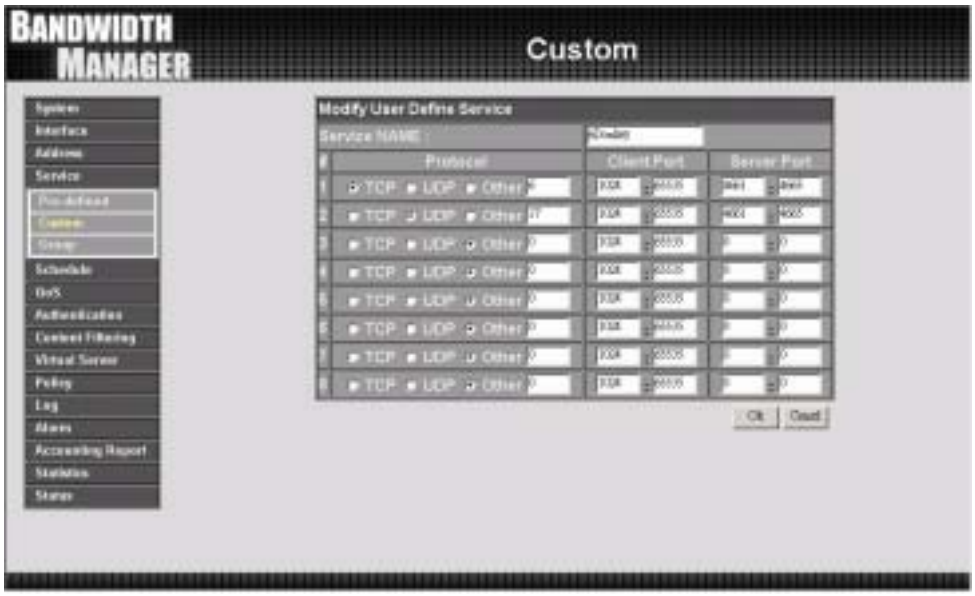
Modifying Custom Services

Step 1. In the **Custom** table, locate the name of the service to be modified. Click its corresponding **Modify** option in the **Configure** field.

Step 2. A table showing the current settings of the selected service appears on the screen

Step 3. Enter the new values.

Step 4. Click **OK** to accept editing; or click **Cancel**.



Removing Custom Services

Step 1. In the **Custom** window, locate the service to be removed. Click its corresponding **Remove** option in the **Configure** field.

Step 2. In the **Remove** confirmation pop-up box, click **OK** to remove the selected service or click **Cancel** to cancel action.

Group

Accessing the Group window

Click **Service** in the menu bar on the left hand side of the window. Click **Group** under it. A window will appear with a table displaying current service group settings set by the Administrator.

Adding Service Groups

Step 1. In the **Group** window, click the **New Entry** button.
In the **Add Service Group** window, the following fields will appear:

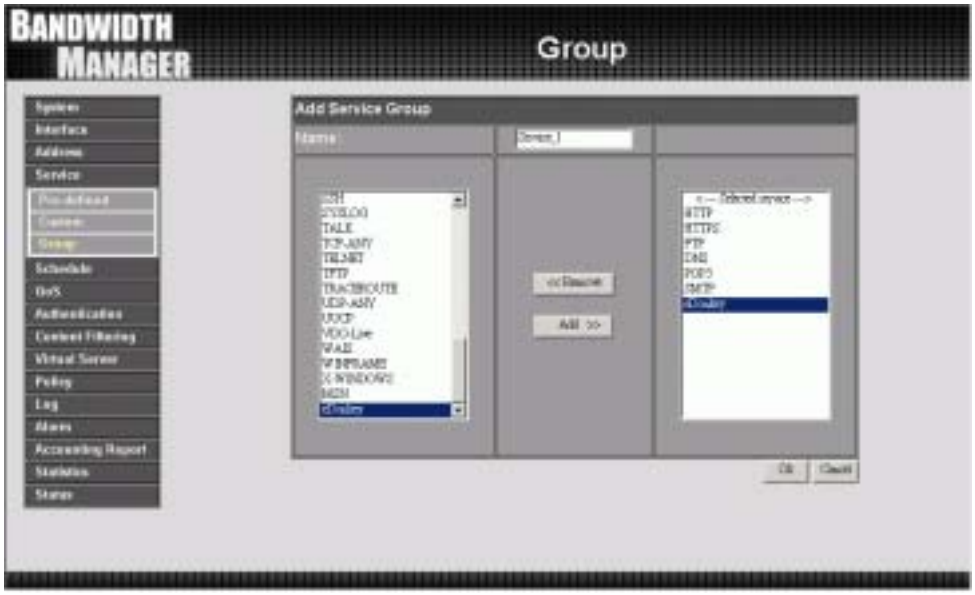
- **Available Services:** list all the available services.
- **Selected Services:** list services to be assigned to the new group.

Step 2. Enter the new group name in the group **Name** field. This will be the name referencing the created group.

Step 4. **To add new services:** Select the services desired to be added in the **Available Services** list and then click the **Add>>** button to add them to the group.

Step 5. **To remove services:** Select services desired to be removed in the **Available Services**, and then click the **<<Remove** button to remove them from the group.

Step 6. Click **OK** to add the new group.



Modifying Service Groups

Step 1. In the **Group** window, locate the service group to be edited. Click its corresponding **Modify** option in the **Configure** field.

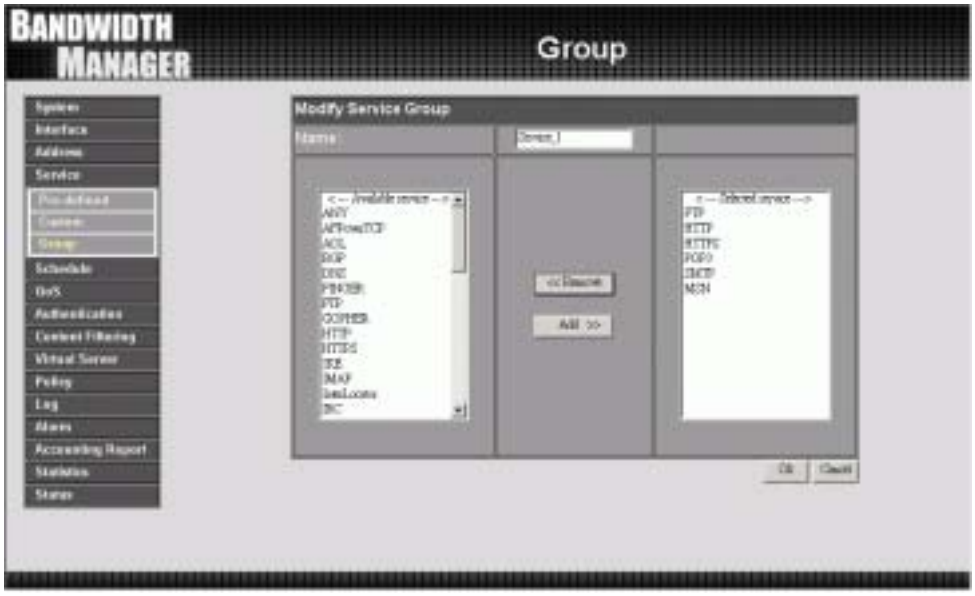
Step 2. In the **Mod (modify) group** window the following fields are displayed::

- **Available Services:** lists all the available services.
- **Selected Services:** list services that have been assigned to the selected group.

Step 3. **Add new services:** Select services in the **Available Services** list, and then click the **Add>>** button to add them to the group.

Step 4. **Remove services:** Select services to be removed in the **Selected Services** list, and then click the **<<Remove** button to remove theses services from the group.

Step 5. Click **OK** to save editing changes.



Removing Service Groups

Step 1. In the **Group** window, locate the service group to be removed and click its corresponding **Remove** option in the **Configure** field.

Step 2. In the **Remove** confirmation pop-up box, click **OK** to remove the selected service group or click **Cancel** to cancel removing.

Schedule

The Bandwidth Manager allows the Administrator to configure a schedule for policies to take affect. By creating a schedule, the Administrator is allowing the Bandwidth Manager policies to be used at those designated times only. Any activities outside of the scheduled time slot will not follow the Bandwidth Manager policies therefore will likely not be permitted to pass through the Bandwidth Manager. The Administrator can configure the start time and stop time, as well as creating 2 different time periods in a day. For example, an organization may only want the Bandwidth Manager to allow the LAN network users to access the Internet during work hours. Therefore, the Administrator may create a schedule to allow the Bandwidth Manager to work Monday-Friday, 8AM-5PM only. During the non-work hours, the Bandwidth Manager will not allow Internet access.

Accessing the Schedule window

Click on **Schedule** on the menu bar and the schedule window will appear displaying the active schedules.

The following items are displayed in this window:

Name: the name assigned to the schedule

Comment: a short comment describing the schedule

Configure: modify or remove

Adding a new Schedule

Step 1: Click on the **New Entry** button and the **Add New Schedule** window will appear.

Step 2:

Schedule Name: Fill in a name for the new schedule.

Period 1: Configure the start and stop time for the days of the week that the schedule will be active.

Step 3: Click Ok to save the new schedule or click Cancel to cancel adding the new schedule.

Modifying a Schedule

Step 1: In the **Schedule** window, find the policy to be modified and click the corresponding **Modify** option in the **Configure** field.

Step 2: Make needed changes.

Step 3: Click **OK** to save changes.

Removing a Schedule

Step 1: In the **Schedule** window, find the policy to be removed and click the corresponding **Remove** option in the **Configure** field.

Step 2: A confirmation pop-up box will appear, click on **OK** to remove the schedule.

QoS

By configuring the QoS, you can control the outbound Upstream/downstream Bandwidth. The administrator can configure the bandwidth according to the WAN bandwidth.
Downstream Bandwidth： To configure the Guaranteed Bandwidth and Maximum Bandwidth.
Upstream Bandwidth： To configure the Guaranteed Bandwidth and Maximum Bandwidth.
QoS Priority：To configure the priority of distributing Upstream/Downstream and unused bandwidth.
The Bandwidth Manager configures the bandwidth by different QoS , and selects the suitable QoS through Policy to control and efficiently distribute bandwidth. The Bandwidth Manager also makes it convenient for the administrator to use the Bandwidth Manager with the best Utility.

Configuration of QoS

Click QoS in the menu bar on the left hand side.

Definitions:
Name：The name of the QoS you want to configure.
Downstream Bandwidth：To configure the Guarateed Bandwidth and Maximum Bandwidth.
Upstream Bandwidth：To configure the Guarateed Bandwidth and Maximum Bandwidth.
QoS Priority：To configure the priority of distrubuting Upstream/Downstream and unused bandwidth.

Add a New QoS

Step 1. Click QoS in the menu bar on the left hand side.

Step 2. Click the **New Entry** button to add new QoS.

Definition

Name：The name of the QoS you want to configure.

Downstream Bandwidth：To configure the Guarateed Bandwidth and Maximum Bandwidth.

Upstream Bandwidth：To configure the Guarateed Bandwidth and Maximum Bandwidth.

QoS Priority：To configure the priority of distrubuting Upstream/Downstream and unused bandwidth.

Click the **OK** button to add new QoS.

Modify a QoS

Step 1. Click QoS in the menu bar on the left hand side.

Click the Modify button to modify QoS.

Definition:

Name：The name of the QoS you want to configure.

Downstream Bandwidth：To configure the Guarateed Bandwidth and Maximum Bandwidth.

Upstream Bandwidth：To configure the Guarateed Bandwidth and Maximum Bandwidth.

QoS Priority：To configure the priority of distrubuting Upstream/Downstream and unused bandwidth.

Click the **OK** button to modify QoS.

Removing a QoS

Step 1. In the QoS window, find the QoS you want to change, and click **Delete** in the Configure column.

Step 2. In the Delete QoS window, click **OK** to delete the QoS or click Cancel to discard the change.

Authentication

By configuring the Authentication, you can control the user’s connection time of LAN to WAN whether is too long. The administrator can configure the authentication according to the authentication account and password.

The Bandwidth Manager configures the authentication of LAN’s user by setting account and password to identify the privilege.

Configuration of Authentication

Click Authentication and Authentication User in the menu bar on the left hand side.

Definitions:

Name：The name of the Authentication you want to configure.

Configure: modify settings or remove policies.

Adding a new Authentication

Step 1. In the **Authentication** window, click the **New Authentication** button to create a new **Authentication.**

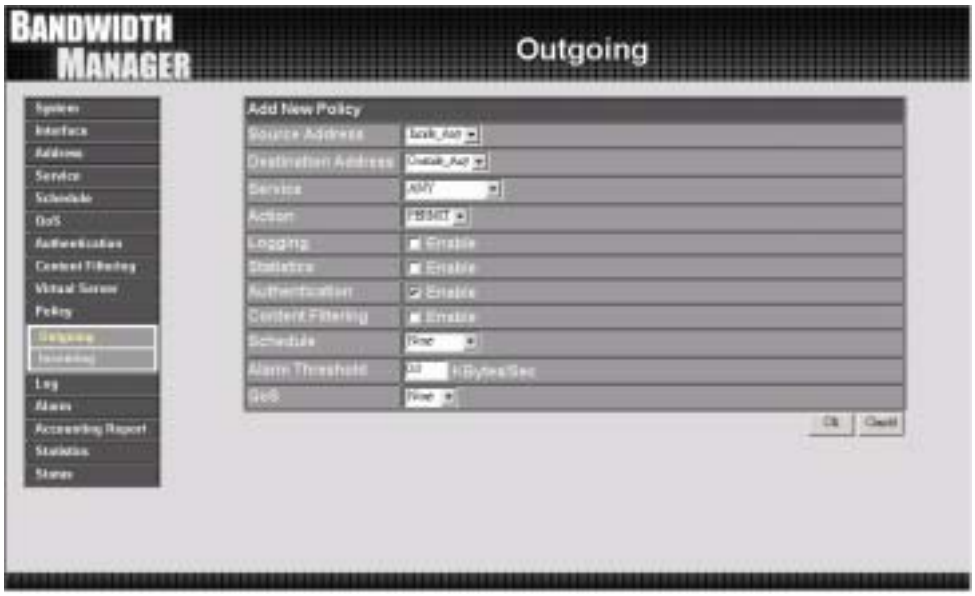
Step 2. In the **Authentication** window:

- **Authentication Name:** enter the username of new **Authentication.**
- **Password:** enter a password for the new **Authentication.**
- **Confirm Password:** enter the password again.

Step 3. Click **OK** to add the user or click **Cancel** to cancel the addition.

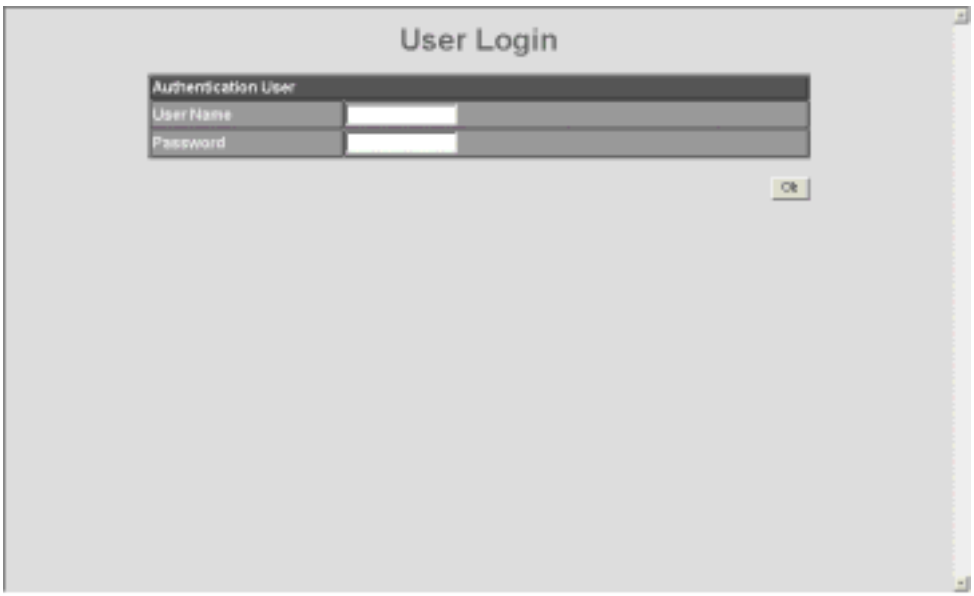
To enable this function, the Administrator must configure the authentication port(default: 82) and connection time(default : 30 minutes).

To enable Authentication by setting Click authentication in LAN to WAN Policy.



When connection time is overtime, the LAN's user will reconnect and the Bandwidth Manager will enter User Login window. After the authentication, users could re-connnect.
In the **Authentication** window:

- **Authentication Name:** enter the username of **Authentication.**
- **Password:** enter a password for the **Authentication.**



Modify the Authentication User

Step 1. In the **Authentication** window, locate the **Auth-User** name you want to edit, and click on **Modify** in the **Configure** field.

Step 2. The **Modify Auth-User Password** window will appear. Enter in the required information:

- **Auth-User:** show original authentication user.
- **Password:** show original password.
- **New Password:** enter new password
- **Confirm Password:** enter the new password again.

Step 3. Click **OK** to confirm authentication user change or click **Cancel** to cancel it.

Removing a Authentication User

Step 1. In the Authentication table, locate the Auth-User name you want to edit, and click on the Remove option in the Configure field.

Step 2. The Remove confirmation pop-up box will appear.

Step 3. Click **OK** to remove that Authentication User or click **Cancel** to cancel.

Content filtering

The Administrator may setup URL Blocking to prevent LAN network users from accessing a specific website on the Internet. Any web request coming from an LAN network computer to a blocked website will receive a blocked message instead of the website.

URL blocking

Entering the URL blocking window

Click on **URL Blocking** under the **Configuration** menu bar.

Click on **New Entry.**

Adding a URL Blocking policy

Step 1: After clicking **New Entry**, the **Add New Block String** window will appear.

Step 2: Enter the URL of the website to be blocked.

Step 3: Click **OK** to add the policy. Click Cancel to discard changes.

Modifying a URL Blocking policy

Step 1: In the **URL Blocking** window, find the policy to be modified and click the corresponding **Modify** option in the **Configure** field.

Step 2: Make the necessary changes needed.

Step 3: Click on **OK** to save changes or click on Cancel to cancel modifications.

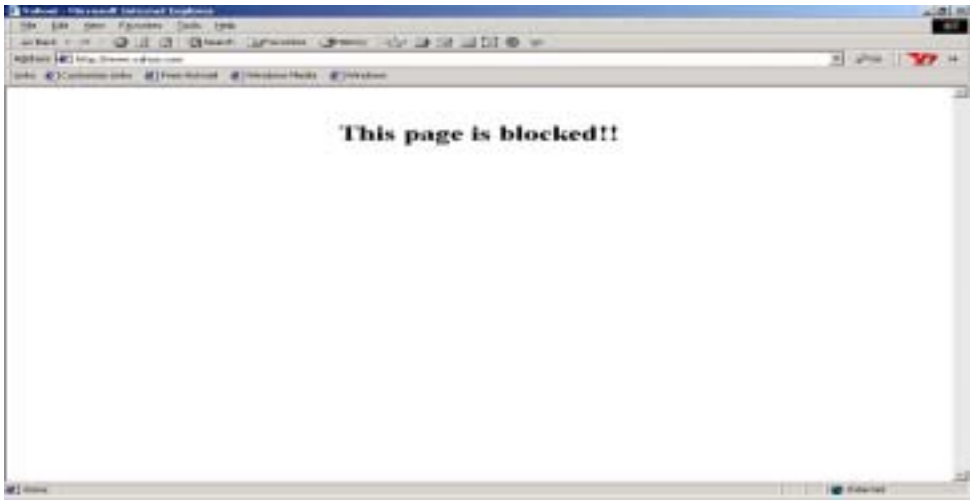
Removing a URL Blocking

Step 1: In the **URL Blocking** window, find the policy to be removed and click the corresponding **Remove** option in the **Configure** field.

Step 2: A confirmation pop-up box will appear, click on **OK** to remove the policy or click on Cancel to discard changes.

Blocked URL site:

When a user from the LAN network tries to access a blocked URL, the error below will appear.



General Blocking

To let Popup、ActiveX、Java、Cookie in or keep them out.

Step 1: Click **Content Filtering** in the menu.

Step 2: 【**General Blocking**】detective functions.

- Popup filtering：Prevent the pop-up boxes appearing.
- ActiveX filtering：Prevent ActiveX packets.
- Java filtering：Prevent Java packets.
- Cookie filtering：Prevent Cookie packets.

Step 3: After selecting each function, click the **OK** button below.

When the system detects the setting, the Bandwidth Manager Gateway will spontaneously work.

Virtual Server

The Bandwidth Manager separates an enterprise's Intranet and Internet into LAN networks and WAN networks respectively. Generally speaking, in order to allocate enough IP addresses for all computers, an enterprise assigns each computer a private IP address, and converts it into a real IP address through Bandwidth Manager Gateway's NAT (Network Address Translation) function. If a server which provides service to the WAN networks, is located in the LAN networks, outside users can't directly connect to the server by using the server's private IP address.

The Bandwidth Manager Gateway's Virtual Server can solve this problem. A virtual server has set the real IP address of the Bandwidth Manager Gateway's WAN network interface to be the Virtual Server IP. Through the virtual server feature, the Bandwidth Manager translates the virtual server's IP address into the private IP address of physical server in the LAN network. When outside users on the Internet request connections to the virtual server, the request will be forwarded to the private LAN server.

Virtual Server owns another feature know as one-to-many mapping. This is when one virtual server IP address on the WAN interface can be mapped into LAN network server private IP addresses. This option is useful for Load Balancing, which causes the virtual server to distribute data packets to each private IP addresses (which are the real servers). By sending all data packets to all similar servers, this increases the server's efficiency, reduces risks of server crashes, and enhances servers' stability.

How to use Virtual Server and mapped IP

Virtual Server and Mapped IP are part of the IP mapping scheme. By applying the incoming policies, Virtual Server and IP mapping work similarly. They map real IP addresses to the physical servers' private IP addresses (which is opposite to NAT), but there still exists some differences:

- Virtual Server can map one real IP to several LAN physical servers while Mapped IP can only map one real IP to one LAN physical server (1-to-1 Mapping). The Virtual Servers' load balance feature can map a specific service request to different physical servers running the same services.
- Virtual Server can only map one real IP to one service/port of the LAN physical servers while Mapped IP maps one real IP to all the services offered by the physical server.

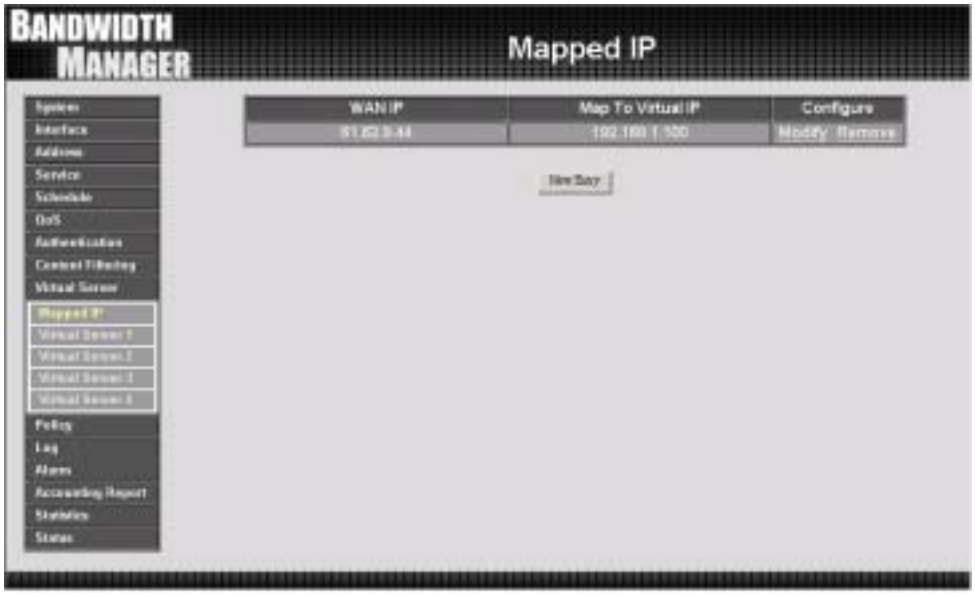
IP mapping and Virtual Server work by binding the IP address of the WAN virtual server to the private LAN IP address of the physical server that supports the services. Therefore users from the WAN network can access servers of the LAN network by requesting the service from the IP address provided by Virtual Server.

Mapped IP

LAN private IP addresses are translated through NAT (Network Address Translation). If a server is located in the LAN network, it has a private IP address, and outside users cannot connect directly to LAN servers' private IP address. To connect to a LAN network server, outside users have to first connect to a real IP address of the WAN network, and the real IP is translated to a private IP of the LAN network. Mapped IP and Virtual Server are the two methods to translate the real IP into private IP. Mapped IP maps IP in one-to-one fashion; that means, all services of one real WAN IP address is mapped to one private LAN IP address.

Entering the Mapped IP window

Step 1. Click **Mapped IP** under the **Virtual Server** menu bar and the Mapped IP configuration window will appear.



Definition:

WAN IP：WAN IP Address.

Map to Virtual IP：The IP address which WAN maps to the virtual network in the server.

Configure：To change the setting, click Configure to modify the parameters; click delete to delete the setting.

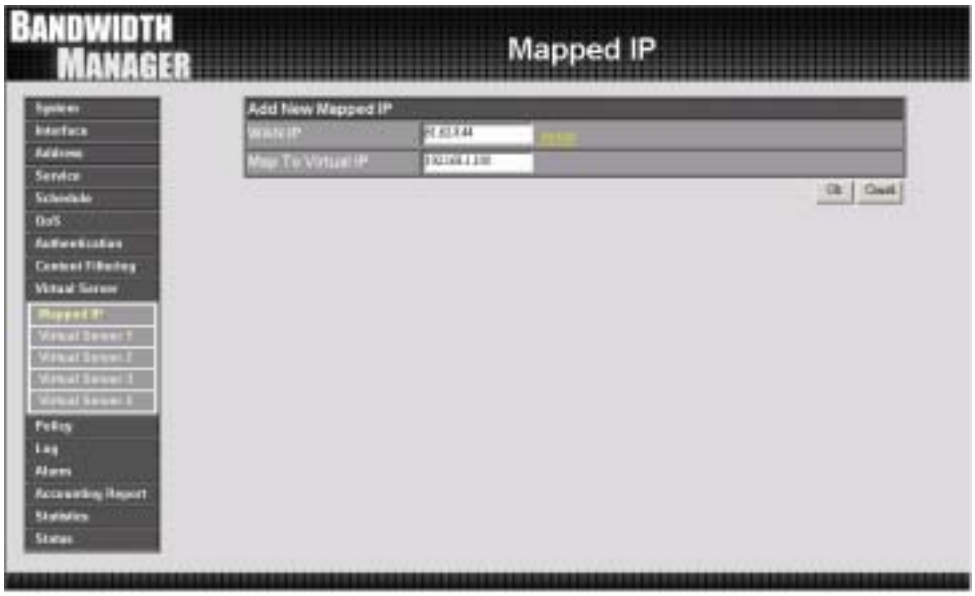
Adding a new IP Mapping

Step 1. In the **Mapped IP** window, click the New Entry button. The Add New Mapped IP window will appear.

■ **WAN IP**: select the WAN public IP address to be mapped.

■ **LAN IP**: enter the LAN private IP address will be mapped 1-to-1 to the WAN IP address.

Step 2. Click **OK** to add new IP Mapping or click **Cancel** to cancel adding.

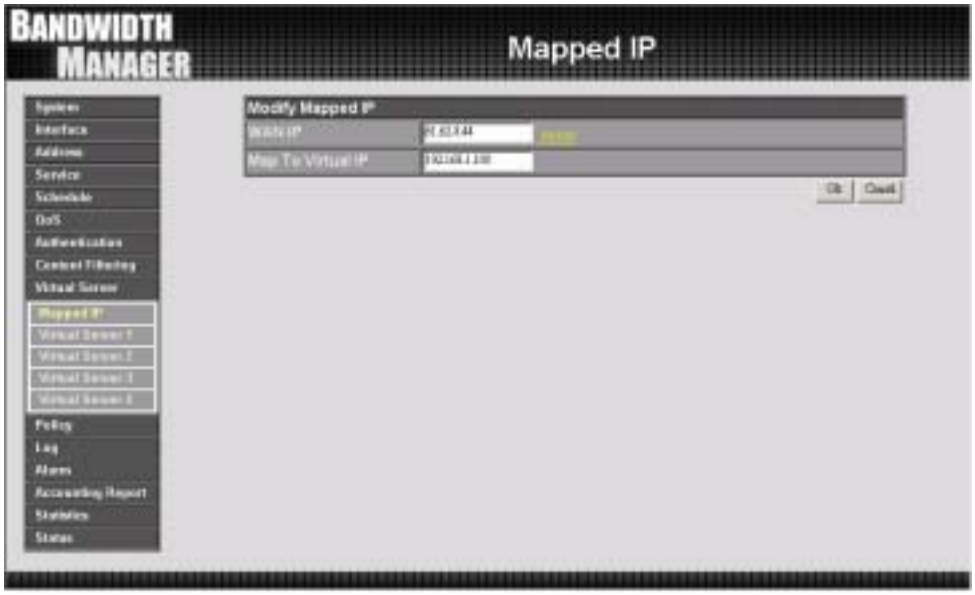


Modifying a Mapped IP

Step 1. In the **Mapped IP** table, locate the Mapped IP you want it to be modified and click its corresponding Modify option in the Configure field.

Step 2. Enter settings in the Modify Mapped IP window.

Step 3. Click **OK** to save change or click **Cancel** to cancel.



Note: *A Mapped IP cannot be modified if it has been assigned/used as a destination address of any Incoming policies.*

Removing a Mapped IP

Step 1. In the Mapped IP table, locate the Mapped IP desired to be removed and click its corresponding Remove option in the Configure field.

Step 2. In the Remove confirmation pop-up window, click **OK** to remove the Mapped IP or click **Cancel** to cancel.

Virtual Server

Virtual server is a one-to-many mapping technique, which maps a real IP address from the WAN interface to private IP addresses of the LAN network.　This function provides services or applications defined in the Service menu to enter into the LAN network. Unlike a mapped IP which binds an WAN IP to an LAN IP, virtual server binds WAN IP ports to LAN IP ports.

Definition:

Virtual Server IP：The WAN IP address configured by the virtual server. Click "**Click here to configure**" button to add new virtual server address.

Service name：The service names that provided by the virtual server.

Port：The TCP/UDP ports that present the service items provided by the virtual server.

Server Virtual IP：The virtual IP which mapped by the virtual server.

Configure：To change the service configuration, click **Configure** to change the parameters; click **Delete** to delete the configuration.

This virtual server provides four real IP addresses, which means you can setup four virtual servers at most （Setup under the Virtual Server sub-selections Virtual Server 1/2/3/4 in the menu bar on the left hand side.） The administrator can select Virtual Server1/2under Virtual Server selection in the menu bar on the left hand side, click **Server Virtual IP** to add or change the virtual server IP address; click **"Click here to configure"** to add or change the virtual server service configuration.

Adding a Virtual Server

Step 1. Click an available virtual server from **Virtual Server** in the **Virtual Server** menu bar to enter the virtual server configuration window. In the following, Virtual Server is assumed to be the chosen option:

Step 2. Click the **click here to configure** button and the Add new Virtual Server IP window appears and asks for an IP address from the WAN network.

Step 3. Select an IP address from the drop-down list of available WAN network IP addresses.

Step 4. Click **OK** to add new Virtual Server or click **Cancel** to cancel adding.

Modifying a Virtual Server IP Address

Step 1. Click the virtual server to be modified Virtual Server under the **Virtual Server** menu bar. A new window appears displaying the IP address and service of the specified virtual server.

Step 2. Click on the Virtual Server's IP Address button at the top of the screen.

Step 3. Choose a new IP address from the drop-down list.

Step 4. Click **OK** to save new IP address or click **Cancel** to discard changes.

Removing a Virtual Server

Step 1. Click the virtual server to be removed in the corresponding Virtual Server option under the **Virtual Server** menu bar. A new window displaying the virtual server's IP address and service appears on the screen.

Step 2. Click the Virtual Server's IP Address button at the top of the screen.

Step 3. Select Disable in the drop-down list in.

Step 4. Click **OK** to remove the virtual server.

Virtual Server's service

Setting the Virtual Server's services

Step 1. For the Virtual Server which has already been set up with an IP address, click the New Service button in the table.

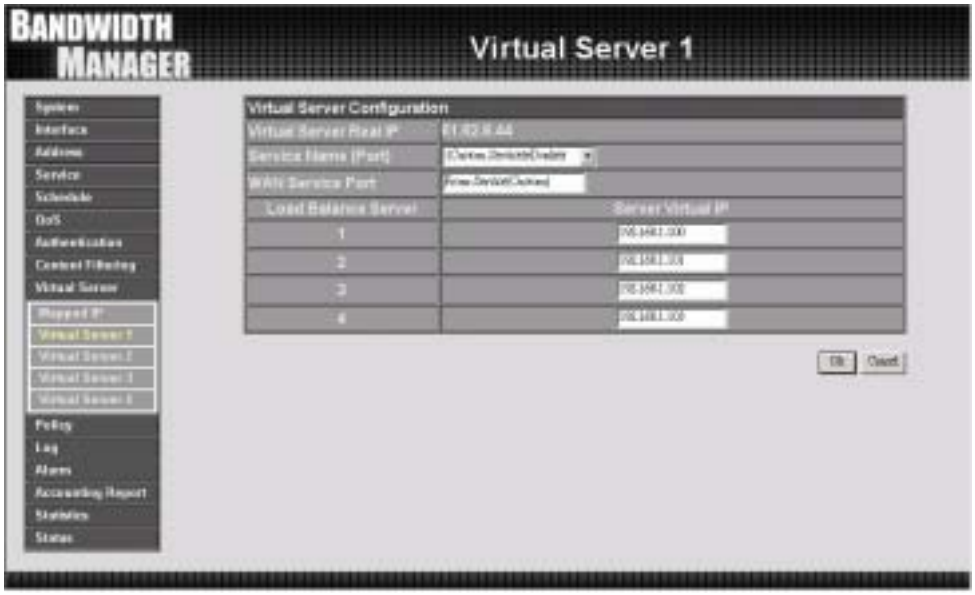
Step 2. In the Virtual Server Configurations window:

- **Server Virtual IP:** displays the WAN IP address assigned to the Virtual Server
- **WAN Service Port:** select the port number that the virtual server will use. Changing the Service will change the port number to match the service.
- **Service:** select the service from the pull down list that will be provided by the Virtual Server.
- **LAN Server IP**：The LAN server IP address mapped by the virtual server. Four computer IP addresses can be set at most, and the load can be maintained in a balance.

Step 3. Enter the IP address of the LAN network server(s), to which the virtual server will be mapped. Up to four IP addresses can be assigned at most.

Step 4. Click **OK** to save the settings of the Virtual Server.

Note: *The services in the drop-down list are all defined in the Pre-defined and Custom section of the* ***Service*** *menu.*

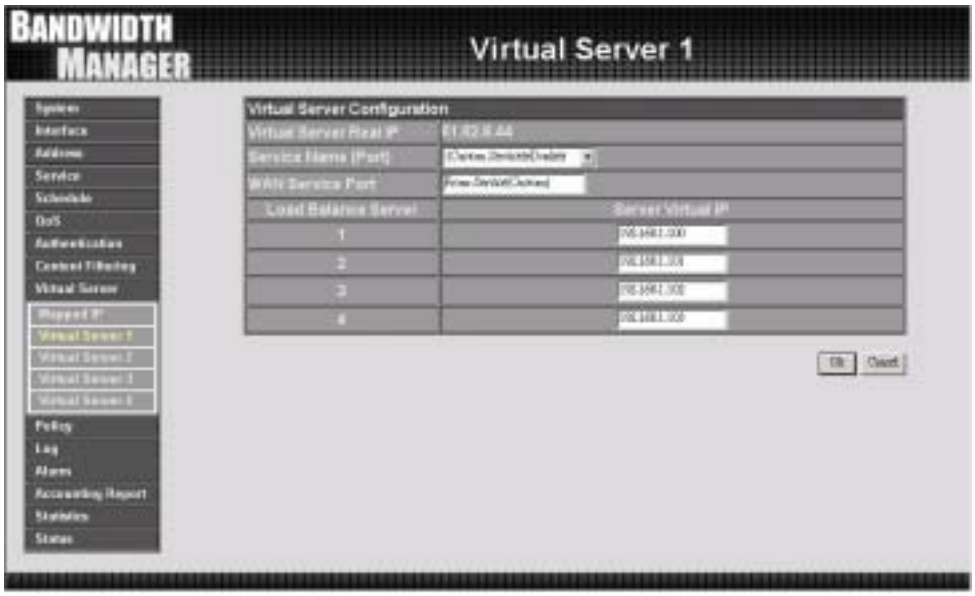

BANDWIDTH MANAGER
Virtual Server 1
System
Interface
Address
Service
Schedule
DoS
Authentication
Content Filtering
Virtual Server
Policy
Log
Alarm
Accounting Report
Statistics
Status
Virtual Server Configuration
Service Name (Port)
Load Balance Server
1
2
3
4
OK
Cancel

Adding New Virtual Server Service Configuration

Step 1. Select Virtual Server in the menu bar on the left hand side, and then select Virtual Server 1/2/3/4 sub-selections.

Step 2. In Virtual Server 1/2/3/4/3/4 Window, click "**Click here to configure**" button.

Step 3. Enter the parameters in the Server Virtual IP column.



WAN：Enter the WAN IP address that configured by the virtual server.

Server Virtual IP：Enter the WAN IP address configured by the virtual server.

Service Name (Port)：Click the pull-down menu the system will display you the service item port.

WAN Service Port：The WAN Service Port that provided by the virtual server.

Service Name：The service names that provided by the virtual server.

LAN Server IP：The LAN server IP address mapped by the virtual server. Four computer IP addresses can be set at most, and the load can be maintained in a balance.

Click **OK** to execute adding new virtual server service, or click **Cancel** to discard adding.

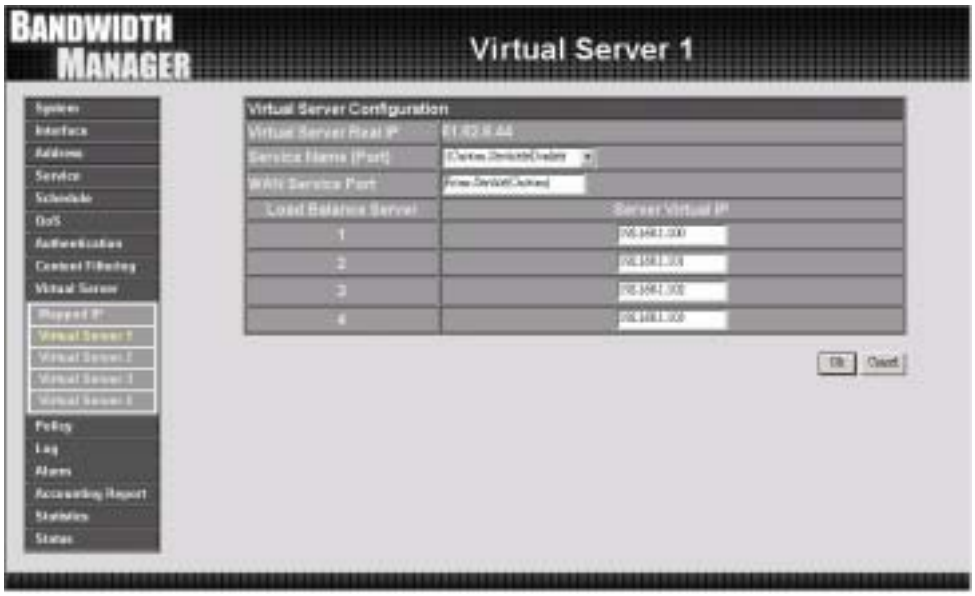
The administrator can click the "**Click here to configure**" button in the Virtual Server window to add the service items of virtual server. Remember to configure the service items of virtual server before you configure Policy, or the service names will not be shown in Policy.

Modifying the Virtual Server configurations

Step 1. In the Virtual Server window's service table, locate the name of the service desired to be modified and click its corresponding Modify option in the Configure field.

Step 2. In the Virtual Server Configuration window, enter the new settings.

Step 3. Click **OK** to save modifications or click **Cancel** to discard changes.



WAN：Enter the WAN IP address that configured by the virtual server.

Server Virtual IP：Enter the WAN IP address configured by the virtual server.

Service Name (Port)：Click the pull-down menu the system will display you the service item port.

WAN Service Port：The WAN Service Port that provided by the virtual server.

Service Name：The service names that provided by the virtual server.

LAN Server IP：The LAN server IP address mapped by the virtual server. Four computer IP addresses can be set at most, and the load can be maintained in a balance.Click **OK** to execute the change of the virtual server, or click **Cancel** to discard changes.

If the destination Network in Policy has set a virtual server, it will not be able to change or configure this virtual server, you have to remove this configuration of Policy, and then you can execute the modification or configuration.

Removing the Virtual Server service

Step 1. In the Virtual Server window's service table, locate the name of the service desired to be removed and click its corresponding Remove option in the Configure field.

Step 2. In the Remove confirmation pop-up box, click **OK** to remove the service or click **Cancel** to cancel removing.

If the destination Network in Policy has set a virtual server, it will not be able to change or configure this virtual server unless you have already removed this configuration of Policy.

Policy

This section provides the Administrator with facilities to sent control policies for packets with different source IP addresses, source ports, destination IP addresses, and destination ports. Control policies decide whether packets from different network objects, network services, and applications are able to pass through the Bandwidth Manager.

What is Policy?

The device uses policies to filter packets. The policy settings are: source address, destination address, services, permission, packet log, packet statistics, and flow alarm. Based on its source addresses, a packet can be categorized into:

(1). Outgoing: a client is in the LAN networks while a server is in the WAN networks.

(2) Incoming, a client is in the WAN networks, while a server is in the LAN networks.

How do I use Policy?

The policy settings are source addresses, destination addresses, services, permission, log, statistics, and flow alarm. Among them, source addresses, destination addresses and IP mapping addresses have to be defined in the **Address** menu in advance. Services can be used directly in setting up policies, if they are in the Pre-defined Service menu. Custom services need to be defined in the **Custom** menu before they can be used in the policy settings.

If the destination address of an incoming policy is a Mapped IP address or a Virtual Server address, then the address has to be defined in the **Virtual Server** section instead of the **Address** section.

Policy Directions:

Step 1. In **Address**, set names and addresses of source networks and destination networks.

Step 2. In **Service**, set services.

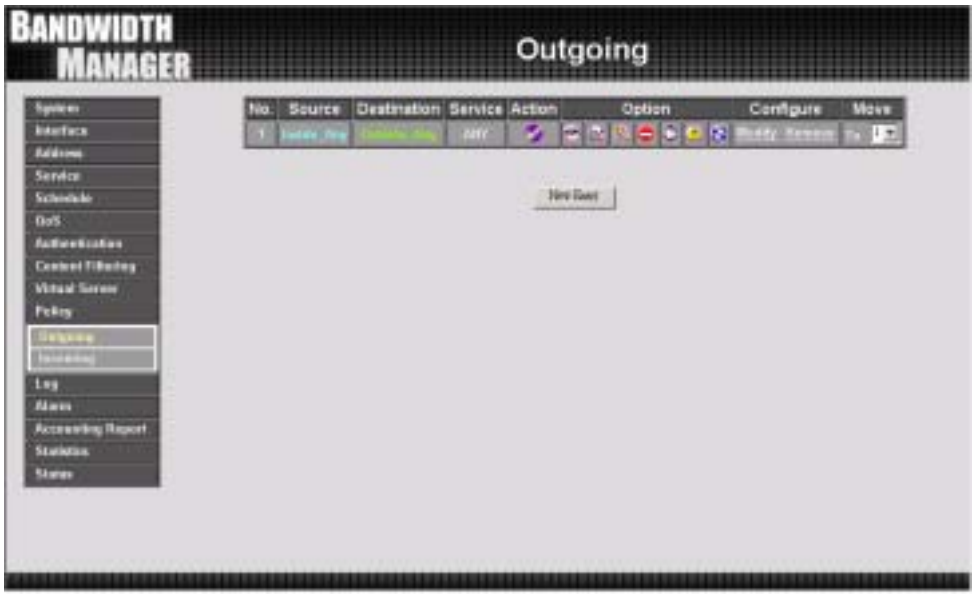
Step 3. In **Virtual Server**, set names and addresses

Outgoing

This section describes steps to create policies for packets and services from the LAN network to the WAN network.

Entering the Outgoing window:

Click **Policy** on the left hand side menu bar, then click **Outgoing** under it. A window will appear with a table displaying currently defined Outgoing policies.

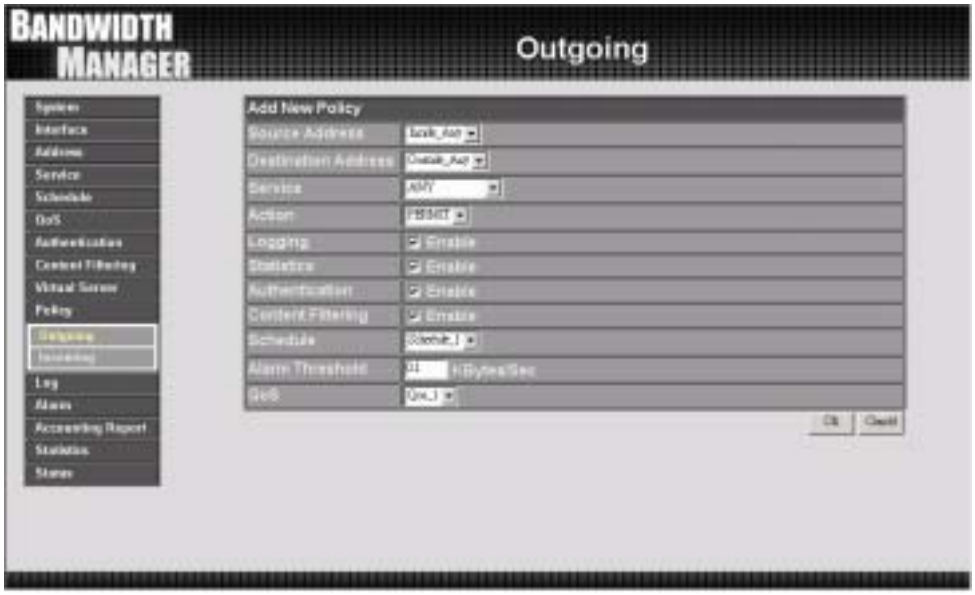


The fields in the Outgoing window are:

- **Source:** source network addresses that are specified in the LAN section of **Address** menu, or all the LAN network addresses.
- **Destination:** destination network addresses that are specified in the **WAN** section of the **Address** menu, or all of the WAN network addresses.
- **Service:** specify services provided by WAN network servers.
- **Action:** control actions to permit or deny packets from LAN networks to WAN network travelling through the Bandwidth Manager.
- **Option:** specify the monitoring functions on packets from LAN networks to WAN networks travelling through the Bandwidth Manager.
- **Configure:** modify settings.
- **Move:** this sets the priority of the policies, number 1 being the highest priority.

Adding a new Outgoing Policy

Step 1: Click on the New Entry button and the Add New Policy window will appear.



Step 2:

Source Address: Select the name of the LAN network from the drop down list. The drop down list contains the names of all LAN networks defined in the LAN section of the **Address** menu. To create a new source address, please go to the LAN section under the **Address** menu.

Destination Address: Select the name of the WAN network from the drop down list. The drop down list contains the names of all WAN networks defined in the WAN section of the **Address** window. To create a new destination address, please go to the WAN section under the **Address** menu.

Service: Specified services provided by WAN net work servers. These are services/application that are allowed to pass from the LAN network to the WAN network. Choose ANY for all services.

Action: Select Permit or Deny from the drop down list to allow or reject the packets travelling between the source network and the destination network.

Logging: Select Enable to enable flow monitoring.

Statistics: Select Enable to enable flow statistics.

Content Filtering: Select Enable to enable Content Filtering.

Authentication: Select Enable to enable Authentication.

Schedule: Select the item listed in the schedule to enable the policy to automatically execute the function in a certain time and range.

Alarm Threshold: set a maximum flow rate (in Kbytes/Sec). An alarm will be sent if flow rates are higher than the specified value.

QoS: Select the name of the QoS from the drop down list.

Step 3: Click **OK** to add a new outgoing policy; or click **Cancel** to cancel adding a new outgoing policy.

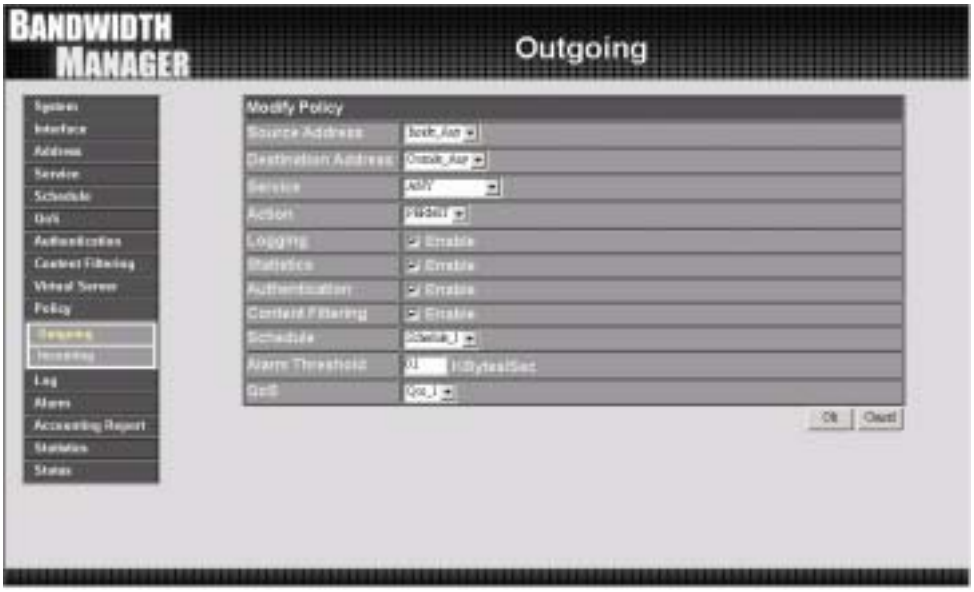
Modifying an Outgoing policy

Step 1: In the **Outgoing** policy section, locate the name of the policy desired to be modified and click its corresponding Modify option under the Configure field.

Step 2: In the **Modify Policy** window, fill in new settings.

Note: To change or add selections in the drop-down list for source or destination address, go to the section where the selections are setup. (Source Address→LAN of **Address** menu; Destination Address → WAN 1 of **Address** menu; Service→ [Pre-defined],[Custom] or Group under **Service**).

Step 3: Click **OK** to do confirm modification or click **Cancel** to cancel it.



Removing the Outgoing Policy

Step 1. In the **Outgoing** policy section, locate the name of the policy desired to be removed and click its corresponding **Remove** option in the **Configure** field.

Step 2. In the **Remove** confirmation dialogue box, click **OK** to remove the policy or click **Cancel** to cancel removing.

Enabled Monitoring function:

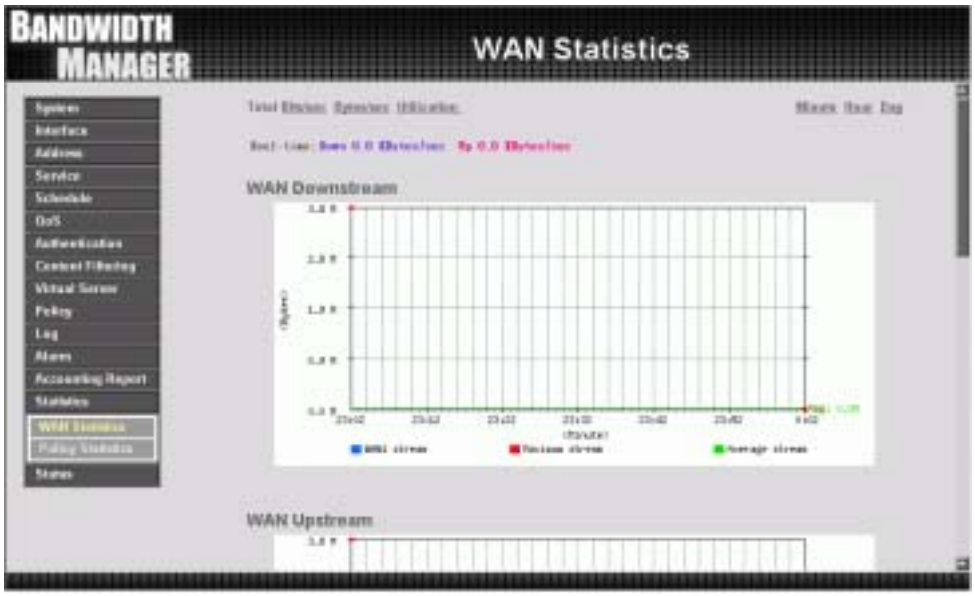
Log: If Logging is enabled in the outgoing policy, the MH-2000 will log the traffic and event passing through the Bandwidth Manager. The Administrator can click **Log** on the left menu bar to get the flow and event logs of the specified policy.

Note: *System Administrator can back up and clear logs in this window. Check* ***the chapter entitled "Log"*** *to get details about the log and ways to back up and clear logs.*

Alarm: If Logging is enabled in the outgoing policy, the MH-2000 will log the traffic alarms and event alarms passing through the Bandwidth Manager. The Administrator can click **Alarm** on the left menu to get the logs of flow and event alarms of the specified policy.

Note: *The Administrator can also get information on alarm logs from the Alarm window. Please refer to the section entitled "**Alarm"** for more information.*

Statistics: If Statistics is enabled in the outgoing policy, the Bandwidth Manager will display the flow statistics passing through the Bandwidth Manager.



Note: *The Administrator can also get flow statistics in* ***Statistics****. Please refer to* ***Statistics*** *in Chapter 11 for more details.*

Incoming

This chapter describes steps to create policies for packets and services from the WAN network to the LAN network including Mapped IP and Virtual Server.

Enter Incoming window

Step 1: Click **Incoming** under the **Policy** menu to enter the Incoming window. The Incoming table will display current defined policies from the WAN network to assigned Mapped IP or Virtual Server.

Step 2: The fields of the **Incoming** window are:

- **Source:** source networks which are specified in the **WAN** section of the **Address** menu, or all the WAN network addresses.
- **Destination:** destination networks, which are IP Mapping addresses or Virtual server network addresses created in **Virtual Server** menu.
- **Service:** services supported by Virtual Servers (or Mapped IP).

- **Action:** control actions to permit or deny packets from WAN networks to Virtual Server/Mapped IP travelling through the device.
- **Option:** specify the monitoring functions on packets from WAN networks to Virtual Server/Mapped IP travelling through the Bandwidth Manager.
- **Configure:** modify settings or remove incoming policy.
- **Move:** this sets the priority of the policies, number 1 being the highest priority.

Adding an Incoming Policy

Step 1: Under **Incoming** of the **Policy** menu, click the New Entry button.

Step 2:

Source Address: Select names of the WAN networks from the drop down list. The drop down list contains the names of all WAN networks defined in the **WAN** section of the **Address** menu. To create a new source address, please go to the LAN section under the **Address** menu.

Destination Address: Select names of the LAN networks from the drop down list. The drop down list contains the names of IP mapping addresses specified in the **Mapped IP** or the **Virtual Server** sections of **Virtual Server** menu. To create a new destination address, please go to the **Virtual Server** menu.

Service: Specified services provided by LAN network servers. These are services/application that are allowed to pass from the network to the LAN network. Choose ANY for all services.

Action: Select Permit or Deny from the drop down list to allow or reject the packets travelling between the specified WAN network and Virtual Server/Mapped IP.

Logging: select Enable to enable flow monitoring.

Statistics: select Enable to enable flow statistics.

Schedule: Select the item listed in the schedule to enable the policy to automatically execute the function in a certain time and range.

Alarm Threshold: set a maximum flow rate (in Kbytes/Sec). An alarm will be sent if flow rates are higher than the specified value.

QoS: Select the name of the QoS from the drop down list.

Step 3: Click **OK** to add new policy or click **Cancel** to cancel adding new incoming policy.

Modifying Incoming Policy

Step 1: In the **Incoming** window, locate the name of policy desired to be modified and click its corresponding Modify option in the Configure field.

Step 2: In the Modify Policy window, fill in new settings.

Step 3: Click **OK** to save modifications or click **Cancel** to cancel modifications.

Removing an Incoming Policy

Step 1: In the **Incoming** window, locate the name of policy desired to be removed and click its corresponding [**Remove**] in the Configure field.

Step 2: In the Remove confirmation window, click **Ok** to remove the policy or click **Cancel** to cancel removing.

Log

The Bandwidth Manager supports traffic logging and event logging to monitor and record services, connection times, and the source and destination network address. The Administrator may also download the log files for backup purposes. The Administrator mainly uses the Log menu to monitor the traffic passing through the Bandwidth Manager .

What is Log?

Log records all connections that pass through the Bandwidth Manager Gateway's control policies. Traffic log's parameters are setup when setting up control policies. Traffic logs record the details of packets such as the start and stop time of connection, the duration of connection, the source address, the destination address and services requested, for each control policy. Event logs record the contents of System Configuration changes made by the Administrator such as the time of change, settings that change, the IP address used to log on, etc.

How to use the Log

The Administrator can use the log data to monitor and manage the device and the networks. The Administrator can view the logged data to evaluate and troubleshoot the network, such as pinpointing the source of traffic congestions.

Traffic Log

The Administrator queries the Bandwidth Manager for information, such as source address, destination address, start time, and Protocol port, of all connections.

Entering the Traffic Log window

Click the **Traffic Log** option under **Log** menu to enter the Traffic Log window.

Traffic Log Table

The table in the Traffic Log window displays current System statuses:

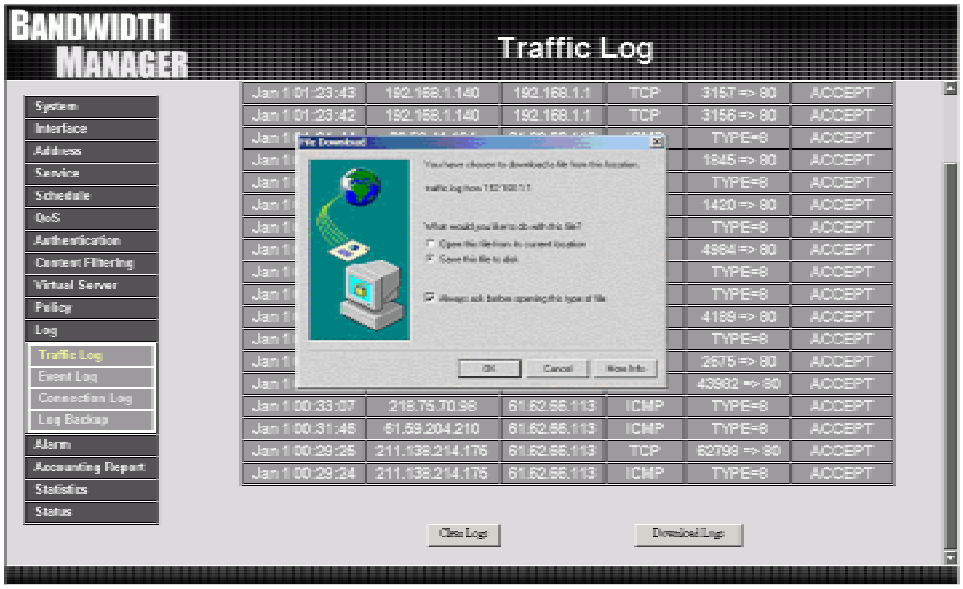
- **Time**: The start time of the connection.
- **Source:** IP address of the source network of the specific connection.
- **Destination:** IP address of the destination network of the specific connection.
- **Protocol & Port:** Protocol type and Port number of the specific connection.
- **Disposition:** Accept or Deny.

Downloading the Traffic Logs

The Administrator can backup the traffic logs regularly by downloading it to the computer.

Step 1. In the Traffic Log window, click the Download Logs button at the bottom of the screen.

Step 2. Follow the File Download pop-up window to save the traffic logs into a specified directory on the hard drive.

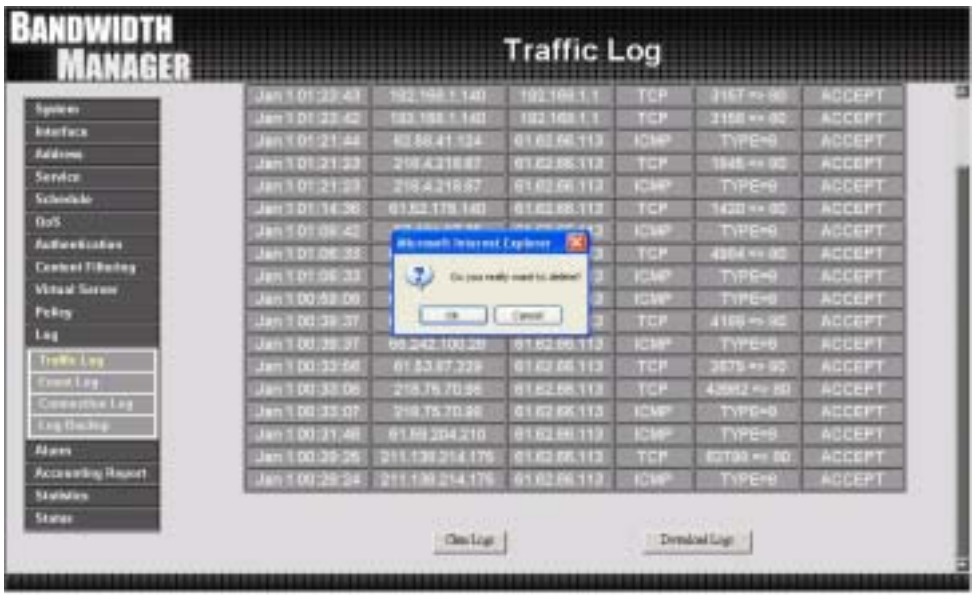


Clearing the Traffic Logs

The Administrator may clear on-line logs to keep just the most updated logs on the screen.

Step 1. In the Traffic Log window, click the Clear Logs button at the bottom of the screen.

Step 2. In the Clear Logs pop-up box, click **Ok** to clear the logs or click **Cancel** to cancel it.



Event Log

When the Bandwidth Manager detects events, the Administrator can get the details, such as time and description of the events from the Event Logs.

Entering the Event Log window

Click the **Event Log** option under the **Log** menu and the Event Log window will appear.

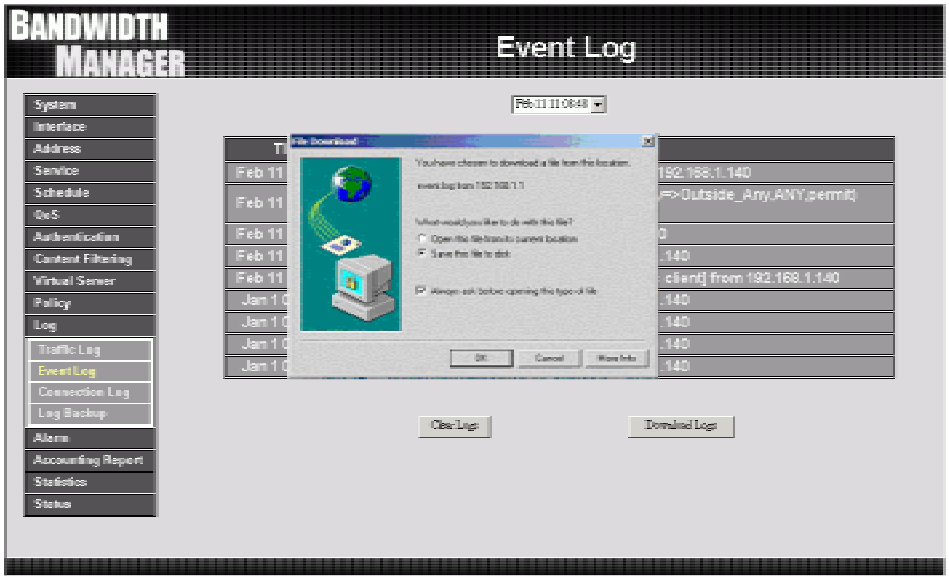
The table in the Event Log window displays the time and description of the events.

- **Time:** time when the event occurred.
- **Event:** description of the event.

Downloading the Event Logs

Step 1. In the Event Log window, click the Download Logs button at the bottom of the screen.

Step 2. Follow the File Download pop-up window to save the event logs into a specific directory on the hard drive.

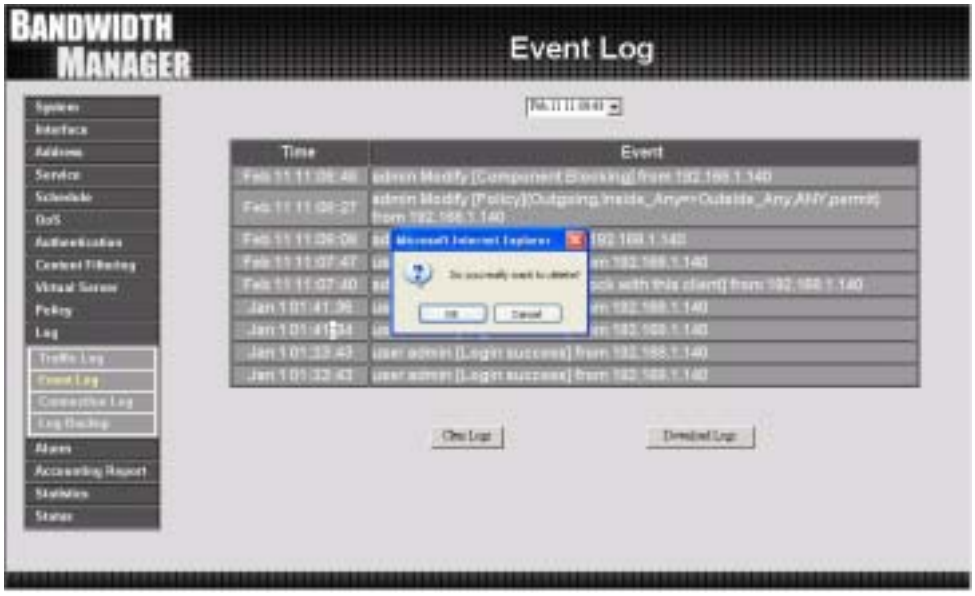


Clearing the Event Logs

The Administrator may clear on-line event logs to keep just the most updated logs on the screen.

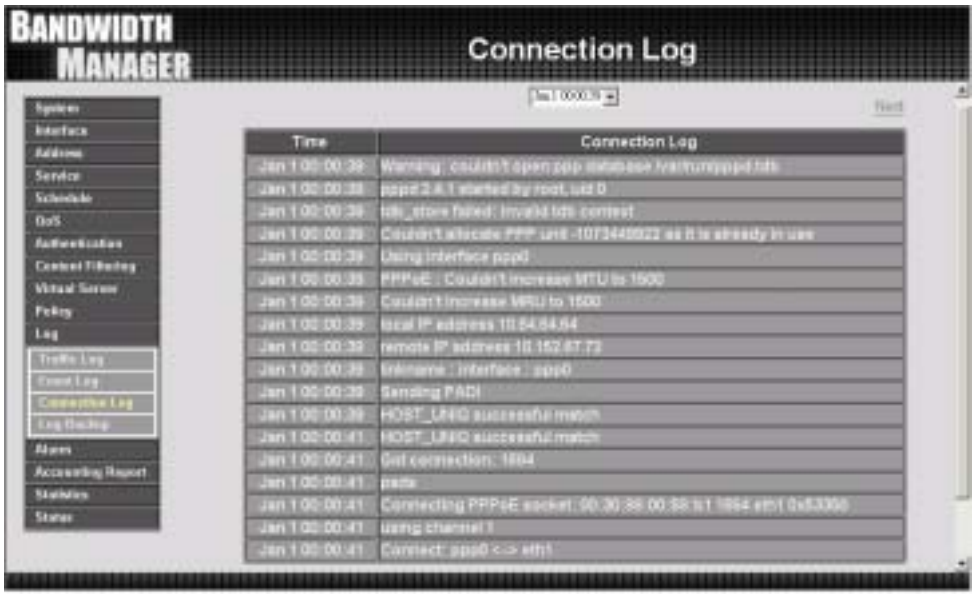
Step 1. In the Event Log window, click the Clear Logs button at the bottom of the screen.

Step 2. In the Clear Logs pop-up box, click **OK** to clear the logs or click **Cancel** to cancel it.



Connection Log

Click Log in the menu bar on the left hand side, and then select the sub-selection Connection Log.



Definition:

Time：The start and end time of connection.

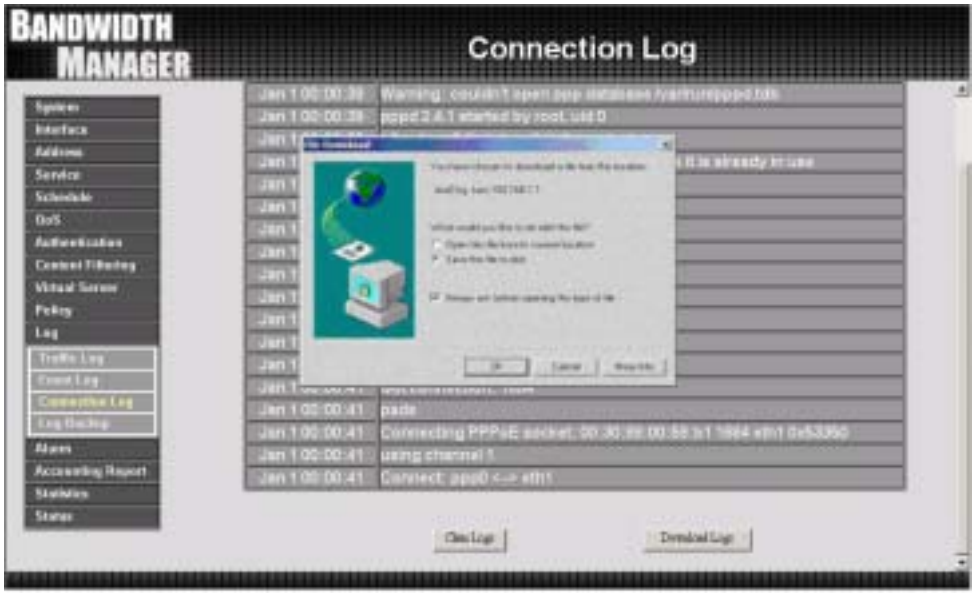
Connection Log：Event description during connection.

Download Logs

Step 1. Click **Log** in the menu bar on the left hand side and then select the sub-selection **Connection Log**.

Step 2. In Connection Log window, click the **Download Logs** button.

Step 3. In the Download Logs window, save the logs to the specified location.



Clear Logs

Step 1. Click **Log** in the menu bar on the left hand side, and then select the sub-selection **Connection Logs**.

Step 2. In Connection Log window, click the **Clear Logs** button.

Step 3. In Clear Logs window, click **OK** to clear the logs or click **Cancel** to discard changes.

Log Backup

The Log Backup

Step 1. Click **Log →Log Backup**.

Step 2.

- **Log Mail Configuration**：When the Log Mail files accumulated up to 300Kbytes, router will notify administrator by email with the traffic log and event log.。
  ***Note**: Before enabling this function, you have to enable E-mail Alarm in Administrator.*
- **Syslog Settings**：If you enable this function, system will transmit the Traffic Log and the Event Log simultaneously to the server which supports Syslog function.

Enable Log Mail Support & Syslog Message

Log Mail Configuration /Enable Log Mail Support

Step 1. Firstly, go to **Admin** –Select **Enable E-mail Alert Notification** under **E-Mail Settings**. Enter the e-mail address to receive the alarm notification. Click **OK**.

Step 2. Go to **LOG →Log Backup.** Check to enable **Log Mail Support.** Click **OK.**

System Settings/Enable Syslog Message

Step 3. Check to enable Syslog Message. Enter the Host IP Address and Host Port number to receive the Syslog message.

Step 4. Click **OK**.

Disable Log Mail Support & Syslog Message

Step 1. Go to **LOG →Log Backup.** Uncheck to disable **Log Mail Support.** Click **OK.**

Step 2. Go to **LOG →Log Backup.** Uncheck to disable **Settings Message.** Click **OK.**

Alarm

In this chapter, the Administrator can view traffic alarms and event alarms that occur and the Bandwidth Manager has logged.
Bandwidth Manager has two alarms: **Traffic Alarm** and **Event Alarm**.

Traffic alarm:

In control policies, the Administrator set the threshold value for traffic alarm. The System regularly checks whether the traffic for a policy exceeds its threshold value and adds a record to the traffic alarm file if it does.

Event alarm:

When Bandwidth Manager detects attacks from hackers, it writes attacking data in the event alarm file and sends an e-mail alert to the Administrator to take emergency steps.

Traffic Alarm

Entering the Traffic Alarm window

Click the **Traffic Alarm** option below **Alarm** menu to enter the Traffic Alarm window.

The table in the Traffic Alarm window displays the current traffic alarm logs for connections.

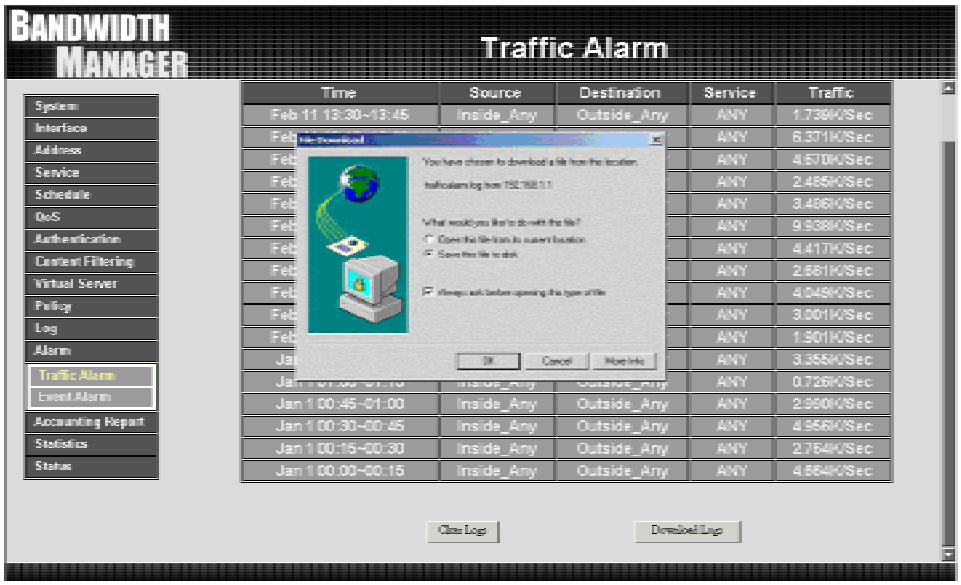
- **Time:** The start and stop time of the specific connection.
- **Source:** Name of the source network of the specific connection.
- **Destination:** Name of the destination network of the specific connection.
- **Service:** Service of the specific connection.
- **Traffic:** Traffic (in Kbytes/Sec) of the specific connection.

Downloading the Traffic Alarm Logs

The Administrator can back up traffic alarm logs regularly and download it to a file on the computer.

Step 1. In the Traffic Alarm window, click the Download Logs button on the bottom of the screen.

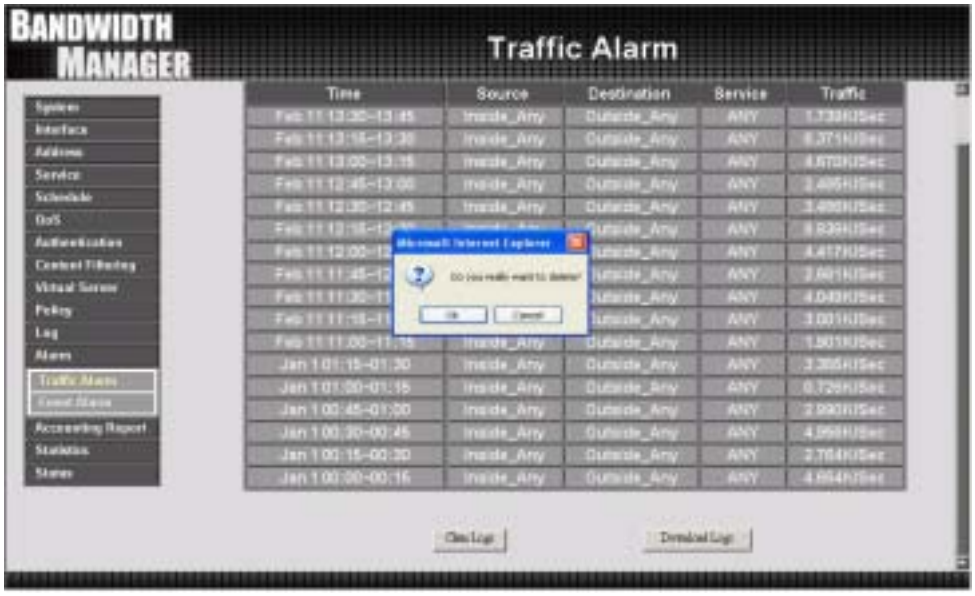
Step 2. Follow the File Download pop-up box to save the traffic alarm logs into specific directory on the hard drive.



Clearing the Traffic Alarm Logs

Step 1. In the Traffic Alarm window, click the Clear Logs button at the bottom of the screen.

Step 2. In the Clear Logs pop-up box, click **Ok** to clear the logs or click **Cancel** to cancel.



Event Alarm

Entering the Event Alarm window

Click the **Event Alarm** option below the **Alarm** menu to enter the Event Alarm window.

The table in Event Alarm window displays current traffic alarm logs for connections.

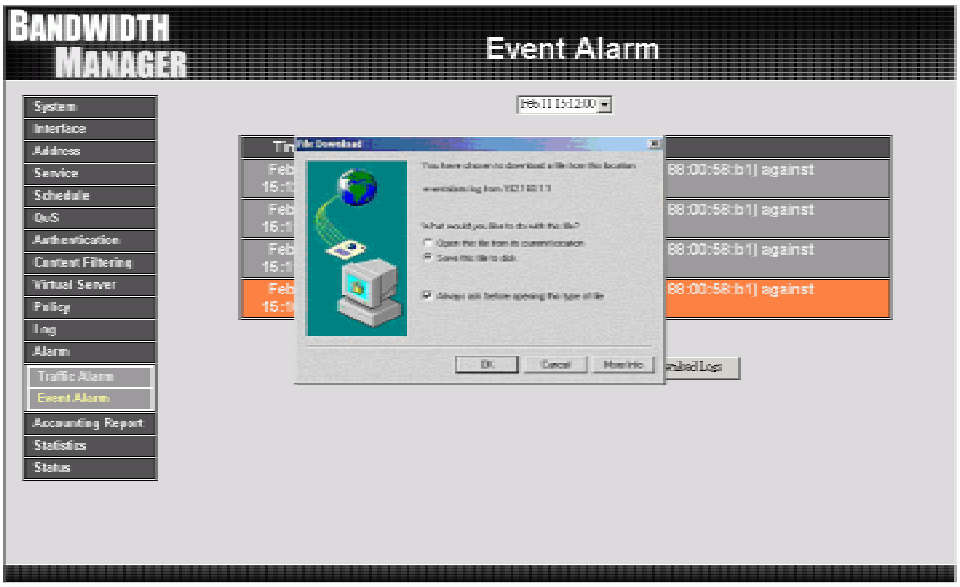
- **Time:** log time.
- **Event:** event descriptions.

Downloading the Event Alarm Logs

The Administrator can back up event alarm logs regularly by downloading it to a file on the computer.

Step 1. In the Event Alarm window, click the Download Logs button at the bottom of the screen.

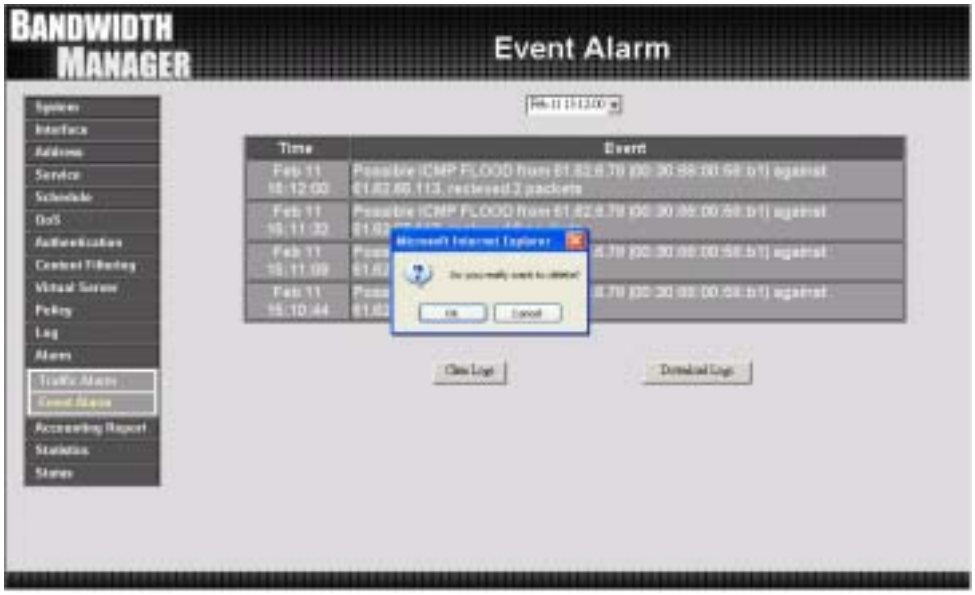
Step 2. Follow the File Download pop-up box to save the event alarm logs into specific directory on the hard drive.



Clearing Event Alarm Logs

The Administrator may clear on-line logs to keep the most updated logs on the screen.

Step 1. In the Event Alarm window, click the Clear Logs button at the bottom of the screen.
Step 2. In the Clear Logs pop-up box, click **OK**.



Accounting Report

Accounting Report can be divided into two parts, one is Outbound Accounting Report, and the other is Inbound Accounting Report.

Outbound Accounting Report

It is the statistics of the downstream and upstream of the LAN, WAN and all kinds of communication services.

Source IP：the IP address used by LAN users who use Bandwidth Manager

Destination IP：The IP address used by WAN service server which uses Bandwidth Manager.

Service：The communication service which listed in the pull-down menu when LAN users use bandwidth Manager to connect to WAN service server.

Inbound Accounting Report

It is the statistics of downstream/upstream for all kinds of communication services; the Inbound Accounting report will be shown when WAN user uses Bandwidth Manager to connect to LAN Service Server.

Source IP：the IP address used by WAN users who use Bandwidth Manager
Destination IP：the IP address used by LAN service server who use Bandwidth Manager
Service：The communication service which listed in the pull-down menu when WAN users use bandwidth Manager to connect to LAN Service server..

Administrator can use this Accounting Report to inquire the LAN IP users and WAN IP users, and to gather the statistics of Downstream/Upstream, First packet/Last packet/Duration and the service of all the user's IP that passes the Bandwidth Manager.

Outbound Accounting Report

Step 1. Click the **Accounting Report** function, and then select **Outbound**.

Outbound source IP Accounting Report

Source IP：When LAN users use Bandwidth Manager to connect to WAN service server, all of the Downstream/Upstream/First Packet/Last Packet/Duration log of the source IP will be recorded.

Definitions:

TOP：Select the data you want to view, it presents 10 results in one page.

Pull-down menu selection

Source IP：The IP address used by LAN users who use Bandwidth Manager to connect to WAN service server.

Downstream：The percentage of downstream and the value of each WAN service server which uses Bandwidth Manager to LAN user.

Upstream：The percentage of upstream and the value of each LAN user who uses Bandwidth Manager to WAN service server

First Packet：When the first packet is sent to WAN service server from LAN user, the sent time will be recorded by the Bandwidth Manager.

Last Packet：When the last packet sent from WAN service server is received by the LAN user, the sent time will be recorded by the Bandwidth Manager.

Duration：The period of time which starts from the first packet to the last packet to be recorded.

Total Traffic：The Bandwidth Manager will record the sum of packet sent/receive time and show the percentage of each LAN user's upstream/downstream to WAN service server.

Reset Counter：Click **Reset Counter** button to refresh Accounting Report.


BANDWIDTH MANAGER
Outbound
Top:
Starting Time : Wed Jan 1 00:00:16 2003
No.
Downstream
Upstream
First Packet
Last Packet
Duration
Action
Total Traffic

Outbound Destination IP Accounting Report

Destination IP：When WAN service server uses Bandwidth Manager to connect to LAN user, all of the Downstream/Upstream/First Packet/Last Packet/Duration log of the Destination IP will be recorded.

Definition:

TOP：Select the data you want to view, it presents 10 results in one page.

Pull-down menu selection

Destination IP：The IP address used by WAN service server which uses Bandwidth Manager.

Downstream：The percentage of downstream and the value of each WAN service server which uses Bandwidth Manager to LAN user.

Upstream：The percentage of upstream and the value of each LAN user who uses Bandwidth Manager to WAN service server.

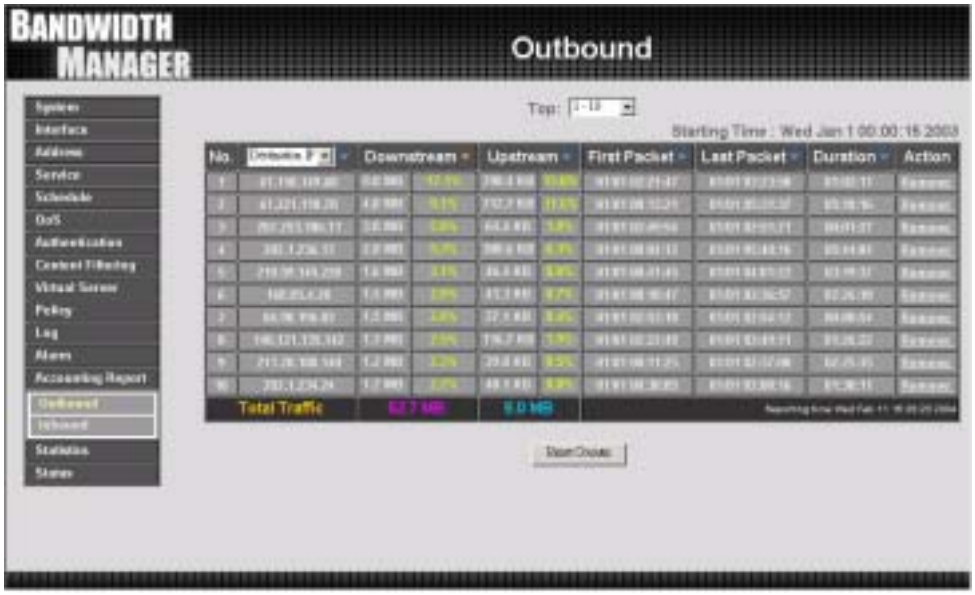
First Packet：When the first packet is sent from WAN service server to LAN users, the sent time will be recorded by the Bandwidth Manager.

Last Packet：When the last packet from LAN user is sent to WAN service server, the sent time will be recorded by the Bandwidth Manager.

Duration：The period of time which starts from the first packet to the last packet to be recorded.

Total Traffic：The Bandwidth Manager will record the sum of time and show the percentage of each WAN service server's upstream/downstream to LAN user.

Reset Counter：Click **Reset Counter** button to refresh Accounting Report.


BANDWIDTH MANAGER
Outbound
System
Interface
Address
Service
Schedule
QoS
Authentication
Content Filtering
Virtual Server
Policy
Log
Alarm
Accounting Report
Outbound
Inbound
Statistics
Status
Top:
Starting Time : Wed Jan 1 00:00:16 2003
No.
Downstream
Upstream
First Packet
Last Packet
Duration
Action
Total Traffic

Outbound Service Accounting Report

Service： When LAN users use Bandwidth Manager to connect to WAN Service Server, all of the Downstream/Upstream/First Packet/Last Packet/Duration log of the Communication Service will be recorded.

Definitions:

TOP：Select the data you want to view. It presents 10 results in one page.

 ：According to the downstream/upstream report of the selected TOP numbering to draw the Protocol Distribution chart.

Pull-down menu selection

Service：The report of Communication Service when LAN users use the Bandwidth Manager to connect to WAN service server.

Downstream：The percentage of downstream and the value of each WAN service server who uses Bandwidth Manager to connect to LAN user.

Upstream：The percentage of upstream and the value of each LAN user who uses Bandwidth Manager to WAN service server.

First Packet：When the first packet is sent to the WAN Service Server, the sent time will be recorded by the Bandwidth Manager.

Last Packet：When the last packet is sent from the WAN Service Server, the sent time will be recorded by the Bandwidth Manager

Duration：The period of time starts from the first packet to the last packet to be recorded.

Total Traffic：The Bandwidth Manager will record the sum of time and show the percentage of each Communication Service’s upstream/downstream to WAN service server..

Reset Counter：Click the Reset Counter button to refresh the Accounting Report.

Press  to return to **Accounting Report** window.

Inbound Accounting Report

Step 1. Click Service in the menu bar on the left hand side of the window. Click Group under it.

Inbound Source IP Accounting Report

Source IP：When WAN users use Bandwidth Manager to connect to LAN service server, all of the Downstream/Upstream/First Packet/Last Packet/Duration log of the source IP will be recorded.

Definitions**:**

TOP：Select the data you want to view. It presents 10 pages in one page.

Select from the Pull-down menu

Source IP：The IP address used by WAN users who use Bandwidth Manager.

Downstream：The percentage of Downstream and the value of each WAN user who uses Bandwidth Manager to LAN service server.

Upstream：The percentage of Upstream and the value of each LAN service server who uses Bandwidth Manager to WAN users.

First Packet：When the first packet is sent from WAN users to LAN service server, the sent time will be recorded by the Bandwidth Manager.

Last Packet：When the last packet is sent from LAN service server to WAN users, the sent time will be recorded by the Bandwidth Manager..

Duration：The period of time starts from the first packet to the last packet to be recorded.

Total Traffic：The Bandwidth Manager will record the sum of time and show the percentage of each WAN user’s upstream/downstream to LAN service server.

Reset Counter：Click the **Reset Counter** button to refresh the Accounting Report.


BANDWIDTH MANAGER
Inbound
System
Interface
Address
Service
Schedule
DoS
Authentication
Content Filtering
Virtual Server
Policy
Log
Alarm
Accounting Report
Outbound
Inbound
Statistics
Status
Top
Starting Time : Wed Jan 1 00:00:16 2003
No.
Upstream
Downstream
First Packet
Last Packet
Duration
Action
Total Traffic
12.0 KB
12.0 KB

Inbound Destination IP Accounting Report

Destination IP：When WAN users use Bandwidth Manager to connect to LAN service server, all of the Downstream/Upstream/First Packet/Last Packet/Duration log of the Destination IP will be recorded.

Definitions:

TOP：Select the data you want to view. It presents 10 pages in one page.

Pull-down menu selection

Destination IP：The IP address used by WAN users who uses Bandwidth Manager.

Downstream：The percentage of Downstream and the value of each WAN user who uses Bandwidth Manager to LAN service server.

Upstream：The percentage of Upstream and the value of each LAN service server who uses Bandwidth Manager to WAN users.

First Packet：When the first packet is sent from WAN users to LAN service server, the sent time will be recorded by the Bandwidth Manager.

Last Packet：When the last packet is sent from LAN service server to WAN users, the sent time will be recorded by the Bandwidth Manager..

Duration：The period of time starts from the first packet to the last packet to be recorded.

Total Traffic：The Bandwidth Manager will record the sum of time and show the percentage of each WAN user’s upstream/downstream to LAN service server.

Reset Counter：Click the **Reset Counter** button to refresh the Accounting Report.


BANDWIDTH MANAGER
Inbound
System
Interface
Address
Service
Schedule
DoS
Authentication
Content Filtering
Virtual Server
Policy
Log
Alarm
Accounting Report
Outbound
Inbound
Statistics
Status
Top:
Starting Time : Wed Jan 1 00:00:16 2003
No.
Upstream
Downstream
First Packet
Last Packet
Duration
Action
Total Traffic
14.5 KB
14.4 KB

Inbound Service Accounting Report

Service： When WAN users use Bandwidth Manager to connect to LAN Service Server, all of the Downstream/Upstream/First Packet/Last Packet/Duration log of the Communication Service will be recorded.

Definitions:

TOP：Select the data you want to view. It presents 10 results in one page.

 ：According to the downstream/upstream report of the selected TOP numbering to draw the Protocol Distribution chart.

Pull-down menu selection

Service：The report of Communication Service when WAN users use the Bandwidth Manager to connect to LAN service server.

Downstream：The percentage of downstream and the value of each WAN user who uses Bandwidth Manager to LAN service server.

Upstream：The percentage of upstream and the value of each LAN service server who uses Bandwidth Manager to WAN user.

First Packet：When the first packet is sent to the LAN Service Server, the sent time will be recorded by the Bandwidth Manager.

Last Packet：When the last packet is sent from the LAN Service Server, the sent time will be recorded by the Bandwidth Manager

Duration：The period of time starts from the first packet to the last packet to be recorded.

Total Traffic：The Bandwidth Manager will record the sum of time and show the percentage of each Communication Service's upstream/downstream to LAN service server..

Reset Counter：Click the **Reset Counter** button to refresh the Accounting Report.

Press  and return to **Accounting Report** window.

Statistics

In this chapter, the Administrator queries the Bandwidth Manager for statistics of packets and data which passes across the Bandwidth Manager. The statistics provides the Administrator with information about network traffics and network loads.

What is Statistics

Statistics are the statistics of packets that pass through the Bandwidth Manager by control policies setup by the Administrator.

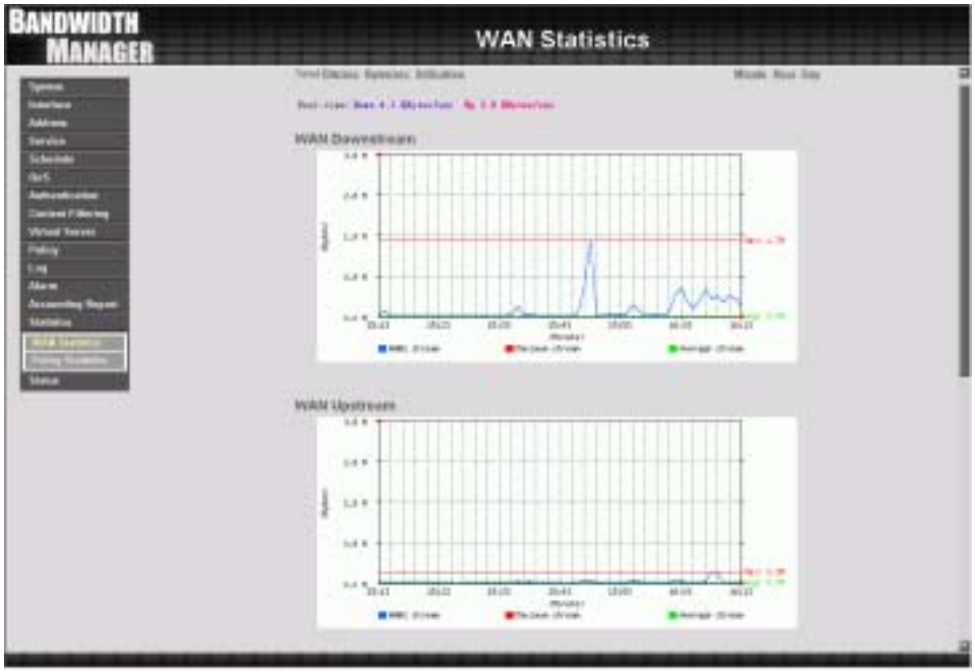
How to use Statistics

The Administrator can get the current network condition from statistics, and use the information provided by statistics as a basis to mange networks.

WAN Statistics

Step 1. Click Statistics in the menu bar on the left hand side, and then select WAN Statistics.

Step 2. The WAN Statistics will be displayed.



Entering the Statistics window by Time

The Statistics window displays the statistics of network connections (downstream and upstream as well) by minute, hour, or day.

WAN Interface : Displays statistics of WAN network connections (downstream and upstream as well) in a total amount by minute, hour or day.

Step 1. Click **Statistics** in the menu bar on the left hand side, and then select **WAN Statistics**.

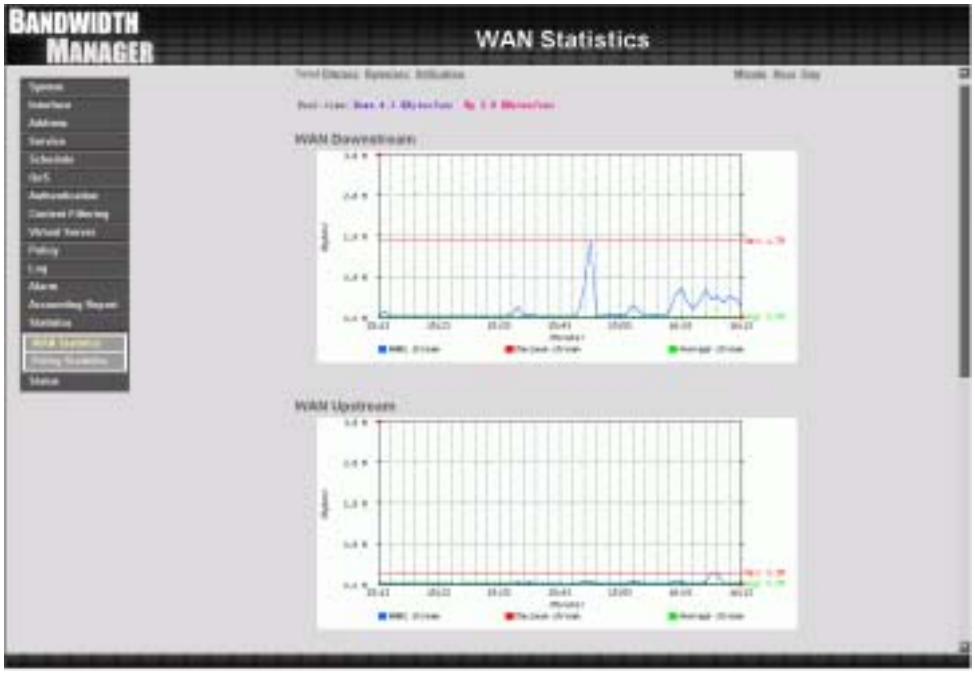
Step 2. In Statistics window, find the domain name you want to view.

Step 3. In the Statistics window, find the network you want to view and click Minute on the right hand side, and then you will be able to view the Statistics figure every minute; click Hour to view the Statistics figure every hour; click Day to view the Statistics figure every day.

Real-Time: Real display Download speed (KBytes/Sec) and Upload speed (KBytes/Sec)

Y-Coordinate：Network Traffic（Kbytes/Sec）.

X-Coordinate：Time（Hour/Minute/Day）.



Policy Statistics

Entering the Statistics window

Step 1. The Statistics window displays the statistics of current network connections.

- **Source:** the name of source address.
- **Destination:** the name of destination address.
- **Service:** the service requested.
- **Action:** permit or deny
- **Time:** viewable by minutes, hours, or days

Entering the Policy Satistics

Step 1. Click **Statistics** in the menu bar on the left hand side, and then select **WAN Statistics**.

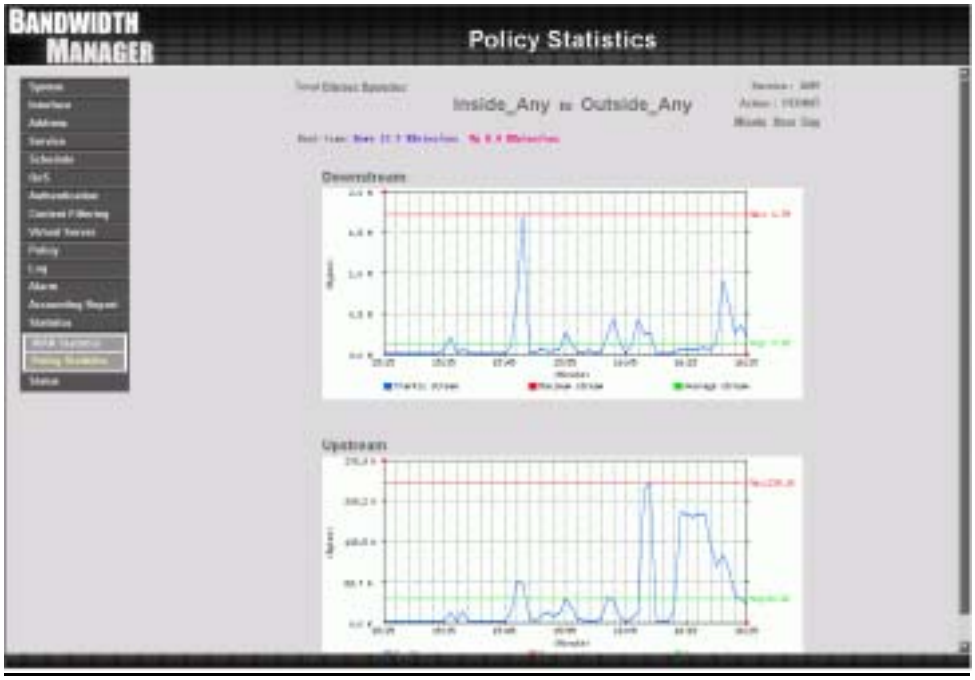
Step 2. In Statistics window, find the domain name you want to view

Step 3. In the Statistics window, find the network you want to view and click Minute on the right hand side, and then you will be able to view the Statistics figure every minute; click Hour to view the Statistics figure every hour; click Day to view the Statistics figure every day.

Real-Time: Real display Download speed (KBytes/Sec) and Upload speed (KBytes/Sec)

Y-Coordinate：Network Traffic（Kbytes/Sec）.

X-Coordinate：Time（Hour/Minute/Day）.



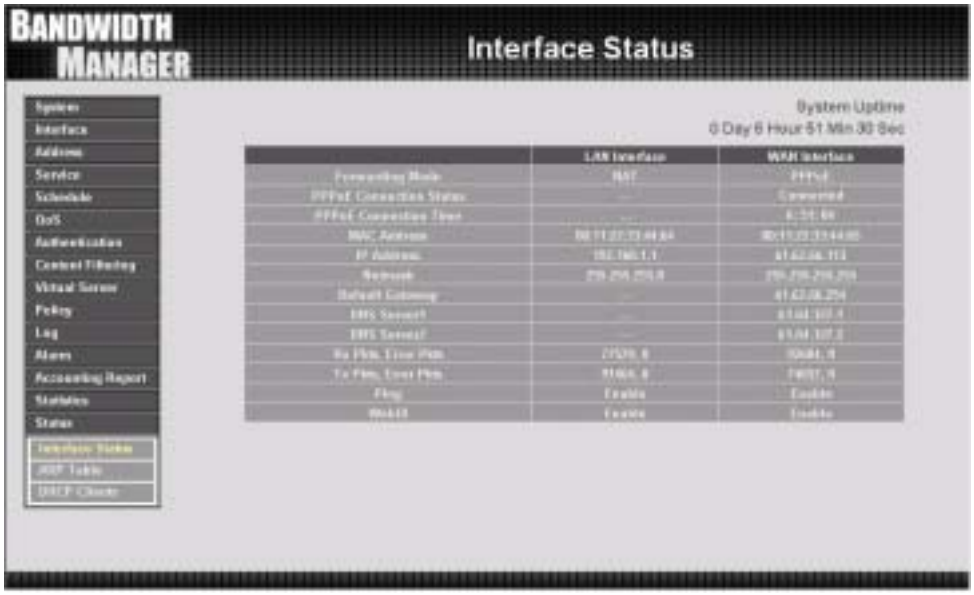
Status

In this section, the device displays the status information about the Bandwidth Manager. Status will display the network information from the Configuration menu. The Administrator may also use Status to check the DHCP lease time and MAC addresses for computers connected to the Bandwidth Manager.

Interface Status

Entering the Interface Status window

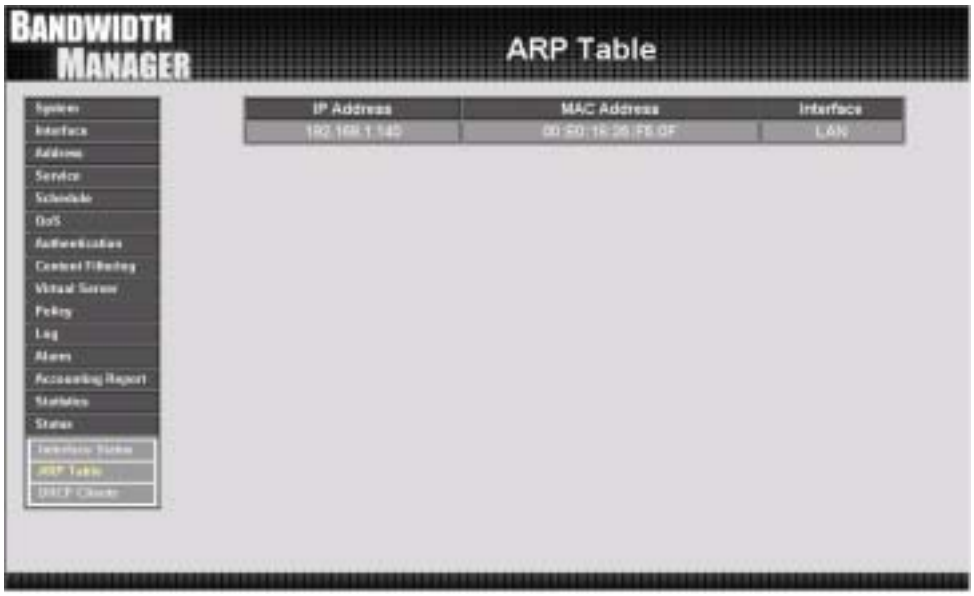
Click on **Status** in the menu bar, then click **Interface Status** below it. A window will appear providing information from the **Configuration** menu. **Interface Status** will list the settings for **LAN Interface, WAN Interface.**



ARP Table

Entering the ARP Table window

Click on **Status** in the menu bar, then click **ARP Table** below it. A window will appear displaying a table with IP addresses and their corresponding MAC addresses. For each computer on the LAN, WAN, and that replies to an ARP packet, the device will list them in this ARP table.



IP Address: The IP address of the host computer
MAC Address: The MAC address of that host computer
Interface: The port that the host computer is connected to (LAN, WAN)

DHCP Clients

Entering the DHCP Clients window

Click on **Status** in the menu bar, then click on **DHCP Clients** below it. A window will appear displaying the table of DHCP clients that are connected to the device. The table will list host computers on the LAN network that obtain its IP address from the Bandwidth Manager's DHCP server function.

IP Address: the IP address of the LAN host computer
MAC Address: MAC address of the LAN host computer
Leased Time: The Start and End time of the DHCP lease for the LAN host computer.

Setup Examples

Example 1: Allow the LAN network to be able to access the Internet

Example 2: The LAN network can only access Yahoo.com website

Example 3: Outside users can access the LAN FTP server through Virtual Servers

Example 4: Install a server inside the LAN network and have the Internet (WAN) users access the server through IP Mapping

Example 5: Configuration of QoS inside the LAN Network

Example 6: Configuration of QoS inside the WAN Network

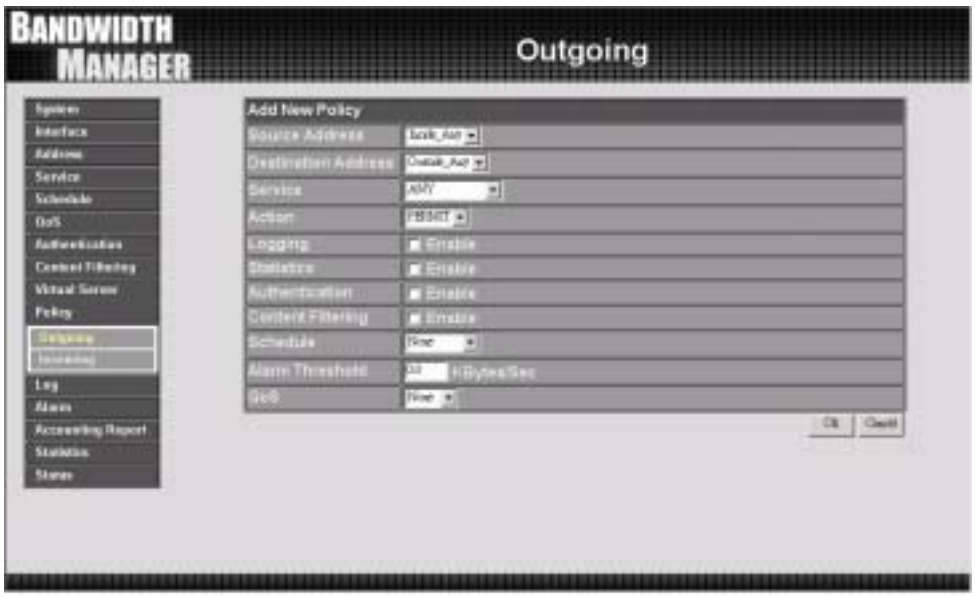
Please see the explanation of the examples below:

Example 1: Allow the LAN network to be able to access the Internet

Step 1 Enter the Outgoing window under the Policy menu.

Step 2 Click the New Entry button on the bottom of the screen.

Step 3 In the Add New Policy window, enter each parameter, then click OK.



Step 4 When the following screen appears, the setup is completed.

Example 2: The LAN network can only access 61.11.11.11 website.

Step 1. Enter the WAN window under the Address menu.

Step 2. Click the New Entry button.

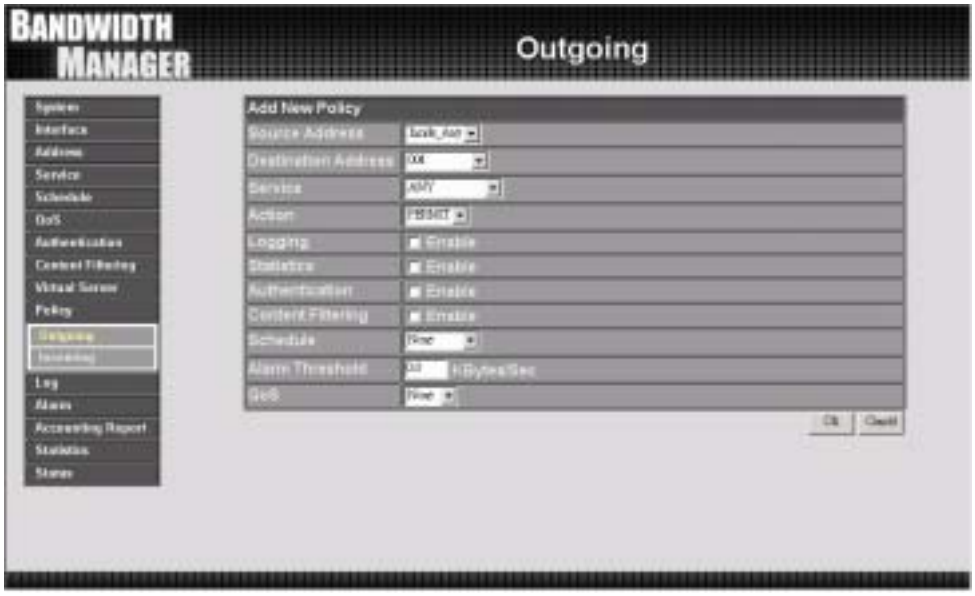
Step 3. In the Add New Address window, enter relating parameters.

Step 4. Click **OK** to end the address table setup.

Step 5. Go to the Outgoing window under the Policy menu.

Step 6. Click the New Entry button.

Step 7. In the Add New Policy window, enter corresponding parameters. Click **OK**.



Step 8. When the following screen appears, the setup is completed.

Example 3: Outside users can access the LAN FTP server through Virtual Servers

Step 1. Enter Virtual Server under the Virtual Server menu.

Step 2. Click the ‘click here to configure’ button.

Step 3. Select an WAN IP address, then click OK.

Step 4. Click the New Service button on the bottom of the screen.

Step 5. Add the FTP service pointing to the LAN server IP address.

Step 6. Click OK.

Step 7. A new Virtual Service should appear.

Step 8. Go to the Incoming window under the Policy menu, then click on the New Entry button.

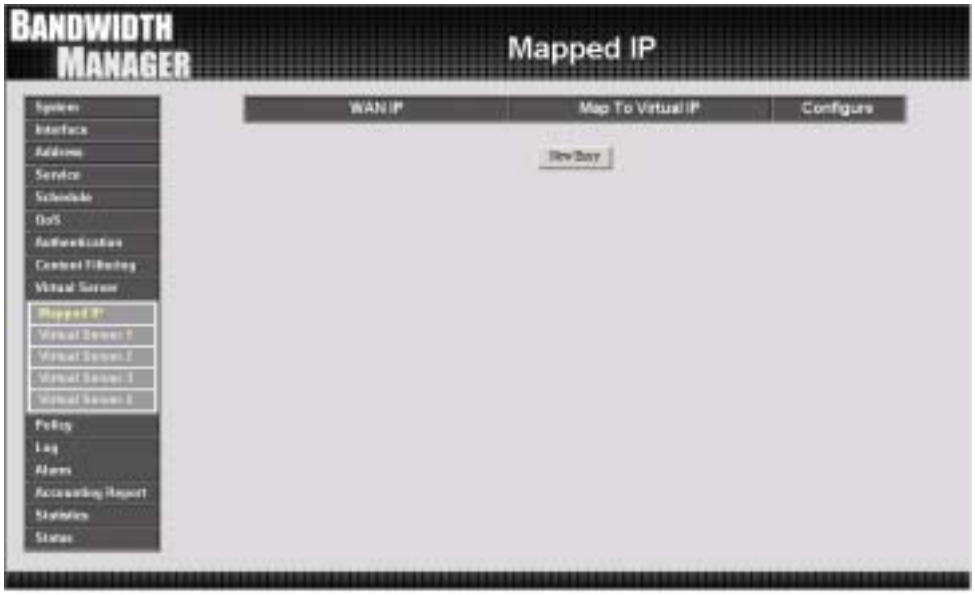
Step 9. In the Add New Policy window, set each parameter, then click OK.

Step 10. An Incoming FTP policy should now be created.

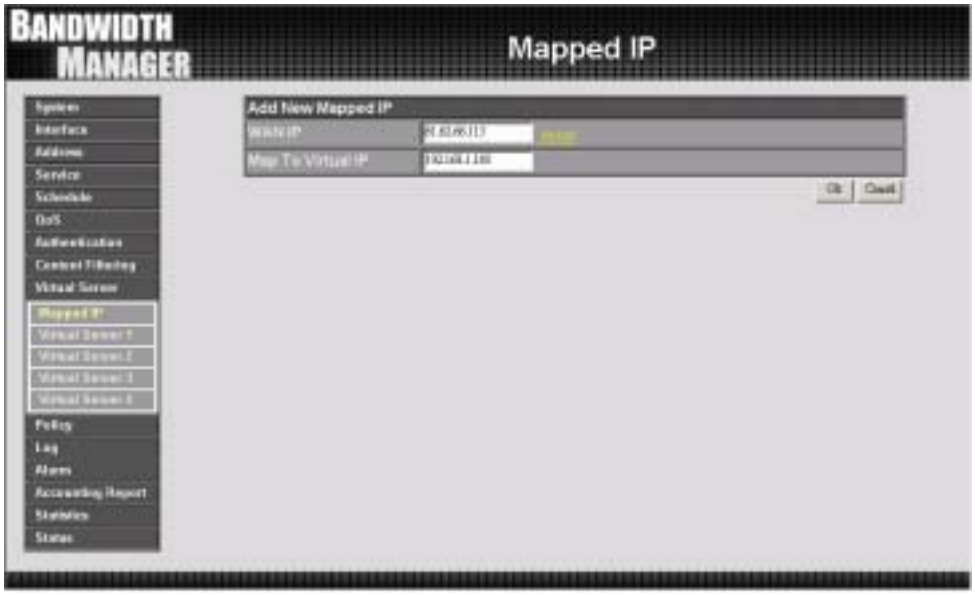
Example 4: Install a server inside the LAN network and have the Internet (WAN 1) users access the server through IP Mapping

Step 1. Enter the Mapped IP window under the Virtual Server menu.

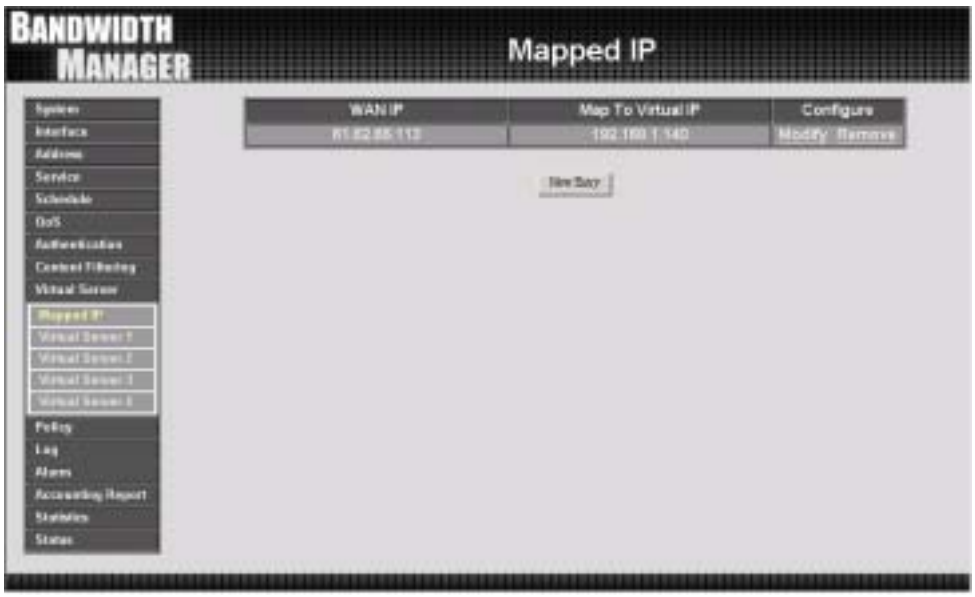
Step 2. Click the New Entry button.



Step 3. In the Add New IP Mapping window, enter each parameter, and then click OK.



Step 4. When the following screen appears, the IP Mapping setup is completed.



Step 5. Go to the Incoming window under the Policy menu.

Step 6. Click the New Entry button.

Step 7. In the Add New Policy window, set each parameter, then click OK.

Step 8. Open all the services. (ANY)

Step 9. The setup is completed.

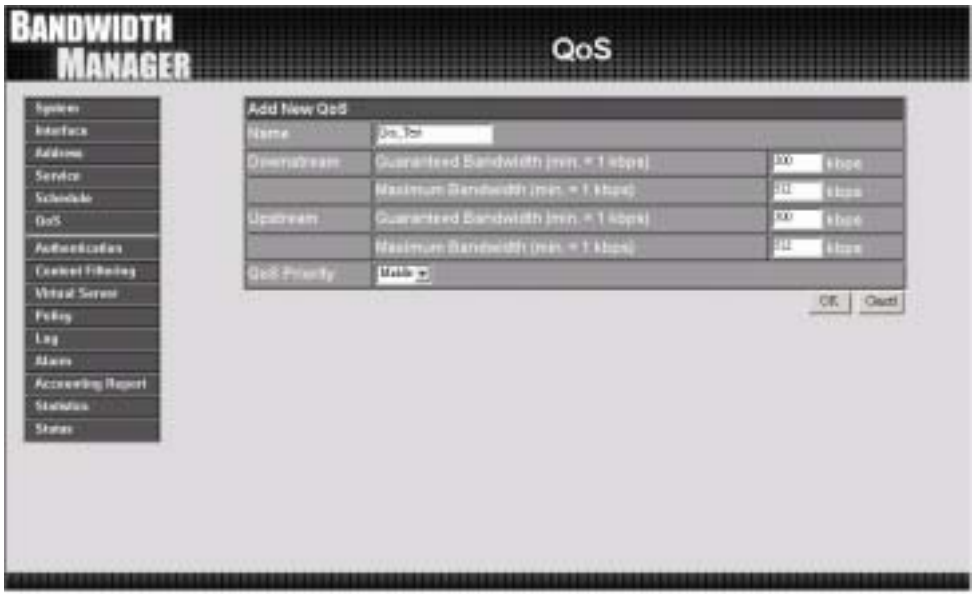
Example 5: Configuration of QoS inside the LAN Network

Step 1. Click QoS in the menu bar on the left hand side.

Step 2. Click the New Entry button to add new QoS.

Step 3. Enter the related parameters in the New Entry window.

Step 4. Click the OK button to add new QoS.

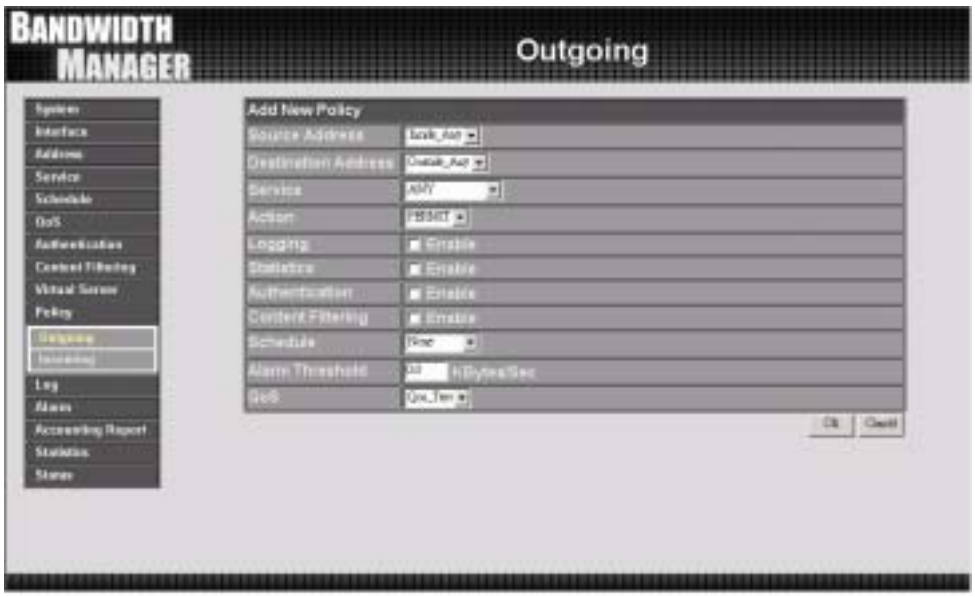


Step 5. Click Policy on the left hand side menu bar, then click Outgoing under it.

Step 6. In the outgoing window, click on the New Entry button and the Add New Policy window will appear.

Step 7. Enter the related parameters and click OK to add a new outgoing policy.

Step 8. Choose ANY for all services. The setting of QoS is finished.



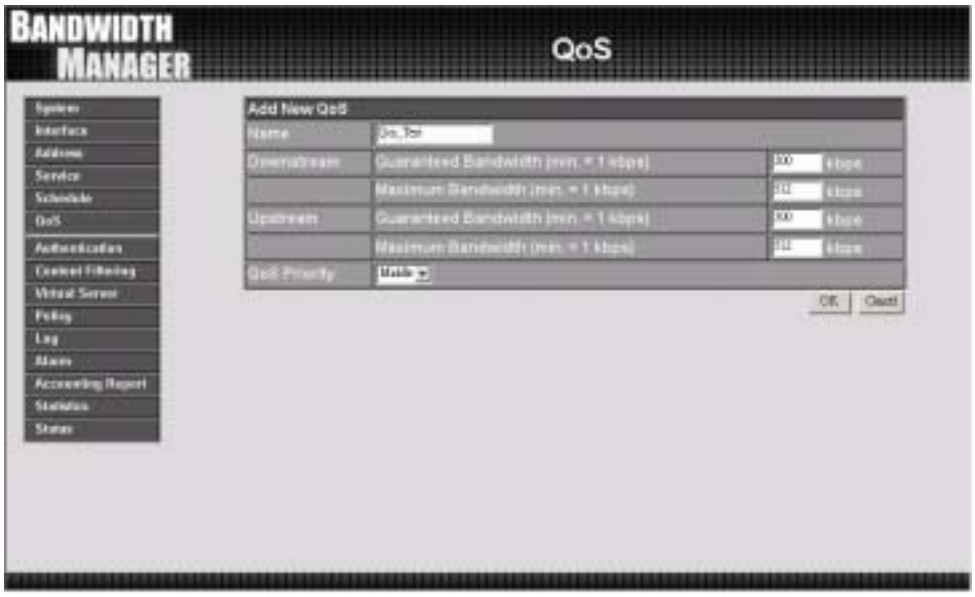
Example 6: Configuration of QoS inside the WAN Network

Step 1. Click QoS in the menu bar on the left hand side.

Step 2. Click the New Entry button to add new QoS.

Step 3. Enter the related parameters in the New Entry window.

Step 4. Click the OK button to add new QoS.



Step 5. Click an available virtual server from Virtual Server in the Virtual Server menu bar to enter the virtual server configuration window. In the following, Virtual Server is assumed to be the chosen option.

Step 6. Click the **click here to configure** button and the Add new Virtual Server IP window appears and asks for an IP address from the WAN network.

Step 7. Select an IP address from the drop-down list of available WAN network IP addresses.

Step 8. Click **OK** to add new Virtual Server or click **Cancel** to cancel adding.

Step 9. Enter the IP address of the LAN network server(s), to which the virtual server will be mapped. Up to four IP addresses can be assigned at most.

Step 10. Click OK to finish all settings of Virtual Server 1.

Step 11. Enter Policy and click Ingoing windows.

Step 12. Click New Entry button in the window.

Step 13. In Add Policy window, enter the related parameters and click OK.