

Using a PC's Wi-Fi Interface to Make a Virtual Cable Connection

Tech Note PPTN0002

Proxicast, LLC 312 Sunnyfield Drive Suite 200 Glenshaw, PA 15116

1-877-77PROXI 1-877-777-7694 1-412-213-2477

Fax: 1-412-492-9386

E-Mail: <u>support@proxicast.com</u>

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This Tech Note applies to PocketPORT models:

PP-001 PP-002

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Introduction

The PocketPORT can establish a Virtual Cable connection to other PocketPORTs even when it does not have a USB modem directly attached. As long as the PocketPORT has some means of reaching the Internet, a Virtual Cable connection can be made.

This TechNote provides an example of how to use a PocketPORT in conjunction with a PC's existing Internet connection to build a Virtual Cable tunnel. The TechNote illustrates a PC with a Wi-Fi connection to a public Access Point; however the technique shown is applicable to any situation where a PC has more than 1 network connection (at least one Ethernet connection for the PocketPORT).

Scenarios where this "shared" Internet connection can be useful for creating Virtual Cable connections when no USB modem is used in the PocketPORT include:

- Laptops connected to hotel or other public Wi-Fi networks
- Corporate PC's where only 1 PC requires access to the Virtual Cable tunnel



Example Network Topology

Figure 1: Example Network Topology

Usage Notes

- See the <u>PocketPORT 2 Users Guide</u> for more information on configuring Virtual Cable Mode parameters.
- The example was created using Microsoft Windows 7 Professional.



Set-Up Steps

- Configure the PC for DHCP (automatic IP addressing).
- Connect the PocketPORT to Ethernet LAN port of the PC.
- Power on the PocketPORT and enter Configuration Mode (Reset button for 2 sec).
- Use a web browser to configure the PocketPORT @ http://192.168.1.1:8080 for Virtual Cable Mode operation and enter the parameters for your Virtual Cable tunnel.
- Generate and Save the new PocketPORT settings.
- Enable the PC's Wi-Fi interface and make a connection to desired Access Point.
 - Note: Some Wi-Fi systems may require accessing a Terms of Service page via a web browser before allowing the PC to connect to the Internet. If necessary, please complete that step at this time.
- In Windows, go to *Control Panel\All Control Panel Items\Network and Sharing Center*, and click the Wireless Network Connection link associated with the Wi-Fi connection (Figure 2).



Figure 2: Wireless Internet Connection in Control Panel



• Select the Properties button (Figure 3)

eneral	
Connection	
IPv4 Connectivity:	Internet
IPv6 Connectivity:	No Internet access
Media State:	Enabled
SSID:	Public_WiFi (3)
Duration:	00:32:37
Speed:	36.0 Mbps
Signal Quality:	llte
Details	Wireless Properties
Activity	
	Sent — Received
Bytes:	122,320 261,895
Properties	Disable Diagnose

Figure 3: Wireless Internet Connection Properties

• In the Properties dialogbox, select the **Sharing** tab and check "**Allow other network users to connect ...**" (Figure 4). If a drop-down box is shown with additional network interfaces, select the interface where the PocketPORT is connected.

Networking Snanng		
Internet Connection	Sharing	
Allow other net	work users to connect through	gh this computer's
L3		
Allow other net	work users to control or disa tion	ble the shared
Using ICS (Interne	t Connection Sharing)	Settings





- Close all of the property dialogs and return to the Control Panel's Network Sharing Center.
- Select the Local Area Network Connection where the PocketPORT is attached (see Figure 5).



Figure 5: Wired LAN Connection in Control Panel

• Click the Properties button (Figure 6).

eneral	
Connection	
IPv4 Connectivity:	No Internet access
IPv6 Connectivity:	No Internet access
Media State:	Enabled
Duration:	00:10:00
Speed:	100.0 Mbps
Details	
ctivity	
Details	Sent — Sent — Received
Details Activity Bytes:	Sent — Received 62,777 131,268
Details Activity Bytes: Properties	Sent — Received 62,777 131,268

Figure 6: Wired LAN Connection Properties



• Highlight the Internet Protocol Version 4 option and click Properties (Figure 7).

0		
Connect using:		
intel(R) 82567LN	I Gigabit Network Connec	tion
		Configure
This connection uses the	he following items:	
Client for Micro	soft Networks	
QoS Packet So	cheduler	
File and Printer	Sharing for Microsoft Net	works
🗹 🛶 Internet Protoco	ol Version 6 (TCP/IPv6)	
🗹 📥 Internet Protoco	ol Version 4 (TCP/IPv4)	
V .A. Link-Laver Ton	ology Discovery Mapper	I/O Driver
E - Elik Eayer rop		
Link-Layer Top	oology Discovery Respon	der
☑ ▲ Link-Layer Top	oology Discovery Respon	der
Install	Dology Discovery Respon	der Properties
Install	Uninstall	Properties
Install	ology Discovery Respon	Properties
Install Description Transmission Contr area network protoc	Ology Discovery Respon	der Properties NoI. The default wide cation across
Link-Layer Top Link-Layer Top Install Description Transmission Contra area network protoc diverse interconnec	ology Discovery Respon	ol. The default wide cation across

Figure 7: Wired LAN TCP/IP Properties

• The IP address will have been automatically assigned as 192.168.137.x. Do not change this address. Click the Advanced button (Figure 8).

Seneral	
You can get IP settings assign supports this capability. Other administrator for the appropri	ed automatically if your network wise, you need to ask your network late IP settings.
🔘 Obtain an IP address aut	tomatically
Ouse the following IP add	ress:
IP address:	192.168.137.1
Subnet mask:	255.255.255.0
Default gateway:	· · · · ·
Obtain DNS server addre	ess automatically
Ose the following DNS se	erver addresses
Preferred DNS server:	4 4 4
Alternate DNS server:	. i i
Validate settings upon e	Advanced

Figure 8: Wired LAN IP Address



• In the Advanced TCP/IP dialogbox, click the Add button (Figure 9).

Divis Divis	WINS		
IP addresses			
IP address		Subnet mask	
192.168.137.1		255.255.255.0	
	0		
	Add	Edit	Remove
Default gateways	:	5	
Gateway		Metric	
	ſ		
	Add	Edit	Remove
Automatic me	Add	Edit	Remove
Automatic me	Add	Edit	Remove
Automatic me	Add	Edit	Remove
Automatic metric:	Add	Edit	Remove

Figure 9: Advanced TCP/IP Settings

• Enter an IP address and subnet that are compatible with your other Virtual Cable Mode devices (Figure 10).

IP address:	10 . 98 . 98 . 7
Subnet mask:	255 . 255 . 255 . 0
	OK Cancel

Figure 10: Adding the Virtual Cable IP Address

- Close all of the open property boxes.
- Wait for the PocketPORT's status LED to flash blue.
- The Virtual Cable connection has now been established through the PC's Wi-Fi connection.

