USER GUIDE

Cisco Small Business

WBPN Wireless-N Bridge for Phone Adapters

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Contents

1

Installing the WBPN Wireless-N Bridge for Phone Adapters

This chapter describes how to install and initially configure your WBPN Wireless-N Bridge for Phone Adapters. It contains the following sections:

Before You Begin

Before you begin the installation, make sure that you have the following equipment and information:

- Power Supply for your Small Business IP Phone (not included)
- PC to use the web-based system management tools to configure the WBPN (required if you are not using Wi-Fi Protected Setup). The web-based configuration manager is supported on Microsoft Internet Explorer (version 8 or higher) and Mozilla Firefox (version 3.6.3 and higher).

Using the WBPN With the Cisco SPA525G/525G2

You can use the WBPN with the Cisco SPA525G/525G2 IP phone to improve the wireless performance of the phone. You must first disable the internal Wireless-G controller on the Cisco SPA525G in order to use the WBPN as your wireless controller. To disable the phone's internal wireless:

STEP 1 Press the **Setup** button and choose **Network Configuration**.

STEP 2 Under *Wi-Fi*, press the right arrow on the navigation button until Wi-Fi is disabled (the check mark does not appear).

STEP 3 Choose **Set**, then **Back** and **Exit** to return to the main menu.

Getting to Know the WBPN

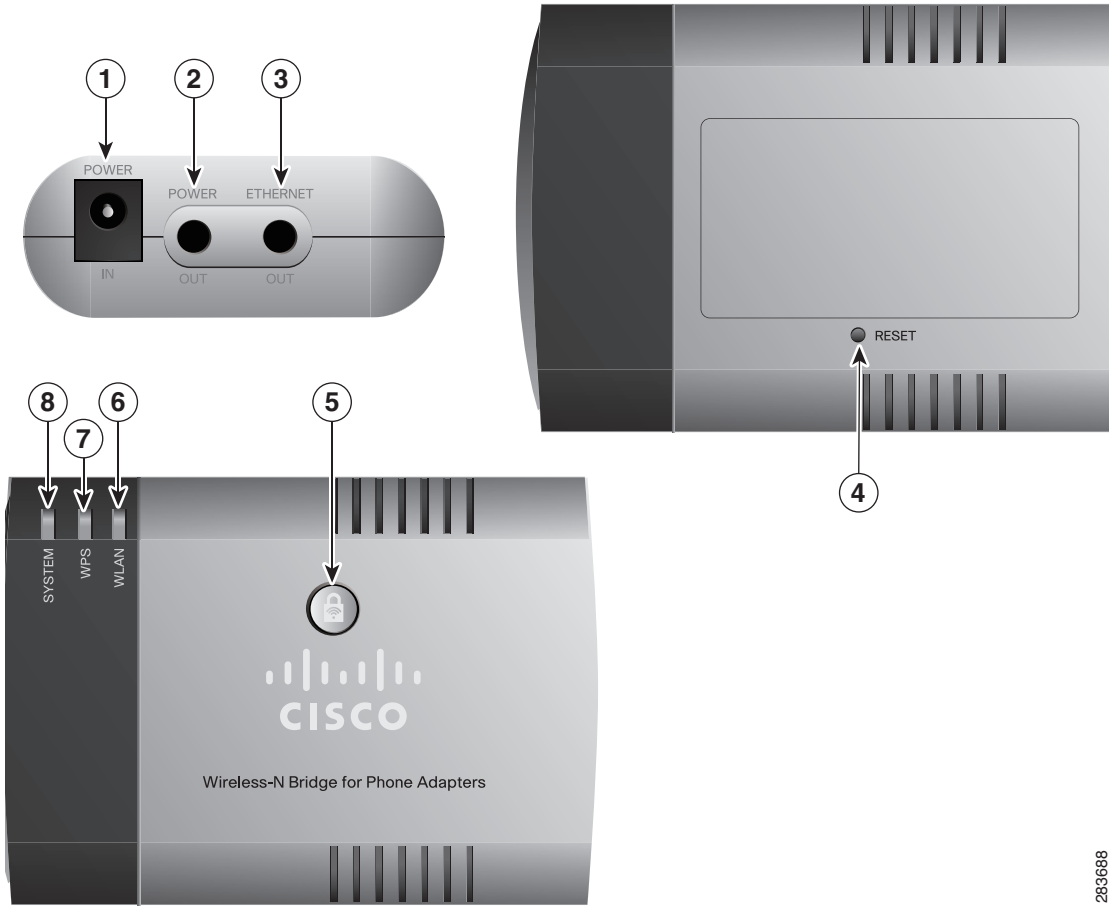
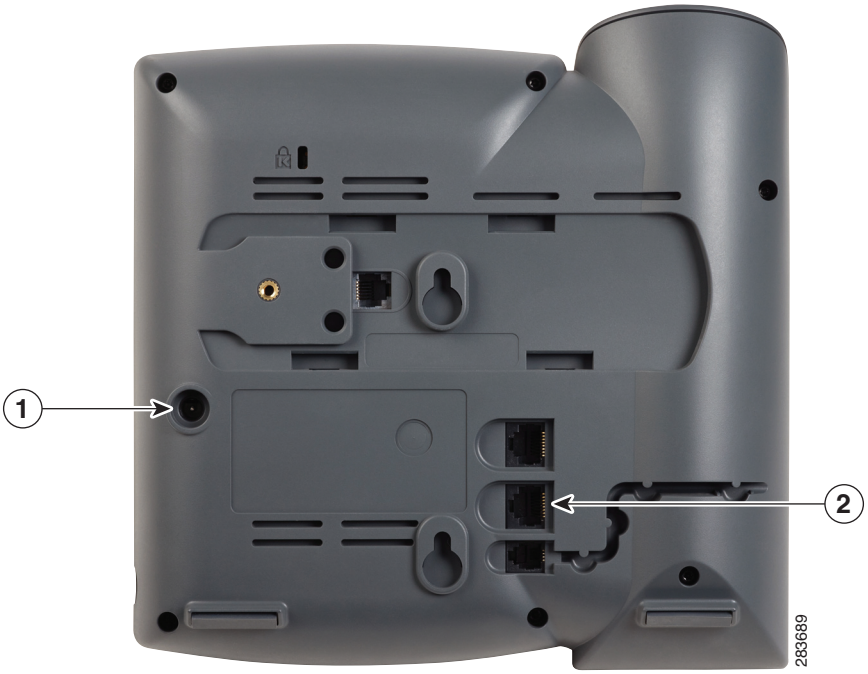


Figure 1 WBPN Connections

1	Power adapter port
2	WBPN power cable
3	Network cable
4	Reset button
5	Wi-Fi Protected Setup (WPS) button
6	WLAN LED
7	WPS LED
8	System LED

Figure 2 Phone Connections



1	Power adapter port
2	Ethernet port

Connecting the WBPN Using WPS

If your wireless device supports Wi-Fi Protected Setup (WPS), you can connect the WBPN to the phone and use WPS to connect the phone your network. If you do not use WPS, you must connect the WBPN to a PC and use a web browser to configure it. See the **"Connecting the WBPN Using a PC" section on page 9**.

STEP 1 If the IP phone power adapter is connected to your IP phone, disconnect it.

STEP 2 Unplug the IP phone power adapter from the power source.

STEP 3 Connect the WBPN power cable to the power port on the IP phone (labeled #1 in the **"Phone Connections"** graphic).

STEP 4 Connect the network cable from the WBPN to the Ethernet port on the IP phone (labeled #2 in the **"Phone Connections"** graphic).

STEP 5 Connect the IP phone power adapter to the power port on the WBPN (labeled #1 in the **"WBPN Connections"** graphic).

STEP 6 (Optional) Place the WBPN inside the hollow desktop phone stand. See **"Installing the WBPN Into the SPA Phone Stand" section on page 16**.

STEP 7 Plug the IP phone power adapter into the power source.

Using the WPS Push Button Method

STEP 1 After all connections are made and devices are powered on, press the WPS button on your wireless device.

STEP 2 Press the WPS button on the WBPN. The WPS LED on the WBPN flashes green during the discovery period.

STEP 3 After the WBPN establishes a connection to the wireless device, the WPS LED displays solid green, and the WLAN LED will display either solid green or flashing green, depending on network activity.

Using the WPS PIN Method

STEP 1 Connect the WBPN and power on all devices as previously described.

STEP 2 On the bottom of the WBPN unit, locate the label and make note of the PIN. The PIN is a unique numeric code printed on the label.

STEP 3 Connect to your wireless device's web interface using a web browser. Your computer must be connected to your wireless network.

STEP 4 In your router or device's WPS menu, enter the WBPN PIN into the field that allows you to set up wireless devices using a PIN.

STEP 5 Save your changes. The device should automatically connect to the WBPN. After the WBPN establishes a connection to the wireless device, the WPS LED displays solid green, and the WLAN LED will display either solid green or flashing green, depending on network activity.

Connecting the WBPN Using a PC

STEP 1 Connect the IP phone power adapter to the WBPN power adapter port (labeled #1 in the **"WBPN Connections"** graphic).

STEP 2 Connect the WBPN network cable (labeled #3 in the **"WBPN Connections"** graphic) to the Ethernet port on your PC.

STEP 3 Set your PC's IP address to a static IP address on the same subnet as the WBPN. See **Setting a Static IP Address on Your PC**.

STEP 4 Open your web browser and enter the default IP address for the WBPN: 192.168.1.254.

STEP 5 Enter the default username (cisco) and password (cisco). You should change the default username and password as soon as possible using the Setup Wizard or by choosing **Administration** > **Change Password** in the management interface.

STEP 6 Follow the steps in the Setup Wizard to configure the WBPN. See the following sections for more information.

Using the Setup Wizard

The Setup Wizard guides you through configuration of the WBPN. See the following sections for more information.

Choosing a Username and Password

You must enter a new username and password. The default username and password (cisco) is not allowed. Passwords must be a minimum of one character and a maximum of 30 characters.

Configuring Local Area Network Settings

Choose **Automatic (DHCP)** if you want your network router to assign an IP address to the WBPN when it is connected to the network. This IP address can change if the device is disconnected and connected again.

Choose **Static IP** if you want the WBPN to always have the same IP address on the network. Enter the IP address you want to assign to the WBPN, the subnet mask, and the default gateway (the IP address of your network router).

TIP If you choose DHCP or you change the IP address to an address that is different from the default IP address, you will need to use that new address if you want to connect your PC to the device later for additional configuration.

Configuring the Wireless Connection

Choose the type of wireless configuration method:

Automatically Using WPS

If your wireless device supports Wi-Fi Protected Setup (WPS), you can choose this option to connect the phone your wireless network. Then choose the type of WPS configuration:

- **PIN Number**—Click **Start PIN** to begin WPS configuration via the PIN number. After clicking **Start PIN**, on your wireless device, go to the WPS configuration menu and enter the PIN of the WBPN. (The WBPN PIN is displayed above the **Start PIN** button on the Wireless WPS window.) You must enter the WBPN PIN number in your wireless device's WPS configuration menu within two minutes of clicking the **Start PIN** button.
- **Push Button Configuration**—Click **Start PBC** to begin WPS configuration via push button. After clicking **PBC**, within two minutes, click the WPS push

button on your wireless device. The device will communicate with the WBPN and connect it to your network.

Manually

Choose this option if your wireless device does not support WPS:

STEP 1 Enter the network name of your wireless network in the SSID field, or click **Site Survey** to see a list of all wireless devices in the area. Click the **Select** button to choose a device and click **Next**.

STEP 2 Select the type of encryption:

- **None**—Choose if security is not enabled on your wireless device. (Not recommended.)
- **WEP**—Wired Equivalent Privacy encryption. WEP is a weak form of encryption and is not recommended. With this type of security, you enter a 64 or 128-bit key on the WBPN, which the WBPN uses to authenticate with your wireless router to provide a secure connection. You must choose the key length and format, and enter the key in the **Key Setting** field.
- **WPA/PSK or WPA2/PSK**—Wi-Fi Protected Access/pre-shared key encryption. Either of these encryption types is more secure than WEP and is recommended instead of WEP. Choose the protocol (**TKIP** or **AES**) and the pre-shared key format (**passphrase** or **HEX [64 characters]**). If you chose **passphrase**, enter a 8 to 63-character passphrase in the **Pre-Shared Key** field. If you chose **HEX (64 characters)**, enter a string of 64 hexadecimal digits in the **Pre-Shared Key** field.

STEP 3 Click **Next**. The WBPN reboots.

Setting a Static IP Address on Your PC

Many PCs are configured to obtain an IP address automatically from the router or device to which they are connected (for example, a wireless router or cable modem). To connect your PC to the WBPN, your PC needs to have an IP address in the same subnet as the IP address of the WBPN. For example, the WBPN has a network address of 192.168.1.254. Your PC needs to have an IP address of 192.168.1.x (where x equals any number from 2 to 253) in order to initially configure

the WBPN. If your computer is set up to obtain an IP address automatically, you will need to change it to have a static IP address. If your PC is set up to have a static IP address, you need to make sure that the IP address is in the range of 192.168.1.1 to 192.168.1.253.

You should revert to your original IP address settings after configuring the WBPN.

The following sections describe how to set a static IP address on several operating systems. Your PC or network may vary. Consult the user documentation for your PC for more information.

Windows 7 (IPv4)

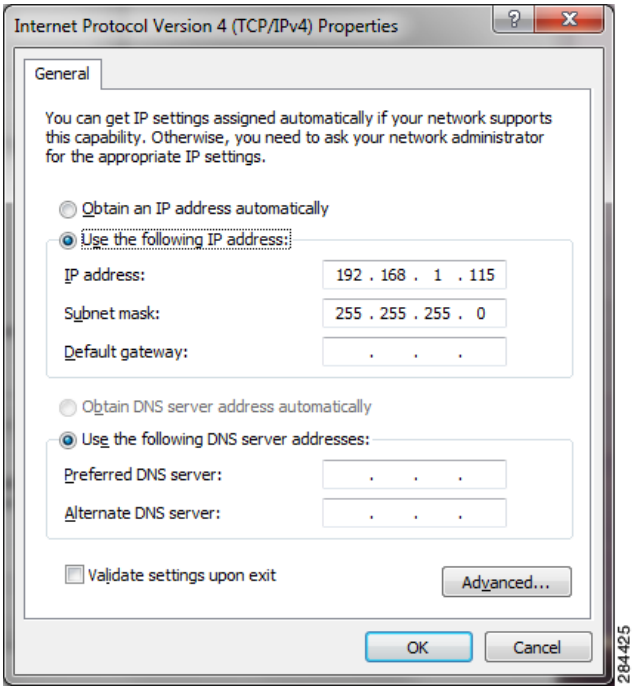
STEP 1 From the Control Panel window, under *Network and Internet*, click **View network status and tasks**.

STEP 2 In the left panel, click **Change adapter settings**.

STEP 3 Right-click on the **Local Area Connection** icon.

STEP 4 Click **Internet Protocol Version 4 (TCP/IPv4)** and click the **Properties** button below.

STEP 5 Select **Use the following IP address** and enter an address in the range of 192.168.1.2 to 192.168.1.253; for example, 192.168.1.115. Enter 255.255.255.0 for the subnet mask. Leave the default gateway field blank.



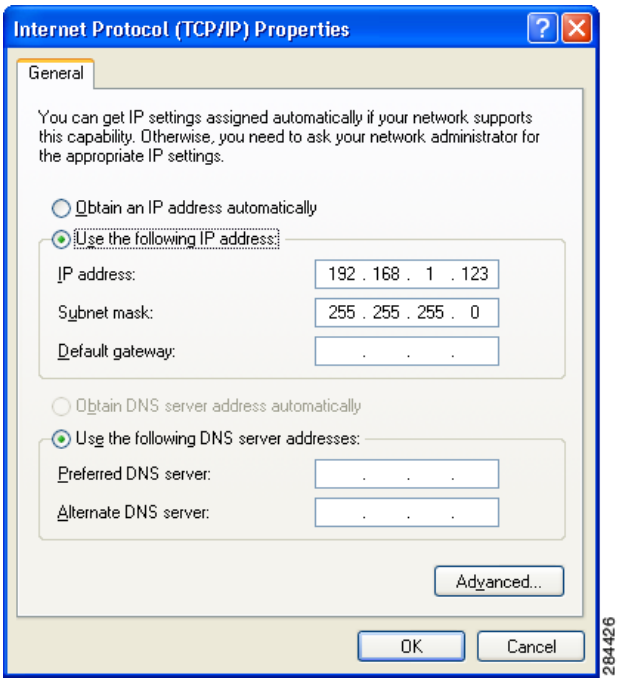
STEP 6 Click **OK**.

Windows XP

STEP 1 From the Start Menu, choose **Control Panel** > **Network Connections** > **Local Area Connection**.

STEP 2 Click on **Internet Protocol (TCP/IP)** and click the **Properties** button below.

STEP 3 Select **Use the following IP address** and enter an address in the range of 192.168.1.2 to 192.168.1.253; for example, 192.168.1.115. Enter 255.255.255.0 for the subnet mask. Leave the default gateway field blank.



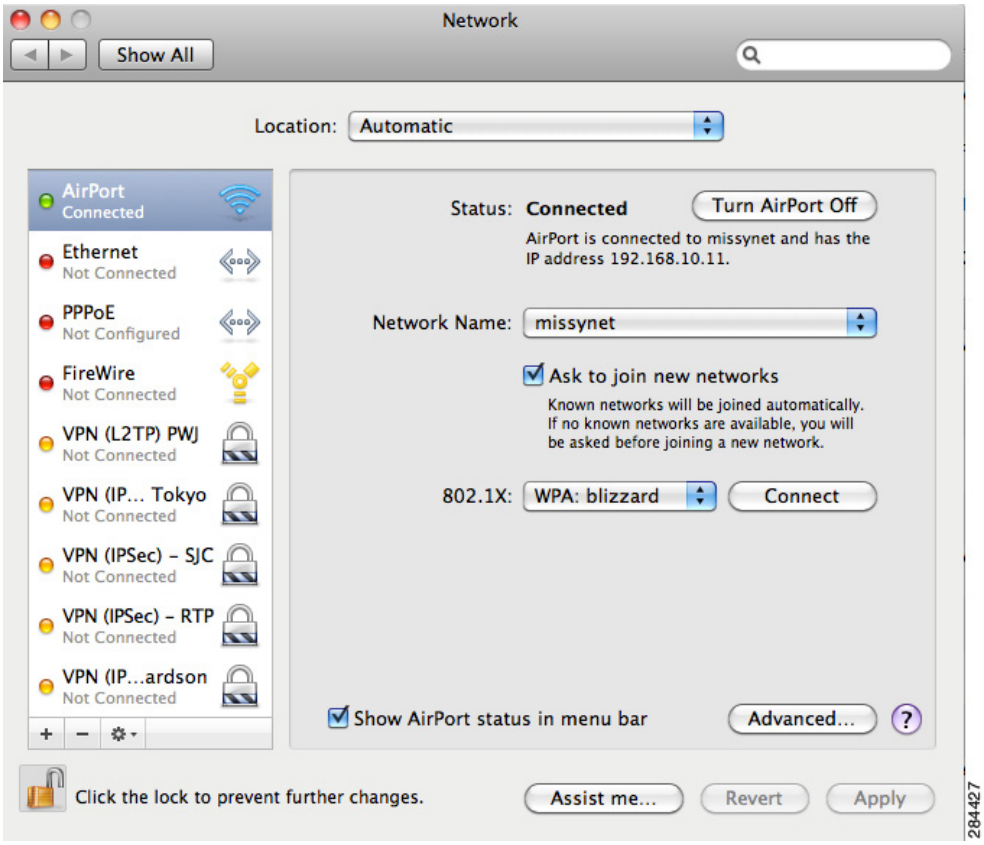
STEP 4 Click **OK**.

Macintosh OSX

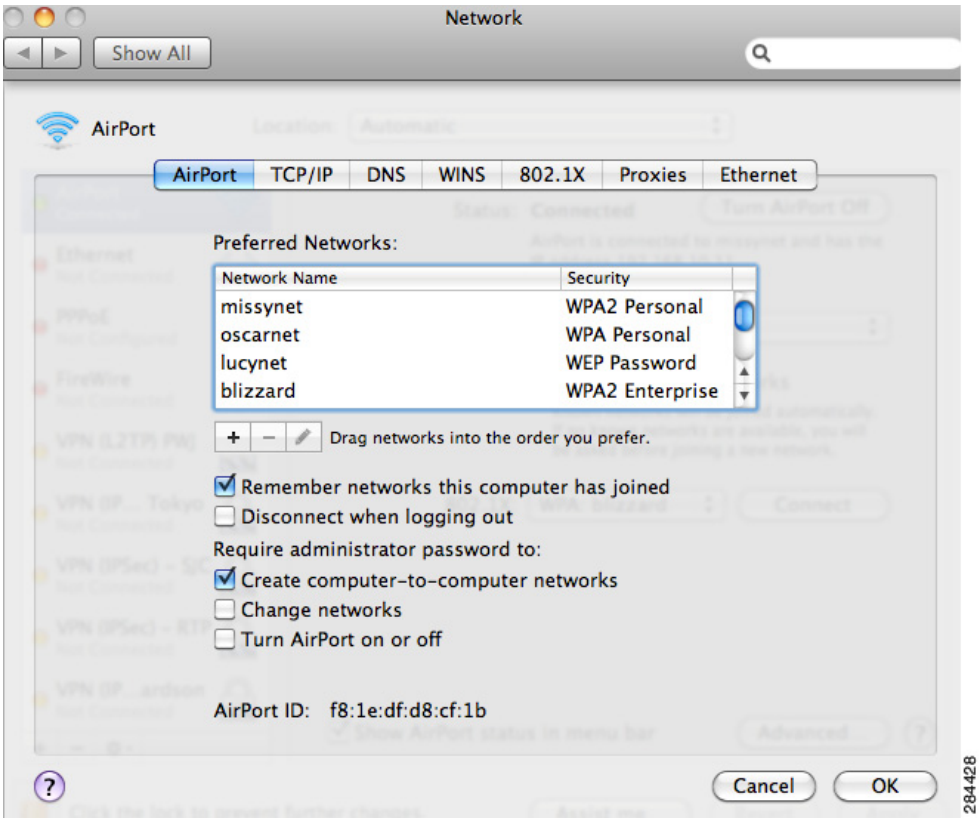
(The following example uses Macintosh OSX 10.6.4.)

STEP 1 Open **System Preferences**.

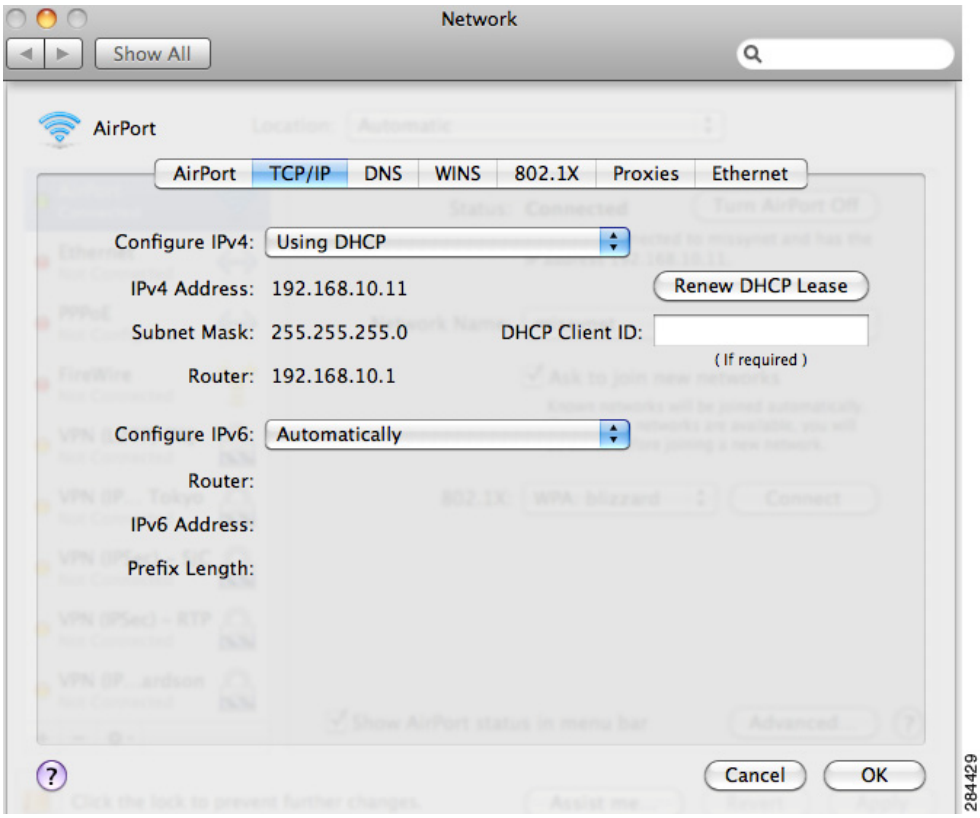
STEP 2 Choose **Network**.


Network
Show All
Location: Automatic
AirPort
Connected
Ethernet
Not Connected
PPPoE
Not Configured
FireWire
Not Connected
VPN (L2TP) PWJ
Not Connected
VPN (IP... Tokyo
Not Connected
VPN (IPSec) - SJC
Not Connected
VPN (IPSec) - RTP
Not Connected
VPN (IP...ardson
Not Connected
Status: Connected
Turn AirPort Off
AirPort is connected to missynet and has the IP address 192.168.10.11.
Network Name: missynet
Ask to join new networks
Known networks will be joined automatically. If no known networks are available, you will be asked before joining a new network.
802.1X: WPA: blizzard
Connect
Show AirPort status in menu bar
Advanced...
Click the lock to prevent further changes.
Assist me...
Revert
Apply
284427

STEP 3 With **Airport** selected, click **Advanced**.



STEP 4 Click on the **TCP/IP** tab.



STEP 5 Under *Configure IPv4*, choose **Manually**.

STEP 6 Enter an address in the range of 192.168.1.2 to 192.168.1.253; for example, 192.168.1.115. The subnet mask and router values do not need to be changed.

STEP 7 Click **OK**.

Installing the WBPN Into the SPA Phone Stand

STEP 1 If the stand is attached to the phone, remove it.

STEP 2 Hold the stand with the Cisco logo facing you and the opening on the top.

STEP 3 Hold the WBPN so that the Cisco logo is facing you and the three LEDs are on the top.

STEP 4 Route the WBPN power cable through the left side of the phone stand.

STEP 5 Route the network cable from the WBPN to the Ethernet port on the phone through the right side of the phone stand.

STEP 6 Line up the tabs on the desk stand with the slots on the back of the phone.

STEP 7 Slide the bottom tabs into the slots.

STEP 8 Ensure all cables are tucked inside the stand and will not interfere with the stand attachment.

Lightly press down on the top of the desk stand. It should easily slide into the top slots. Do not force.

2

Using the WBPN Wireless-N Bridge for Phone Adapters Configuration Utility

This chapter describes how to use the web-based configuration utility for the WBPN Wireless-N Bridge for Phone Adapters. It contains the following sections:

- **Logging in to the Configuration Utility**
- **Navigating through the Pages**
- **Viewing Status Information**
- **Configuring Wired Parameters**
- **Configuring Wireless Parameters**
- **Performing Administrative Tasks**

Logging in to the Configuration Utility

To log in to the configuration utility, follow the instructions in **Connecting the WBPN Using a PC**. If you chose the WBPN to be assigned an IP address by DHCP, or you changed the IP address to an address that is different from the default IP address, you will need to use that new address to access the configuration utility.

Navigating through the Pages

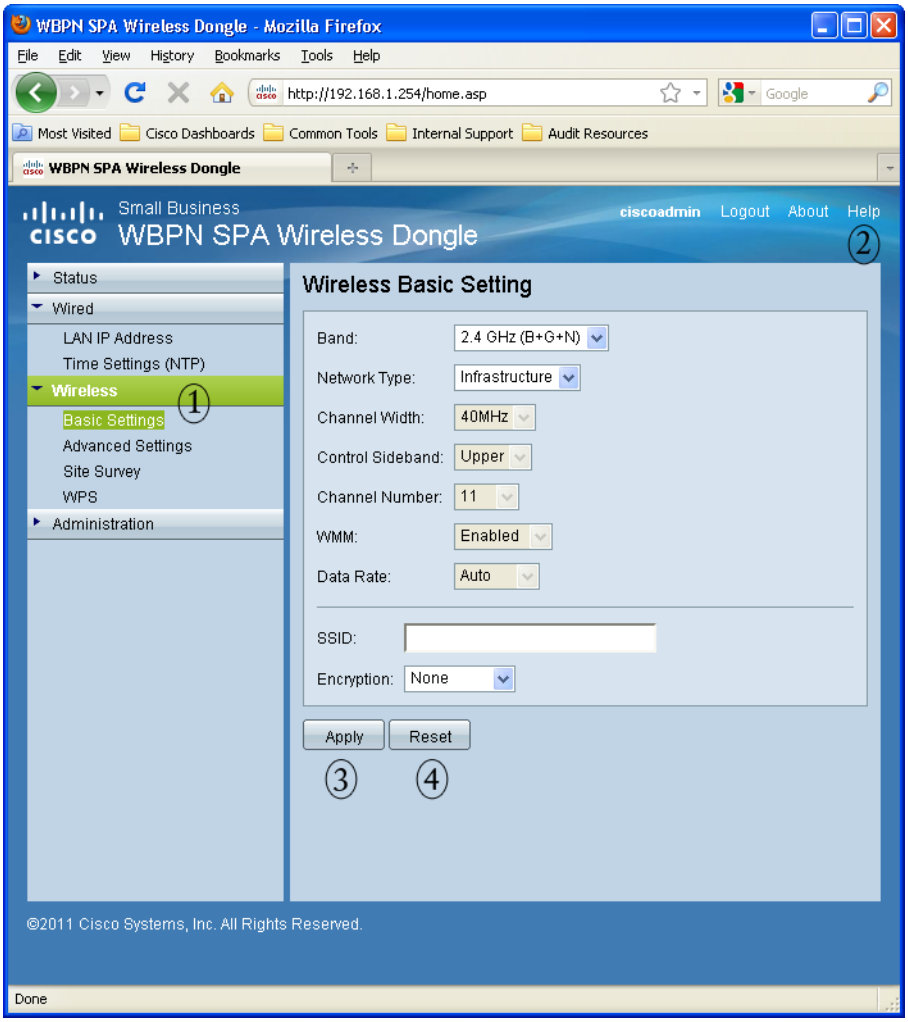


Figure 1 Cisco WPBN Management Interface

Use the navigation tree (labeled #1 in Figure 1) in the left pane to open the configuration pages. Click a menu item on the left panel to expand it. Under it, click a menu name to perform an action or display a sub-menu.

To view more information about a configuration page, click the **Help** link (labeled #2 in Figure 1) near the top right corner of the page.

When you finish making changes on a configuration page, click **Apply** (labeled #3 in Figure 1) to save the changes. Click **Reset** (labeled #4 in Figure 1), **Clear**, or **Cancel** to undo your changes.

Viewing Status Information

The WBPN provides information about its status, including system information and statistics.

System Information

The following system information is provided:

Firmware Version	Firmware version that is installed on the WBPN.
Build Time	Date and time that the firmware was built.
Serial Number	Unique serial number of the WBPN unit.
HW_Rev	Hardware version number.
PID VID	Product ID and version identifier of the WBPN.

Wired Network Information

The following wired network information is provided:

IP Address	IP address of the WBPN.
Subnet Mask	Subnet mask of the WBPN IP address.
Default Gateway	The node that the network software uses when an IP address does not match any other routes in the routing table.
MAC Address	Hardware address of the wired (Ethernet) interface on the WBPN.
Send Packets	Packets that have been transmitted over the Ethernet interface from the WBPN to the network.

Received Packets	Packets that have been received by the WBPN on the Ethernet interface from the network.
Reset Counter	Click to reset the send and received packet counters.

Wireless Network Information

The following wired network information is provided:

Mode	The WBPN mode: ▪ **Infrastructure**—The WBPN is connected to the wireless network through a wireless router or access point (AP). ▪ **Ad-hoc**—The WBPN directly communicates with other devices in the ad-hoc network. Each device must be configured with the same SSID and channel number in order to communicate with other devices in the ad-hoc network.
Band	The band that the WBPN is using to transmit wireless data (2.4GHz for Wireless B, G, or N).
SSID	The service set identifier, or name, of the wireless network to which the WBPN is connected.
Channel Number	The wireless channel on which the WBPN is connected.
Encryption	Wireless encryption settings for the WBPN: ▪ **None**—Security is not enabled on your wireless device. (Not recommended.) ▪ **WEP**—Wired Equivalent Privacy encryption. (WEP is a weak form of encryption and is not recommended.) ▪ **WPA/PSK or WPA2/PSK**—Wi-Fi Protected Access/pre-shared key encryption. Either of these encryption types is more secure than WEP and is recommended instead of WEP.
BSSID	The MAC address of the wireless router or AP in the network.

State	State of the wireless network (for example, disabled or connected).
Data Rate	Rate of data transmission, in megabits per second (Mbps).
RSSI	Received signal strength indicator of the wireless signal received from the router or AP.
Region	Geographical region in which the WBPN is intended for operation.
Send Packets	Packets that have been transmitted over the wireless interface from the WBPN to the network.
Received Packets	Packets that have been received by the WBPN on the wireless interface from the network.
Reset Counter	Click to reset the send and received packet counters.

Configuring Wired Parameters

Cisco recommends using the Setup Wizard to configure the WBPN. However, the Navigation Menu can also be used for configuration.

Configuring LAN Settings

STEP 1 From the Navigation Menu, choose **Wired** > **LAN IP Address**.

STEP 2 Under *IP Settings*, choose **Automatic (DHCP)** if you want your network router to assign an IP address to the WBPN when it is connected to the network. This IP address can change if the device is disconnected and connected again.

Choose **Static IP** if you want the WBPN to always have the same IP address on the network. Enter the IP address you want to assign to the WBPN, the subnet mask, and the default gateway (the IP address of your network router).

TIP If you choose DHCP or you change the IP address to an address that is different from the default IP address, you will need to use that new address if you want to connect your PC to the device later for additional configuration.

Configuring Date and Time Settings

You can manually configure the date and time on the WBPN, or you can configure it to synchronize its time clock to a Network Time Protocol (NTP) server.

To configure the date and time settings:

STEP 1 From the Navigation Menu, choose **Wired** > **Time Settings (NTP)**.

STEP 2 Choose one of the following date and time configuration methods:

- To copy the date and time from the computer that is connected to the WBPN, click **Copy**.
- To configure the WBPN to connect to an NTP server, in the **NTP Client** field, check **Enable**. In the **NTP Server** field, select a server from the list, or click the button next to the **Manual** field and enter the IP address of an NTP server.

STEP 3 Choose the time zone for your location.

STEP 4 (Optional) For regions that observe Daylight Saving Time, check the **Enable** box.

STEP 5 Click **Apply**.

Configuring Wireless Parameters

Cisco recommends using the Setup Wizard to configure the WBPN. However, the Navigation Menu can also be used for configuration.

Configuring Basic Settings

To configure basic wireless settings:

STEP 1 From the Navigation Menu, choose **Wireless** > **Basic Settings**.

STEP 2 In the **Band** field, choose the type of wireless connection—**B**, **G**, **N**, **B+G**, **G+N**, **B+G+N**. If you have 802.11n, 802.11g and 802.11b devices in your network, keep the default setting, 2.4GHz (B+G+N). If you have 802.11n and 802.11g devices, choose 2.4GHz (G+N). If you have 802.11g and 802.11b devices, select 2.4GHz (B+G). If you have only 802.11n devices, select 2.4GHz(N). If you have only 802.11g devices, select 2.4GHz (G). If you have only 802.11b devices, select 2.4GHz (B).

STEP 3 Choose the **Network Type**:

- **Infrastructure**—The WBPN is connected to the wireless network through a wireless router or access point (AP).
- **Ad-hoc**—The WBPN directly communicates with other devices in the ad-hoc network. Each device must be configured with the same SSID and channel number in order to communicate with other devices in the ad-hoc network.

STEP 4 If you chose the **ad-hoc** network type, you can configure the following parameters:

- **Channel width**—Choose to manually configure the channel bandwidth for Wireless-N connections. When it is set to 20MHz, only the 20MHz channel is used. When it is set to 40MHz, Wireless-N connections will use the 40MHz channel but Wireless-B and Wireless-G connections will still use the 20MHz channel. If there is no Wireless-B nor Wireless-G broadcast, selecting 40Mhz will enhance the throughput. This field is unavailable if you chose the infrastructure network type.
- **Control Sideband**— Specify if the extension channel should be in the Upper or Lower sideband. This field is not configurable if you chose the infrastructure network type.
- **Channel Number**—Select the appropriate channel from the list. Select the same channel on which the other ad-hoc devices in the network are broadcasting. This field is not configurable if you chose the infrastructure network type.
- **Data Rate**—Select the data transmission speed. This field is not configurable if you chose the infrastructure network type.

STEP 5 Wi-Fi Multimedia (WMM) is a component of the IEEE 802.11e wireless LAN standard for quality of service (QoS). It specifically supports priority tagging and queuing. It is enabled by default when the band is set to **N**, **G+N**, or **B+G+N**. You can choose to disable WMM if the band is set to **B**, **G**, or **B+G**.

STEP 6 In the **Encryption** field, choose the type of security for the WBPN:

- **None**—Security is not enabled on your wireless device. (Not recommended.)
- **WEP**—Wired Equivalent Privacy encryption. (WEP is a weak form of encryption and is not recommended.) If you choose WEP, choose the type of authentication (**Open System**, **Shared Key**, or **Auto**). In the **Key Length** field, choose the length of the encryption bit. 128-bit encryption is more secure

but can slow traffic. Choose a key format (ASCII or hexadecimal) and enter a passphrase or key in the **Encryption Key** field. Hexadecimal format is more secure.

- **WPA/PSK** or **WPA2/PSK**—Wi-Fi Protected Access/pre-shared key encryption. Either of these encryption types is more secure than WEP and is recommended instead of WEP. There are two encryption options for WPA/PSK: TKIP (Temporal Key Integrity Protocol) and AES (Advanced Encryption System). TKIP utilizes dynamic keys and incorporates Message Integrity Code (MIC) to provide protection against hackers. AES uses a symmetric 128-bit block data encryption. WPA2 uses AES-CCMP to perform user authentication, which uses a symmetric 128-Bit block data encryption. Choose the pre-shared key format (passphrase or hexadecimal) and enter the pre-shared key in the field. Hexadecimal format is more secure.

STEP 7 Click **Apply**.

Configuring Advanced Settings

To configure advanced wireless settings, from the Navigation Menu, choose **Wireless** > **Advanced Settings**. You can configure the following settings:

Fragmentation Threshold	This value specifies the maximum size for a packet before data is fragmented into multiple packets. If you experience a high packet error rate, you can slightly increase the Fragmentation Threshold. Setting the Fragmentation Threshold too low may result in poor network performance. Only minor reduction of the default value is recommended. In most cases, it should remain at its default value.
RTS Threshold	"Request to send" threshold. If you configure Request to Send/Clear to Send (RTS/CTS) on the WBPN, the RTS threshold is the packet size included in the request. You can configure this value if the WBPN has inconsistent data flow. Only minor reduction of the default value, 2347, is recommended. The RTS Threshold value should normally remain at the default value of 2347.

Beacon Interval	The Beacon Interval value indicates the frequency interval of the beacon. The beacon is a packet transmitted at regular intervals from APs in order to synchronize the wireless network.
Preamble Type	The preamble is at the head or front of the Physical Layer Convergence Protocol (PLCP), which is one of the parts of the wireless physical layer. Devices use the preamble type to start transferring data. **Long**—The long preamble ensures compatibility with legacy 802.11b devices but can slightly reduce throughput at high data rates. **Short**—The short preamble reduces the header's size by 50%, down to 9 bytes. The short preamble is optional for 802.11b. The 802.11g and newer standards all support the short preamble. If you do not have 802.11b devices in your network, you can enable the short preamble for a small throughput increase.
Protection	If you apply RTS/CTS flow control on the communication with wireless LAN handsets, choose **Enabled** to improve communication speed. If you have few wireless LAN handsets, choose **Disabled**.
Aggregation	With frame aggregation, up to 64 MSDUs (MAC Service Data Units, or Layer 2 frames) can be sent at one time. This “super” frame has one physical layer header and data frames (each with its own MAC header). Once all the data has been sent, a block acknowledgment is sent. Enabling aggregation can help reduce bandwidth size by reducing the “overhead” in networks with high transmission rates, and allows higher throughput.
Short GI	The guard interval (GI) is the space between symbols (characters) being transmitted. The short guard interval time is 400ns, which is half of the usual GI (800ns). Enabling short GI helps throughput.
20/40MHz Coexist	Allows data to be transmitted on both the 20 MHz and 40MHz channels of the wireless LAN.

RF Output Power	Sets the strength of the wireless signal that the WBPN transmits. If there are many wireless networks broadcasting in or near the area where the WBPN is physically located, you can lower the RF output power to avoid overlap with other wireless networks and reduce interference.

Click **Apply** to save any changes.

Discovering Available Wireless Networks

To discover available wireless networks, from the Navigation Menu, choose **Wireless** > **Site Survey**. A table displays the wireless networks that are broadcasting, and contains the following information:

SSID	Wireless network name, or identifier, of the network.
BSSID	MAC or hardware addresses of the network.
Channel	Channel on which the wireless network is broadcasting and the 802.11 network type.
Type	Type of wireless network (for example, access point).
Encrypt	Security used on the wireless network.
Signal	Wireless signal strength of the network.

Click **Refresh** to repeat the survey.

Connecting to a Wireless Network

To connect to one of the wireless networks displayed in the Wireless Site Survey table:

STEP 1 In the **Select** column, click the row of the network to which you want to connect.

STEP 2 Click **Next**.

STEP 3 Choose the type of encryption (normally, the WBPN detects the encryption and you do not have to change this value).

STEP 4 Depending on the type of encryption chosen, enter the following:

- **WEP**—Key Length, Key Format, and Key Setting
- **WPA/PSK** or **WPA2/PSK**—WPA or WPA2 Encryption, Pre-shared Key Format, and Pre-shared Key

STEP 5 Click **Connect**.

For more information on encryption, see **Configuring Wireless Parameters**.

Using Wi-Fi Protected Setup (WPS)

If your wireless device supports Wi-Fi Protected Setup (WPS), you can choose this option to connect the WBPN to your wireless network. You can either use the physical button on the WBPN unit to start the WPS process, or use the management interface. For information on using the physical button on the WBPN, see **Connecting the WBPN Using WPS**.

To use WPS from the management interface, from the Navigation Menu, choose **Wireless** > **WPS**. Choose the WPS configuration method:

Personal Identification Number (PIN) Configuration

The WBPN has a Personal Identification Number (PIN) that is displayed on this page in the **Self-PIN Number** field, and on a printed label on the WBPN unit. You can use this PIN to configure WPS:

STEP 1 On your wireless router or AP, go to the menu that allows you to set up wireless devices via WPS with a PIN. Enter the PIN of the WBPN into the appropriate field on your wireless router or AP and begin the WPS PIN process. (See the user documentation for your router or AP for more information on where to configure WPS on your particular device.)

STEP 2 In the management interface of the WBPN, from the Navigation Menu, choose **Wireless** > **WPS**.

STEP 3 Click **Start PIN**.

Note: The Start PIN button must be clicked within two minutes of beginning WPS PIN configuration on your wireless router or AP.

STEP 4 Click **OK** to continue. The WBPN should successfully connect to your device. If not, repeat steps 1 and 2. If the process is still unsuccessful, try using the push-button configuration described below.

Push-Button Configuration

STEP 1 In the management interface of the WBPN, from the Navigation Menu, choose **Wireless** > **WPS**.

STEP 2 Click **Start PBC**.

STEP 3 On your wireless router or AP, push the button that allows you to set up WPS. (See the user documentation for your router or AP for more information on your particular device.)

Note: The WPS button on your wireless router or AP must be clicked within two minutes of beginning PBC configuration on the WBPN.

STEP 4 Click **OK** to continue. The WBPN should successfully connect to your device. If not, repeat steps 1 and 2. If the process is still unsuccessful, try using the PIN configuration method described in the previous section.

Performing Administrative Tasks

You can perform various administrative tasks from the management interface. See the following sections for more information.

Viewing Logs

- To view logs, from the Navigation Menu, choose **Administration** > **Log**.
- To send logs to a remote server, check Enable Remote Log and enter the IP address of the server to which to send logs.
- Click **Refresh** to view the latest logs, or **Clear** to delete all logs.

Upgrading Firmware

STEP 1 From the Navigation Menu, choose **Administration** > **Upgrade Firmware**.

STEP 2 Click **Browse** and navigate to the firmware file. Select the file.

STEP 3 Click **Apply**. The upgrade takes several minutes; do not power off the WBPN during the upgrade.

Saving and Reloading Your Configuration

To save your current configuration (for example, wireless device information such as SSID, security, and password):

STEP 1 From the Navigation Menu, choose **Administration** > **Save/Reload Configuration**.

STEP 2 Under *Save Settings to File*, click **Save** and choose to save the file to your PC. The configuration is saved as a .dat file.

To load a previously saved configuration:

STEP 1 From the Navigation Menu, choose **Administration** > **Save/Reload Configuration.**

STEP 2 Under *Load Settings from File*, click **Browse** and locate the saved configuration file that you want to restore.

STEP 3 Click **Apply**.

Changing Your Username or Password

To change your username or password:

STEP 1 From the Navigation Menu, choose **Administration** > **Change Password**.

STEP 2 Enter the new username and/or password. Enter the new password again to confirm. The default username and password (cisco) is not allowed. Passwords must be a minimum of one character and a maximum of 30 characters.

STEP 3 Click **Apply**.

Rebooting and Restoring to Factory Default

To reboot the WBPN:

STEP 1 From the Navigation Menu, choose **Administration** > **Reboot**.

STEP 2 Click **Reboot**.

To restore the WBPN to factory settings (all configuration changes that you have made will be erased):

STEP 1 From the Navigation Menu, choose **Administration** > **Reboot**.

STEP 2 Under *Reset Settings to Factory Default*, click **Reset**.

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Where to Go From Here

Cisco provides a wide range of resources to help you and your customer obtain the full benefits of the Cisco WBPN Wireless-N Bridge for Phone Adapters.

Support	
Cisco Small Business Support Community	www.cisco.com/go/smallbizsupport
Cisco Small Business Support and Resources	www.cisco.com/go/smallbizhelp
Phone Support Contacts	www.cisco.com/en/US/support/tsd_cisco_small_business_support_center_contacts.html
Cisco Small Business Firmware Downloads	www.cisco.com/go/smallbizfirmware Select a link to download firmware for Cisco Small Business Products. No login is required.
Cisco Small Business Open Source Requests	www.cisco.com/go/smallbiz_opensource_request
Product Documentation	
Cisco WBPN	www.cisco.com/go/spabridge
Cisco SPA50X Phones	www.cisco.com/go/spa500phones
Cisco SPA30X Phones	www.cisco.com/go/300phones
Cisco Small Business	
Cisco Partner Central for Small Business (Partner Login Required)	www.cisco.com/web/partners/sell/smb
Cisco Small Business Home	www.cisco.com/smb