Optus@Home Cable Internet Connection & Sharing using Red Hat 7.2

(Version 1.0, 29-11-2001)

Purpose:

- To be able to Setup your Optus cable connection and share the connection on your home LAN.
- This howto is just one of many that u can use to setup your connection.
- This howto is aimed at people who have a small fully functional LAN setup (via windows or another operating system) and are contemplating or curious about Linux with no prior experience with Linux.
- There are other ready-made options that are available, e-smith, smoothwall, clarkconnect and others that will accomplish the same purpose and you should explore these options.
- Preferably, you will want to install Linux on a separate machine and not on your existing gateway. Therefore, if you encounter any major problems, you can always revert to your windows gateway.
- If you decide to use your existing gateway (and not dual-boot, highly recommend that you don't dual boot), please
 ensure that you backup as Linux will erase all your files.
- I have opted not to use the dhcpd/dhcpcd method because on a small home LAN, it is easy to setup clients manually.

Requirements:

- A new(ish) version of a Linux distribution with GNOME or at the least gnomelibs and gnome core. (This method has been used on Red Hat version 7 and will work with most other popular distributions)
- A computer with two network cards.
- * CPU approximately Pentium II or higher.
- * RAM 32MB or higher.
- * Hard Disk at least 800MB or higher.
- CD-ROM drive
- A Cable Modem fully Setup and Computer Monitor etc.

* Recommendation

Firestarter - A firewall/router tool that can be obtained from

http://firestarter.sourceforge.net/download.html (get the rpm version under Binary packages)

http://firestarter.sourceforge.net/index.html is the home page for this tool.

http://firestarter.sourceforge.net/cgi-bin/faqview.cgi will answer most of what you need to know.

Before we begin:

- Ensure that you do not use any default firewalls with the distribution that you use.
- Install GNOME as either your default windows manager or gnomelibs and gnomecore (if you plan to use KDE).
- Keep your hardware simple; the Linux gateway does not need any thing fancy.
- Download the Firestarter tool and print any relevant information from the third link above.
- If you have a windows cable gateway, type the command winipcfg (expand for all details) or ipconfig /all from a command prompt. Note down the dns server ip addresses and the connection-specific dns suffix.
- Stay calm, this guide does not make any guarantees that it will be all smooth sailing. :)

Procedure:

Even before connecting the cable to the modem, you need to ensure that both your network adapters have been detected and setup. To do this, open a console prompt and type the command: **netcfg**

A Netw	ork Config	jurator		· ×
Names	Hosts	Interfaces	Routing	
Hostname:	c	~		
Domain:		ome.com.au : in additional d e		
Nameserve	rs:			
	Sa	ve	Qui	t

The cxxxxxx hostname is the name given to you by your Optus installer (Due to new changes to the Optus@Home network you are not required to have this as your hostname, you may choose anything you wish). Add the domain as above.

Click the Hosts button and make it look like this:

Note: To make a change, simply click the edit button from here on in each illustration

and the second second	work Confi	igurator				- × ×
Names	Hosts	Interfaces	Routing			
lf	•	Nam	ne	1	Nicknames	
127.0.0.1 192.168.0		localhost firewall		localhost firewall		
						V
		Add	Edit	emove		V

The name firewall can be anything.

Click the Interfaces button:

Names	Hosts	Interfaces	Routing				
Inter	face	IP		proto	atboot	active	1
lo eth0		127.0.0.1		none dhcp	yes yes	active inactive	
eth1		192.168.0.1		none	yes	active	
	1						-
							7
Add	Edit	Clone Alia	s Rem	1	ctivate	Deactivate	

Edit eth0 and eth1 to look like the above.

eth0 is your external adapter connected to your modem eth1 is your internal adapter

**** IMPORTANT ****

If you do not see the two adapters eth0 and eth1 then you have a problem. You need to sort this out before u proceed. Stop and have a look at the last page.

Click the **Routing** button:

Names	Hosts		erfaces	Routi	ng			
Default Ga	k Packet F iteway: iteway De [.]	[ding (IPv	4)				
Interfa	ace 1	letwor	k Addres:	s	Netmask		gateway	
						1		Z
			Add	Edit	Remove]		Z

You are almost done and ready to connect.

Before you reboot, install the Firestarter package mentioned on page 1.

From their FAQ:

If you got the RPM binary version, type "rpm -Uvh firestarter*" in a console to install it (you will need to be in the directory where this package resides). Make sure you are in the directory you downloaded firestarter to and that you are logged in as root. Alternatively, you can use a graphical RPM manager like GnoRPM.

Once installed, check your gnome menu to ensure an icon exist.

Connect the cable to your modem and reboot. Watch the screen as it scrolls by. If all goes well you should see:

Loading eth	0 [<mark>ok</mark>]
Loading eth	1 [<mark>ok</mark>]

Once you have logged in, from a console prompt type the command:

ifconfig

You should see three adapters displayed with their statistics. eth0, eth1 and lo.

Next, we will setup Firestarter.

Firestarter Setup:

Click on the Firestarter menu item and you will see this:

	· 🗆 X
<u>F</u> irewall <u>H</u> it list <u>H</u> elp	
🏽 🖀 T 🎦 🔄 🕥 T 🕑 🕒	
Firewall hits Dynamic rules	
Port Sent from Service Time	7
	J7
Firewall running	

Click the first button, which is the wizard, click next. Select eth0 as your external adapter, select start on boot and select ip by dhcp.

Click next.

	• 🗆 🗙
IP Masquerade Configuration	3
Do you use IP Masquerading on your LAN, allowing all the machines on your net to communicate with the Internet via a single IP address?	twork
Disable masquerading	
Enable masquerading	
Select your internal network interface: eth1	7
😞 Autodetect internal network IP range	
🐟 Specify internal network IP range manually (Not recommended)	
Enter the internal network address range: 192.168.0.0/24	
The network range is given in the form of address/mask. 192.168.0.0/24 is the r common IP range reserved for internal networks.	most
Port Forwarding	
→ Back Next	Cancel

Click next.

	lows you to re-prioritize network roughput rates for commonly used services.
Would you like to enable 1	FoS Filtering?
✤ Disable ToS Filtering	
🕹 Enable ToS Filtering re	lated to the following packets:
Client Applications	▲ Throughput
Server Applications	🗸 Reliability
∎ The X Window System	🕹 Delay

Click next.

			d want other people to I	have access
	ork services yo	u provide? Iblic network services	on my machine	ţ.
		services on my mach		
FTP	∎ www	INTP	IPSEC	
📕 SSH	📕 SSL web	SAMBA/NetBios		
📕 Teinet	POP	📕 Routed		
SMTP	🔳 IMAP	INFS		
🗾 DNS	IDENT	Xwindows		
📕 Finger	INNTP	DHCP		

Click next.

— –M Firestarter Fire	wall Wizard	· 🗆 🗙
ICMP Configu	uration	
	ng can be useful to prevent some common DoS) attacks on your network.	
Would you like to e	nable ICMP Filtering?	
🕹 Disable ICMP Fi	Itering	
Enable ICMP Fil	tering related to the following packets:	
🗖 Echo	☐ Timestamping	
🔟 Traceroute	🔲 Address Masking	
📕 MS Traceroute	Redirection	
📕 Unreachable	Source Quenches	
	Back Next	X Cancel

Click next and finish. This gateway is now ready.

<u>Client Configuration:</u> On the first client PC (in this case I am using Windows 2000 Professional Edition), right click on network neighbourhood, right click on your adapter, select properties:

3com Properties	<u>? ×</u>				
General					
Connect using:					
3Com 3C920 Integrated Fast Ethernet (Controller (3C905C-				
	<u>C</u> onfigure				
Components checked are used by this conne	ction:				
Elient for Microsoft Networks B Client for Microsoft Networks B File and Printer Sharing for Microsoft N Internet Protocol (TCP/IP)	Networks				
Install Uninstall	P <u>r</u> operties				
Description					
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.					
Sho <u>w</u> icon in taskbar when connected					
0	IK Cancel				

For Internet access all u need is what I have above. You may also have the other two options selected. Highlight Internet Protocol (TCP/IP) and click properties:

Internet Protocol (TCP/IP) Propertie	es <u>? ×</u>
General	
You can get IP settings assigned autor this capability. Otherwise, you need to the appropriate IP settings.	
C Obtain an IP address automatical	lly
${}_{\!$	
<u>I</u> P address:	192.168.0.2
S <u>u</u> bnet mask:	255.255.255.0
Default gateway:	192.168.0.1
C Obtain DNS server address autor	matically
─● Use the following DNS server ad	dresses:
Preferred DNS server:	198.142.0.51
<u>A</u> lternate DNS server:	203 . 2 . 75 . 132
-	Ad <u>v</u> anced
	OK Cancel

If your not sure of the Preferred DNS servers, look back at page 1 where you noted them down from your windows network. What? you forgot ③

No problems, go back to the gateway and from a console prompt type:

cat /etc/resolv.conf

This should give you the details you will need. Click Advanced:

Advanced TCP/IP	Settings			? ×
IP Settings DNS	WINS Optio	ons		
D <u>N</u> S server addresses, in order of use:				
198.142.0.51 203.2.75.132				্র মৃ
	<u>A</u> dd	<u>E</u> dit	Remo <u>v</u> e	
The following three settings are applied to all connections with TCP/IP enabled. For resolution of unqualified names:				
 Append primary and connection specific DNS suffixes Append parent suffixes of the primary DNS suffix 				
C Append these DNS suffixes (in order):				
				¢ Į
	A <u>d</u> d	Ediţ	Re <u>m</u> ove	
DNS suffix for this connection: vic.optushome.com.au				
			ок са	ancel

Note: the DNS suffix for this connection should be what you got when u type cat /etc/resolv.conf

REBOOT the client PC. Click on your browser and smile ©

Do the client Configuration Procedure for all the other machines on your network. Remember the first client is 192.168.0.2 the next should be 192.168.0.3 then 192.168.0.4 etc.

You can also look at this link for other windows clients. Remember the DNS servers are not 192.168.0.1 in this case.

www.wpool.com/cablesharing/4.htm

Thanks to Phil Clayton (a.k.a. bukharin)[©] from www.ausforum.com

One last thing, the obstacle usually comes when the network adapters are not detected properly. Take a look at the link below:

http://www.xmission.com/~howardm/ethernet.html

I am still fairly new to Linux myself and wrote this with the intention of making it easier. Not sure if it does this, but I sincerely hope it does. ©

Regards fat tony

www.ausforum.com

Minor Editing: Martin Andrew (a.k.a. mayhem) from www.linuxathome.net (mayhem@linuxathome.net).