

# **ASUS Router Virtual Server Configuration Guide**

Version 1.0

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# Chapter 1 Virtual Server Concept

## 1.1 Why Need Virtual Server?

The NAT (Network Address Translation) shared internet connection and protect internal LAN, so it caused the server or host in LAN cannot be accessed from WAN. And some on-line games, BT download need to mapping the LAN port to WAN for accessing, but as normal, the access from WAN would be blocked by router.

## 1.2 What Is Virtual Server?

Virtual Server (Port Mapping) is a feature for allowing the access from WAN to LAN. When some clients try to access the server or host in LAN via WAN IP address, the router will forward to the appointed server/host base on virtual server setting, and the user cannot feel any difference.

# Chapter 2 Which Ports Need To Be Mapped

## 2.1 Common Network Service

Service	TCP	UDP	Notes
<a href="#">SSH</a>	22		Secure Shell
<a href="#">HTTP</a>	80		Hyper-Text Transfer Protocol (e.g. for web browsing).
<a href="#">HTTPS</a>	443		secure HTTP (SSL)
<a href="#">LDAP</a>	389	389	Lightweight Directory Access Protocol
<a href="#">SLP</a>	427	427	Service Location Protocol Used by Mac OS and NetWare.
<a href="#">LPD / printer</a>	515	515	Printing LPD stands for Line Printer Daemon.

<a href="#">RTSP</a>	554		Real Time Streaming Protocol
<a href="#">Doom</a>	666	666	network game
<a href="#">H.323 Host Call</a>	1720	1720	H.323 host call
<a href="#">SIP</a>	5060	5060	Session Initiation Protocol. For audio and video.
<a href="#">AppleTalk Filing Protocol (AFP)</a>	548	548	
<a href="#">Apple iTunes music sharing (DAAP)</a>	3689	3689	Digital Audio Access Protocol
<a href="#">VMware Virtual Machine Console</a>	902		Remote control and viewing of virtual machines. vmware-authd.
<a href="#">PPTP</a>	1723		Virtual private network (VPN) Note PPTP also uses the GRE protocol. However Microsoft says in Understanding PPTP: "PPTP can be used with most firewalls and routers by enabling traffic destined for port 1723 to be routed through the firewall or router."
<a href="#">MS NetMeeting</a>	LDAP or ULP, dyn>=1024, 1503, H.323 HostCall, MS ICCP	dyn>=1024	Video conferencing
<a href="#">MSN Messenger</a>	1863		Instant messaging. NOTE: For detailed info on ports for file transfers, voice and video, see the Windows and MSN Messenger section below.
<a href="#">Microsoft DirectX gaming (DirectPlay) 8</a>		2302-2400, 6073	networked multiplayer games, only 6073 is registered as DirectPlay8, if needed also see MSN Gaming Zone
<a href="#">Windows Remote Desktop Protocol (RDP)</a>	3389		Registered as ms-wbt-server. RDP 5.1 is the current version.

<a href="#">Abacast</a>	4000-4100, 4500, 9000-9100		peer-to-peer audio and video streaming. NOTE: This software will create <b>OUTGOING</b> streams to other users if it can.
<a href="#">MSN Gaming Zone</a>	28800-29100	28800-29100	network gaming (zone.com, zone.msn.com)
<a href="#">Netscape Conference</a>	H.323 6498, 6502	2327	Audio conferencing
<a href="#">World of Warcraft</a>	3724		online game
<a href="#">Blizzard / Battle.net</a>	4000, 6112-6119	4000, 6112-6119	network gaming
<a href="#">Blizzard Downloader</a>	World of Warcraft, Battle.net and BitTorrent		Downloads patches for World of Warcraft
<a href="#">Yahoo Messenger - Voice Chat</a>	5000-5001	5000-5010	Voice chat
<a href="#">Yahoo Messenger - messages</a>	5050		Messaging. NOTE: It will try ports 5050, 80, any port.
<a href="#">Yahoo Messenger - Webcams</a>	5100		Video
<a href="#">Yahoo Games</a>	11999		Network games
<a href="#">GnomeMeeting</a>	<u>H.323</u> <u>HostCall</u> , 30000-30010	5000-5003 , 5010-5013	Audio and video conference. 5000-5003 is RTP and RTCP range for this app.
<a href="#">AOL ICQ</a>	5190, dyn >=1024		Messaging
<a href="#">AOL</a>	5190-5193	5190-5193	America On-Line
<a href="#">pcAnywhere</a>	5631	5632	remote control
<a href="#">SOCKS</a>	1080		Internet proxy.
<a href="#">VNC</a>	5800+, 5900+		remote control



Tip: Some ports would be changed by the server site. Please confirm

the port number with your service provider.

## 2.2 Popular P2P Software Port Number

### 2.2.1 Bit Torrent

The default ports are 6881-6889, and listening port is 6969. You may change the default port range as Figure 1:

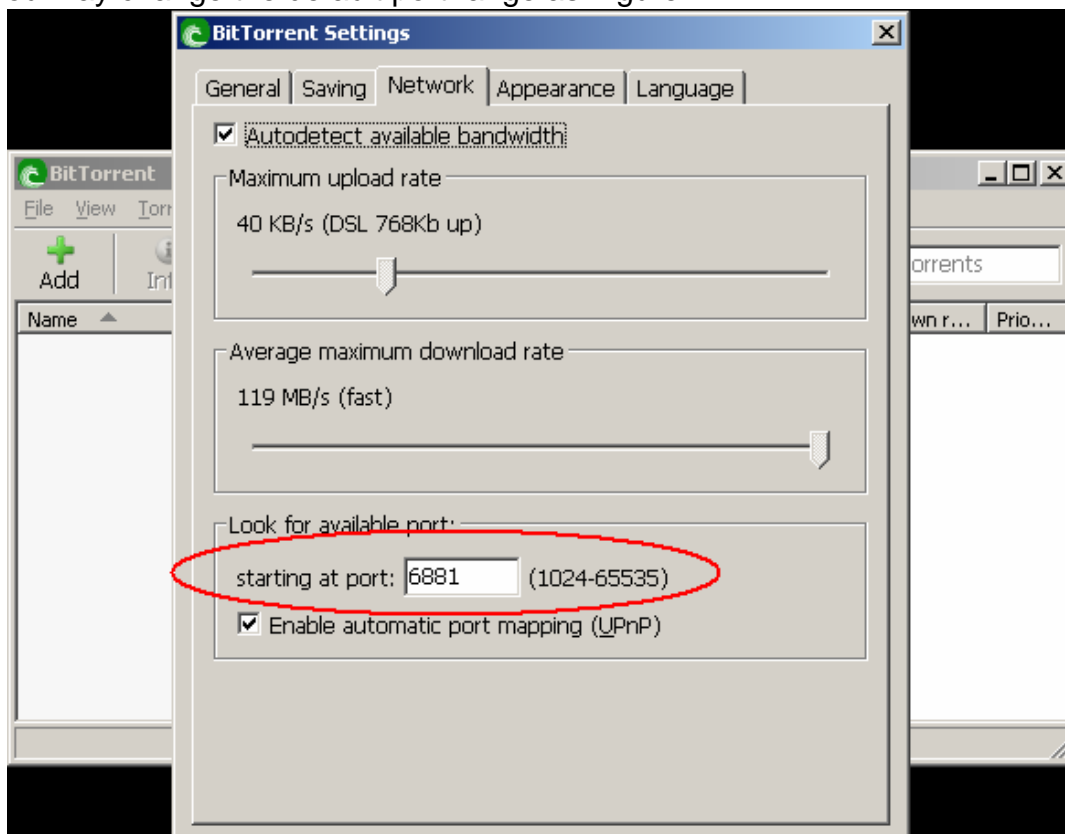


Figure 1

## 2.2.2 BitComet

The default ports are 6881-6889, and the listen port can be changed. Please look for the listen port as Figure 2

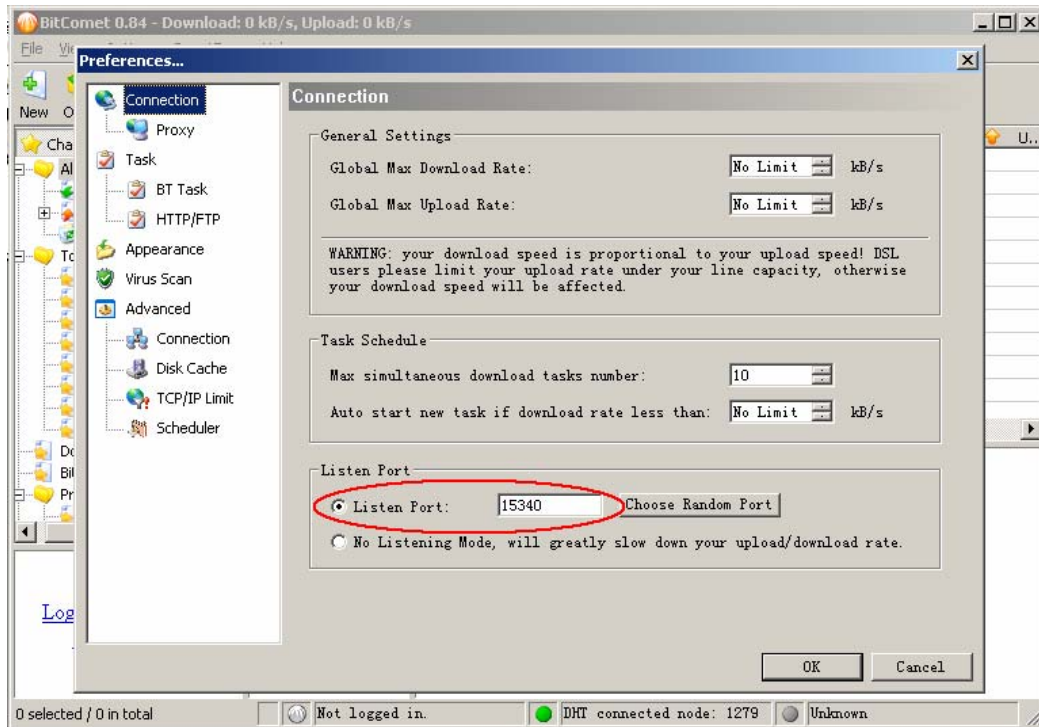


Figure 2

## 2.2.3 eMule

It comes with a UDP port number and a TCP port number by default. Check the port number as Figure 3:

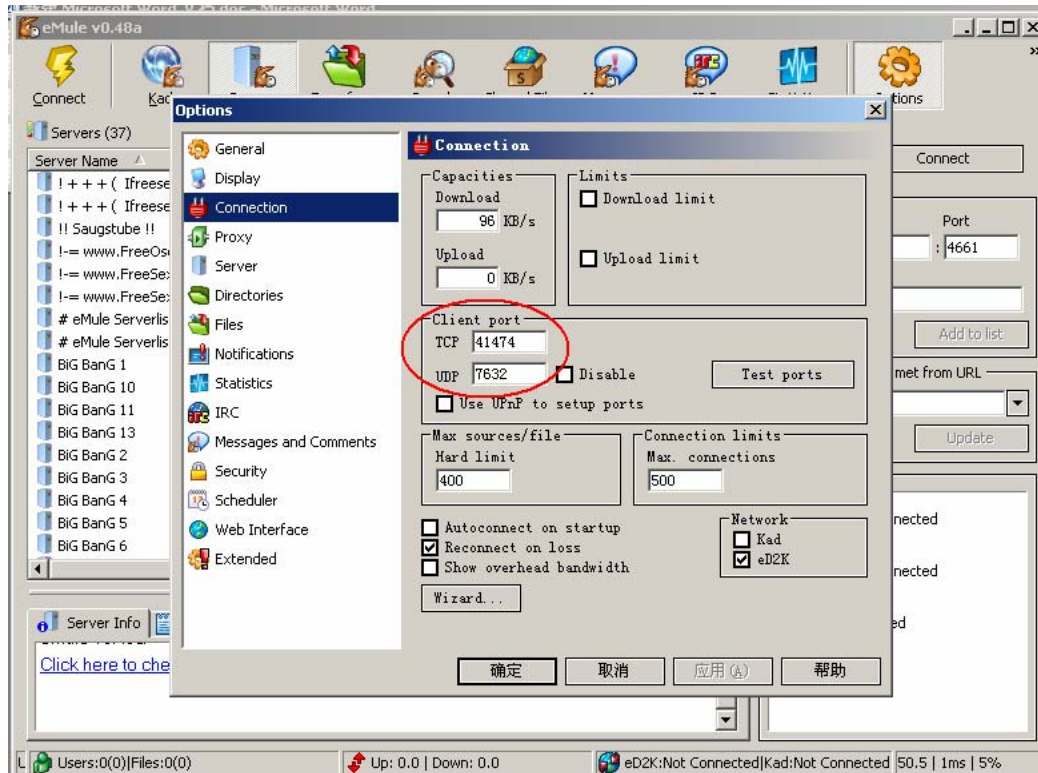


Figure 3



# Chapter 3 How to Set Up Virtual Server on ASUS Router?

Here we make an example of configuring port number for BT application in virtual server function on different ASUS routers. **It's strongly recommended that you fix host or server IP address (manually set up rather than automatically obtain IP address from the router) in your LAN when you use Virtual Server function.**

## 3.1 On WL-5xx series Routers

### Setting Steps:

1. Enable Virtual Server
2. Fill the port number and Local IP box with the network address of the host or server host within your LAN (as Figure 4).
3. Click **Add** button to add the item into the virtual server list
4. Click **Finish** to save the configuration and restart the router.

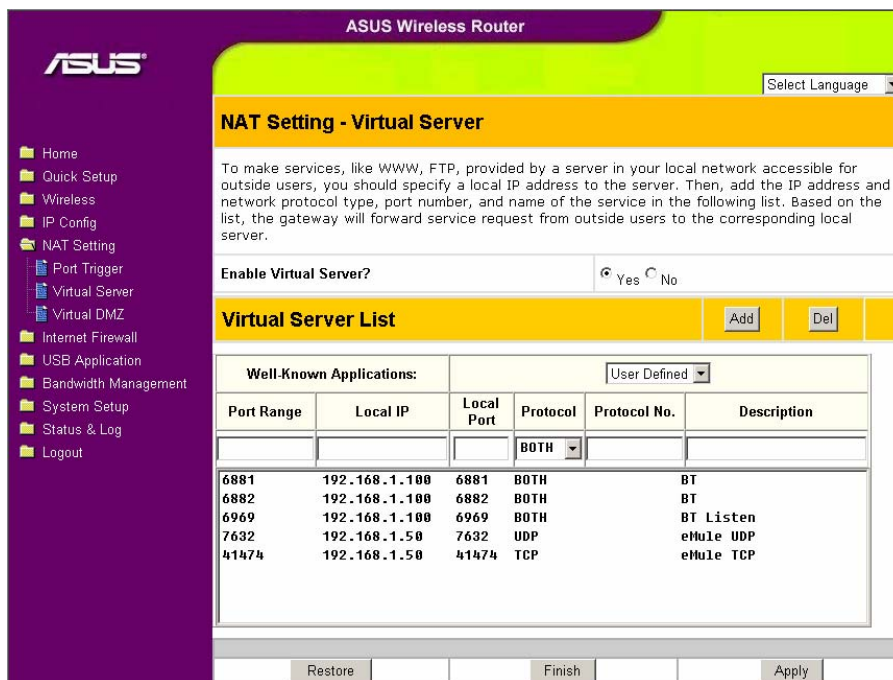


Figure 4



Tip: At present, the WL-5xx series routers cannot support port range mapping. For example: if you want to map 6881-6889 to LAN 6881-6889, need to add 9 items for port mapping.

## 3.2 On WL-600g Router

### Setting Steps:

1. Click **Advanced Setup** -> **NAT** -> **Virtual Server** in the left side menu to open the configuration page. Click **Add** to create a new rule.
2. Select the service you want to configure and let the system automatically fill in the external and internal port number and protocol type. You can also select Custom Server radio button to designate a certain known server.
3. Fill in external port (range), internal port (range), and protocol for the service if you select Custom Server radio button. In general, you are recommended to fill the same port range in external and internal port.
4. Fill the Server IP Address box with the network address of the host or server within your LAN.

**ASUS WL600g**

ASUS ADSL Router

Device Info  
Quick Setup  
Advanced Setup  
WAN  
LAN  
NAT  
Virtual Servers  
Port Triggering  
DMZ Host  
ALG  
Security  
Routing  
DNS  
Port Mapping  
Wireless  
USB Application  
Bandwidth Management  
Diagnostics  
Management

**Advanced Setup -- NAT -- Virtual Servers Add**

Select the service name, and enter the server IP address and click "Save/Apply" to forward IP packets for this service to the specified server. **NOTE: The "Internal Port End" cannot be changed. It is the same as "External Port End" normally and will be the same as the "Internal Port Start" or "External Port End" if either one is modified.**  
Remaining number of entries that can be configured:30

Server Name:  
 Select a Service: Select One  
 Custom Server: BT download

Server IP Address: 192.168.1.100

Save/Apply

External port start	External port end	Protocol:	Internal port start	Internal port end
6881	6889	TCP/UDP	6881	6889
6969	6969	TCP	6969	6969
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		
		TCP		

Save/Apply

Figure 5

5. Press **Save/Apply** to save and activate the settings. And you can see the items in the list:

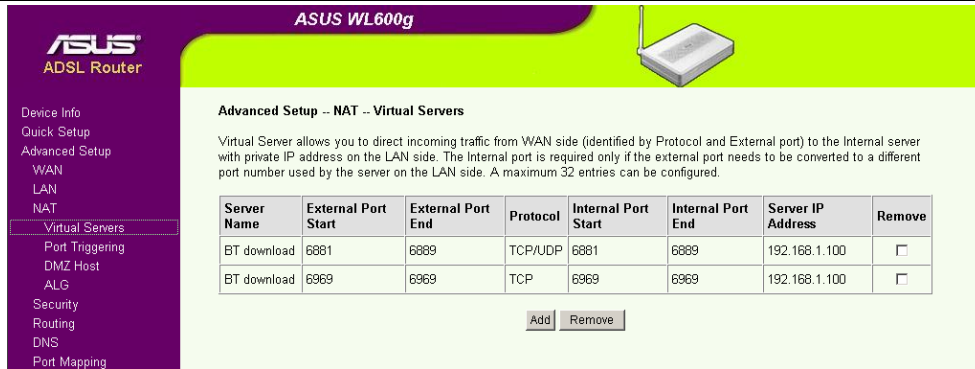


Figure 6

### 3.3 On WL-700gE Router

#### Setting steps:

1. Enable Virtual Server
2. Fill the port number and Local IP box with the network address of the host or server within your LAN (as Figure 7).
3. Click **Add** button to add the item into the virtual server list.
4. Click **Apply** to save and apply the configuration.

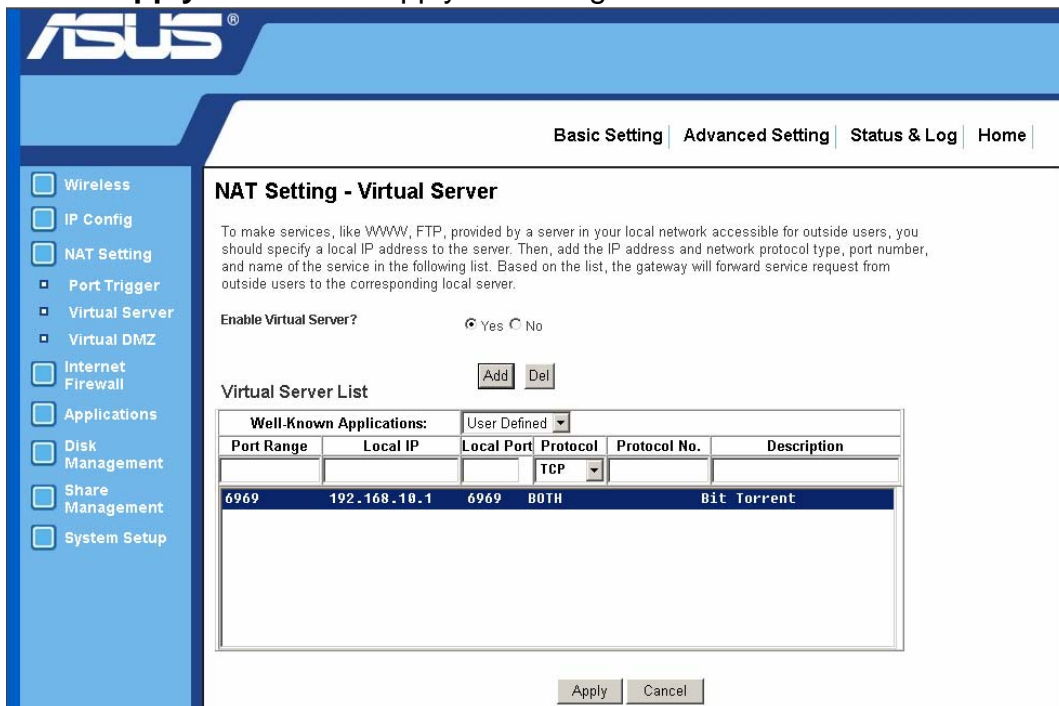


Figure 7

### 3.4 On RX3041/SL200 Routers

**Setting steps:**

1. Fill the host or server IP address and port number in corresponding field (as Figure 8).
2. Click the check box to enable the setting.
3. Click **OK** to save and apply the configuration.

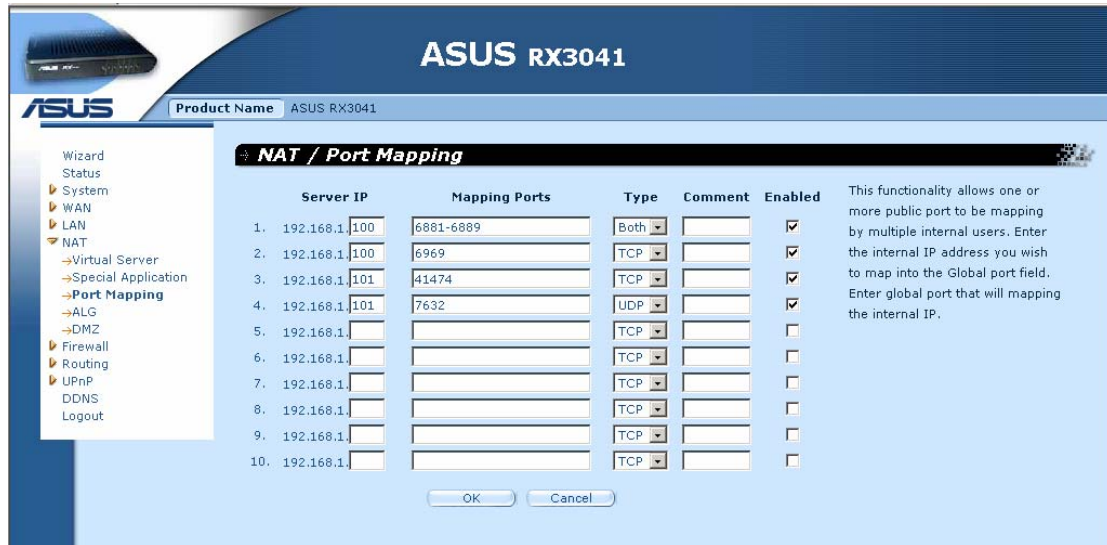


Figure 8

### 3.5 On SL500/SL1000/SL1200 Routers

#### Setting steps:

1. Configure an inbound ACL rule  
 Click **Firewall>Inbound ACL** from function tree in left to configure an inbound ACL rule. Select Single or Range from **Type** option for Destination Port and add the port number. A completed inbound ACL rule for BT application is as follows:

The screenshot shows the 'Inbound Access Control List Configuration' page. The 'Destination Port' section is highlighted with a red circle, showing 'Type' set to 'Single' and 'Port Number' set to '6969'. Other fields include: ID (Add New), Action (Allow), Move to (1), Source IP (Type: Any), Destination IP (Type: Any), Source Port (Type: Any), Protocol (TCP), NAT (IP Address: 192.168.1.100), Time Ranges (Always), Log (Disable), and VPN (Disable). Buttons for Add, Modify, Delete, and Help are at the bottom.

Figure 9

The screenshot shows the 'Inbound Access Control List Configuration' page. The 'Destination Port' section is highlighted with a red circle, showing 'Type' set to 'Range', 'Start Port' set to '6881', and 'End Port' set to '6889'. Other fields include: ID (1), Action (Allow), Move to (1), Source IP (Type: Any), Destination IP (Type: Any), Source Port (Type: Any), Protocol (Any), NAT (IP Address: 192.168.1.100), Time Ranges (Always), Log (Disable), and VPN (Disable). Buttons for Add, Modify, Delete, and Help are at the bottom.

Figure 10

2. You will see the settings in the **Inbound Access Control List**:

**ASUS**

### Inbound Access Control List Configuration

ID	2	Action	Allow	Move to	2
Source IP	Type Any				
Destination IP	Type Any				
Source Port	Type Any				
Destination Port	Type Single Port Number 6969				
Protocol	TCP				
NAT	IP Address IP Address 192.168.1.100				
Time Ranges	Always				
Log	<input type="radio"/> Enable <input checked="" type="radio"/> Disable				
VPN	<input type="radio"/> Enable <input checked="" type="radio"/> Disable				

### Inbound Access Control List

ID	Source IP	Destination IP	Protocol	NAT	Action
1	Any	Any	All,Any,6881-6889	192.168.1.100	Allow
2	Any	Any	TCP,Any,6969	192.168.1.100	Allow

Figure 11