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## CHAPTER 8

# Static Route Setup

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### 8.1 Introduction

Static routes in your Vigor router provide a quick and effective way to route data from one subnet to different subnet without using the Routing Information Protocol (RIP). Basically, a static route is a guiding path in the router that specifies how the router will get to a certain subnet by using a certain path. If you have many private subnets behind the router, or you want to access another public subnet via an inside router, you can configure the router to route IP packets to those inside IP networks using 1st IP address/subnet mask fields on the **LAN TCP/IP and DHCP Setup** page.

The router also has RIP (Routing Information Protocol) built-in by default. If the neighbor routers have the same protocol, the RIP will be used for exchanging routing information. Here, the **Static Route Setup** just provides a way to guide specified IP packets through specified routers statically. This chapter shows you how to configure static routes with your Vigor2900 series of routers.

### 8.2 Configuration

#### **Add Static Routers to Inside Private and Public Networks**

Assume the Internet access setup has been configured and the router worked properly. You use the 1st subnet address 192.168.1.0/24 to surf the Internet and also an internal private subnet 192.168.10.0/24 via an internal router (192.168.1.2/24)

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and an internal public subnet 211.100.88.0/28 via an internal router (192.168.1.3/24). Also, the router 192.168.1.1/24 is a default gateway for the router 192.168.1.2/24.

1. Click **LAN TCP/IP and DHCP Setup**, select **RIP Protocol Control** as **1st Subnet**, and then click **OK** button.

**Note:** To set **RIP Protocol Control** as **1st Subnet** has two different meanings. The first one is that the LAN interface could be exchanged RIP packets with neighbor routers via 1st subnet (192.168.1.0/24). The second one is that those inside private subnets (ex. 192.168.10.0/24) could be NATed by the router to the Internet, but do IP routing for each other as well.

The screenshot shows the configuration page for a DrayTek Vigor2900 series Broadband Security Router. The page is titled "Basic Setup > Ethernet TCP/IP and DHCP Setup". It is divided into two main sections: "LAN IP Network Configuration" and "DHCP Server Configuration".

**LAN IP Network Configuration:**

- For NAT Usage:
  - 1st IP Address: 192.168.1.1
  - 1st Subnet Mask: 255.255.255.0
- For IP Routing Usage:  Enable  Disable
- 2nd IP Address: 192.168.2.1
- 2nd Subnet Mask: 255.255.255.0
- 2nd Subnet DHCP Server:
- RIP Protocol Control: 1st Subnet (dropdown menu)

**DHCP Server Configuration:**

- Enable Server  Disable Server  Relay Agent
- Start IP Address: 192.168.1.10
- IP Pool Counts: 50
- Gateway IP Address: 192.168.1.1
- DHCP Server IP Address for Relay Agent:
- DNS Server IP Address:**
  - Primary IP Address:
  - Secondary IP Address:

At the bottom of the configuration area, there is an "OK" button. The footer of the page reads "Copyright (c) 2004, DrayTek Corp. All Rights Reserved."

2. Add a static route to the inside private subnet 192.168.10.0/24 via the internal router 192.168.1.2/24. Click **Static Route Setup > Index Number** to add a static route to destination subnet 192.168.10.0/24 as follows.

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The screenshot shows the DrayTek website header with the logo and "Vigor2900 series Broadband Security Router" text. Below the header is a breadcrumb trail: "Advanced Setup > Static Route Setup". The main content area is titled "Index No. 1" and contains a form with the following fields:

Status/Action:	Active/Add
Destination IP Address:	192.168.10.0
Subnet Mask:	255.255.255.0
Gateway IP Address:	192.168.1.2
Network Interface:	LAN

Below the form is an "OK" button. At the bottom of the page, there is a copyright notice: "Copyright (c) 2004, DrayTek Corp. All Rights Reserved."

3. Add a static route to the inside public subnet 211.100.88.0/28 via 192.168.1.3/24.

The screenshot shows the DrayTek website header with the logo and "Vigor2900 series Broadband Security Router" text. Below the header is a breadcrumb trail: "Advanced Setup > Static Route Setup". The main content area is titled "Index No. 2" and contains a form with the following fields:

Status/Action:	Active/Add
Destination IP Address:	211.100.88.0
Subnet Mask:	255.255.255.240
Gateway IP Address:	192.168.1.3
Network Interface:	LAN

Below the form is an "OK" button. At the bottom of the page, there is a copyright notice: "Copyright (c) 2004, DrayTek Corp. All Rights Reserved."

4. Click **Static Route Setup > View Routing Table** to verify the current routing table.

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### Delete or Deactivate a Static Route

1. Click **Static Route Setup > Index Number** which you want to delete.
2. Select **Status/Action** to **Empty/Clear**. Click **OK** button to delete the route.

