BTW 1.2 to BlueGate 2500 Application Note Surfing the Web from Your Laptop Computer

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1 Introduction

As a technology leader in the wireless networking market, WIDCOMM's vision is to enable consumers to easily, conveniently and securely access information and services from their Bluetooth devices anytime and anywhere – from homes, offices and public places. WIDCOMM has introduced products that allow you to surf the Web from your laptop computer.

• BTWTM is a set of software drivers and utilities that seamlessly integrate Bluetooth technology into your desktop or laptop computer.

• BlueGateTM is the first available server-independent Bluetooth wireless access point in the world to support extended receiver range capabilities. Acting as a gateway for shared Internet access, BlueGate creates local "hot spots" of high-speed wireless connectivity that link as many as seven Bluetooth-enabled devices simultaneously and connects them to a standard Ethernet network.

This document describes the procedure for using BTW to surf the Web through a BlueGate 2500 Network Access Point. This document was tested using the following configuration:

• A desktop or laptop computer with an available USB interface and running Microsoft Windows 98 SE, Me, 2000, or XP. The Windows Dial-Up Networking component must be installed.

• BTW version 1.2.1.14 with an attached Psion USB dongle.

• A BlueGate 2500 Network Access Point

2 Browsing the Web using BlueGate and BTW

2.1 BLUEGATE SETUP

Setting up the BlueGate 2500 is straightforward. Depending on your Local Area Network (LAN) configuration, the device is usually configured properly at the factory. Just plug it in and go. For additional details on how to set up the BlueGate or troubleshoot the device, see one or both of the following documents:

• The *BlueGate 2500 Quick Start Guide*, WIDCOMM doc # BG2500-PROJ-UM-010710-0608

• The *BlueGate 2500 Administrator's Guide*, WIDCOMM doc # BG2500-PROJ-UM-011023-1800

2.2 INSTALLING THE BTW SOFTWARE

The BTW software is installed from a CDROM using an InstallShield executable. For detailed instruction on how to install the software and USB dongle, see the *BTW Installation and Uninstallation Instructions*. This document is supplied as a *readme* file on your BTW release CD.

2.3 PREREQUISITES FOR USING BTW AS A LAP CLIENT

The term "LAP" refers to the Bluetooth LAN Access Profile. This profile allows one computer (the client) to request a Bluetooth connection with another (the server). The client can then use the server to access a LAN.

In order for BTW to operate correctly, you must install the Windows Dial-Up Networking

component. (Refer to the Windows help system for assistance: $Start \rightarrow Help \rightarrow Index \rightarrow Dial-Up$ *Networking.*)

2.4 SET EXPLORER TO VIEW DETAILS

Start by opening Windows Explorer and click on the *My Bluetooth Places* entry in the folder view. For additional status information, it is always a good idea to use the *View Details* option as shown below.



2.5 INQUIRE FOR THE BLUEGATE DEVICE UNDER BTW

There is more than one way to perform a device inquiry under BTW. One of the easiest ways is to double-click on the *Entire Bluetooth Neighborhood* icon.

NOTE: Depending on the BTW settings, the system may perform a device inquiry for you. If you

see that other Bluetooth devices have already been identified, you may want to skip this step.

It may take up to 30 seconds for the inquiry to complete. You should then see a display similar to the one shown below:

⊉ My Bluetooth Places∖B	intire Bluetooth Neighborhood			
Bla Edit Mew Blue	tooth Fgyarites <u>I</u> cols <u>H</u> elp			
⇔Back • ⇒ • ⊡	QSearch 🕾Folders 🧭Hstory	1 B1 B1 X 67 8	l -	
Address 👰 My Bluetooth I	Pleces\Entire Bluebooth Neighborhood		-	@Go
	Device Name	Туре	Additional Information	
		Personal Computer		
Server Billion	===BG227	Network Access Point	Ide	
	=0=BG462	Network Access Point	Ide	
C 1	🖉 connectBlue	Unknown: Major(0), Minor		
	deskjet 995c 5/N MY16S1COMWOL	Printer		
		Personal Computer		
	E MMYERS2K	Personal Computer		
	, MMYER 5XP	Personal Computer		
Neighborhood	RGAY	Personal Computer		
an englaced theory				
Folder displays				
bluetooth devices in	• •			- F
Entire Bluetooth Neighborhoo	d			11.

The result of a device inquiry

2.6 DISCOVER THE "LAN ACCESS" SERVICE

In order to initiate a connection to your LAN, you must discover the service which controls LAN access on your BlueGate. In Bluetooth parlance, this process is called *Service Discovery*. You can do this by right-clicking on the BlueGate device name ("BG227" in the example shown below) and choosing *Explore* or *Discover Available Services* from the drop-down menu.

ny Bluetooth Places\Entire Blueto	oth Neighborhood			
File Edit View Bluetcoth Favor	ites Tools Help			())
⇔Back • ⇒ • 🖬 🛱 Search	🗄 Folders 🛛 🕉 History 🛛	2 印码 × 67 🗉	1 -	
Address 👰 My Bluebooth Places\Entire B	luetooth Neighborhood			• @@
Device Nam	6	Туре	Additional Information	
	KO	Personal Computer	14.	
H-BC442	Explore	Northonk Access Point		
	Open	vn: Major(0), Minor	106	
ideskje pmæt MMMEF	Connect LAN Access Connect Dial Up Network	ing al Computer		
	Discover Available Servic	es al Computer		
Device : B3227	Pair Device	al Computer		
This is a remote Bluetooth device 🔻 4	Properties			•

Initiating service discovery

For a BlueGate 2500, this will result in a display similar to the one shown below.

-l-My Bluetooth Places\Entire Bluetooth Neighborhood\B(227		_OX
Eie Edit Mew Bluetooth Favorites Tools Help			12
] ⇔Back + ⇒ - 🖾 QSearch 🗳 Folders 🤇 History	8 B B	× 昏 囲・	
Address - Be My Bluebooth Places (Entire Bluebooth Neighborhood)	BG227		
Service	Status	Additional Information	
🕂 🖌 🛄 🕲 Dial Up Networking	Not Connected		
LAN Access	Not Connected		
1. A C C C C C C C C C C C C C C C C C C			
Device : B3227			
Folder displays available			
services for the device. 🔻			
Closed the Network connection through BG227			h.

The results of a service discovery on a BlueGate 2500

NOTE: The name of the service that is running on the BlueGate is configurable by the BlueGate

administrator. "LAN Access" is the default service name, but it may not match the name shown above.

2.7 CREATE THE CONNECTION

You can use several methods to initiate a LAN Access Profile (LAP) connection. On the BTW client, you can double-click on the *LAN Access* service to which the connection is to be established. Another method is to right-click on the service and select *Connect to Network Access Point* from the drop-down menu as shown below:

=== My Bluetooth Places\Entire Bluetooth Neighb	orhood'\BG227		
File Edit View Bluetooth Favorites Tools	Help		10
🖓 Back 🔹 ⇒ → 🛍 🎯 Search 🖓 Folders	🕉 History 🔏 🖻 🕄	X 🗗 🗉 🔹	
Address 🔤 My Bluetooth Places Entire Bluetooth Net	ighborhoodl/86227		▼ (P ² Go
Service	Status	Additional Information	
🛛 🖾 💭 🖉 Dial Up Networking	Not Connected		
LAN Access	Not Connected		
Conn	ect to Network Access Poir	nt	
Status	5		
Greab	= Shortout		
Prope	rties		
Device : BG227			
Folder displays available services for the device.			
Closed the Network connection through BG227			li.

Initiating a LAN Access Profile (LAP) connection

BTW will respond by activating the Microsoft Windows Dialup Networking dialog. The dialog will be slightly different depending on which version of the Windows Operating System that you are using. If you are running your BlueGate in its factory default configuration then the user name and password are irrelevant. Feel free to leave these fields blank if you wish. Click on *Connect* in order to initiate the connection.

Connect BluetoothNull Connection	Connect To
Username:	
Password:	Phone number:
Save Password	Dialog from:
Connect Cancel Properties Help	Cancel
Windows 2000	Windows 98 SE

A set of dialogs will inform you of the progress of the connection. Once more, these differ slightly depending on the version of Microsoft Windows that you are using.

Connecting BluetoothKullConnection	Connecting	
Registering your computer on the network	Stalus: Veiliying user name and	Cancel
Windows 2000	Windows 08 SI	7

Windows 2000

Windows 98 SE

If your BTW client is also connected to the LAN through an internal network card, you may see a dialog similar to the one shown below. Although this is a situation that is normally to be avoided, it does not interfere with this demonstration. Click on "OK" in order to continue.

Windows	- System Error
8	A duplicate name exists on the network.
	<u> </u>

Windows 2000

Under Windows 2000, another dialog may be displayed in order to inform you that the connection has been successfully established. Click on "OK" in order to continue.

Connecti	on Complete 🔀
	'BluetoothNullConnection' is now connected.
	To check the status of this connection or disconnect, right-click its icon in the Network Connections folder, or click its icon on the taskbar (if present).
	🗖 Do not display this message again
	OK

Windows 2000

You will then see the display shown below. Notice that the status of the "LAN Access" service

is "Connected."



2.8 SURF THE WEB

If the BlueGate is connected to a network that has access to the Internet, open a browser on the BTW system and connect to the World Wide Web.



2.9 VIEW THE STATUS OF THE CONNECTION

If you are having problems with your connection, one simple debugging tool is to right-click on the connected service and choose *Status* from the pull-down menu. The resulting status dialog

is shown below:

Device News	
Device Name:	BG227
Duration:	00:00:39
Activity	
Sent — 📮	h Beceived
Bytes: 5,505	374
Signal Stiength	
Too weak Good	Too strong

Check the *Signal Strength* indicator. If the signal strength is too weak, you may want to reposition your BlueGate unit.

2.10 TERMINATE THE CONNECTION

Once you are finished surfing the Web, terminate the connection by right-clicking on the connected service and selecting *Disconnect Network Access* from the drop-down menu.



BTW will ask you to confirm. Click on "Yes" to disconnect.

LAN Access	<u>?</u> ×	I
	Do you want to close LAN Access connection with the device BG227?	
	🔲 Do not display this message again	l
	No No	

3 Support for Proxy Servers in Internet Explorer

If your pipeline to the Internet uses a proxy server, you can enable this support in your browser software. For Microsoft Internet Explorer 5.0, use the following procedure:

? | × |

- 1) Bring up Internet Explorer
- 2) Click on the *Tools* menu
- 3) Select Internet Options...
- 4) Click on the *Connections* tab. Make sure that *BluetoothNullConnection* is selected.

You will see a dialog similar to the following:

Internet Options

General Security Content Connections Program	s Advanced
Use the Internet Connection Wizard to connect your computer to the Internet.	Setup
Dial-up settings	
BluetoothNuliConnection	A <u>d</u> d
Click Here	Remove
	Settings
 Never dal a connection Dial whenever a network connection is not press Always dial my default connection 	ent
Current None	S <u>e</u> t Default
Local Area Network (LAN) settings	LAN Settings

5) Click on *Settings*...

NOTE: Do NOT click on *LAN Settings...* The proxy settings in the *LAN Settings...* dialog will

not enable the correct proxy server support.

BluetoothNullConnection Settings
Automatic configuration Automatic configuration may override manual settings. To ensure the use of manual settings, disable automatic configuration. Automatically detect settings Use automatic configuration script Automatically detect settings Use automatic configuration script Automatically detect settings Automatically detect set
Proxy server Proxy server Addrgss: 192.160.0.1 Port 00 Advanged Bypass proxy server for local addresses Dial up settings
Liser name: rgay Properties Password: Advanced Domain: Image: Construction of the second secon
Do not allow Internet programs to use this connection

6) Check the *Use a proxy server* box and fill in the address and Port information. You may have to consult your local Network Administrator to obtain the correct values.

7) When you are finished, click on *OK* to activate the new settings.

NOTE: If you are using a different version of Internet Explorer or a web browser from a different

manufacturer, this procedure will differ. If you have problems, consult your local Network Administrator or IT Service Technician.

4 For Troubleshooting or Further Information

For additional technical information or troubleshooting advice, see the following WIDCOMM documents:

• The *BlueGate 2500 Quick Start Guide*, WIDCOMM doc # BG2500-PROJ-UM-010710-0608.

• The *BlueGate 2500 Administrator's Guide*, WIDCOMM doc # BG2500-PROJ-UM-011023-1800.

• BTW Configuration Guide, WIDCOMM doc # BTW-DOCS-010620-1220.

• Bluetooth Neighborhood User's Guide, WIDCOMM doc # BTW-DOCS-011100-1700.

If you still cannot succeed using the steps outlined in the document, contact WIDCOMM

technical support. The preferred method of doing this is to use the on-line forms for either BTW or BlueGate. In order to access these forms, you will need the user name and password that was supplied along with your WIDCOMM product. You can access these forms from http://www.widcomm.com/Support/index.asp or send an email to support@widcomm.com.