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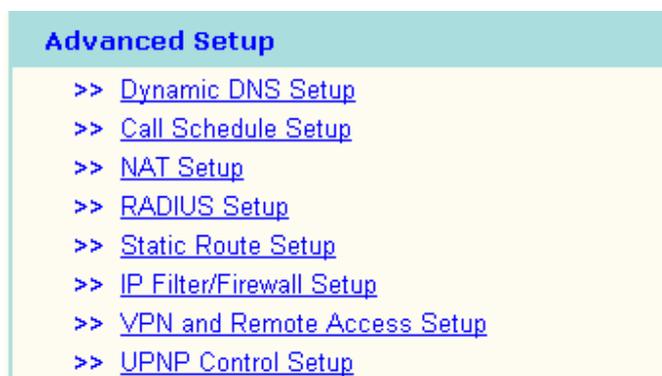
# VLAN/Rate Control

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## Introduction

◆ VLAN is **Virtual Local Area Network**, basically a broadcast domain. In the switched network system, a broadcast packet or an unknown destination MAC address packet will broadcast to all the other ports, which will decrease the whole network system performance dramatically. By grouping some ports into one VLAN, broadcast packets will only be sent to the ports within the same VLAN without effecting the traffic of other ports outside the VLAN. Because the broadcast domain is independent during different VLANs, the all packets from any port can't cross different VLANs. Any port can be grouped as one VLAN, and ports can be shared among different VLANs(i.e. One port can belong to different VLANs). In this way, VLAN improve efficiency of network resource usage and network security.

◆ Rate Control allows you to set upper port forwarding rate(also called “bandwidth throttling”), allowing you to set a maximum In-bound and/or Out-bound bandwidth available for each LAN port. This is useful to minimise the impact on other users from one user who would otherwise monopolise the ADSL bandwidth (e.g. playing games or downloading large files).



## VLAN Configuration

**Enable:** Tick **Enable** to turn on the VLAN function.

There are 4 VLAN groups: **VLAN0/VLAN1/VLAN2/VLAN3**. Tick the ports you want to group as the same VLAN group. All unchecked ports will be grouped as the same VLAN (non-visible group). If only one port is checked as a VLAN, then this port only can communicate with WAN.

**P1:** Lan port 1.

**P2:** Lan port 2.

**P3:** Lan port 3.

**P4:** Lan port 4.

The screenshot shows the DrayTek Router Web Configurator interface. The title bar reads "DrayTek Router Web Configurator". The breadcrumb navigation is "> Advanced Setup > VLAN/Rate Control" with a "<< Main Menu" link. The main content area is titled "VLAN Configuration" with a "<< Back" link. Under "VLAN Configuration", the "Enable" checkbox is checked. Below this is a table for configuring VLAN groups:

	P1	P2	P3	P4
VLAN0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VLAN1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VLAN2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VLAN3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Below the VLAN table is the "Rate Control" section, where the "Enable" checkbox is also checked. It features a table for configuring rate control for each port:

	P1		P2		P3		P4	
	Out	In	Out	In	Out	In	Out	In
Enable	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rate (kbps)	<input type="text" value="100000"/>							

At the bottom of the configuration area, there is a "Note" section:

Note :  
Rate must a multiple of 32.  
Rate Default : 100000  
Rate range : 32 ~ 100000

At the very bottom of the interface are three buttons: "Cancel", "Clear", and "OK". The footer of the page reads "Copyright (c) 2002, DrayTek Corp. All Rights Reserved."

## Rate Control

**Enable:** Tick **Enable** to turn on the Rate Control function.

For each of the LAN ports (**P1**, **P2**, **P3** and **P4**), you can choose to limit the incoming and/or outgoing bandwidth. Simply tick the In or Out box under the LAN port number, and enter the rate under the In or Out tick box. To turn off a Rate Control setting for a port, simply click on the tick to remove it.

**Out:** Tick **Out** to enable out-bound (upload) Rate Control for this LAN port.

**In:** Tick **In** to enable in-bound (download) Rate Control for this LAN port.

**Rate:** Enter a number that is a multiple of 32 (i.e. 32, 64, 96, 128...) and not more than 100,000. This number is the maximum rate for this port in this direction, in kbps (1000 bits per second).

Note that ADSL connections usually have much lower upload (out-bound) bandwidth than download (in-bound) bandwidth, and hence the ability to limit each individually. For example a “256/64” ADSL connection has 256kbps download (in-bound) bandwidth and 64bps upload (out-bound) bandwidth.