

# **IVT BlueSoleil™**

## **User Manual**

**Version: 1.4**

**This document describes how to use IVT BlueSoleil™.**

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# 1 BlueSoleil™ Introduction

BlueSoleil™ is a Windows-based Bluetooth Wireless software suite from IVT Corporation. It is fully compliant to the latest Bluetooth SIG specifications. BlueSoleil™ incorporates Bluetooth and computer technologies to enable users to wirelessly access computing devices, form networks, and exchange information.

## 1.1 Profiles

BlueSoleil™ V1.4 includes ten Bluetooth profiles. The following table indicates which of these profiles is available for client and server devices.

Profile Description		Client	Server
PAN	Personal Area Networking	✓	✓
SPP	Serial Port	✓	✓
DUN	Dial-Up Networking	✓	
LAP	LAN Access	✓	✓
FTP	File Transfer	✓	✓
HID	Human Interface Device	✓	
HCRP	Hardcopy Cable Replacement	✓	
OPP	Object Push	✓	✓
SYNC	Synchronization	✓	✓
AG	Audio Gateway	✓	✓
AV	Audio Source	✓	✓
	Audio Sink		
BIP	Basic Imaging	✓	✓

BlueSoleil™ supports more than ten Bluetooth chip-sets and HCI interfaces including USB, UART, PCMCIA and Compact Flash.

IVT BlueSoleil™ supports:

- ◆ Windows 2000/XP
- ◆ Windows 98SE/Me

This manual describes how to use BlueSoleil™:

- ◆ How to start and exit BlueSoleil™.
- ◆ How to navigate the Main Window and Service Window.
- ◆ How to use the Bluetooth profiles.

## 1.2 New features in BlueSoleil 1.4

BlueSoleil version 1.4 is ready now with even more exciting new features, multimedia profiles are added into BlueSoleil.

They include:

- ◆ **Headset**  
With this feature, users can use Bluetooth Headset to listen to music, to record sound or to chat with others. Headset increases the user's mobility.
- ◆ **Audio/Video**  
With this feature, users can listen to stereo music with any media player wirelessly between Bluetooth enabled computers or Bluetooth enabled computer and Bluetooth Stereo headphone.
- ◆ **Basic Image**  
With this feature, users can push an image from a digital still camera to a computer, or control a digital still camera remotely from a computer.

## 1.3 Features in BlueSoleil 1.2

BlueSoleil version 1.2.0 is ready with exciting new features, aiming at making Bluetooth more easy to use for end user. Less steps is required to setup wireless connections. User can even do not care what is Bluetooth. Anyway, Bluetooth is just a kind of connecting method. So, please just have fun from all these new functions.

They include:

- ◆ **Seamless Integration with Windows**  
This is an important improvement to make it more easy to use Bluetooth. Generally, users do not care about what is Bluetooth and how can they connect to a Bluetooth device. From users' point of view, they just want to print a document, open a serial port, dial-up to Internet and send a FAX etc. To make this, BlueSoleil automatically setup Bluetooth connections for users. There is no need to setup connection before using Bluetooth anymore.
- ◆ **Integration with MS Outlook for Object Push and Synchronization**  
With this feature, contact cards and email messages can be sent or synchronized from Outlook directly via Bluetooth. Received cards and other information items will be imported to Outlook automatically.
- ◆ **Shortcut on Windows Desktop**  
Windows shortcut is introduced here to let user to be able to setup Bluetooth connection when they want by just double- clicking them. It makes Bluetooth connection extremely simple.
- ◆ **Security 2**  
With this feature, users can manage local Bluetooth services in a flexible way. Authentication, encryption and authorization can be configured based on every service. Users can set which remote device can access local services and which not.
- ◆ **FAX**  
FAX enable users to send a FAX from PC side via Bluetooth cellular phone or Bluetooth FAX machine wirelessly.
- ◆ **Network Address Translation, Network Access Point, and DHCP server in PAN**

With these functions, users can setup ad-hoc Personal Area Network quickly and share the Internet accessing among computer.

◆ **More Bluetooth Serial Ports**

More Bluetooth Serial Ports are supported, with 4 Bluetooth Serial Ports for out-going connections and 2 Bluetooth Serial Ports for incoming connections.

◆ **Mobile HID**

With this feature, users can make cellular phones like Ericsson T39 or T68 to work like a mouse and keyboard. Users can remotely control their PC to show Power Point etc.

## 2 BlueSoleil™ Basic Operations

### 2.1 Start BlueSoleil™

After installing BlueSoleil™, there are two ways to start the program:

1. A BlueSoleil™ shortcut icon on the Windows desktop.
2. An IVT BlueSoleil™ program group entry in the Windows' **Start | Programs** menu.

Double-click the BlueSoleil™ shortcut icon on the desktop or click the BlueSoleil™ menu item on the **Start | Programs | IVT BlueSoleil™** menu to start the BlueSoleil™ software.

The BlueSoleil™ icon  will be displayed at the bottom right corner of the Windows desktop (Figure 2.1).



Figure 2.1: BlueSoleil™ icon

The BlueSoleil™ Main Window pops up as shown in Figure 2.2.

### 2.2 Exit BlueSoleil™

To exit BlueSoleil™, right-click the BlueSoleil™ icon at the bottom right corner of the Windows task bar and select **Exit** on the pop-up menu.

**Note:** Selecting the **Close** button at the top right corner of the BlueSoleil™ window only hides the BlueSoleil™ window.

## 2.3 BlueSoleil™ Main Window

The BlueSoleil™ Main Window displays all surrounding Bluetooth devices. From the BlueSoleil™ Main Window users can search for surrounding Bluetooth devices and can execute connect/ disconnect functions.

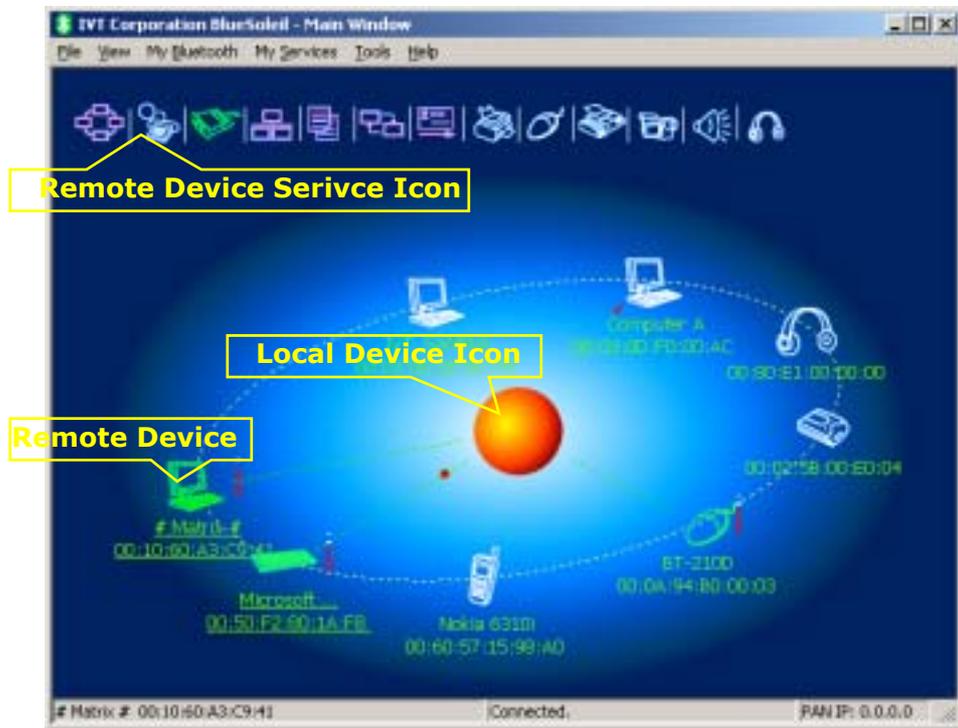


Figure 2.2: BlueSoleil™ Main Window

The main elements in the BlueSoleil™ Main Window are:

- ◆ My Device Icon
- ◆ Remote Bluetooth Device Icons
- ◆ Bluetooth Service Icons

### 2.3.1 My Device Icon

This icon represents the client computer. It is called the 'My Device icon' or 'center ball' in this document.

**Functions:**

- ◆ Hover the mouse over the My Device icon to display the client Bluetooth device name and address.
- ◆ Double-click to start/ stop searching for surrounding Bluetooth devices.
- ◆ Drag scrollbar on the right of main window to find other Bluetooth devices if there are more than seven devices.
- ◆ Right-click to display the pop-up menu with related operations.

### 2.3.2 Remote Bluetooth Device Icons

The icons in the table below represent the remote Bluetooth devices.

Device Type	Icon
Headset	
Keyboard	
LAN Access Point	
Laptop	
Mobile	
Modem	
Mouse	
Personal Computer	
PDA	
Printer	
Scanner	
Unknown device	

The following colors are used to indicate the status of the remote Bluetooth device:

- ◆ White (Idle)  
This is the normal status of the device.

- ◆ Yellow (Selected)  
The device has been selected by the user.
- ◆ Green (Connected)  
The device has been connected.

**Functions:**

- ◆ Single-click to select.
- ◆ Double-click to get the services remote Bluetooth device supports.
- ◆ Right-click to display the pop-up menu with related operations.

**2.3.3 Bluetooth Service Icons**

The Bluetooth Service Icons represent the Bluetooth services supported by the remote device.

Bluetooth Service	Icon
Personal Area Networking	
Dial-up Networking	
Serial Port	
LAN Access	
File Transfer	
Information Synchronization	
Object Push	
Printer	
Fax	
Human Interface Device	

AV Headphone	
Basic Image	
Headset Audio Gateway	

The following colors are used to indicate the status of the Bluetooth service:

- ◆ White (Idle)  
This is the normal status.
- ◆ Pink (Available)  
The Bluetooth service is available for the selected device.
- ◆ Yellow (Selected)  
The service icon has been selected by the user.
- ◆ Green (Connected)  
The service is connected.

**Functions:**

- ◆ Hover the mouse over the icon to display the service name.
- ◆ Single-click to select the service.
- ◆ Double-click to connect.
- ◆ Click to display the pop-up menu with related operations.

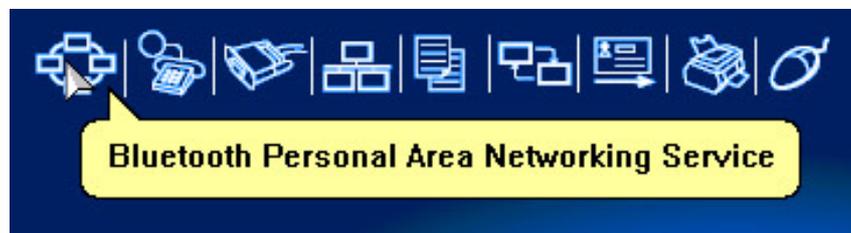


Figure 2.3: Bluetooth PAN Service Icon

## 2.4 Service Window

Select menu **View | Service Window** and the Service Window appears.

This window displays the Bluetooth services the 'my Bluetooth device' provides to remote Bluetooth devices. These services are called 'my Bluetooth services'.

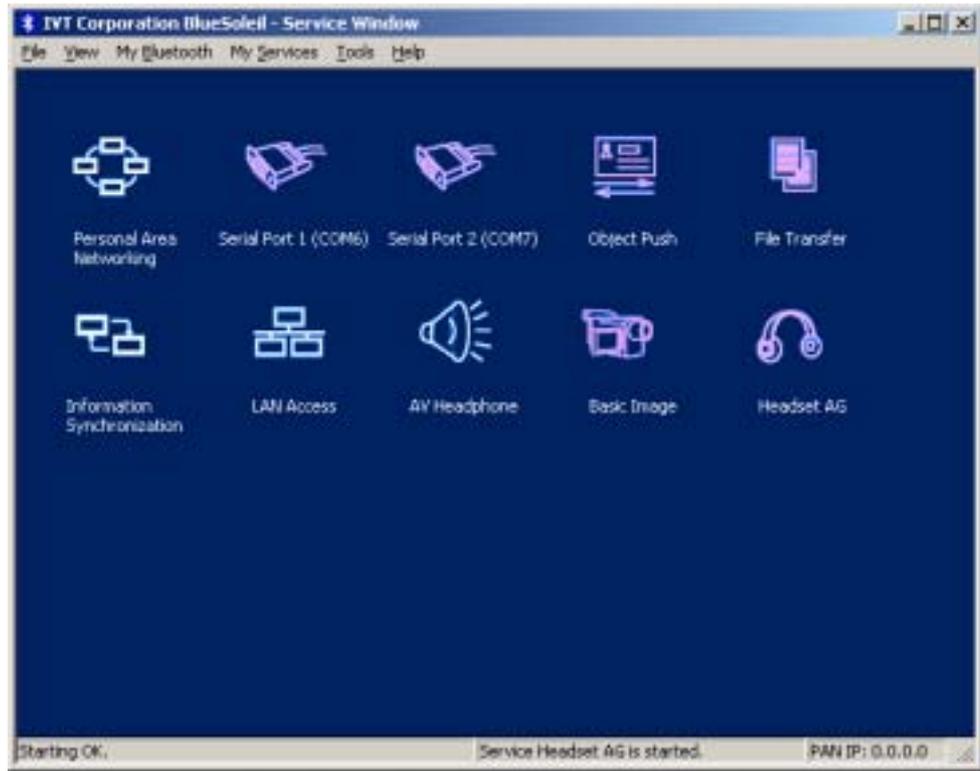


Figure 2.4: BlueSoleil™ Service Window

Main Elements:

- ◆ My Service Icons

### 2.4.1 My Service Icons

These icons represent 'my Bluetooth services'.

My Bluetooth Service	Icon
Personal Area Networking	
Serial Port	
LAN Access	
Object Push	

File Transfer	
Information Synchronization	
AV Headphone	
Basic Image	
Headset AG	

The following colors indicate the status of the Bluetooth service:

- ◆ White (Idle)  
Normal status.
- ◆ Pink (Started)  
My Bluetooth service is started.
- ◆ Green (Connected)  
A remote device has connected to my Bluetooth service.

### 2.4.2 Start/Stop a Bluetooth Service

Select a service icon in service window, and double-click to start/stop a service or select right popup menu to send command.

### 2.4.3 View the Property of a Service

Right-click to display the pop-up menu with related operations in service window.

## 2.5 What You Need To Do Before Build A Connection

3. Inquiring Bluetooth Devices in the vicinity
4. Pairing your desktop or laptop with the associated device

### 2.5.1 Inquiring Bluetooth Devices

#### Method 1: Enquire Device

To start to set up a Bluetooth connection, you have to find the remote device you want to connect first. You can choose one of the following methods to find the remote device.

You may double click My Bluetooth Device icon  or from **MY Bluetooth Menu -> Bluetooth Device Inquiry** (Figure 2.5) to find other Bluetooth devices in range. Bluetooth devices within the radio range will be added to the orbit. The inquiry procedure will search up to 7 devices each time. After it finds the devices or it has been 25 seconds since the beginning of the inquiry, it will continue to refresh

the names of the found devices. Double clicking the local device  or double clicking one of the remote devices (to start to search profiles it supports) will stop the inquiry procedure.



Figure 2.5 Inquiry Menu

### Method 2: Add Device from History List

If there are more than 7 devices to find within the radio range, you can add the device you have used to the orbit from the history device list. Click **Tools Menu** and select **Add Device from History**. The History dialog box will be pop-up (Figure 2.6).

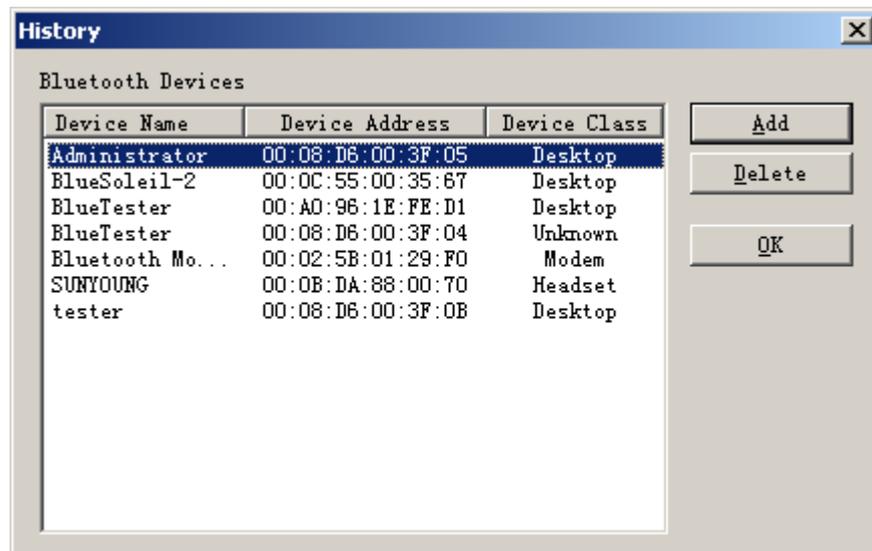


Figure 2.6 History Dialog

Select the device from the list and click **Add**, the selected device will be added to the end of the orbit. The shortcut key to open the History dialog box is Ctrl+H.

### Method 3: Add a New Device by Inputting Device Address

If you are going to connect a device that you have never used, which is not in the history list and which you cannot find, you can add it directly by inputting its Bluetooth device address. Click **Tools Menu** and select **Add New Device**. The **Add Bluetooth Neighbor Device Manually** dialog box pops up.



Figure 2.7 Add Bluetooth Neighbour Device Manually dialog

Input the device address and click **OK**, and then the device will be added to the end of the orbit. However, the device type will be unknown. The shortcut key to open **Add Bluetooth Neighbor Device Manually** dialog box is Ctrl+N.

The remote devices found will be added to the orbit. Refer to the following window (Figure 2.8).

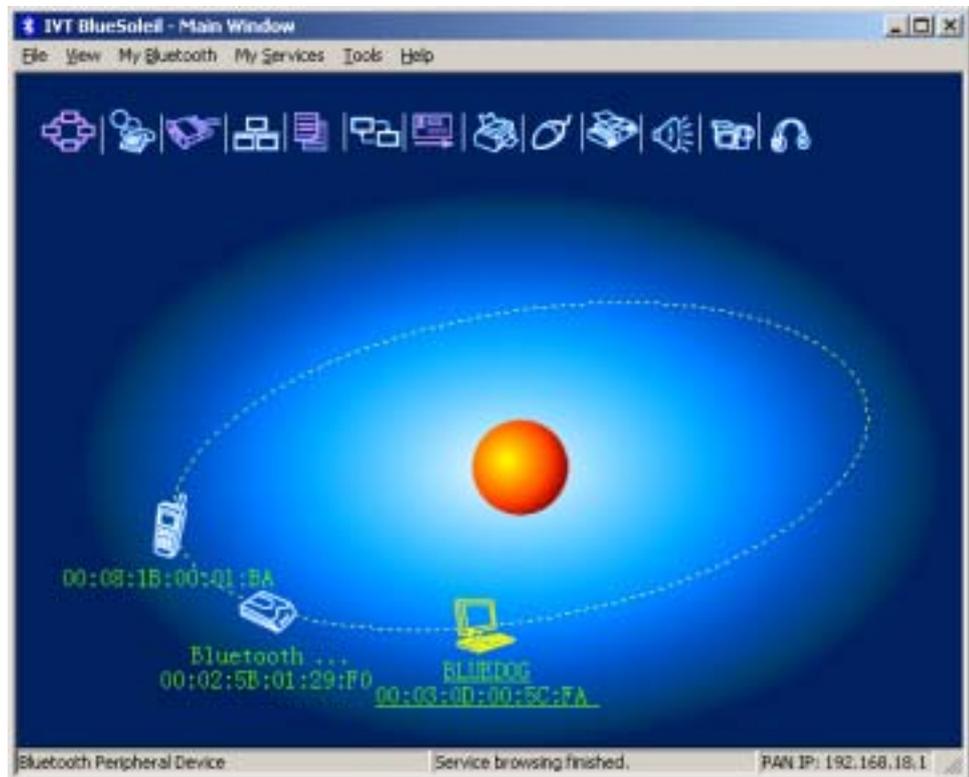


Figure 2.8 Devices can be add into the main window

## 2.5.2 Pairing your desktop or laptop with a Bluetooth Device

Bluetooth passkey may be asked if security level of either side of the connection is set to **High** and they are not paired devices. You can initiate the pairing from your own desktop or laptop or accept a request for pairing from the other device. Pairing allows you to avoid entering access information each time a connection is setup. Paired devices share a unique Link Key, which they exchange each time they connect.

### Pairing Procedures

Double click the remote Bluetooth device you want to connect and you will be asked to enter the Bluetooth Passkey. Please type the Bluetooth Passkey in the Passkey field (Figure 2.9).

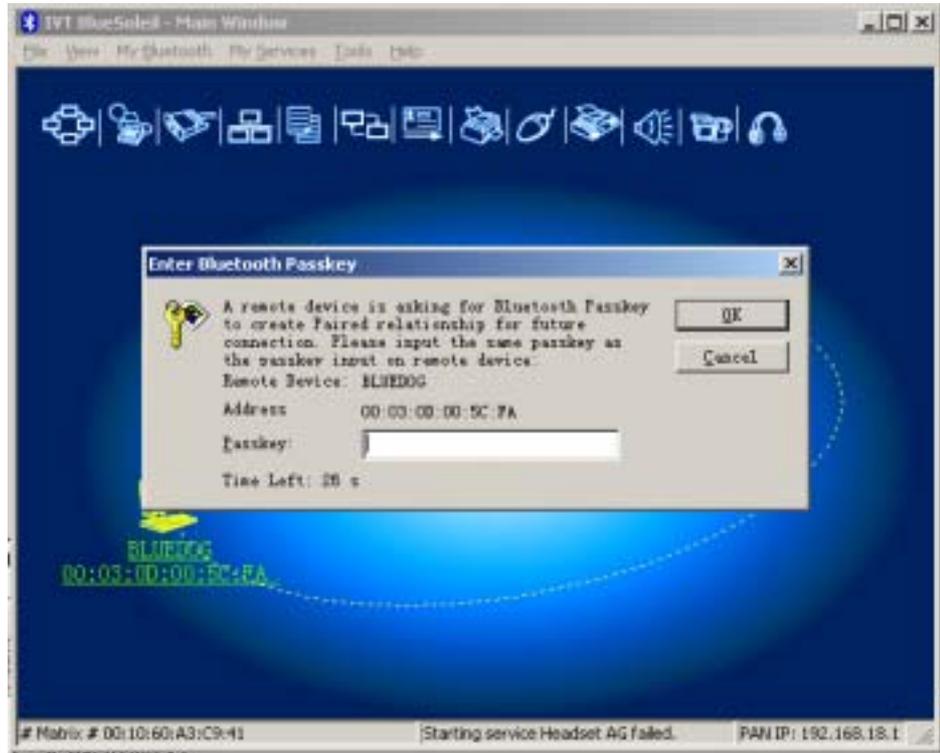


Figure 2.9 Input Passkey

Meanwhile, there will be a Bluetooth Passkey dialog box prompted on the remote laptop or desktop equipped with the Bluetooth device to ask you to enter passkey. The Bluetooth passkey should be the same between paired devices. If the pairing process succeeds, there will be a red check on the paired Bluetooth device icon (Figure 2.10).

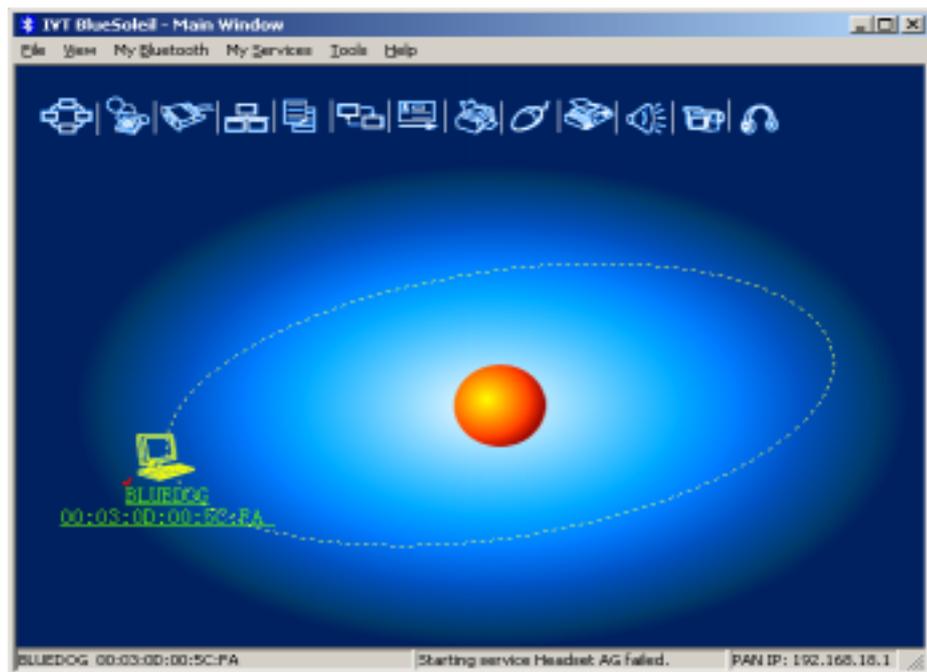


Figure 2.10 Device have been paired

## 2.6 Start Or Stop A Bluetooth Service Connection

After you have finished the pairing process, it means that you have built the connection between the client side and remote side. You may start to use the Bluetooth services the associated Bluetooth device provides.

You can refer to **4.2 Communication Between Two Computers** as a more detailed example.

### 2.6.1 Search Bluetooth Service

You can double click the associated Bluetooth device icon or right-click on the icon and select **Refresh Services** to find the service it provides. After service searching finishes, the services the remote device supports and the corresponding service icons on the top of the main window will change to be pink color.

### 2.6.2 Start A Remote Bluetooth Service Connection

You may right-click on the connected Bluetooth device, select **Connect** and highlight the service you want to use (Figure 2.11).

Or

Double click the pink profile icon (the service icon) you want to connect on the top of the Main Window.

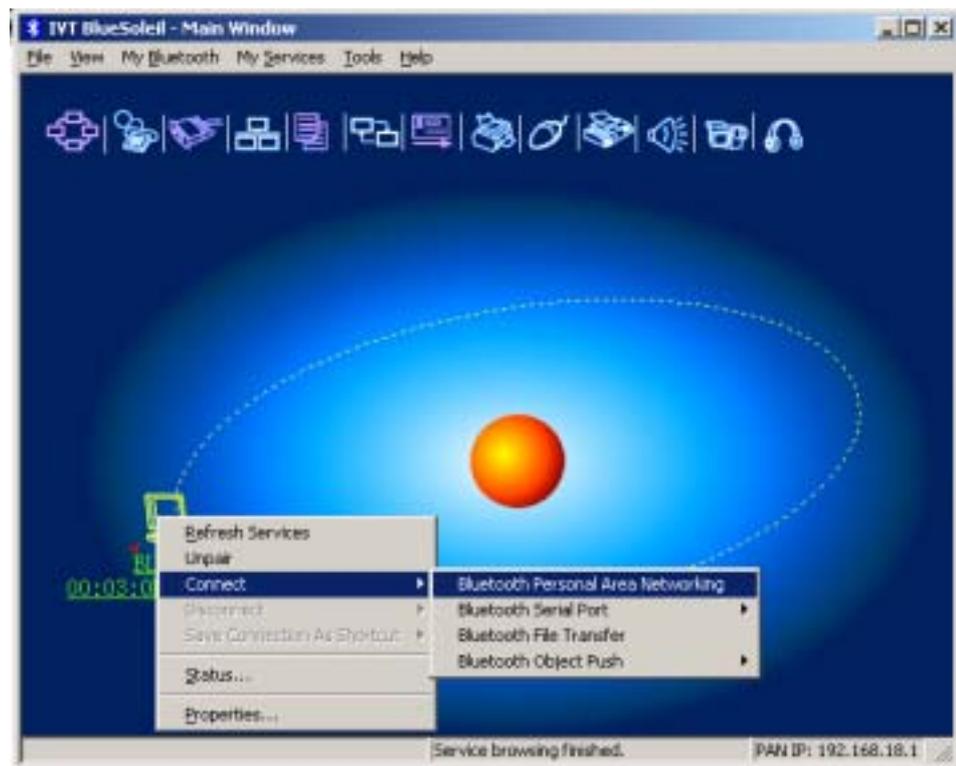


Figure 2.11 Connect to the remote service

Connection will be setup. After connection is OK, the remote device and the service icon will turn green.

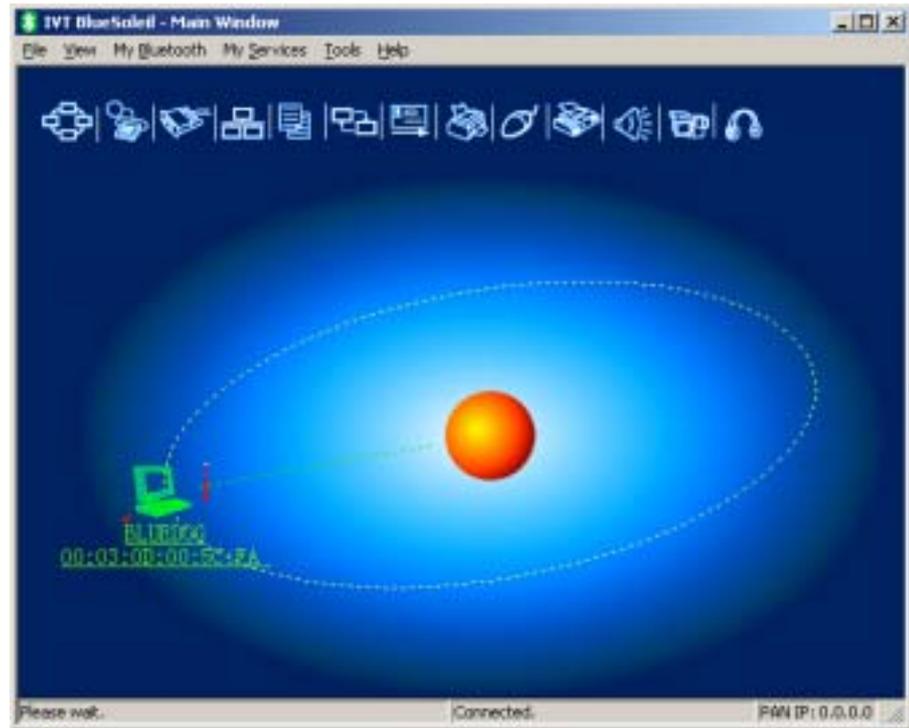


Figure 2.12 The connection has been established

### 2.6.3 Stop A Bluetooth Service Connection

There are two ways to stop the service:

- ◆ Select a started service and right click the service. On the popup menu, select **Stop Service**. The service icon turns white. The service is stopped.
- ◆ Select a started service. Select **My Services** menu and highlight **Stop Service**. The service icon turns white. The service is stopped.

### 3 Bluetooth Security

#### 3.1 Introduction

Bluetooth introduces security features to protect users from unauthorized access of local data and encrypt data in the air. Three levels of security is defined in Bluetooth:

- ◆ Low (no security): Local device will not initiate any security procedure.
- ◆ Medium (service-level enforced security): Local device does not initiate security procedures before user access local Bluetooth services. This mode allows different and flexible access policies for Bluetooth applications, especially running applications with different security requirements in parallel.
- ◆ High(device level enforced security): Local device initiates security procedures as long as the remote Bluetooth device set-up link, for example, browsing local services etc.

Following table shows the security when Bluetooth client device access another Bluetooth device that provides services.

	<b>Server in Security Low</b>	<b>Server in Security Medium</b>	<b>Server in Security High</b>
<b>Client in Security Low</b>	No security.	Can browse services. Accessing service depends on the settings of local services.	High. Security is enforced at link level before setup connection.
<b>Client in Security Medium</b>	No security.	Can browse services. Accessing service depends on the settings of local services.	High. Security is enforced at link level before setup connection.
<b>Client in Security High</b>	High. Security is enforced at link level before setup connection.	High. Security is enforced at link level before setup connection.	High. Security is enforced at link level before setup connection.

When security is enforced at device level or a local service requires, an **Authentication** procedure is required. Both of Bluetooth client and server side need enter a Bluetooth passkey to confirm the client user's identity.

To avoid entering Bluetooth passkey every time, two Bluetooth devices can be set up pairing relationship, that is to save the relationship after **Authentication**. After **Authentication**, the Bluetooth link can be encrypted if necessary.

**Authorization** is used in Security Medium (service-level enforced security), to set which devices can use the local service and which cannot. The following are some concept of bluetooth security:

- ◆ **Authentication**  
Authentication is used to verify identity; it requires a passkey or link key from the remote device. When an Authentication procedure is initiated by either local device or remote device, a dialog is shown to ask for entering Bluetooth Passkey. Only when passkeys from both sides are identical, can authentication succeed.
- ◆ **Authorization**  
Bluetooth authorization is the procedure to decide whether you are going to allow some other Bluetooth devices to use Bluetooth services on your Bluetooth devices. This procedure takes function in Bluetooth security Medium and applies to Bluetooth services only.
- ◆ **Encryption**  
When a Bluetooth link is encrypted, data are encrypted into unreadable data using a secret key or password before they are sent in the air. Data are decrypted after they reach the remote device using the same key or password that was used to encrypt it.
- ◆ **Pairing Devices**  
Pairing allows you to avoid entering access information each time a connection is setup. Paired devices share a unique Link Key, which they exchange each time they connect.

## 3.2 BlueSoleil Security Configuration

The BlueSoleil security configuration involves the policy setting of the local device's security, it comprises the following items:

- ◆ General Property Page
- ◆ Devices Property Page
- ◆ Services Property Page

### 3.2.1 General Property Page



Figure 3.1: Security Configuration Dialog

#### Security Level

- ◆ Low  
When Low is checked, normally other devices may access your device freely, which means that they don't need to input the Bluetooth passkey. However, if the other device set its own security level to High, you are also required to input the passkey.
- ◆ Medium  
The medium level is service level security. You can assign access right for specified service to different devices. For more detail, to see Services Property Page.
- ◆ High  
When other devices connect to your device or your device connects with other devices, you are required to input a Bluetooth passkey. If your device has been paired with the other device before connecting, you can connect with the other device directly. (A link key has been created and stored for the paired relationship. Link key is used instead of Bluetooth passkey here.)

#### Bluetooth Paskey

- ◆ Set Default Passkey  
If you check Set Default Passkey, you needn't input passkey manually. BlueSoleil will use the passkey inputted in the edit box below to connect with other devices.

#### Data Encrypt

- ◆ Enable Data Encryption  
If the item is checked, the transmitted data will be encrypted into an unreadable format.

### 3.2.2 Devices Property Page

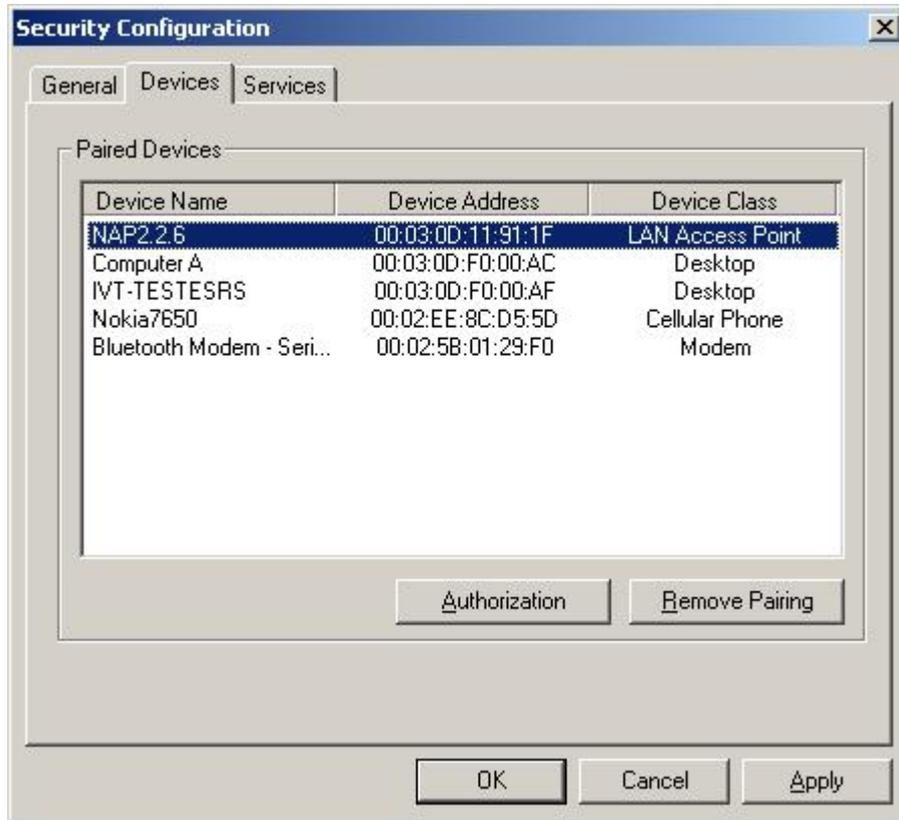


Figure 3.2: Devices Property Page

when you establish connection with a paired device, you needn't input a passkey again. A link key has been created and stored for the paired relationship.

#### How to pair with another device

- ◆ Automatically  
If a passkey is required before connection, devices will pair automatically the first time they connect (a passkey must be successfully exchanged).
- ◆ Manually  
In the main window of BlueSoleil, right click a device, select Pair Device from the popup menu, and then input a same passkey on both side.

#### How to unpair with another device

Manually

1. Click Remove Pairing button in this page.
2. In the main window of BlueSoleil, right click a paired device, select Unpair from the popup menu.

#### Authorization for paired devices

Only when the Security Level is set as Medium in General Property Page, the Authorization button is enabled. Select a device in Paired Devices list, then click Authorization button to show an authorization dialog.

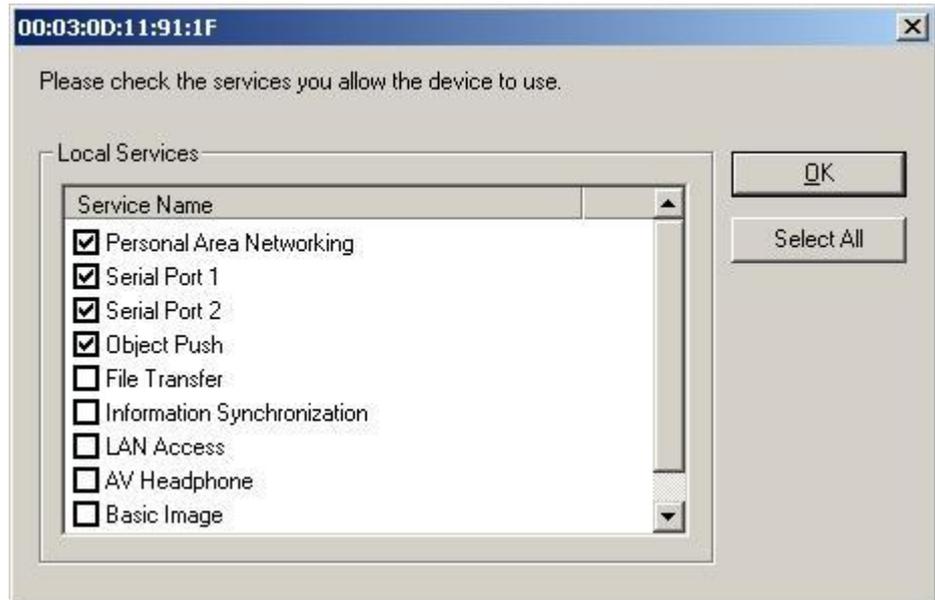


Figure 3.3: Authorization Dialog

The services shown in Service Name list are those need Authentication. Configure in Services Property Page. If a service name is checked, the device will be a trusted device for the service.

### 3.2.3 Services Property Page

Only when the Security Level is set as Medium in General Property Page, the property page is enabled.

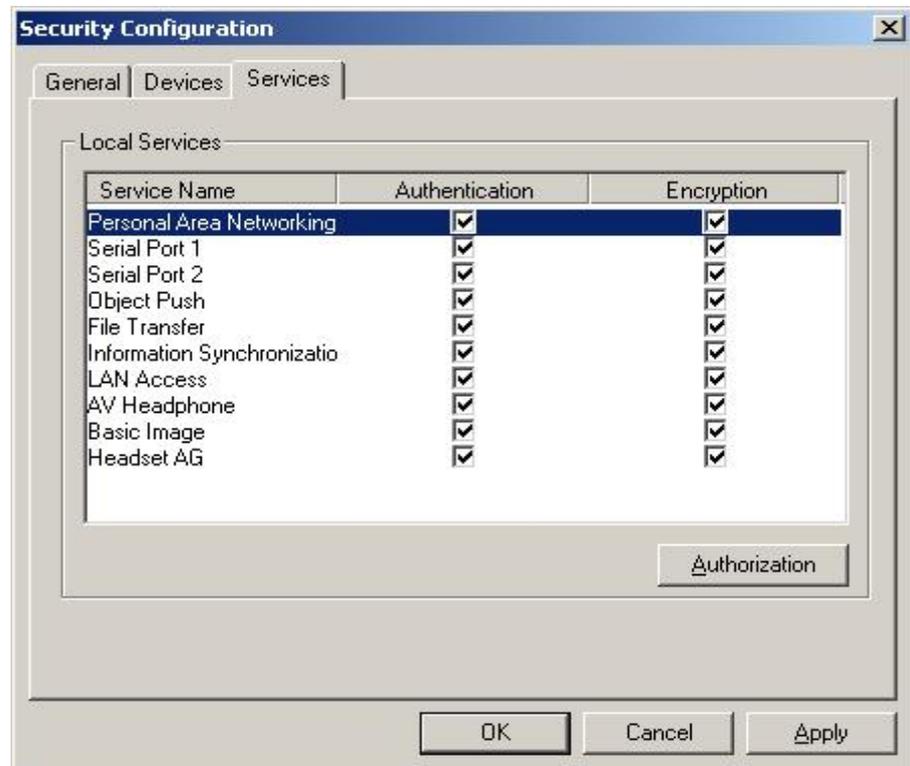


Figure 3.4: Services Property Page

#### Authentication

- ◆ **Checked**  
If you check the Authentication box after a service name, when a not paired device access the service, a passkey is required.
- ◆ **Not Checked**  
The security level of the service will be Low. Any device may access the service freely.

**Encryption**

If check Encryption after a service name, the transmitted data for the service will be encrypted into an unreadable format.

**Authorization for services**

Select a service which need Authentication, then the Authorization button is enabled. Click Authorization button to show an authorization dialog for the specified service.

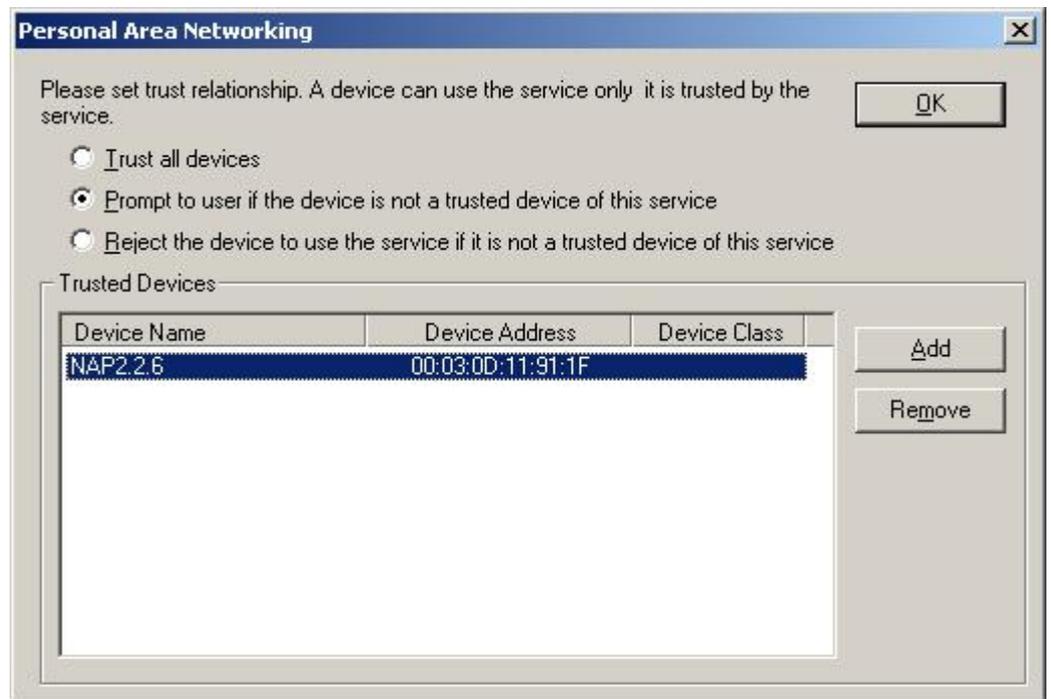


Figure 3.5: Authorization for Services

**Trusted Devices**

The devices are trusted by the specified service. Click Add button to add devices into Trusted Devices list. Only a paired and trusted device can use the service freely.

- ◆ **Trust all devices**  
Set all devices trusted.
- ◆ **Prompt to user if the device is not a trusted device of this service**  
If a device attempting to access the service is not a trusted device, a prompt dialog will popup on the server side to inquire user if accepting the connection.
- ◆ **Reject the device to use the service if it is not a trusted device of this service**  
If a device attempting to access the service is not a trusted device, the device will be rejected to established connection directly.

## 4 Personal Area Networking

### 4.1 Introduction

The Bluetooth Personal Area Networking (PAN) is a Bluetooth application, which enables devices to form an ad-hoc network or to access a remote network through a network access point.

The PAN application can be used in the following scenarios:

- ◆ Two or more computers (or PDAs) can be connected to form a Group Ad-hoc Network (GN) and can visit each other using Windows **Network Places** or any application based on TCP/IP. (Figure 4.1)

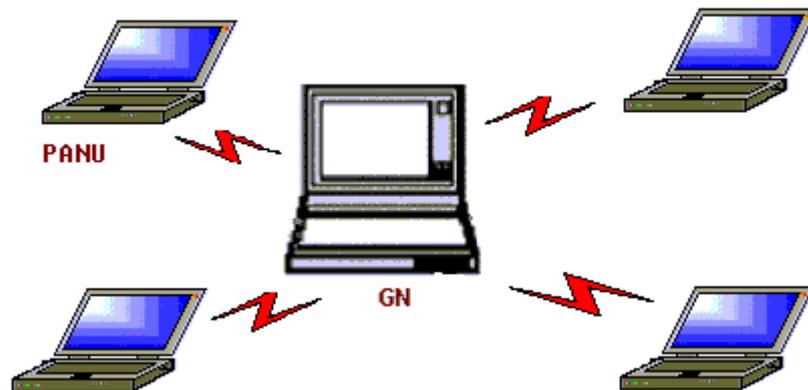


Figure 4.1: Group Ad-hoc Network

- ◆ Two or more computers (or PDAs) can access a Local Area Network through a Network Access Point (NAP) bridge. (Figure 4.2) After the computers or PDAs connect to the PAN-NAP, they become members of the LAN and can communicate with other computers in the LAN directly.

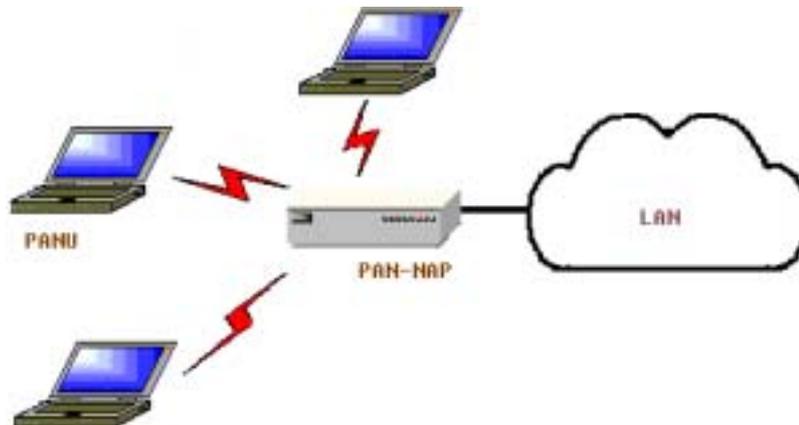


Figure 4.2: Access LAN through PAN-NAP

- ◆ Two or more computers (or PDAs) can access a Local Area Network through BlueSoleil™. (Figure 4.3) After the PANUs connect to the BlueSoleil NAP, they become members of the LAN and can communicate with other computers in the LAN directly.

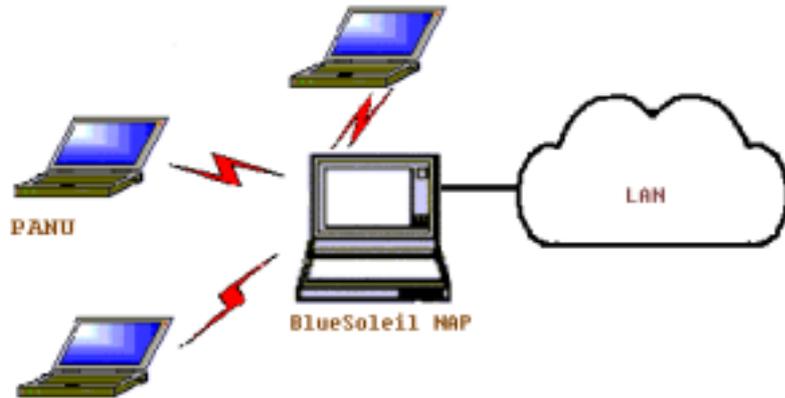


Figure 4.3: Access LAN through BlueSoleil NAP

- ◆ Two or more computers (or PDAs) can access the Internet through BlueSoleil™. (Figure 4.4) In this scenario, there are two network adapters for the BlueSoleil NAP: the WAN adapter is connected to the Internet and the BT network adapter is used for Bluetooth connections from the PANUs. The BlueSoleil NAP acts as a TCP/IP gateway, and the PANUs can access the Internet through the BlueSoleil NAP.

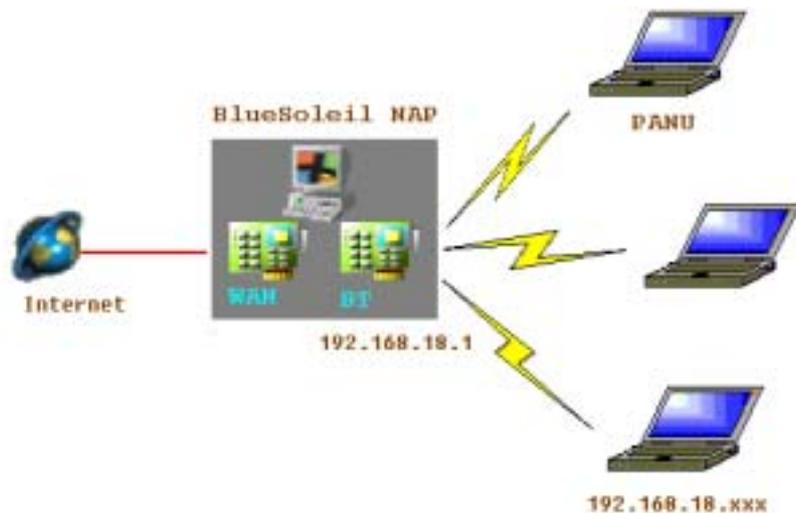


Figure 4.4: Access Internet through BlueSoleil NAP

Each of these scenarios is now covered in more detail.

## 4.2 Communication Between Two Computers

This section outlines the steps involved in connecting two computers, Computer A and Computer B.

Computer A:

Desktop

A Bluetooth Device

IVT BlueSoleil™

Computer B:

Notebook/ Laptop

A Bluetooth Device

IVT BlueSoleil™

- Step 1: Insert Bluetooth Devices in both computers and start BlueSoleil™ in both computers.
- Step 2: Set device name of each computer to anything you want. Here they are named Computer A and Computer B.
- ◆ In the BlueSoleil™ Main Window of Computer A, click **My Bluetooth | Property....** Enter 'Computer A' in the device name field in the **My Bluetooth Device** window.
  - ◆ Repeat for Computer B.
- Step 3: Set the Security Level.
- ◆ Click My Bluetooth| Security, the Security Configuration panel pops up.
  - ◆ On the **Security Configuration** panel, select **High** in Security Level.
  - ◆ **Note:** If you check the **Fixed Passkey** and input a Bluetooth passkey, this passkey will be used as the default passkey. The other computer will then have to provide the same passkey during the connection procedure if it wants to connect to this computer.

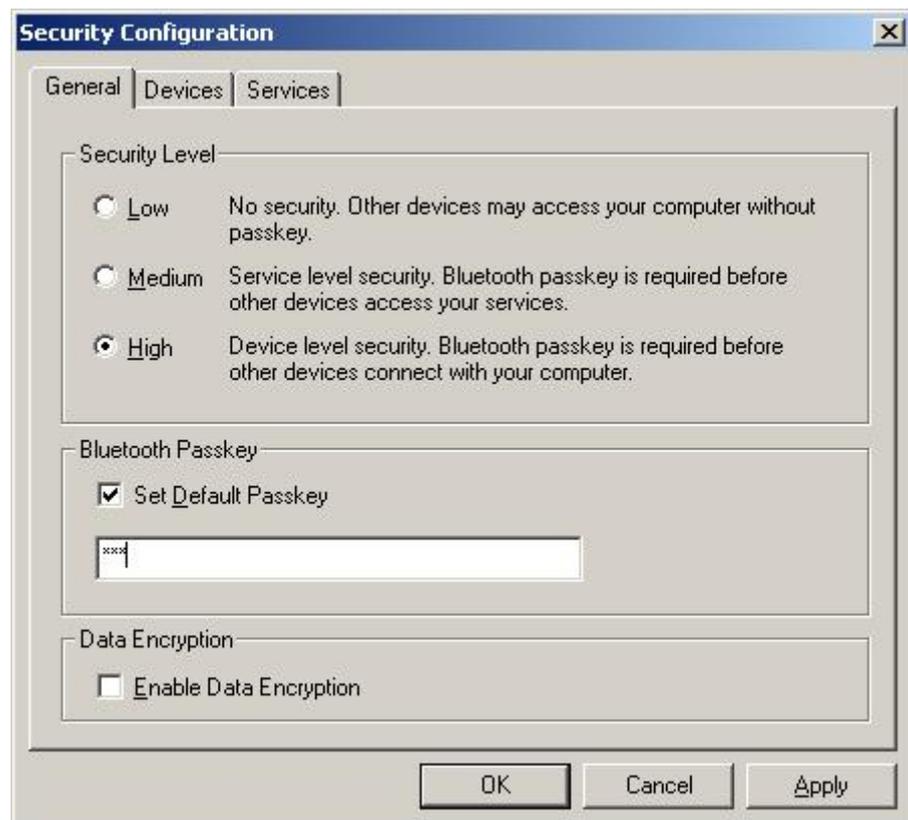


Figure 4.5: Security Configuration

- Step 4: Start the PAN service on Computer A.
- ◆ In the BlueSoleil™ Main Window, click **View | Service Window.**
  - ◆ In the Service Window, right-click the Personal Area Networking icon. Choose **Properties** to configure my PAN service as **Set up Bluetooth Personal Area Network.** (Figure 4.6) If the item of **Enable DHCP Server** is checked, a DHCP server will be started

on the GN side. (Notes: To use DHCP, the BT Network Adapter on the client side must be set to obtain an IP address automatically. The IP address is in the form of 192.168.18.xxx.)

- ◆ Click **Apply** or **OK** button to save the configuration.
- ◆ Right-click the Personal Area Networking icon again, then choose **Start Service**. (Figure 4.7)

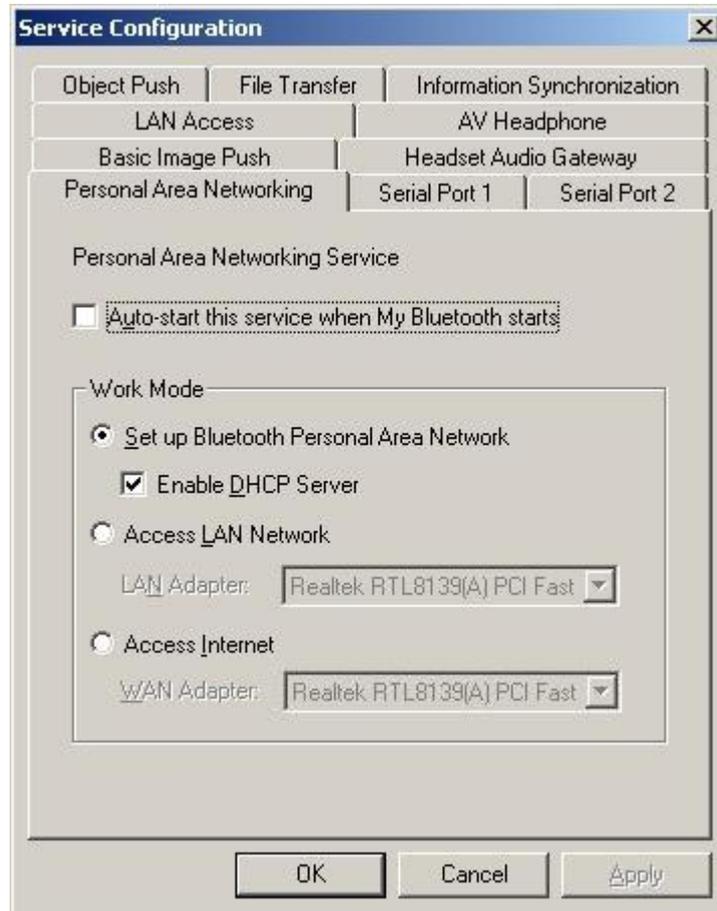


Figure 4.6: Set up Bluetooth Personal Area Network Configuration



Figure 4.7: Start PAN Service on Computer A

- Step 5: Search for Computer A on Computer B.
- ◆ Double-click the My Device Icon (center ball). The surrounding discovered Bluetooth devices appear.
  - ◆ Check to see if Computer A appears. If it does not appear, double-click the My Device Icon again. Repeat the operation until you find Computer A.
- Step 6: Find the PAN service on Computer A.
- ◆ Double-click the Computer A device icon on Computer B.
  - ◆ Enter the Bluetooth passkey (if security is set to **High** on either side) to start the authenticating process. The **Enter Bluetooth Passkey** window pops up on Computer A. Input any characters or numbers, e.g. "12". The **Enter Bluetooth Passkey** window pops up on Computer B. Input exactly the same characters or numbers as you input for Computer A, e.g. "12". (Figure 4.8)
  - ◆ Once authentication is complete, the PAN service is found.

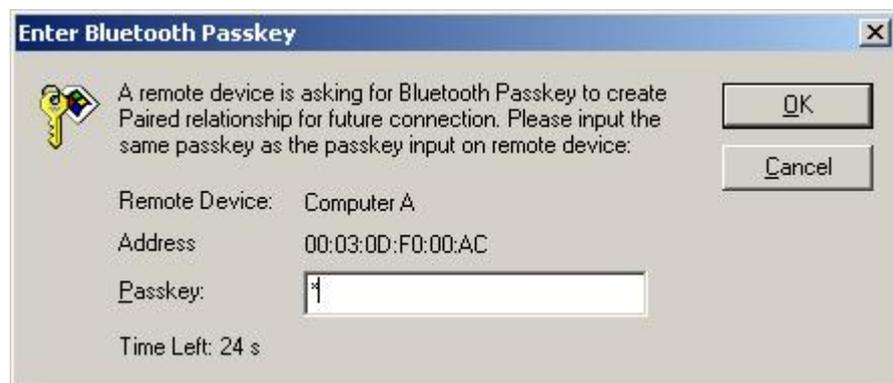


Figure 4.8: Input passkey

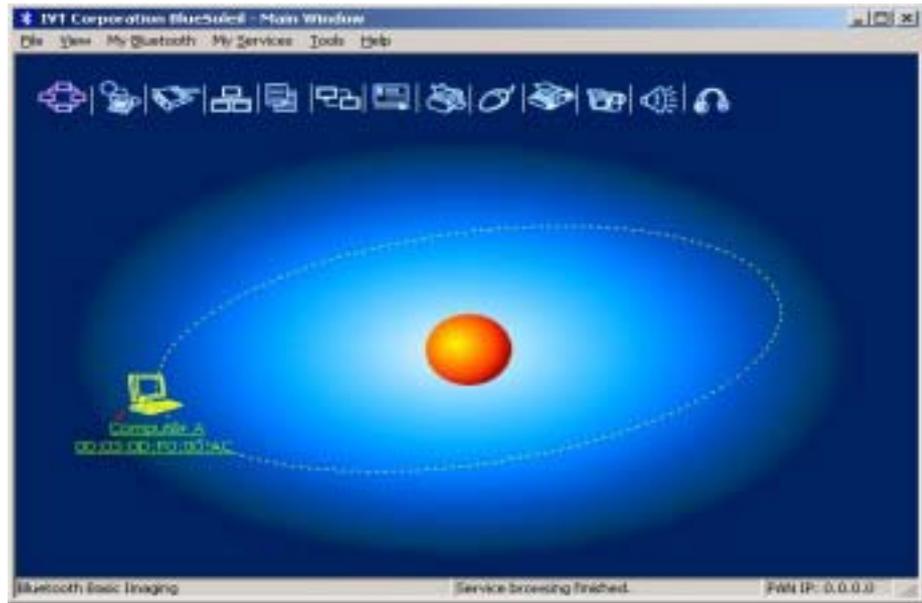


Figure 4.9: PAN service is found

Step 7: Connect to Computer A.

- ◆ Right-click the PAN service icon; select **Connect** on the pop-up menu. (Figure 4.10)
- ◆ The connection is established successfully ( Figure 4.11). Wait until the valid IP address is shown on the bottom right status bar on both Computer A and Computer B. If you enable the DHCP server on the server side, the IP address appears as "192.168.18.xxx". If not, the IP address appears as "169.254.xxx.xxx".

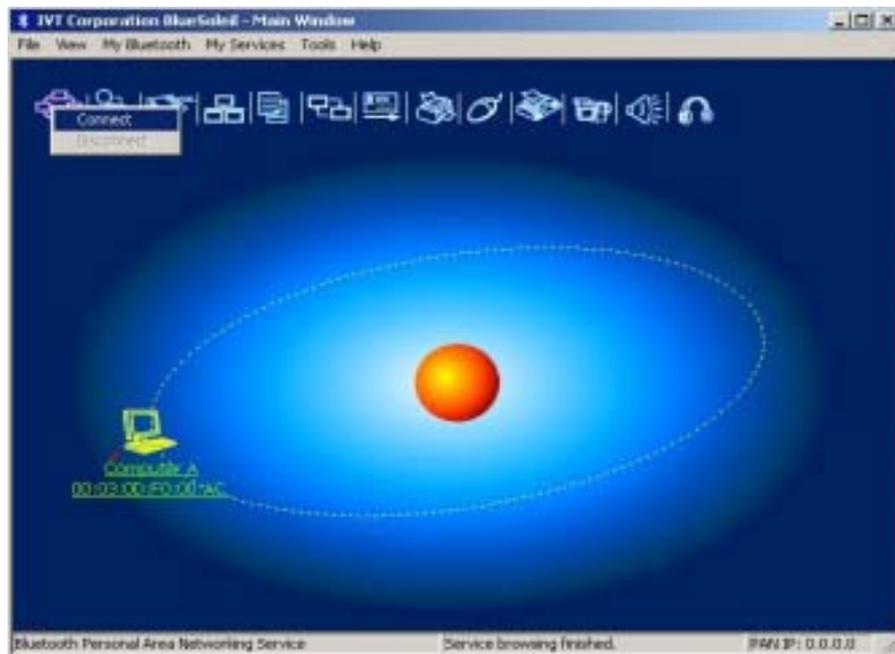


Figure 4.10: Connect to PAN Service

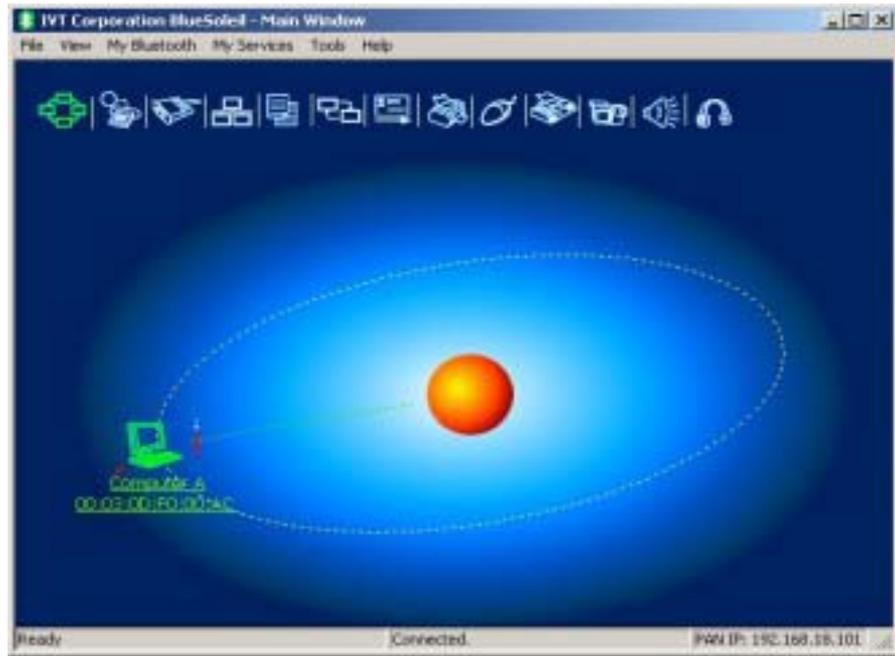


Figure 4.11: Connection is established successfully.

Step 8: Computer A and Computer B are now connected. On Computer B, go to **Windows | My Network Places** to find Computer A and copy files. Figure 4.12 shows where to input Computer A's name. In Figure 4.12, Computer A is named 'mike'.

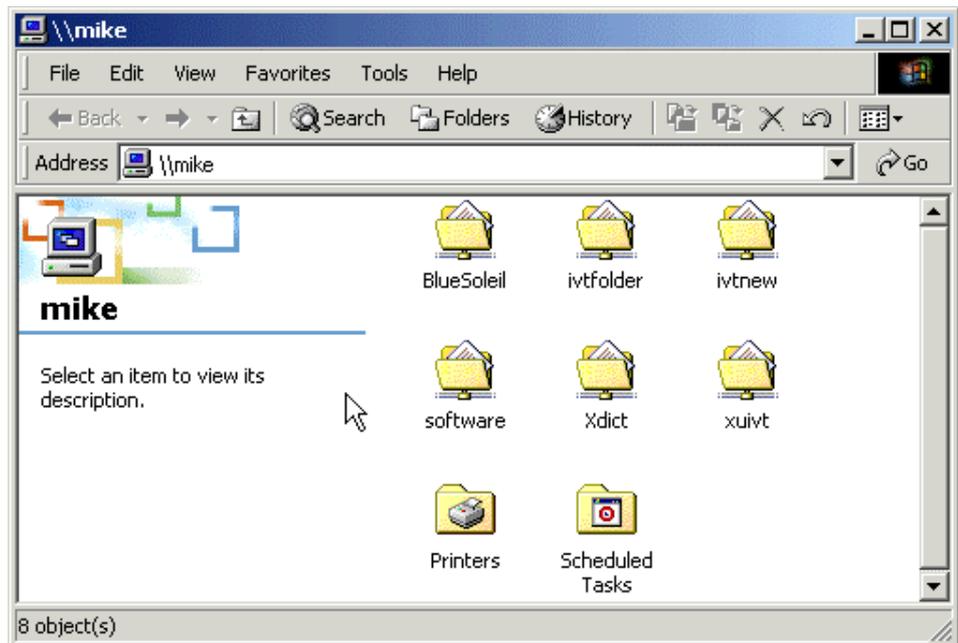


Figure 4.12: Find Computer A in My Network Places

Step 9: To disconnect the PAN connection, disconnect from either Computer A or from Computer B.

- ◆ On Computer B, right-click on the PAN service icon and choose **Disconnect**. (Figure 4.13)

- ◆ On Computer A, right-click on the PAN service icon in service window and choose **Stop Service**.

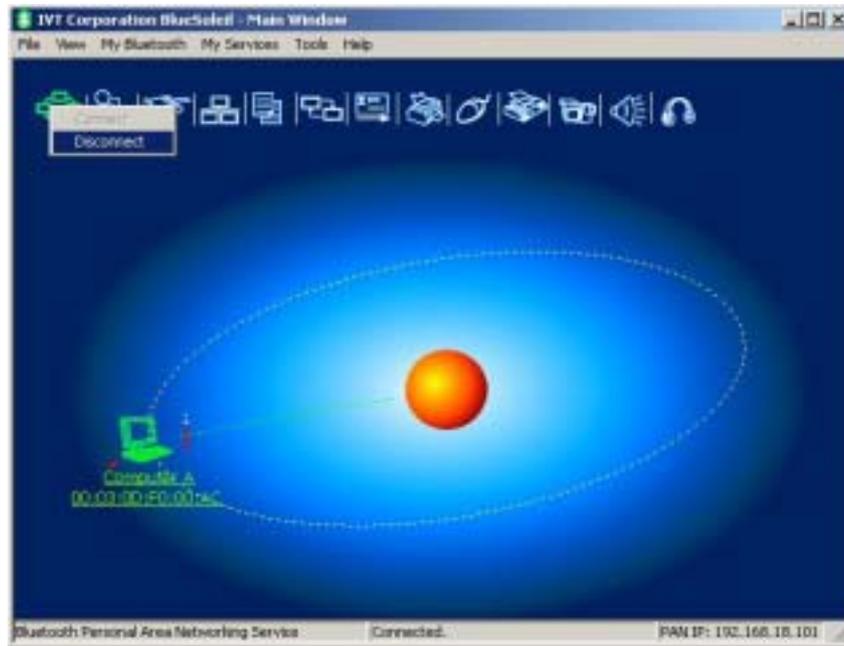


Figure 4.13: Disconnect the PAN service from Computer B

Advanced Usage:

- ◆ Computer A is now the center node. Other computers, for example, Computers C, D and E, can connect to Computer A with BlueSoleil™ following the same steps as those for Computer B. Computer A supports up to 7 connections at the same time.
- ◆ Computer A, B, C, D and E can access each other using the Windows **Network Places**. This forms a Bluetooth ad-hoc networking environment.

**Note:** It takes about 1 minute before an IP address can be obtained on the client side (Computer B) unless you select to enable the DHCP server on the server side (Computer A).

### 4.3 Access LAN Through PAN-NAP

This section outlines the steps involved in accessing a Local Area Network (LAN) through a PAN-NAP.

Computer A:

Notebook/Laptop

A Bluetooth Device

Windows 2000

IVT BlueSoleil™

Ethernet PAN-NAP B:

Ethernet PAN-NAP

Step 1: Plug the LAN cable into the PAN-NAP (Ethernet PAN-NAP B) and power it on

it on.

- Step 2: Insert a Bluetooth Device into the computer.
- Step 3: Start BlueSoleil™ in the computer.
- Step 4: Connect Computer A to Ethernet PAN-NAP B
  - 1. Go to Computer A, double click My Device Icon until you find the device Ethernet PAN-NAP B.
  - 2. Find the PAN service on Ethernet PAN-NAP B by double clicking the Ethernet PAN Bridge B device icon. Enter the Bluetooth passkey (if security is set to **High** on either side) to start authentication. The **Enter Bluetooth Passkey** window pops up on Computer A. Input the same passkey as the one on the Ethernet PAN-NAP B. (Figure 4.8)
  - 3. Right-click the PAN service icon, and then choose **Connect**. (Figure 4.15)
    - ◆ **Note:** The passkey is provided by the PAN-NAP provider and the default value is usually "root". It can be modified by the software associated with the PAN-NAP. For more details please refer to the user documentation provided by the PAN-NAP provider.

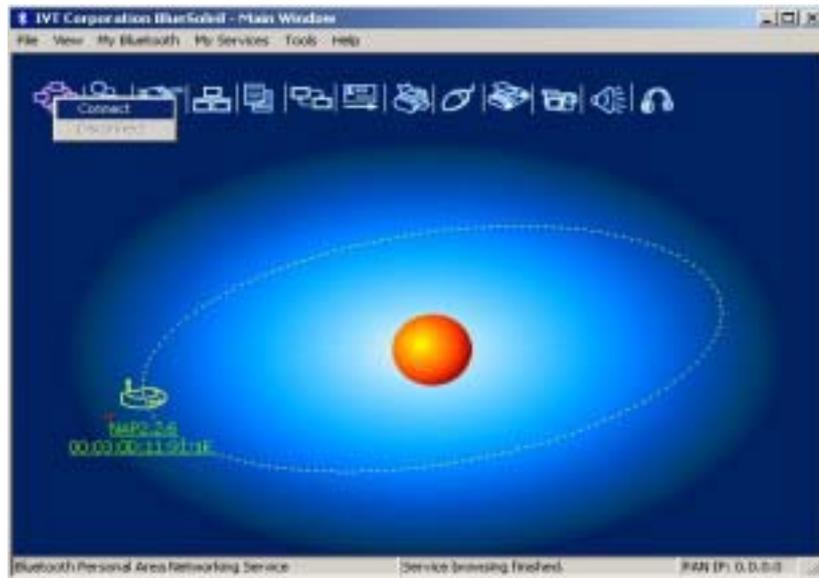


Figure 4.15: Choose Connect

- ◆ The connection is established successfully (Figure 4.16). Wait until the valid IP address appears in the bottom right status bar on Computer A.

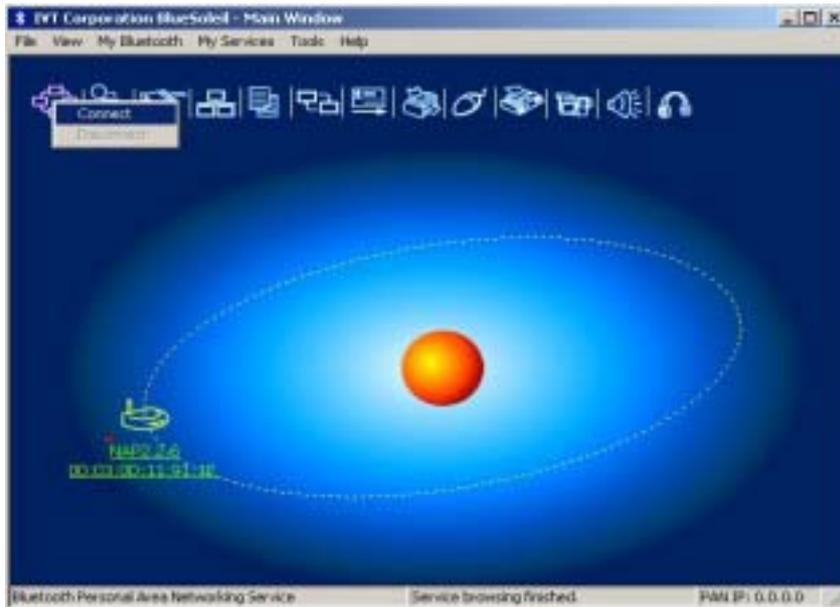


Figure 4.16: Successful connection to PAN-NAP

- Step 5: IP address configuration of the BT Network Adapter on Computer A.
- ◆ Right-click on **My Network Places** and select **Properties**. (Figure 4.17)
  - ◆ Right-click the Local Access Connection 2 on the **Network and Dial-up Connections** window, and select **Properties**. (Figure 4.18)

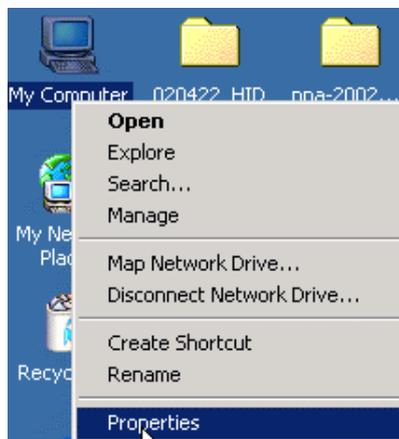


Figure 4.17: Right-click on My Network Places

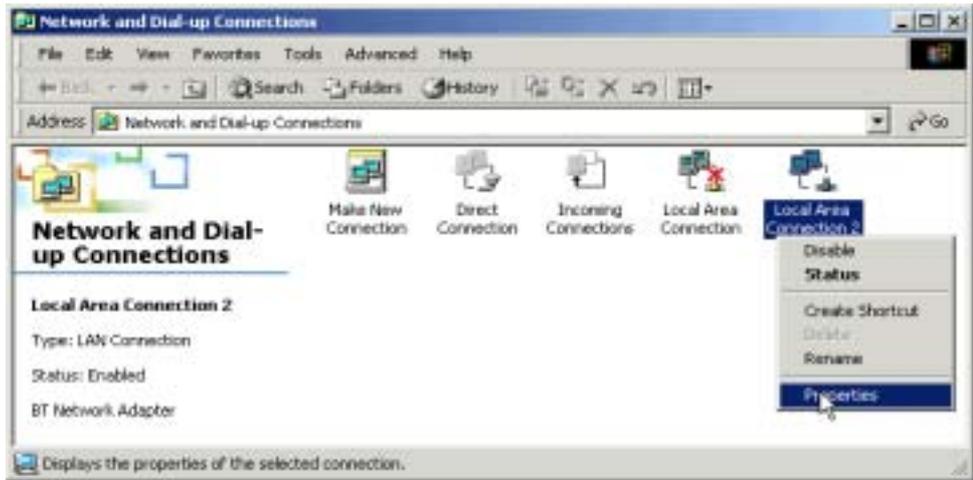


Figure 4.18: Network and Dial-up Connections

- ◆ On the **Local Area Connection 2 Properties** window, select the Internet Protocol (TCP/IP) item and click on **Properties**. (Figure 4.9)
- ◆ Set the IP address to be in the same subnet as the other computers in the LAN. (Figure 4.20).

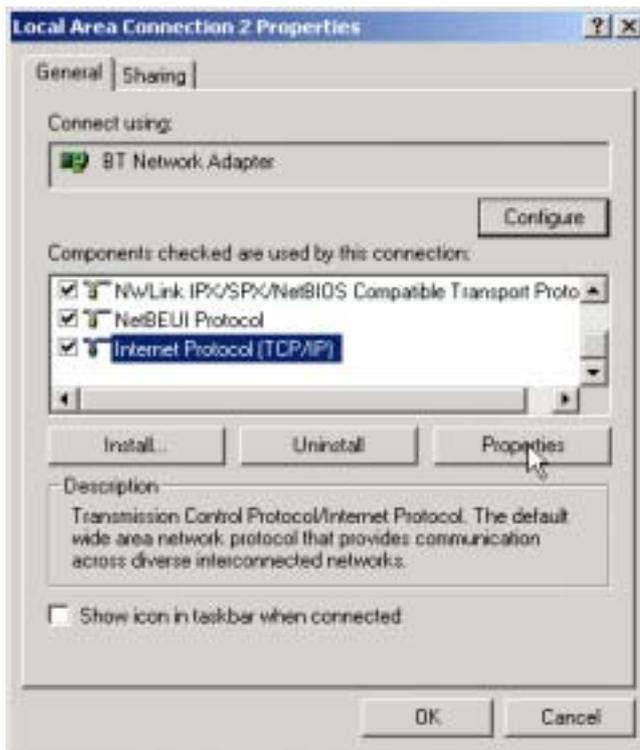


Figure 4.19: Find Internet Protocol (TCP/IP)

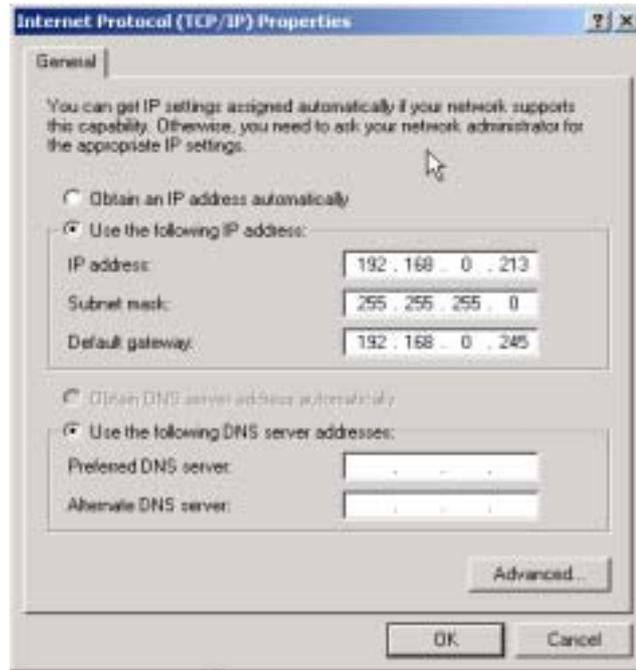


Figure 4.20: Set the IP address

**Note:** When Computer A connects to Ethernet PAN-NAP B it accesses the LAN as if it is attached to the LAN directly. The network properties of Computer A must be the same as the computers in the LAN, that is, Computer A and the computers in the LAN must be in the same subnet and have the same subnet mask. For example, if the computers in the LAN use DHCP for IP addressing, then Computer A needs to be configured to use DHCP. If the IP address is configured manually on the computers in the LAN, then Computer A also needs to be configured manually.

#### 4.4 Access LAN Through IVT BlueSoleil™

This section outlines the steps involved in accessing a Local Area Network (LAN) through IVT BlueSoleil™.

Computer A:	Computer B:
Desktop	Notebook/Laptop
A Bluetooth Device	A Bluetooth Device
IVT BlueSoleil™	IVT BlueSoleil™
Network Adapter connecting to the LAN	

- Step 1:
- ◆ Start IVT BlueSoleil™ on both Computer A and Computer B. Please
  - ◆ refer to "Section 3.2:Communication Between Two Computers", and complete Steps 1 to 4.
- Step 2:
- Start the PAN service on Computer A.
- ◆ In the BlueSoleil™ Main Window, click **View | Service Window**.
  - ◆ In the Service Window, right-click the Personal Area Networking icon. Choose **Properties** to configure my PAN service as **Access LAN Network** and select a physical adapter, through which Computer A connects to a LAN, as the **LAN Adapter** (Figure 4.21).
  - ◆ Click **Apply** or **OK** button to save the configuration.
  - ◆ Right-click the Personal Area Networking icon again, and choose **Start Service**.
- 
- Step 3:
- On Computer B, make sure that the BT adapter has the same configuration with computers in the LAN. (Refer to Step 6 in "Section 3.3: Access LAN Through PAN".)
- 
- Step 4:
- Setup connection between Computer A and Computer B. Please refer to "Section 3.2:Communication Between Two Computers", and complete Steps 6 to 8.
- 
- Step 5:
- ◆ Computer B can now access the LAN.

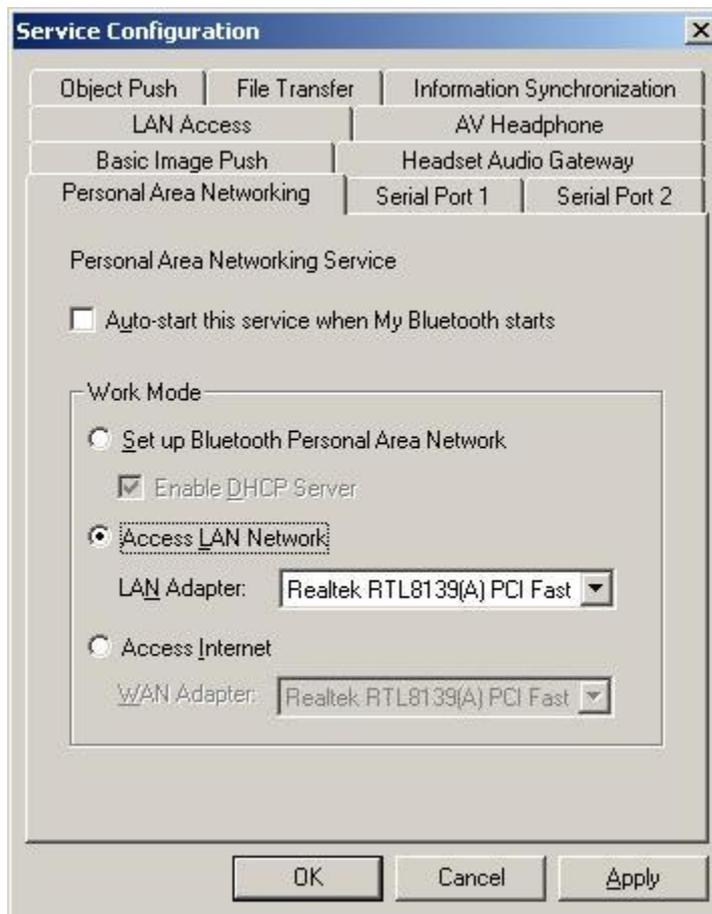


Figure 4.21: Access Outside LAN Network Configuration

## 4.5 Access Internet through IVT BlueSoleil™

The following sections outline how to enable Computer B to access the Internet through Computer A.

Computer A:	Computer B:
Desktop	Notebook/ Laptop
A Bluetooth Device	A Bluetooth Device
Windows 2000	Windows 2000
IVT BlueSoleil™	IVT BlueSoleil™
Network Adapter connecting to the Internet	

- Step 1: ♦ Make sure Computer A can access Internet. Start IVT BlueSoleil™ on both Computer A and Computer B. Please refer to "Section 3.2:Communication Between Two Computers", and complete Steps 1 to 4.
- Step 2: Start the PAN service on Computer A.
1. In the BlueSoleil™ Main Window, click **View | Service Window**.
  2. In the Service Window, right-click the Personal Area Networking icon. Choose **Properties** to configure my PAN service as **Access Internet** and select a local physical adapter as the **WAN Adapter** (Figure 4.22), through which Computer A can access Internet. It automatically enables NAT (Network Address Translation, please refer to **Windows Help Topic**) function and a DHCP server. (Notes: The **BT Network Adapter** on the client side must be set to obtain an IP address automatically. The IP address is in the form of 192.168.18.xxx.)
  3. Click **Apply** or **OK** button to save the configuration.
  4. Right-click the Personal Area Networking icon again, and choose **Start Service**.
- 
- Step 3: Setup connection between Computer A and Computer B. Please refer to "Section 3.2:Communication Between Two Computers", and complete Steps 6 to 8.
- 
- Step 4: ♦ After Computer B gets an IP address as "192.168.18.xxx", Computer B can now access the Internet through Computer A.

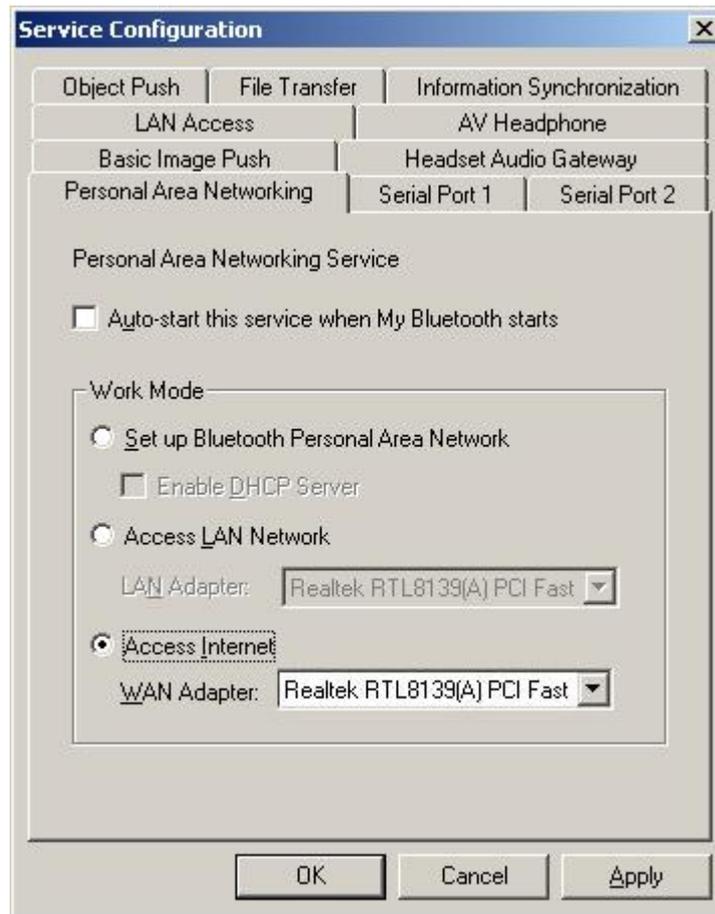


Figure 4.22: Access Outside WAN Network Configuration

Advanced Usage:

- ◆ Computer A is now the center node of the network. Other computers with BlueSoleil™ installed, for example, Computers C, D and E, can connect to Computer A following the same steps as those for Computer B and access the Internet through Computer A. Computer A supports up to 7 connections at the same time.
- ◆ Computers A, B, C, D and E can access each other using the Windows **My Network Places** and form a Bluetooth ad-hoc networking. Computers B, C, D and E can then access the Internet through Computer A.

Note:

- ◆ Computer B also can share a dial-up connection of Computer A, in this case, please set up a dial-up connection for Computer A at first. While working with a dial-up connection, if the dial-up connection is destroyed for some reason, please restart the service after the dial-up connection established again.
- ◆ The **Internet Connection Sharing (ICS) of Windows** (refer to **Windows Help Topic**) can also be used on computer A for computer B to access the Internet. In this situation, the PAN service configuration must be set as **Bluetooth Group Ad-hoc Network** without DHCP Server enabled.

## 4.6 PAN Configuration

### 4.6.1 My PAN Service

In the BlueSoleil™ Service Window, right-click the Personal Area Networking icon. On the pop-up menu, select **Properties** to configure my PAN service.

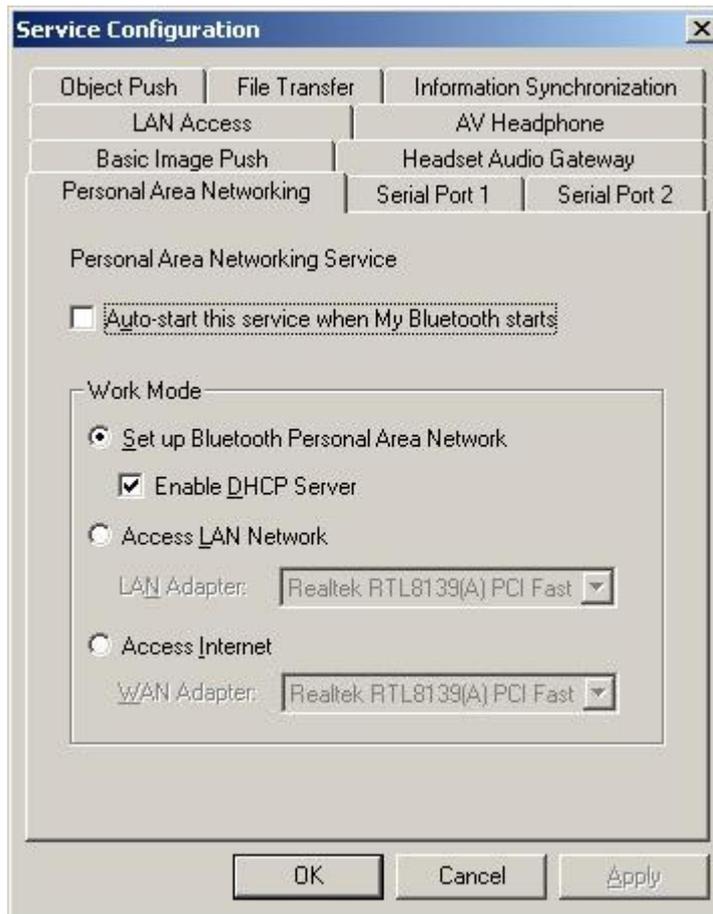


Figure 4.23: Service Configuration

**Setting Items:**

- ◆ **Auto start this service when my Bluetooth starts**  
Check this option to automatically start my PAN service the every time BlueSoleil™ is started.

**Work Mode**

- ◆ **Set up Bluetooth Personal Area Network**  
Choose this item to run in the GN mode. Check **Enable DHCP Server**, and a DHCP server will be started on the server side, so other devices will obtain an IP address (192.168.18.xxx) from the DHCP server after they connected to the GN. (Refer to Figure 4.1)
- ◆ **Access LAN Network**  
Choose this item to run in the NAP mode, and other devices can access outside LAN network after they connected to the NAP. (Refer to Figure 4.3)
- ◆ **Access Internet**  
Choose this item to run in the NAP mode, and other devices can access outside WAN network (e.g. Internet) after they connected to the NAP. (Refer to Figure 4.4)

## 5 Dial-Up Networking

### 5.1 Introduction

The Bluetooth Dial-up Networking (DUN) service allows a Bluetooth-enabled client to access the Internet wirelessly through a modem on another Bluetooth device or a cellular phone. The other Bluetooth device or the cellular phone is called the gateway (server) as it provides access to the public network.

The DUN profile can be used in the following scenario:

- ◆ A Bluetooth computer accesses the Internet through a Bluetooth cellular phone or Bluetooth modem.

### 5.2 Connect to a Dial-up Gateway from a Computer

This section outlines the steps involved in a computer (client) accessing the Internet through a Bluetooth cellular phone.

<p>Computer A:</p> <p>Notebook/ Laptop</p> <p>A Bluetooth Device</p> <p>Windows XP</p> <p>IVT BlueSoleil™</p>	<p>Bluetooth Cellular Phone:</p> <p>Ericsson T39 cellular phone</p>
---	---

Step 1: Insert the Bluetooth Device in the computer and start BlueSoleil™ in the computer.

Step 2: Set the Ericsson T39 to be discoverable so that Computer A can find the T39.

1. Press the **Menu** button on the T39 and scroll until you reach the **Extras** menu option, select **Extras** and scroll until you find **Bluetooth**. Select this option and scroll until you see **Discoverable**. Press the **Yes** button to confirm the selection.
2. The T39 will now enable itself to receive connection requests from other devices.

Step 3: Add Computer A to the paired device list in the T39.

1. Press the **Menu** button on the T39 and scroll until you reach the **Extras** menu option, select **Extras** and scroll until you find **Bluetooth**. Select this option and scroll until you see **Discover**. Press the **Yes** button to confirm the selection.
2. The T39 will now start searching devices. Once the T39 finds "ComputerA" on the screen, select it by pressing the **Yes** button. The **Add to paired?** message appears on the screen. Press **Yes** to confirm you want to initialize pairing.
3. The T39 will ask for the Bluetooth passkey. You can input any

number, for example, "1".

4. On the BlueSoleil™ side, the **Enter Bluetooth Passkey** window pops up requesting the Bluetooth passkey. Input the same Bluetooth passkey you have input in the T39 and click **OK**.
5. Once the pairing process is successfully complete, the T39 device icon is displayed in the Main Window of Computer A. At the meanwhile, the following dialog pops up asking you whether **Create a Shortcut on the windows desktop**. If you choose **yes**, a shortcut icon called **DUN** will occur on the desktop, otherwise the icon will not occur.



- ◆ This is the icon on the desktop:



Step 5: Connect to phone DUN service:

- ◆ Search for Bluetooth devices in Computer A until you find the T39.
- ◆ In the Main Window of Computer A, double click the T39 device to find its DUN service. If found, the DUN service icon in the Main Window will turn pink.
- ◆ In the Main Window of Computer A, double click the DUN service icon to connect to the DUN service on the T39.
- ◆ Once the two computers are connected, the Bluetooth Dial-up Networking (DUN) service icon in the Main Window will turn from pink to green.

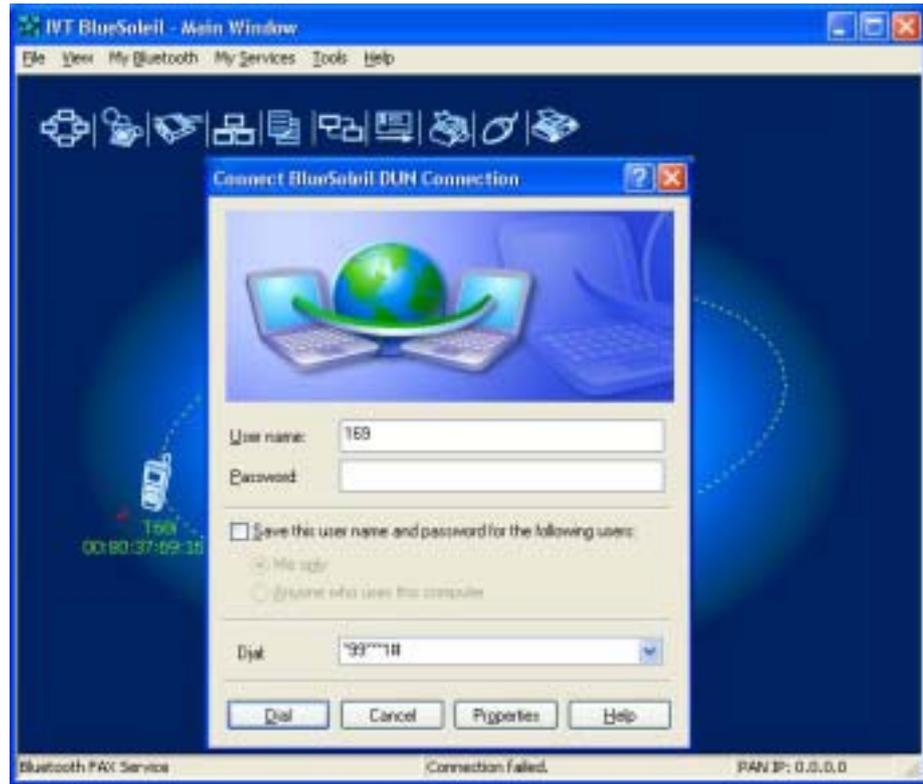


Figure 5.1: Connect BlueSoleil™ DUN Connection

Step 6: Dial to Internet

1. The **Connect BlueSoleil™ DUN Connection** window appears (Figure 5.1).
2. Input a valid username, password and the Internet Service Provider's (ISP's) phone number, then click the **Dial** button.
3. If the dial-up is successful, a small icon appears on the bottom right hand of the Windows taskbar, indicating that the dial up connection is successfully established.
4. If the dial-up fails, the Bluetooth connection between the two computers will be disconnected. In this case, to reconnect to the T39's DUN service, repeat Steps 5 above.

Step 7: Once the dial-up connection is established, users can browse web sites or access other Internet services from Computer A.

Step 8: There are three methods to **disconnect the dial-up connection**:

- ◆ Method 1. Double-click the dial-up connection icon on the bottom right of the Windows taskbar. The **BlueSoleil™ DUN Connection Status** window appears. Click the **Disconnect** button to disconnect the dial-up connection (Figure 5.2).
- ◆ Method 2. Right-click the **Bluetooth Dial-up Networking** icon in the Main Window, and then click the **Disconnect** menu item on the pop-up menu.
- ◆ Method 3. Right-click the T39 device in the Main Window and select **Disconnect | Bluetooth Dial-Up Networking**.

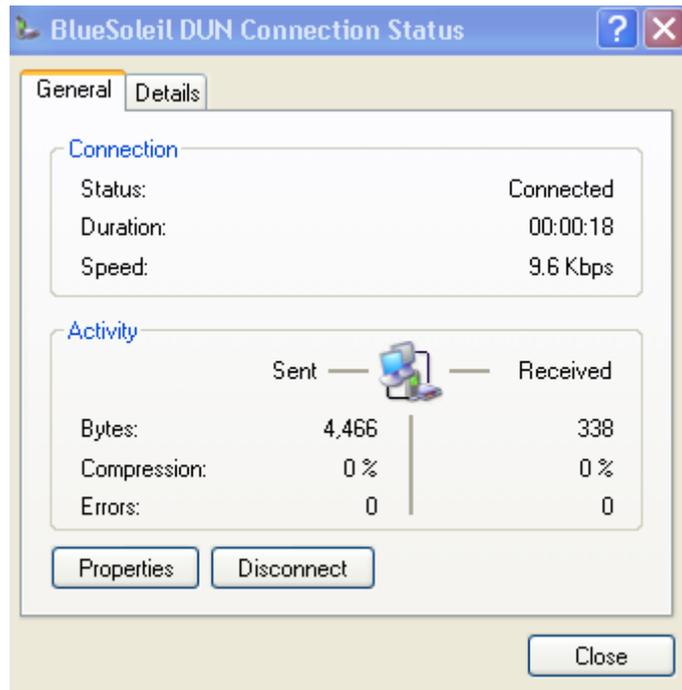


Figure 5.2: BlueSoleil™ DUN Connection Status window

## 5.3 Settings for Dial-up Networking Profile (client side) in Windows98/Me

Before using the Dial-up Networking (DUN) profile in Windows98/Me, ensure a Dial-up Adapter is already installed on the client computer.

### 5.3.1 Check if a Dial-up Adapter is installed

- Step 1: Select the **Control Panel** from the **Start | Settings** menu.
- Step 2: Double-click the Network icon. (Figure 5.3)



Figure 5.3: Windows Control Panel

- Step 3: Check if a Dial-up Adapter appears in the Network Component list. (Figure 5.4)
- Step 4: If a Dial-up Adapter is not found, then click **Add** to install one.

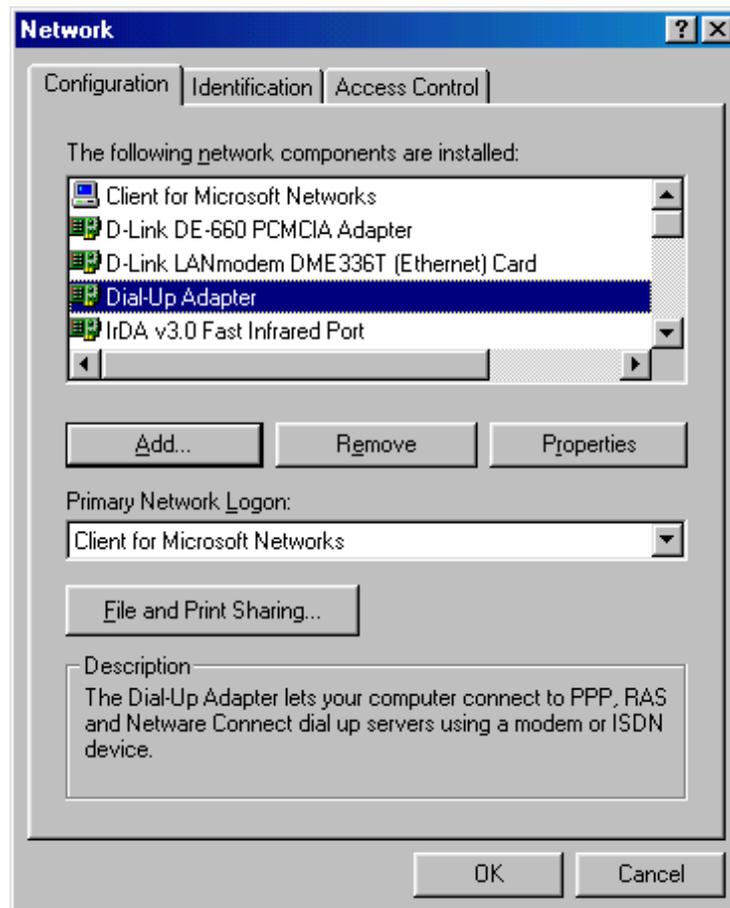


Figure 5.4: Install Dial-up Adapter

- Step 5: Select **Adapter** from the Network Component list and click **Add**. (Figure 5.5 and Figure 5.6)

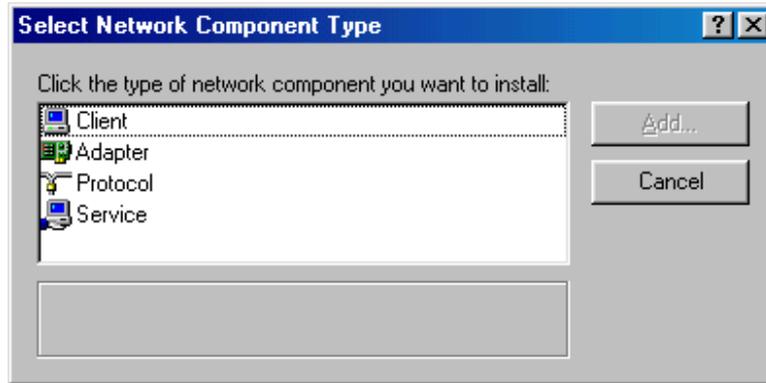


Figure 5.5: Network Component list

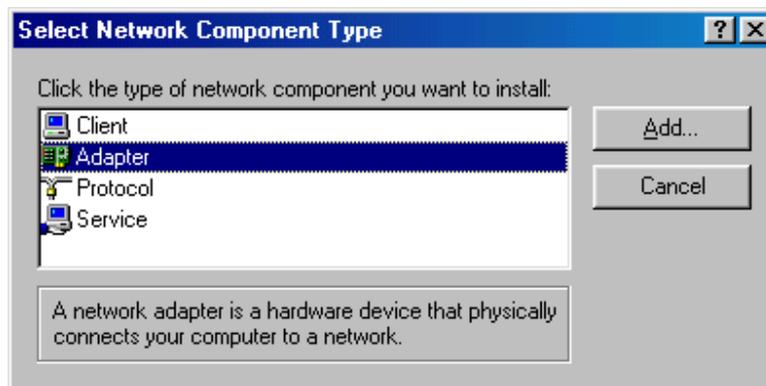


Figure 5.6: Select Adapter as the Network Component Type

- Step 6: Select **Microsoft** from the Manufacturers list on the left-hand side and select **Dial-up Adapter** in the Network Adapter list on the right hand side. (Figure 5.7 and Figure 5.8)

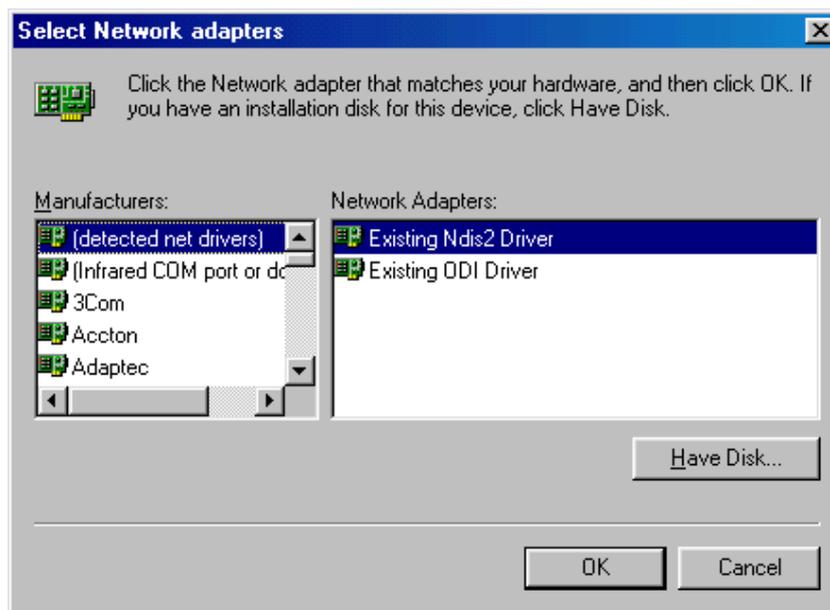


Figure 5.7: Select Network Adapters (1)

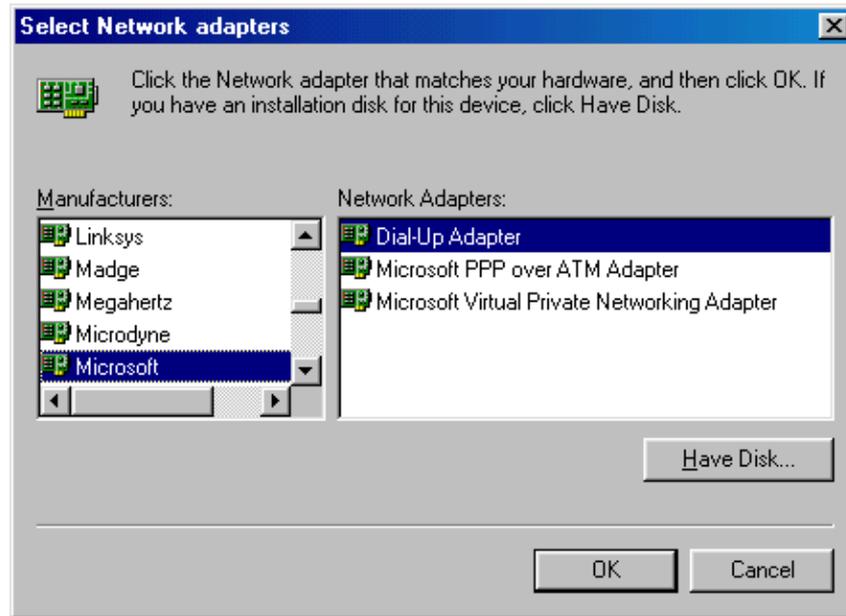


Figure 5.8: Select Network Adapters (2)

Step 7: Click **OK** to return to the Network property sheet. (Figure 5.9)

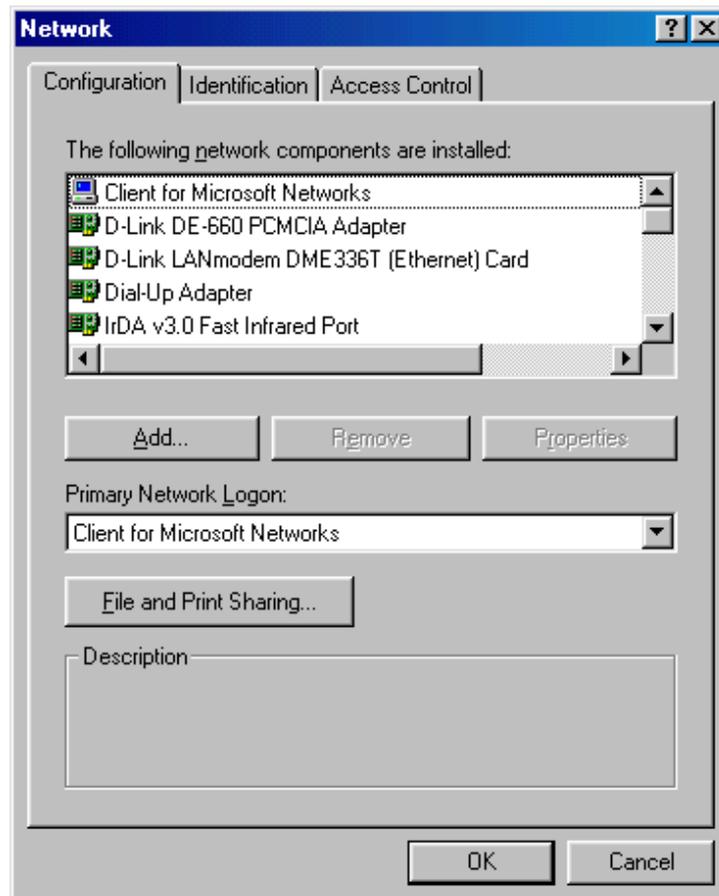


Figure 5.9: Network property sheet

Step 8: Click **OK** to close the **Network** property sheet. A message box pops up, click **Yes** to restart the computer. (Figure 5.10).



Figure 5.10: Restart computer

## 6 Bluetooth Serial Port

### 6.1 Introduction

The Bluetooth Serial Port (SPP) provides a virtual serial port via Bluetooth as an alternative to a hardwired serial cable between a computer and device. Any program that uses a standard serial port can use the Bluetooth serial port without any change.

IVT BlueSoleil™ provides three Serial Port services, you can connect with three remote devices and be connected with three remote devices at the same time through serial ports.

The SPP profile can be used in the following scenarios:

- ◆ Connecting two computers through a Bluetooth serial port.
- ◆ Using SPP to print a document.
- ◆ Using a cellphone to control a computer through a Bluetooth serial port.
- ◆ Connecting a computer to any other device that supports SPP through a Bluetooth serial port.

### 6.2 Connect Two Computers

This section outlines the steps involved in connecting two computers, Computer A and Computer B using the Bluetooth Serial Port application.

Computer A:

Notebook/ Laptop

A Bluetooth Device

Windows 2000

IVT BlueSoleil™

Computer B:

Desktop

A Bluetooth Device

Windows 2000

IVT BlueSoleil™

Step 1: Insert the Bluetooth Devices into each computer.

Step 2: Start BlueSoleil™ in each computer.

Step 3: ◆ Start the SPP service on Computer A.

Step 4: Connect Computer B to Computer A.

1. On Computer B double click the 'My Device icon' until you find the device, Computer A.
2. Double-click the Computer A device to find its SPP service (Figure 6.1). The Bluetooth Serial Port service icon turns pink.
3. Right-click the Bluetooth Serial Port service icon and select **Connect**.

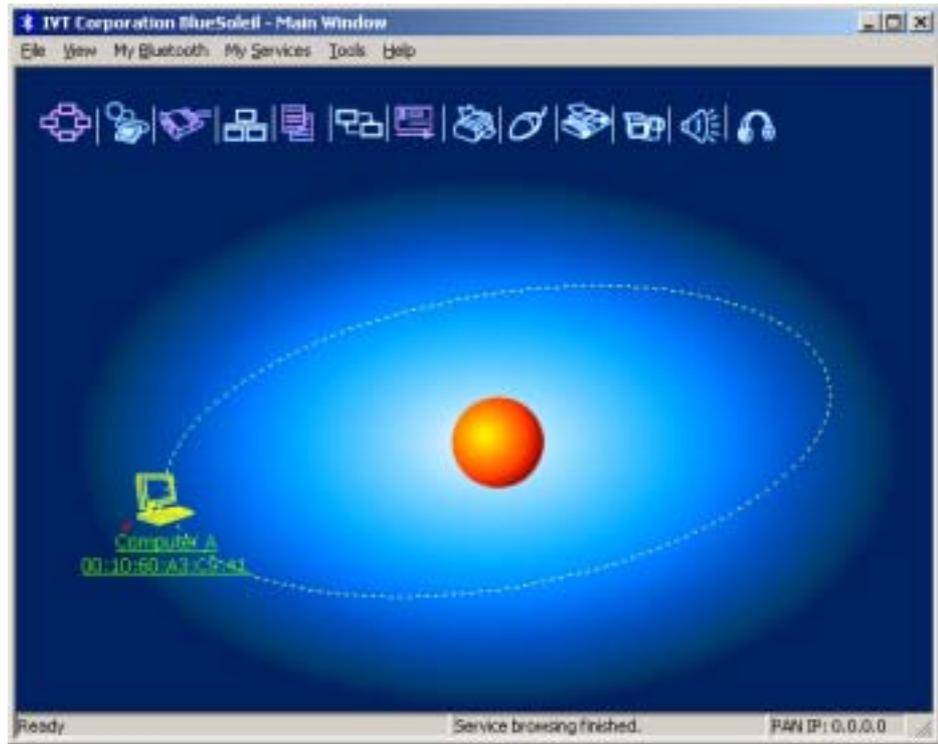


Figure 6.1: Double-click the Computer A device icon

- ◆ The connection is established successfully as shown in Figure 6.2. And the serial port number is shown on the right bottom status bar on Computer B. (Figure 6.3)

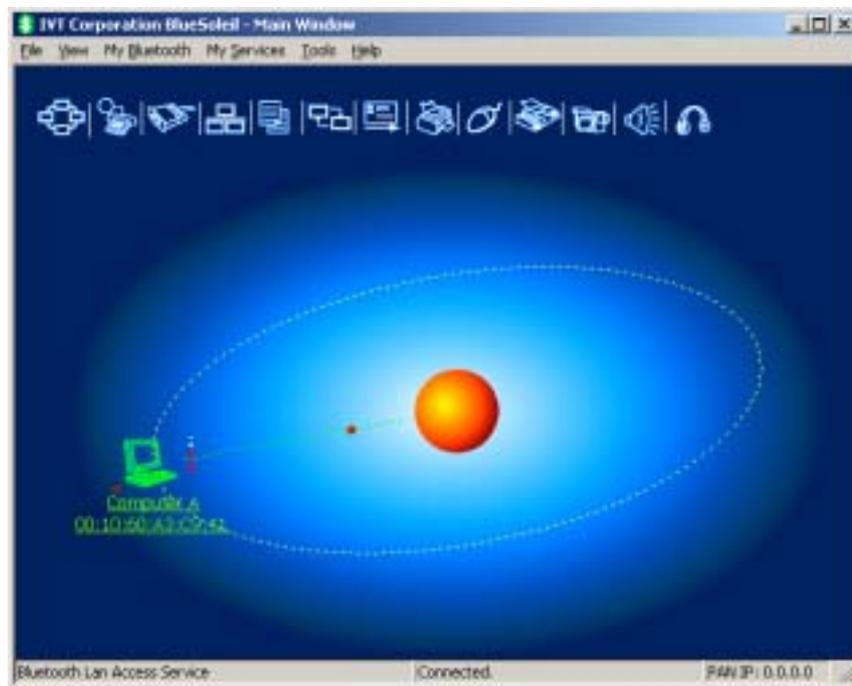


Figure 6.2: The connection is established successfully

\* My Bluetooth COM Port 4 (COM4) is connected to remote device.

Figure 6.3: The serial port number is shown

Note: You can initiate three connections between the two computers through three serial ports. And at the same time, you can also be connected with three remote devices if you provide three SPP services.

### 6.3 Use SPP to Print a Document

This section outlines the steps involved in connecting a computer to a Bluetooth Printer Adapter using SPP.

Computer A:	Bluetooth Printer Adapter B:
Notebook/Laptop	Printer
A Bluetooth Device	Bluetooth Printer Adapter
Windows 2000	
IVT BlueSoleil™	

- Step 1: Insert the Bluetooth Device into the computer.
- Step 2: Start BlueSoleil™ in the computer.
- Step 3: Connect Computer A to the Bluetooth Printer Adapter B using SPP.
1. Go to Computer A; double click the My Device icon' until you find the device Bluetooth Printer Adapter B.
  2. Double-click the Bluetooth Printer Adapter B device to find it's SPP service.
  3. Double-click the SPP service icon to start connecting SPP.
- Step 4: Change the printer settings to use the connected Bluetooth serial port.
- Step 5: ♦ Print a document.

### 6.4 Use a cellphone to control a computer

This section outlines the steps involved in connecting a computer to a Bluetooth Cellphone using SPP.

Computer A:	Bluetooth Cellphone B:
Notebook/Laptop	Ericsson T39 or T68
A Bluetooth Device	
Windows 2000	
IVT BlueSoleil™	

- Step 1: Insert the Bluetooth Device into the computer.
- Step 2: Start BlueSoleil™ in the computer.
- Step 3: Connect Computer A to the Bluetooth Cellphone B using SPP.
1. Go to Computer A; double click the My Device icon' until you find the device Bluetooth Cellphone B.
  2. Double-click the Bluetooth Cellphone B device to pair with it. If pairing is finished successfully, then find it's SPP service.
  3. Double-click the SPP service icon to start connecting SPP.
  4. The connected serial port number is shown on the right bottom status bar on Computer A. (Figure 6.4)

\* My Bluetooth COM Port 12 (COM12)is connected to remote device.

Figure 6.4: The serial port number is shown

- Step 4: Select **Start|Program|IVT Corporation|Control PC** to open Mobile HID program. (Figure 6.5)



Figure 6.5: Mobile HID Program Dialog

- Step 7: From the Serial Port list in the "Remote Control" window, select the serial port number that has been established connection. Then click Open button to enable Cellphone B controlling computer A. The Open button becomes to Close button automatically. (Figure 6.6)



Figure 6.6: Click button to start controlling computer

- Step 8: A new menu will be added into the accessories menu in Cellphone B. Enter menus by the path: accessories -> Mobile HID -> Control PC -> Controlling. When Controlling window is shown, you can control Computer A by all keys in Cellphone B.

Step 9: If you want to disable Cellphone B controlling computer A, click Close button. The Close button becomes to Open button automatically. Or press down the No key in Cellphone B to exit Controlling window.

The function of cellphone key map:

Keys in cellphone	Function definition
Up,Down,Left,Right direction key	mouse move (no UP,Down in T39)
Key Yes	Mouse left button
Press down direction key (T68)	Mouse right button
Key c (T39)	Mouse right button
Volume Up	Page Up
Volume Down	Page Down
Key 1	Home
Key 2	Arrow Up
Key 3	End
Key 4	Arrow Left
Key 5	Arrow Down
Key 6	Arrow Right
Key 7	Start menu
Key 8	Key Enter
Key 9	Key F5
Key 0	Show desktop
Key *	Key Ctrl
Key #	Key Alt

## 6.5 SPP Configuration

### 6.5.1 My SPP Service

In the BlueSoleil™ Service Window, right-click the **Serial Port 1** or **Serial Port 2** icon. On the pop-up menu, select **Properties** to configure the Serial Port1 and Serial Port 2.

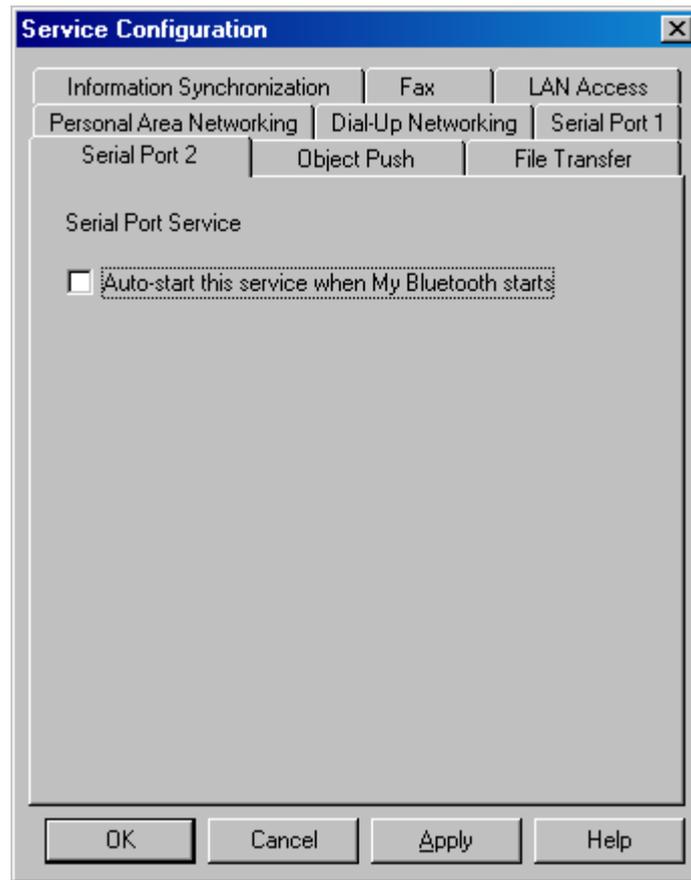


Figure 6.9: SPP Service Configuration.

**Setting Items:**

- ◆ **Auto start this service when my Bluetooth starts**  
Check this option to automatically start my Bluetooth SPP service #(1,2) every time BlueSoleil™ is started. (Figure 6.9)

## 7 Bluetooth File Transfer

### 7.1 Introduction

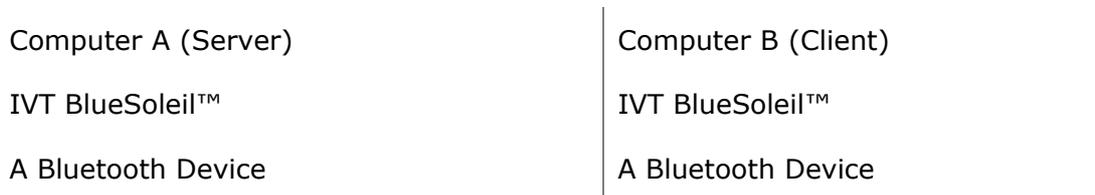
The File Transfer profile (FTP) supports the file transfer usage model, which offers the ability to transfer files from one Bluetooth device to the other.

The FTP profile can be used in the following scenarios:

- ◆ A computer can transfer files to/from another computer.

### 7.2 Transfer files to/from a Computer

This section outlines the steps in transferring files between Computer A and Computer B.



**Note:** BlueSoleil™ can inter-operate with other Bluetooth devices which support FTP profile.

**Step 1:** Insert the Bluetooth Devices into each computer.

**Step 2:** Start BlueSoleil™ in each computer.

**Step 3:** Make sure File Transfer service is started on Computer A. Refer to Section 7.3 for service configurations.

**Step 4:** Search for Computer A on Computer B, and connect to its FTP service (Figure 7.1). The remote folder is displayed in a Windows Explorer style window (Figure 7.2).

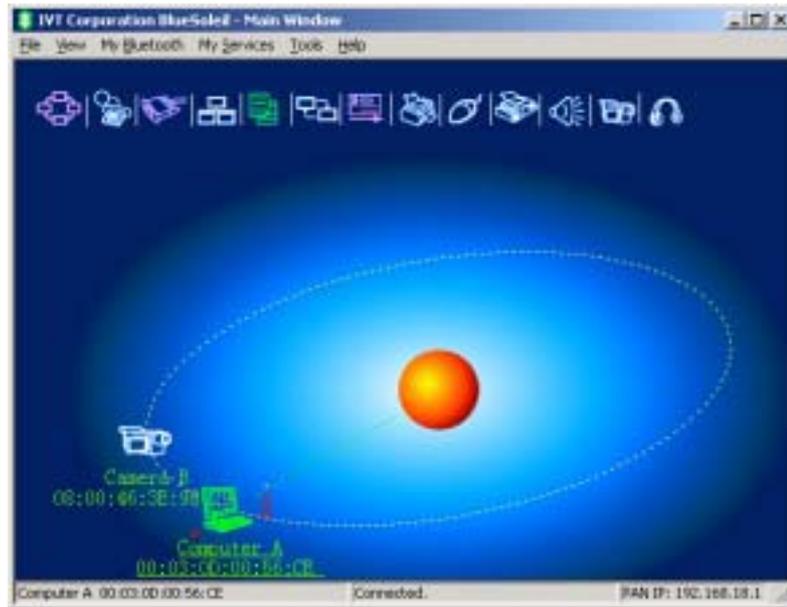


Figure 7.1: The connection is successfully established

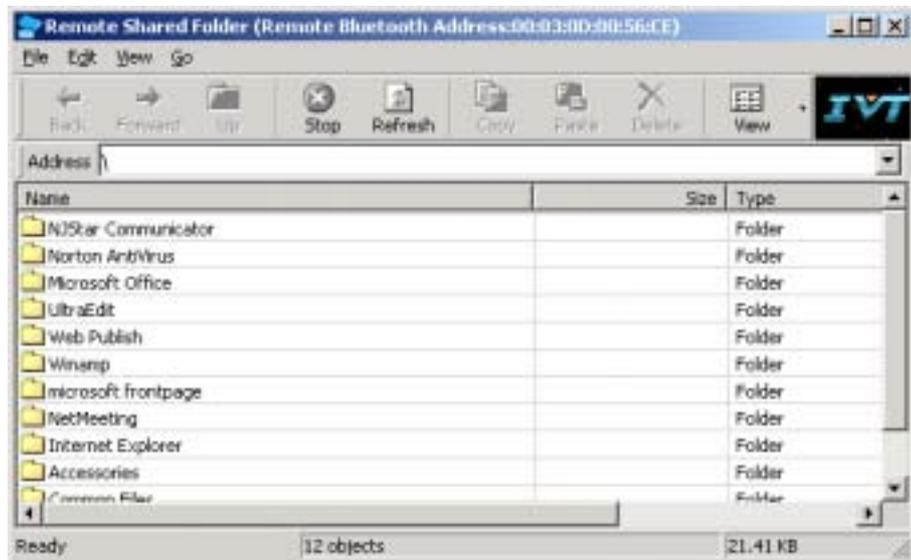


Figure 7.2: The remote folder is displayed

**Step 5:** Copy files and directories.

- ◆ From Computer B to Computer A – upload  
Select files\ directories on Computer B and drag files into the Remote Shared Folder. (Figure 7.3)
- ◆ From Computer A to Computer B – download  
Select files\ directories from the Remote Shared Folder and drag files into the desktop or a folder on Computer B. (Figure 7.4)

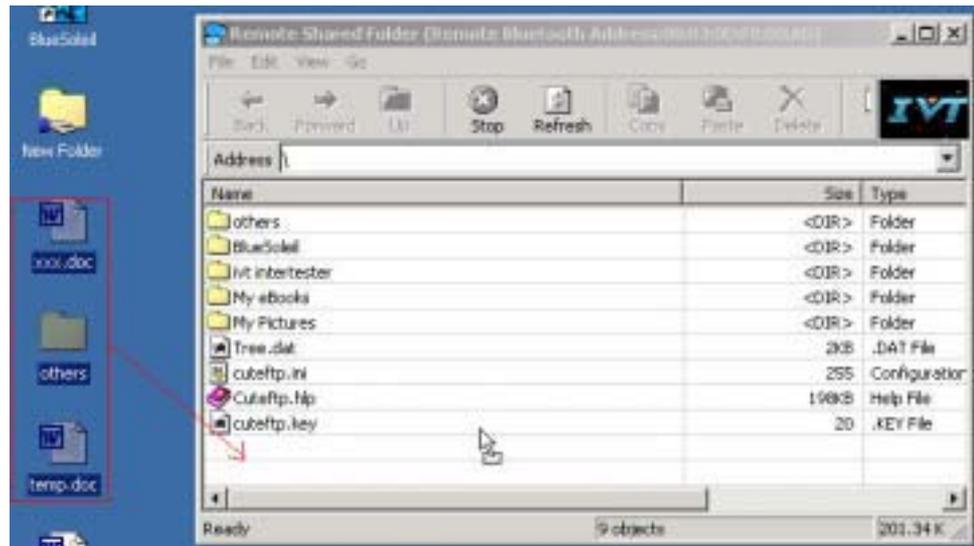


Figure 7.3: Upload files to Computer A

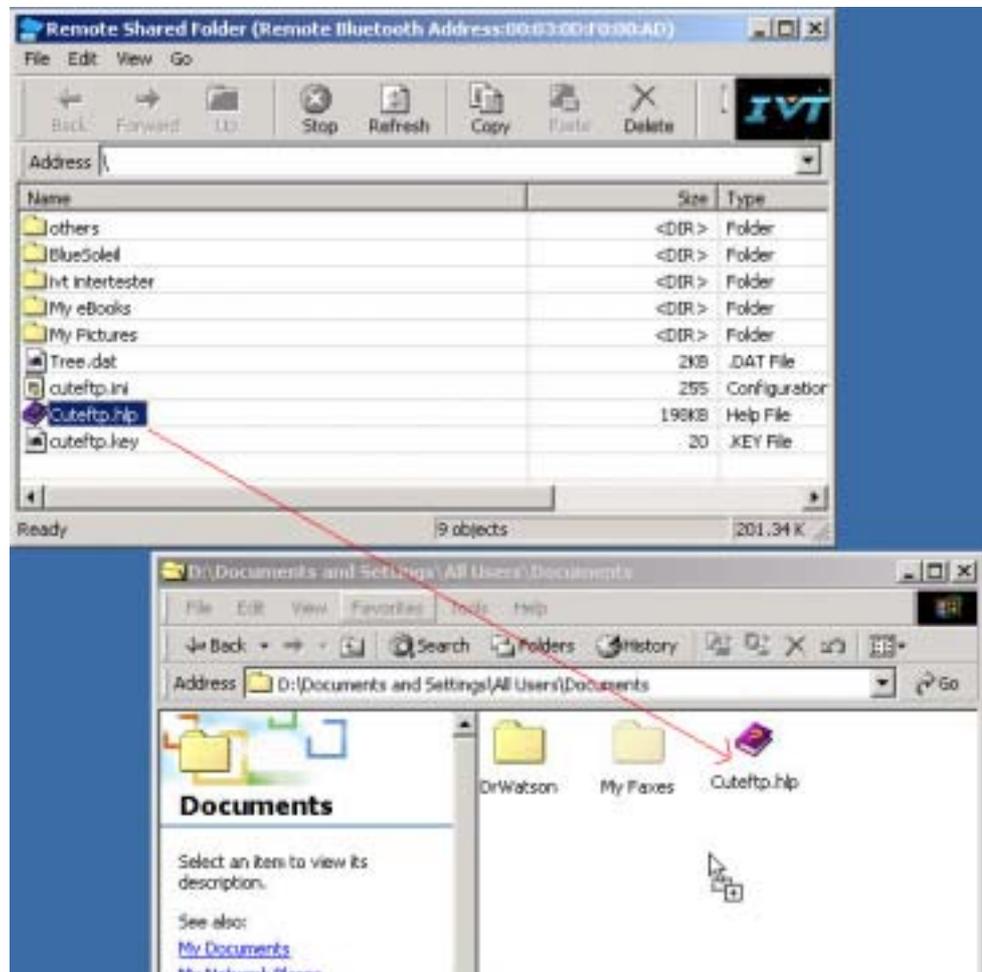


Figure 7.4: Download files from Computer A

### 7.3 FTP Configuration

In the BlueSoleil™ Service Window, right-click the File Transfer icon. On the pop-up menu, select **Properties** to configure the 'my FTP service' (Figure 7.5).

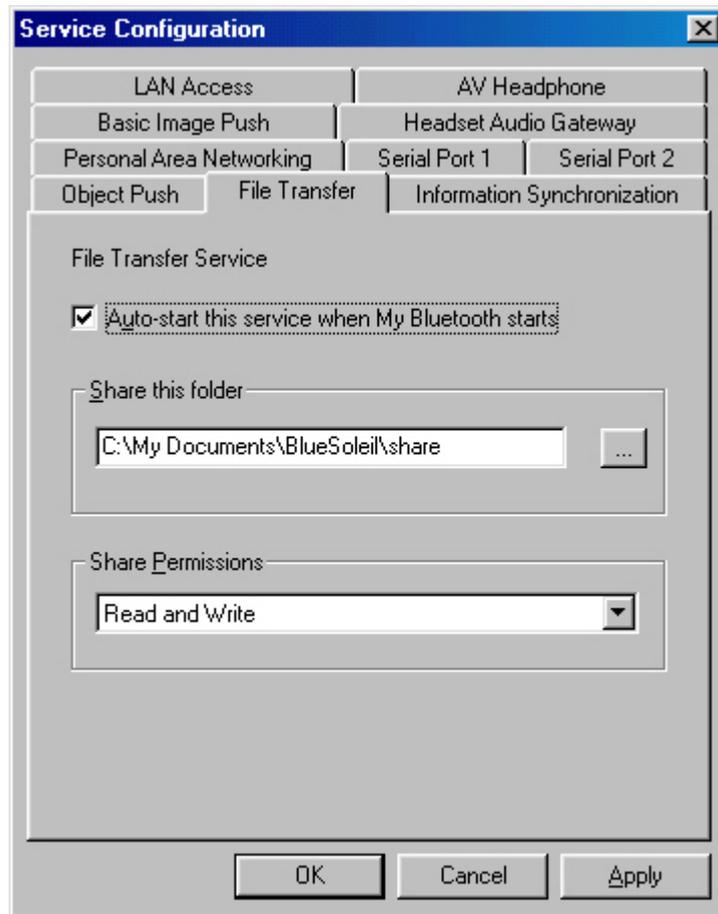


Figure 7.5: Configure FTP service

**Setting Items:**

- ◆ **Auto starts this service when my Bluetooth starts**  
Check this box to automatically start the File Transfer service every time BlueSoleil™ is started.
- ◆ **Root Directory**  
This sets the root directory that you want to share with other computers using Bluetooth.
- ◆ **Access Permissions**  
This sets the access permission remote computers have to the shared root directory.

## 8 LAN Access

### 8.1 Introduction

The Bluetooth LAN Access Profile (LAP) allows Bluetooth-enabled devices to access the services of a LAN using Point-to-Point Protocol. In this usage model, multiple data terminals use a LAN access point as a wireless connection to a Local Area Network (LAN). Once connected, data terminals operate as if they are connected to the LAN via dial-up networking and can access all the services provided by the LAN.

The LAN application can be used in the following scenarios:

- ◆ A computer (or PDA) accesses a Local Area Network via a LAP Server.
- ◆ A computer (or PDA) accesses a Local Area Network via a LAN access point.

**Note:** Before using the LAN Access Profile in Windows98/Me, ensure that a Dial-up Adapter and Windows's component direct cable are already installed on the computer. (See "Section 8.4: Settings for LAN Access Profile (client side) in Windows98/Me"). Moreover, every operating system should have an installation of NetBEUI protocol; otherwise, it cannot use computer name to visit other computer.

### 8.2 Access a Local Area Network (LAN)

This section outlines the steps involved in connecting to a Local Area Network using the LAP application.

Computer A:	Computer B:
Notebook/ Laptop	Desktop
A Bluetooth Device	A Bluetooth Device
Windows 2000	Windows 2000
IVT BlueSoleil™	IVT BlueSoleil™

- Step 1: Insert Bluetooth Devices into both computers.
- Step 2: Start BlueSoleil™ in both computers.
- Step 3: ◆ Start the LAP service on Computer A.
- Step 4: Make incoming connection on Computer A
- ◆ Right-click on **My Network Places**; select **Properties**. (Figure 8.1)
  - ◆ On the **Network and Dial-up Connections** panel, right-click the **Incoming Connection** icon, and then select **Properties** on the pop up menu. (Figure 8.2)



Figure 8.1: Right-click My Network Places

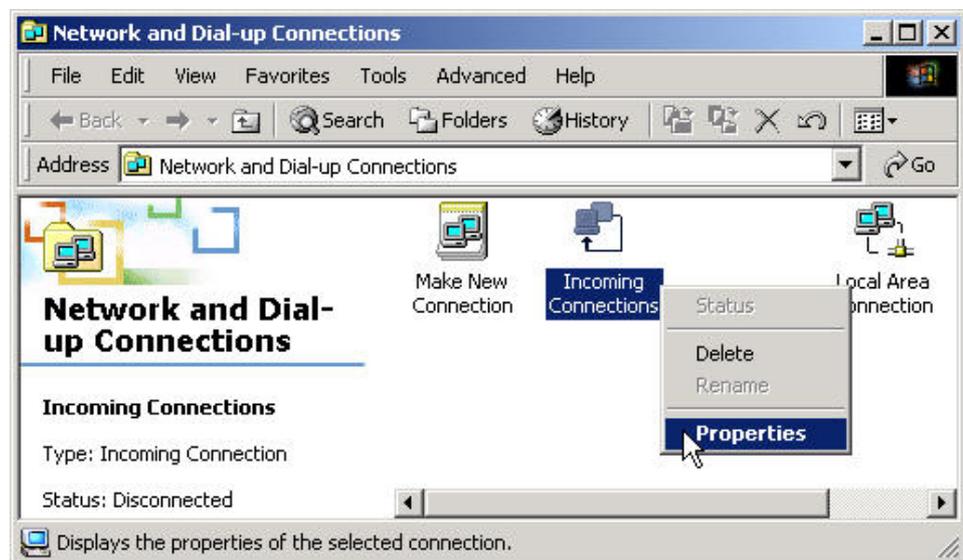


Figure 8.2: Select Properties on the pop up menu

- ◆ Click **Networking** on the **Incoming Connections Properties** pop-up window. (Figure 8.3)
- ◆ Choose **Internet Protocol (TCP/IP)** and click **Properties**. (Figure 8.4)

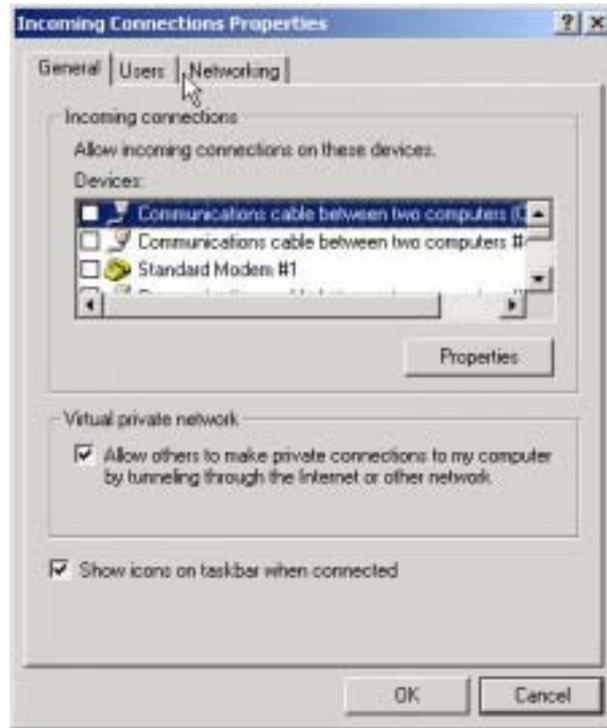


Figure 8.3: Incoming Connections Properties

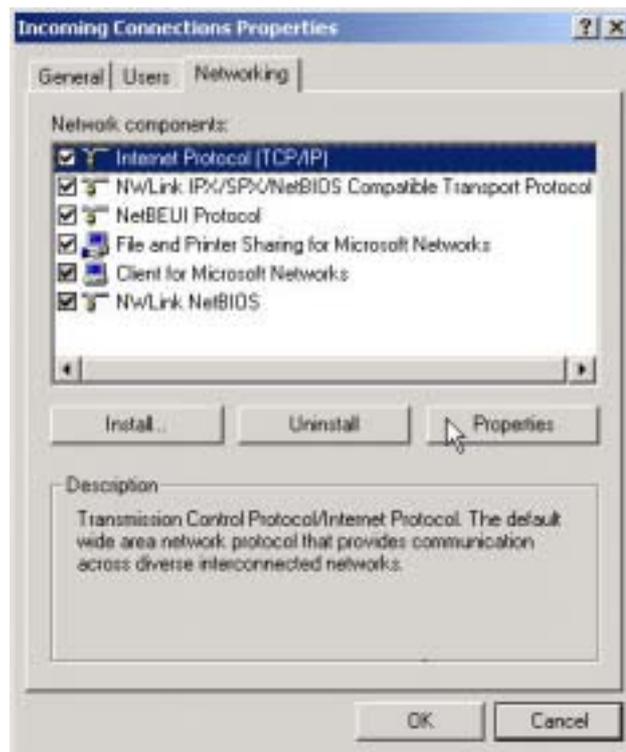


Figure 8.4: Choose Internet Protocol (TCP/IP)

- ◆ Select **Specify TCP/IP addresses**, and input the two IP addresses. The subnet mask of the two IP addresses should be the same as the subnet of the LAN Computer A belongs to. (Figure 8.5)



Figure 8.5: Input the IP addresses

Step 5: **Connect to Computer A.**

1. Search for Computer A on Computer B.
2. Find the LAP service of Computer A.
3. Right-click the LAP service icon; select **Connect** on the pop-up menu. (Figure 8.6)

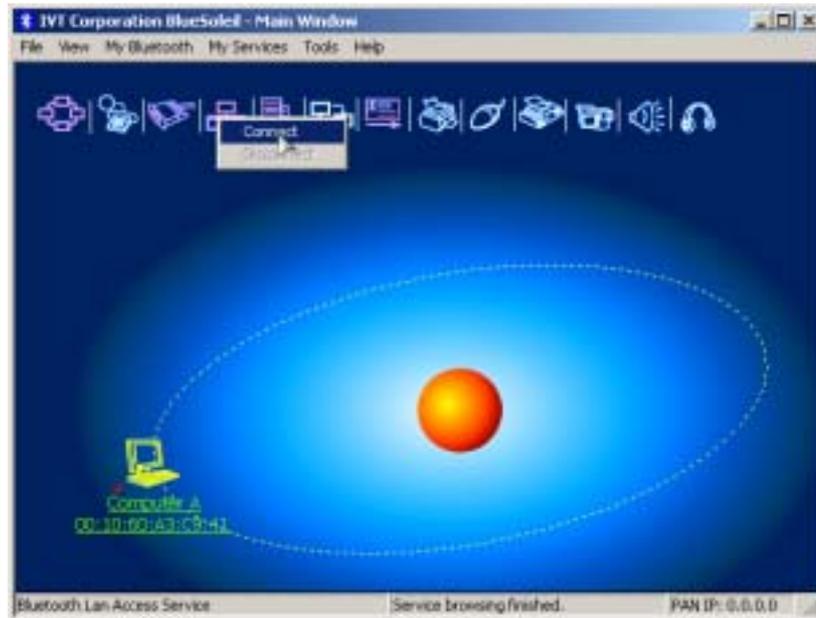


Figure 8.6: Select Connect

- ◆ The **Connect BlueSoleil™ LAP Connection** window pops up. Input a username and password. (Figure 8.7)
- ◆ The connection is then established.

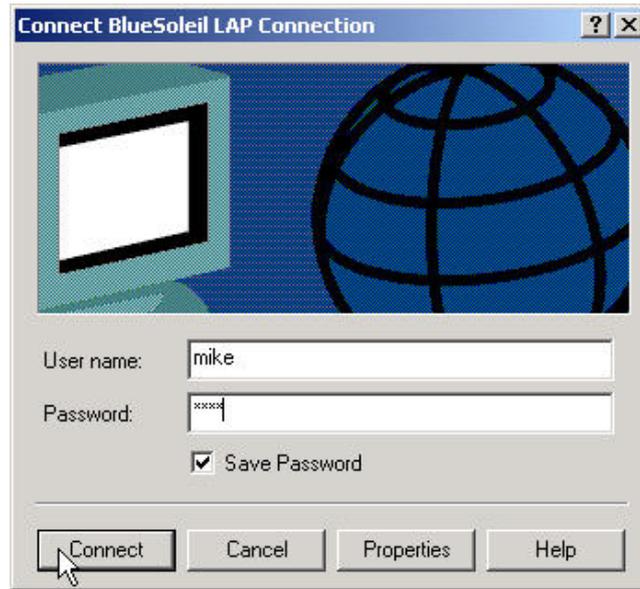


Figure 8.7: Input Username and Password

Step 6: Computer B can now access the LAN via Computer A.

### 8.3 Access a LAN via a LAN Access Point

This section outlines the steps involved in accessing a LAN through a LAN access point.

LAN Access Point A:

Bluetooth access point

Computer B

Notebook/Laptop

A Bluetooth Device

Windows 2000

IVT BlueSoleil™

Step 1: **Connect LAN access point to the Local Area Network.**

- ◆ Set the LAN access point's name to anything you want. Here it is named LAN Access Point A.
- ◆ Set LAN Access Point A's IP address to be in the same range as the other computers in the LAN.

Step 2: Insert the Bluetooth Device into the computer.

Step 3: Start BlueSoleil™ in the computer.

Step 4: Connect to the LAN Access Point A.

1. Find the LAP service of LAN Access Point A

2. Double-click on the LAN Access Point A device icon  on

Computer B.

3. Right-click the LAP service icon; select **Connect** on the pop-up menu.
  - ◆ The **Connect BlueSoleil™ LAP Connection** window pops up. Input username and password. (Figure 8.8)
  - ◆ The connection is now established. (Figure 8.9)



Figure 8.8: Input username and password

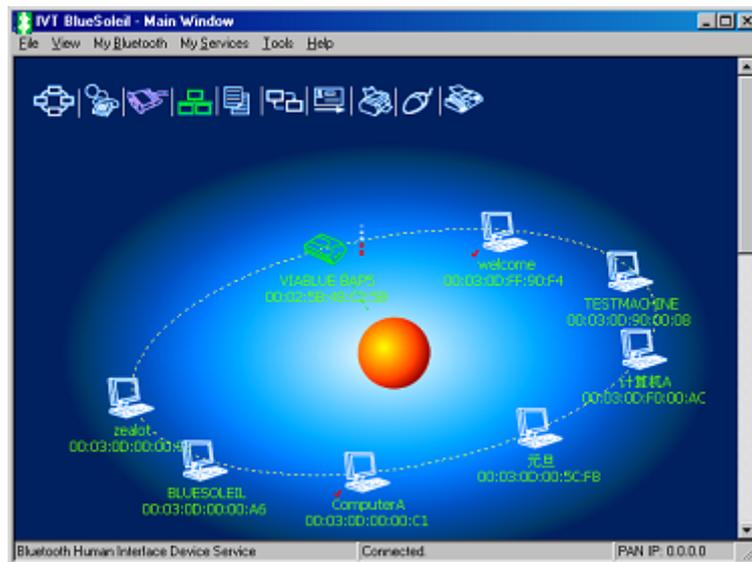


Figure 8.9: Successful connection to the LAN Access Point

- Step 5: Access other computers in the LAN.
- ◆ Now Computer B can access the LAN via LAN Access Point A.

## 8.4 Settings for LAN Access Profile (client side) in Windows98/Me

Before using the LAN Access Profile in Windows98/Me, ensure that a Dial-up Adapter and Windows's component direct cable connection are installed on the client computer.

See "Section 5.3.1: Check if a Dial-up Adapter is installed", to check if a Dial up Adapter is installed in your computer.

### 8.4.1 Check if a Windows Component Direct Cable Connection is installed

Step 1: Select Control Panel from the Start | Settings menu,

Step 2: Double-click the **Add/Remove Programs** icon. (Figure 8.10)



Figure 8.10: Double-click the Add/Remove Programs icon

Step 3: Select the **Windows Setup** tab in the **Add/Remove Programs Properties** window. (Figure 8.11)