

## NQG\_017: Configuring an ATMP Tunnel Between Two Netopia Routers

This Netopia Quick Guide details configuration of an ATMP tunnel between two Netopia R-Series routers. An ATMP tunnel can also be configured between a Netopia and an Ascend router, as long as data encryption is not enabled.

### Assumptions:

This guide assumes that you are running Netopia router firmware version 4.4 or later, and have read the firmware documentation. To update your router firmware, go to our [firmware update page](#).

*Note:* ATMP supports IP routing only. IPX, Appletalk or any protocol other than IP will not be routed across an ATMP connection.

### Before you start:

- **PLEASE READ** our [Notice on Configuring VPN Tunnels with Netopia Routers](#).
- Establish a serial connection to the Netopia router's console using a communications program such as HyperTerminal or Z-Term. The settings should be 9600 Baud, 8 Data Bits, and 1 Stop Bit. Disable flow control.
- Alternatively, you can use Telnet over your LAN to get to the console screens.
- For detailed instructions on using Hyperterminal, Z-Term, or Telnet, please see Netopia Quick Guide [NQG\\_21](#).

### Tips:

- Do not change any settings other than the ones referred to below.
- Pressing Return takes you into a page; pressing Escape takes you out.
- Press Return after entering each setting to save it.

### Router Step-by-step Configuration:

The following example configuration is based on two R-series routers with connections to the Internet using NAT (Network Address Translation). It is not necessary for you to have NAT enabled on your Internet connection profile for this to work. The **Local WAN IP** addresses used in the configuration are only an example.

*(Note:* The **Ethernet IP Addresses** used in this example can be implemented in other similar configurations. However, the **Local WAN IP Addresses** will change per individual configuration. The following router configurations are based on the following example configurations. Please substitute your own IP information when configuring your routers. In any case, both routers must be configured for different Ethernet IP subnets, as the example configuration illustrates.)

*Example Configuration:*

Router A		Router B	
<b>Ethernet IP Address:</b>	192.168.1.1	<b>Ethernet IP Address:</b>	192.168.2.1
<b>Ethernet Subnet Mask:</b>	255.255.255.0	<b>Ethernet Subnet Mask:</b>	255.255.255.0
<b>Local WAN IP Address:</b>	163.176.56.1	<b>Local WAN IP Address:</b>	163.176.57.1

### Configuration of Router A:

1. From the Main Menu of router console screens, go to **Quick Menus**, and select **Add Connection Profile**.
2. Under **Profile Name**, type **Router B** (or a name of your choice).
3. Change **Data Link Encapsulation** to **ATMP** and select **Data Link Options**.
4. Enter the **ATMP Partner IP Address**. (**Note:** This is the public IP address of **Router B**. Considering our example, the public IP address, or **Local WAN IP Address**, is 163.176.57.1. If the opposite router in your configuration does not have NAT enabled for the Internet connection profile, and **IP Addressing...** in **Easy Setup** is set for an **Unnumbered** connection to the Internet, the **Ethernet IP Address** should be used at the **ATMP Partner IP Address** instead.)
5. Next, choose a unique name and password for this network and type them under **Network Name** and **Password**. This is for authentication purposes, so keep security in mind when choosing the name and password.
6. Under **Data Encryption**, you have the choice of **None** or **DES**. Encryption provides a greater level of security to your transmission, but will slow down the connection. (**Note:** Netopia supports **DES** encryption. Other ATMP routers may not. If you are tunneling to an Ascend router, select **None**.)
7. If you set **Data Encryption** to **DES**, enter a **Key String**. It can be up to eight characters. This is a security key for the encryption algorithm.
8. If you want **Router A** to initiate an ATMP tunnel to **Router B**, set **Initiate Connections** to **Yes**.
9. If you want **Router A** to initiate an ATMP tunnel to **Router B** whenever there is a demand for resources on the **Router B** network, as opposed to manually establishing the connection from the router every time, set **On Demand** to **Yes**.
10. **Idle Timeout** is the amount of time **Router A** will maintain the ATMP connection to **Router B** when there is no traffic. It is 300 seconds by default. A value of zero disables the idle timer so the ATMP connection will never time out. (**Note:** If either side of the ATMP tunnel is a switched connection (e.g., analog or ISDN - not a leased line) you do want your ATMP tunnel to time out. If the physical link terminates before the ATMP tunnel times out, or is disconnected, the profile could be left active and unable to drop on its own. This is because ATMP is a UDP protocol, and UDP does not send a confirmation that the tunnel has been terminated.)
11. Escape once back to the **Add Connection Profile** screen.
12. **IP Enabled** should be set to **Yes**. Next, select **IP Profile Parameters**.
13. Set **Address Translation Enabled** to **No**. (**Note:** Use the tab key to toggle this option between Yes and No. Hit enter to save your changes).
14. Set the **Remote IP Address** to 192.168.2.1 and **Remote IP Mask** to 255.255.255.0.

- (**Note:** In your case, if **Router B** has a different **Ethernet IP Address** and **Ethernet Subnet Mask** then what is used in this example, please substitute your own Ethernet IP Information for **Router B**.)
15. Do not select a **Filter Set**. If one is active, hit enter on **Remove Filter Set** to deactivate it. (**Note:** You can filter over an ATMP connection, however, none of the pre-set filters are suitable for these purposes. If you wish to filter traffic on your ATMP tunnel, please read technote [NIR 052: Netopia Router Firewall Features and Configuration](#).)
  16. **Receive RIP** should be set to **Off** unless you have multiple RIP-enabled routers on either the **Router A** or **Router B** network.
  17. Escape once to return to the **Add Connection Profile** screen and select **Add Profile Now**.
  18. From the **Connection Profiles** screen, escape once back to **Quick Menus**.
  19. Select **ATMP/PPTP Default Profile** (Firmware versions below 4.8 select **VPN Default Answer Profile**).
  20. Set **Answer ATMP/PPTP Connections:** to **Yes** (Firmware versions below 4.8 set **Answer VPN Connections:** to **Yes**).
  21. Select **WAN Default Answer Profile**.
- Note:** The R9100 and the R910 may not have a Wan Default Profile. Simply disregard this step.
22. Set **Must Match a Defined Profile** to **Yes**.
  23. Escape twice out to the Main Menu and go to **Utilities and Diagnostics**.
  24. Select **Restart System**. This concludes the setup for **Router A**.

#### *Configuration of Router B:*

1. From the Main Menu of router console screens, go to **Quick Menus**, and select **Add Connection Profile**.
2. Under **Profile Name**, type **Router A** (or a name of your choice).
3. Change **Data Link Encapsulation** to **ATMP** and select **Data Link Options**.
4. Enter the **ATMP Partner IP Address**. (**Note:** This is the public IP address of **Router A**. Considering our example, the public IP address, or **Local WAN IP Address**, is 163.176.56.1. If the opposite router in your configuration does not have NAT enabled for the Internet connection profile, and **IP Addressing...** in **Easy Setup** is set for an **Unnumbered** connection to the Internet, the **Ethernet IP Address** should be used at the **ATMP Partner IP Address** instead.)
5. Next, enter the **Network Name** and **Password** you configured for the **Router B** profile in **Router A**.
6. If the **Router B** profile in **Router A** is configured to use **DES** encryption, select **DES** for **Data Encryption** and enter the same **Key String**. Otherwise, select **None**.
7. If you want **Router B** to initiate an ATMP tunnel to **Router A**, set **Initiate Connections** to **Yes**.
8. If you want **Router B** to initiate an ATMP tunnel to **Router A** whenever there is a demand for resources on the **Router A** network, as opposed to manually establishing the connection from the router every time, set **On Demand** to **Yes**.
9. Again, **Idle Timeout** is the amount of time **Router B** will maintain the ATMP connection to **Router A** when there is no traffic. It is 300 seconds by default. A value of zero disables the idle timer so the ATMP connection will never time out. (**Note:** If either side of the ATMP tunnel is a switched connection (e.g., analog or ISDN - not a leased line) you do want your ATMP tunnel to time out. If the physical link terminates before the ATMP tunnel times out, or is disconnected, the profile could be left active and unable to drop on its own. This is because ATMP is a UDP protocol, and UDP does not send a confirmation that the tunnel has been terminated. For leased line connections, you may want to consider setting **Idle Timeout** to the same value configured in **Router A** for the **Router B** profile.)
10. Escape once back to the **Add Connection Profile** screen.

11. **IP Enabled** should be set to **Yes**. Next, select **IP Profile Parameters**.
12. Set **Address Translation Enabled** to **No**. (**NOTE**The tab key toggles this Yes/No option.)
13. Set the **Remote IP Address** to 192.168.1.1 and **Remote IP Mask** to 255.255.255.0. (**Note:** In your case, if **Router A** has a different **Ethernet IP Address** and **Ethernet Subnet Mask** then what is used in this example, please substitute your own Ethernet IP Information for **Router A**.)
14. Do not select a **Filter Set**. If one is active, hit enter on **Remove Filter Set** to deactivate it. (**Note:** You can filter over an ATMP connection, however, none of the pre-set filters are suitable for these purposes. If you wish to filter traffic on your ATMP tunnel, please read technote [NIR 052: Netopia Router Firewall Features and Configuration](#).)
15. **Receive RIP** should be set to **Off** unless you have multiple RIP-enabled routers on either the **Router B** or **Router A** network.
16. Escape once to return to the **Add Connection Profile** screen and select **Add Profile Now**.
17. From the **Connection Profiles** screen, escape once back to **Quick Menus**.
- 18.
19. Select **ATMP/PPTP Default Profile** (Firmware versions below 4.8 select **VPN Default Answer Profile**).
20. Set **Answer ATMP/PPTP Connections:** to **Yes** (Firmware versions below 4.8 set **Answer VPN Connections:** to **Yes**).
21. Escape once back to **Quick Menus**.
22. Select **WAN Default Answer Profile**.

**Note:** The R9100 and the R910 may not have a Wan Default Profile. Simply disregard this step.

23. Set **Must Match a Defined Profile** to **Yes**.
24. Escape twice out to the Main Menu and go to **Utilities and Diagnostics**.
25. Select **Restart System**. This concludes the setup for **Router B**.

### Conclusion:

Once both routers are configured, an ATMP connection can be established to allow IP routing through the tunnel between the two LAN's. If you are using Windows Networking, you may wish to read the following guides on facilitating network browsing between your two LAN's:

[NIR 030: Windows to NT Networking](#)

[NIR 028: Windows Peer-to-Peer Networking](#)