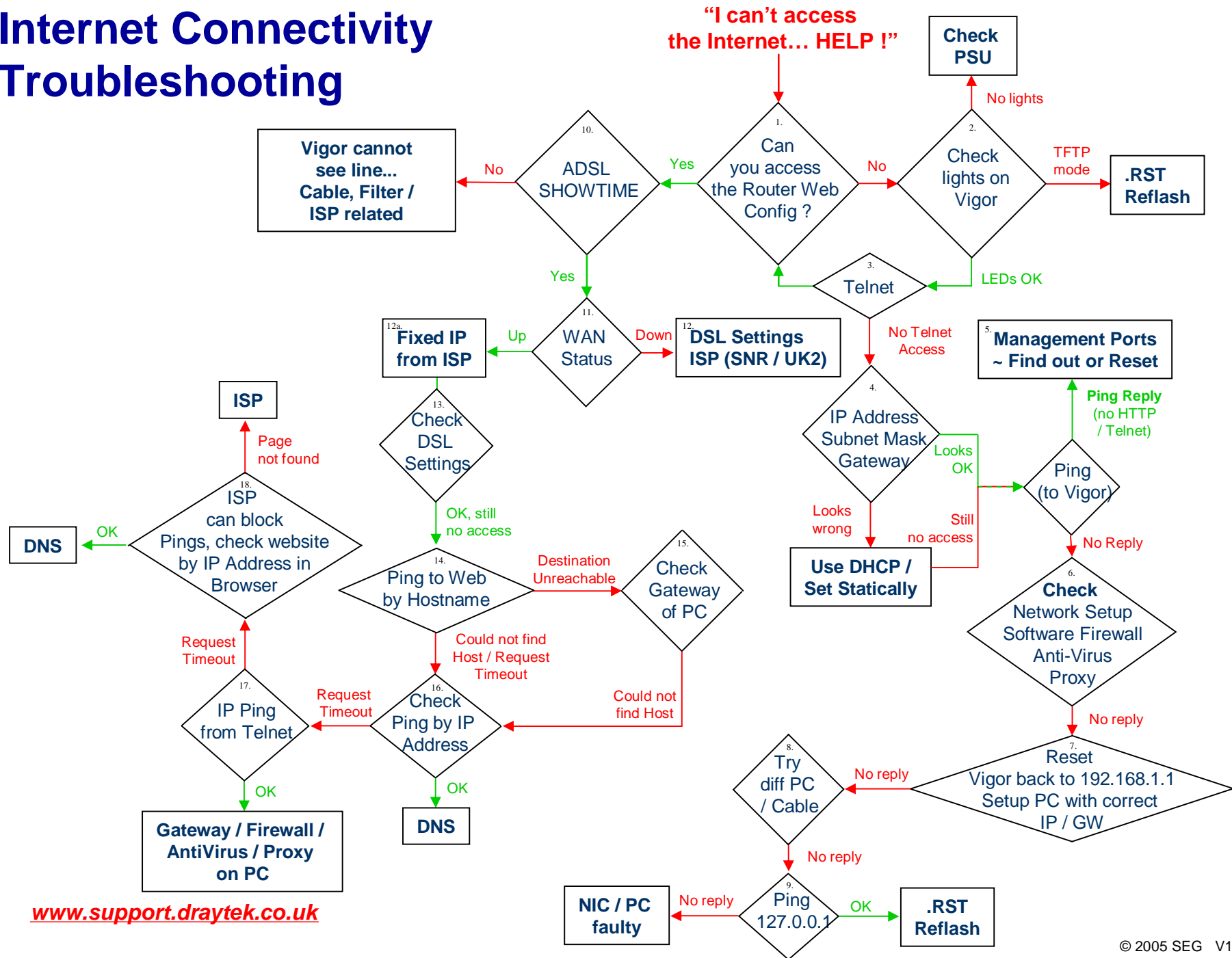


DrayTek ADSL Routers

Internet Connectivity

Troubleshooting & Problem Flowchart

Internet Connectivity Troubleshooting



“I can't access the Internet... HELP!”

(Please read these notes in conjunction with the flowchart)

1. Can you access the Router Web Configurator?

The Router Web Configurator is where the majority of the Vigor setup takes place. Access the Router Web Configurator by opening any standard Web Browser (Microsoft Internet Explorer, Mozilla Firefox etc.) and enter the Vigor's local IP Address into the Address Bar.

This should prompt you for a Username and Password, which by default are both blank.

2. Check the LEDs on the Vigor

The LEDs (lights) on the Vigor Routers can give a very quick indication of the current state of the Vigor. The most important LED is the ACT. In normal operation mode the ACT will be blinking approximately once per second. If the ACT is On solid or Off completely this would suggest a hardware failure.

Check that there is a LAN LED on, indicating that a PC is plugged into the Vigor by Ethernet Cable. If the PC is connecting Wirelessly to the Vigor, simplify the scenario by Disabling Wireless and plugging in an Ethernet Cable.

The LED immediately to the right of the ACT (usually labelled QoS, depending on the model) can indicate a different mode of operation. If the ACT and QoS are blinking simultaneously (approx once per second) this indicates TFTP Mode. TFTP Mode is a “safe mode” which the Vigors use when receiving Firmware Updates.

In TFTP Mode there will not be any access to the Router Web Configurator (either by HTTP or Telnet) but the Vigor should accept a Firmware from a standard TFTP Upload Utility. After the upload the Vigor should reboot and return to the normal operating mode.

TFTP Mode can be forced manually by powering the Vigor on while holding in the Factory Reset button at the rear. This is sometimes useful if the ACT has turned solid (On or Off) and there is no access to the Router Web Configurator. Forcing TFTP Mode should then allow a Firmware Upgrade to restore the Vigor.

Note: Forcing TFTP Mode manually will only last for 30 seconds, so have your TFTP Utility ready to send the Firmware first! There is more information on reflashing on the www.support.draytek.co.uk site

3. Telnet

It is fairly common to change the Management Port for the Router Web Configurator, and so trying to access the Vigor on <http://192.168.1.1> alone will fail if this has been done.

Changing the Telnet Port however is far less common, so if you can Telnet into the Vigor and perform the following command this will tell you what the current HTTP Management Port is:

```
mngt httpport ?
```

You would then suffix the Management Port to the IP Address when accessing the Router Web Configurator, eg:

```
http://192.168.1.1:8080
```

4. IP Address, Subnet Mask, Gateway

The IP Address of the PC must be in the same logical Subnet as the Vigor. From a Command / DOS Prompt on the PC run the 'ipconfig' command to see what the current TCP/IP details are:

```
C:\>ipconfig
Windows IP Configuration
Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  :
    IP Address. . . . .               : 192.168.1.10
    Subnet Mask . . . . .             : 255.255.255.0
    Default Gateway . . . . .         : 192.168.1.1
```

The Default Gateway should be set to the Vigor's IP Address, which tells the PC to send all traffic destined for the Internet to the Vigor.

5. Management Ports ~ Find out or Reset

If Pings to the Vigor reply from a PC on the LAN but you cannot access the Vigor by HTTP or Telnet this suggests both Management Ports in the Vigor have been changed.

Try guessing a few common HTTP Ports; 81, 88, 8000, 8080, 8888 but if you cannot gain access you will have to Reset the Vigor back to Factory Defaults.

6. Check: Network Setup, Software Firewall, Anti-Virus, Proxy

If Pings to the Vigor do not reply, but all the LEDs appear to be OK (ACT is flashing once per second and the unit is not in TFTP Mode) this suggests that the either the Network is not a 'simple' PC to Vigor scenario, or that something on the PC is purposefully blocking outbound access.

Check that the PC is connected directly into the Vigor; not through an additional Hub, Switch, Hardware Firewall or Proxy Server etc.

If the PC is connected Wirelessly try to simplify the situation by disabling the Wireless on the PC and connecting by Ethernet Cable.

Check that there are no Software Firewalls (Windows XP, Norton Internet Security, ZoneAlarm, Panda etc.) or Anti-Virus Utilities running on the PC (either could potentially be blocking access to the Vigor).

In Microsoft Internet Explorer go to the

-> Tools menu option

-> Internet Options

-> Connections Tab

Connections should be set on 'Never dial a connection' and then go into the LAN Settings button at the bottom.

All these options should be Disabled. Un-tick any options that are currently enabled and Click OK.

7. Reset Vigor to 192.168.1.1

Hold in the Factory Reset button at the rear until the ACT starts flickering rapidly. This will Reset the Vigor back to 192.168.1.1 with default Management Ports. Ensure that the IP Address and Gateway of the PC is updated with the new details if necessary.

8. Try a different PC and/or Ethernet Cable

If Pings continue to fail after you have Reset the Vigor and ensured the IP Addresses are correct this suggests some kind of Hardware Fault between the Vigor and the PC.

Test with a different PC and Ethernet Cable.

9. Ping 127.0.0.1

127.0.0.1 is the Loopback address. By Pinging this address your PC will send a Ping to its own Ethernet adaptor. This is useful in extreme circumstances when you are not sure if an Ethernet Adaptor is functioning correctly.

10. ADSL Showtime

From the Main Menu of the Router Web Configurator go to the Online Status link. The ADSL Status at the bottom will tell you if the Vigor has synchronised on the ADSL.

Synchronisation is indicated by the SHOWTIME message appearing in Green under the State.

All the ADSL Vigors try to synchronise automatically to the ADSL (even before any settings have been configured). If the Vigor is not reporting Showtime this suggests some form of physical / hardware issue relating directly to the ADSL Line.

11. WAN Status

In Online Status the WAN Status reports if the Vigor has authenticated with the ISP. WAN Status will report when it is trying to Authenticate with the message 'Starting PPP' and if it has failed to Authenticate with the message 'PPP Shutdown'.

In addition, if the failure to authenticate was caused by a CHAP Login Failure this will be reported as 'Username / Password Error'.

When the PPPoE/PPPoA Client is enabled there will be a 'Dial PPPoA' button on the right hand side of the WAN Status.

12. DSL Settings, SNR, UK2

If the WAN Status is down (but the Vigor has Showtime) this normally suggests the DSL Settings are incorrect.

Go into Internet Access Setup, PPPoE/PPPoA and ensure the following:

PPPoE/PPPoA Client is Enabled

VPI = 0

VCI = 38

Encapsulation Type = VC MUX

Protocol = PPPoA

Modulation = G.DMT

ISP Name, Username and Password are entered correctly.

Always On is Enabled.

If all of the above are correct check the SNR Margin and Loop Attenuation figures in Online Status.

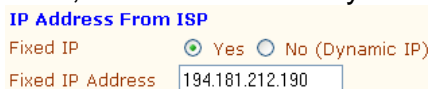
SNR is a ratio of Signal to Noise (SNR = Signal / Noise).

Loop Att. is a measure of distance from the local exchange.

If the SNR is too low (below approx 6.5dB) or the Loop Att is too high (above approx 60dB) this indicates a poor quality ADSL Line. There are special firmware versions available which attempt to cope with poorer lines.

12a. Fixed IP from ISP

If you have several public IP addresses allocated by your ISP (or a subnet), on the Vigor2800 (Firmware 2.6.4.1 and later) it is possible to select the IP Address for the Vigor's WAN interface from the Internet Access setup page (PPPoA). What you enter must match one of your allocated addresses, otherwise there will be no routing even though the router appears to be online, so set this carefully.



IP Address From ISP

Fixed IP Yes No (Dynamic IP)

Fixed IP Address

13. DSL Settings

If the WAN Status is showing a PPPoA connection this means the Vigor is online. But the DSL Settings could still be slightly incorrect, disrupting Internet Access. Note, this applies to ADSL only (the settings are different

for SDSL and some more unusual ISPs). Check the DSL Settings (in Internet Access Setup, PPPoE/PPPoA) are set correctly to:

VPI = 0
VCI = 38
Encapsulation Type = VC MUX
Protocol = PPPoA
Modulation = G.DMT (or ADSL2+ depending on your line type)

14. Ping to Web by Hostname

Open a Command / DOS Prompt and try to Ping www.google.com

```
ping www.google.com
```

15. Check Gateway of PC

If a Ping fails with the error message 'Destination Unreachable' this means the PC has seen from its own settings (Gateway IP) that it cannot route to the destination IP Address and so has not even tried to send the Ping yet.

16. Check Ping by IP Address

If Pings to a Hostname on the Internet fail with error messages 'Could not find Host' or 'Request Timed Out' this is probably a DNS Issue (resolving the Hostname to the IP Address). Try pinging by IP Address directly to double-check.

17. IP Ping from Telnet

If Pings from a PC to IP Addresses directly on the Internet fail this could be a routing issue between the PC and the Vigor. To test this, Telnet into the Vigor and use the 'IP Ping' command to ping the same public IP Address:

```
ip ping 216.239.59.147
```

If the IP Pings reply from a Telnet Session, where they failed from the PC, this proves some kind of routing issue between the PC and Vigor. Check the Gateway IP Address and also for Software Firewalls, Anti-Virus Utilities and Proxies on the PC, as per **Section 6**.

18. ISP can block Pings, check website by IP Address in Browser

If the IP Pings failed through Telnet this could have been caused by the ISP blocking Pings as a security measure.

Try accessing a website through a Web Browser (Internet Explorer) by entering the IP Address of the website directly into the Address Bar.

If this routes successfully to the site the issue is DNS related (resolving the Hostname to the IP Address). Check the DNS Settings on the PC and in the Vigor. If it fails and you have not already done so, check the Default Gateway of the PC and also for Software Firewalls, Anti-Virus Utilities and Proxies as per **Section 6**.

If nothing else can be found or tested there may be a routing issue at or somewhere beyond the ISP.

**For further support guides for UK users, please visit
www.support.draytek.co.uk**

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