

LINKSYS®

A Division of Cisco Systems, Inc.



2.4GHz 802.11g Wireless-G



PrintServer

User Guide

Model No. **WPS54G ver. 2.0**



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How to Use this User Guide

The user guide to the Wireless-G PrintServer has been designed to make understanding networking with the PrintServer easier than ever. Look for the following items when reading this User Guide:



This checkmark means there is a note of interest and is something you should pay special attention to while using the PrintServer.



This exclamation point means there is a caution or warning and is something that could damage your property or the PrintServer.



This question mark provides you with a reminder about something you might need to do while using the PrintServer.

In addition to these symbols, there are definitions for technical terms that are presented like this:

word: definition.

Also, each figure (diagram, screenshot, or other image) is provided with a figure number and description, like this:

Figure 0-1: Sample Figure Description

Figure numbers and descriptions can also be found in the “List of Figures” section.

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Chapter 1: Introduction

Welcome

Thank you for choosing the Linksys Wireless-G PrintServer. The PrintServer lets you connect a USB printer directly to your network, eliminating the need to dedicate a PC to print sharing chores. Using a PrintServer frees up your “print share PC” so you don’t have to leave it on all the time. It also removes the printing bottleneck, and sets your PC free to do more useful work.

The USB port is compatible with USB 1.1 printers, as well as printers that support the new high-speed USB 2.0 specification for even faster throughput.

How does the PrintServer do all of this? A print server is a device that allows multiple computers to share a printer over a network. You can connect the PrintServer directly to your network using an Ethernet network cable, or you can connect the PrintServer over Wireless-G (802.11g) at up to 54Mbps. The wireless option lets you put your printer wherever you want to, without having to run a cable. Whichever way the PrintServer is attached to your network, both your wireless and wired PCs will have access to it and its USB printer.

But what does all of this mean?

Networks are useful tools for sharing Internet access and computer resources. Multiple computers can share Internet access, so you don’t need more than one high-speed Internet connection. Using the PrintServer, you can access one printer from different computers. Plus, you can access data located on another computer’s hard drive and play multi-player video games. So, networks not only are useful in homes and offices, but also can be fun.

PCs on a wired network create a LAN, or Local Area Network. They are connected with Ethernet cables, which is why the network is called “wired”.

PCs equipped with wireless cards or adapters can communicate without cumbersome cables. By sharing the same wireless settings, within their transmission radius, they form a wireless network. This is sometimes called a WLAN, or Wireless Local Area Network. Your network router bridges wireless networks of both 802.11b and 802.11g standards and wired networks, allowing them to communicate with each other.

To guide you through the process of installing the PrintServer, run the Setup Wizard on the Setup CD-ROM (you can use the instructions in the Quick Installation or User Guide to help you). After you have installed the PrintServer, you can change its settings using its browser-based utility, which is described in this User Guide. These instructions should be all you need to get the most out of the Wireless-G PrintServer.

mbps: one million bits per second; a unit of measurement for data transmission

lan (local area network): the computers and networking products that make up the network in your home or office

ethernet: an IEEE standard network protocol that specifies how data is placed on and retrieved from a common transmission medium

802.11b: an IEEE wireless networking standard that specifies a maximum data transfer rate of 11Mbps and an operating frequency of 2.4GHz

802.11g: an IEEE wireless networking standard that specifies a maximum data transfer rate of 54Mbps, an operating frequency of 2.4GHz, and backward compatibility with 802.11b devices

browser: an application program that provides a way to look at and interact with all the information on the World Wide Web

What's in this Guide?

This user guide covers the steps for setting up and using the PrintServer.

- Chapter 1: Introduction
This chapter describes the PrintServer's applications and this User Guide.
- Chapter 2: Getting to Know the PrintServer
This chapter describes the physical features of the PrintServer.
- Chapter 3: Connecting the PrintServer
This chapter instructs you on how to connect the PrintServer to your network.
- Chapter 4: Configuring the PrintServer using the Setup Wizard
This chapter instructs you on how to use the Setup Wizard to install your PrintServer.
- Chapter 5: Windows Driver Installation
This chapter explains how to install the Windows driver for the PrintServer.
- Chapter 6: Configuring the PrintServer Using the Web-based Utility
This chapter explains use the web-based utility to change the PrintServer's settings.
- Chapter 7: Bi-Admin Management
This chapter explains how to use the Bi-Admin Management utility, which is for advanced users only.
- Chapter 8: Internet Printing Protocol (IPP)
This chapter instruct you on how to use the PrintServer as an IPP server so you can run remote print jobs.
- Appendix A: Troubleshooting
This appendix describes some potential problems and solutions regarding use of the PrintServer.
- Appendix B: Wireless Security
This appendix explains the security risks in wireless networking and how you can help protect your network
- Appendix C: About Bi-Directional Printing
This appendix describes bi-directional printing.
- Appendix D: Upgrading Firmware
This appendix instructs you on how to upgrade the firmware on the PrintServer should you need to do so.

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- **Appendix E: Windows Help**
This appendix describes how you can use Windows Help for instructions about networking, such as installing the TCP/IP protocol.
- **Appendix F: Glossary**
This appendix gives a brief glossary of terms frequently used in networking.
- **Appendix G: Specifications**
This appendix provides the technical specifications for the PrintServer.
- **Appendix H: Warranty Information**
This appendix supplies the warranty information for the PrintServer.
- **Appendix I: Regulatory Information**
This appendix supplies the regulatory information regarding the PrintServer.
- **Appendix J: Contact Information**
This appendix provides contact information for a variety of Linksys resources, including Technical Support.

Chapter 2: Getting to Know the PrintServer

The Bottom Panel

The PrintServer's ports and Reset button are located on the bottom panel.



Figure 2-1: PrintServer's Bottom Panel

Power

The **Power** port is where you will connect the power adapter.

Ethernet

The **Ethernet** port is where you will connect the PrintServer to your wired network. (This is optional.)

USB Printer

The **USB Printer** port is where you will connect the USB printer to the PrintServer.

The USB icon (right) designates a USB port. The PrintServer comes with a USB cable. One end has a rectangular connector called Type A. The other end has a square connector called Type B. The USB cable's Type A end connects to the PrintServer, and the Type B end connects to the printer.



USB Connector-Type A



USB Connector-Type B

Reset Button

Use the **Reset Button** to reset the PrintServer to its factory defaults or print a test page. The instructions are provided on the right side of this page.



IMPORTANT: Resetting the PrintServer will delete all of your settings and replace them with the factory defaults. Do not reset the PrintServer if you want to retain the settings.

To reset the factory default settings

1. Unplug the PrintServer.
2. Press and hold the Reset button. While pressing the button, plug in the PrintServer.
3. If you continue pressing the button for 10 seconds, the PrintServer will be reset to factory defaults.

To generate a diagnostic print-out

1. Ensure that both the PrintServer and the printer attached to the Printer port are ON.
2. Press the Reset button, and hold it in for 2 seconds.
3. The test page, which lists the current settings, will be printed.

PostScript printers are unable to print this page. If you have a PostScript printer on the USB Printer port, the test page will not be printed.

The Front Panel

The PrintServer's LEDs are located on the front panel.

Power	Green/Orange. If the Power LED is continuously lit green, then the PrintServer is ready for use. The LED flashes green when the PrintServer is booting up, a system self-test is running, or the firmware is being upgraded. It lights up orange when there is an error.
Ethernet	Green/Orange. If the Ethernet LED is continuously lit green, the PrintServer is successfully connected to a device through the Ethernet port. The LED flashes green when the PrintServer is actively sending or receiving data from the wired network. It flashes orange when there are collisions detected on the Ethernet port.
Wireless	Green. The Wireless LED serves two purposes. If the LED is continuously lit, the PrintServer is successfully connected to the wireless network. If the LED is flashing, the PrintServer is actively sending or receiving data from the wireless network.
USB	Green/Orange. The USB LED lights up green when there is a printer connected to the USB port. The LED flashes green when the PrintServer is sending data through the USB port. It lights up orange when there is a problem with the USB printer.



Figure 2-2: PrintServer's Front Panel

Chapter 3: Connecting the PrintServer

Overview

Before starting the physical installation, note the PrintServer's default name, which starts with "LK" (for example, LK71107). The default name is shown in the *Server* field on the PrintServer's sticker, which is located on the PrintServer's back panel. During the PrintServer driver installation, this name is used to identify the PrintServer you are currently installing.

Connecting the PrintServer to Your Network

1. Use the USB cable to connect your USB printer to the PrintServer's USB Printer port. Plug the Type A connector end into the PrintServer and the Type B connector end into the printer.
2. If you are connecting the PrintServer to your wired network, then plug one end of the Ethernet network cable into the PrintServer's Ethernet port.

Then connect the other end of the cable to your router or switch. The distance between the PrintServer and the other device should not exceed 328 feet (100 meters).

3. Power on your printer.
4. Plug the power adapter into the PrintServer's Power port.

Then plug the other end into an electrical outlet.



IMPORTANT: Make sure you use the power adapter supplied with the PrintServer. Use of a different power adapter could damage the PrintServer.



NOTE: The PrintServer does not have an on/off power switch. Whenever its power adapter is plugged into a power supply, the PrintServer is powered on. The PrintServer can be powered on before, during, or after your network is powered on.

Proceed to the next section, "Placement Options."



Figure 3-1: Connect to the Ethernet Port



Figure 3-2: Connect to the USB Port



Figure 3-3: Connect to the Power Port

Placement Options

There are different ways to place the PrintServer. The first way is to place the PrintServer horizontally on a surface, so it sits on four small rubber pads. You can also use the included velcro to mount the PrintServer on a wall or underneath a shelf. To use the velcro, follow these instructions:

1. Separate the included velcro into its two sides, the hook side and the loop side. You will use the tape on the backs of the velcro sides to attach them to the PrintServer and surface you want to use.
2. For the first velcro side, peel off the cover protecting the tape, and attach it to the recessed area on the back panel of the PrintServer.
3. For the other velcro side, peel off the cover, and attach it to the location you have chosen for the PrintServer.
4. Attach the velcro sides to each other, and make sure the PrintServer is securely mounted on the wall or underneath the shelf.
5. Adjust the position of the antenna so that it is positioned as high as possible. Usually, the higher you place the antenna, the better the performance and range will be.

The physical installation of the Wireless-G PrintServer is complete. Proceed to “Chapter 4: Configuring the PrintServer Using the Setup Wizard.”



Figure 3-4: Desktop Placement

Chapter 4: Configuring the PrintServer Using the Setup Wizard

Starting the Setup Wizard

To install the PrintServer, you will use the Setup CD-ROM to run the Setup Wizard. It is highly recommended that you use a computer on the wired network to set up the PrintServer. However, if you only have a wireless network, then you can use a computer on the wireless network to set up the PrintServer.

1. Insert the Setup CD-ROM into the computer's CD-ROM drive. The Setup Wizard should run automatically. If it does not, click the **Start** button and choose **Run**. In the box that appears, enter **D:\setupWizard.exe** (if "D" is the letter of your CD-ROM drive).
2. When you see the *Welcome* screen, you have four choices:

Click **Set up PrintServer** to set up the PrintServer.

Click **Set up Computer** if you have already installed the PrintServer. Then proceed to "Chapter 5: Windows Driver Installation".

Click **User Guide** button to view the User Guide.

Click **Exit** to end the installation.

Installing the PrintServer

1. If you have not already done so, click **Set up PrintServer** on the *Welcome* screen.
2. You will see a screen asking you to locate your USB printer. Click **Next** to continue.



Figure 4-1: Welcome



Figure 4-2: Locate Your Printer

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3. You will see a screen asking you to disconnect the printer from your computer. Click **Next**.

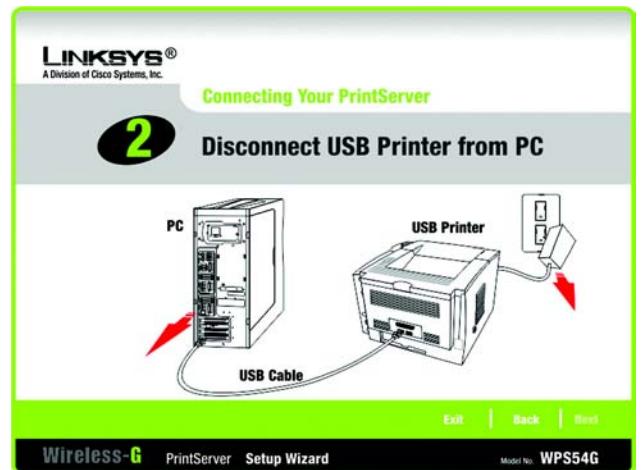


Figure 4-3: Disconnect USB Printer from PC

4. You will see a screen showing the proper USB connection between the PrintServer and your printer. Click **Next** to continue.



Figure 4-4: Connect Printer to PrintServer

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- The next screen will show the proper connection between the PrintServer and your router. Click Next.

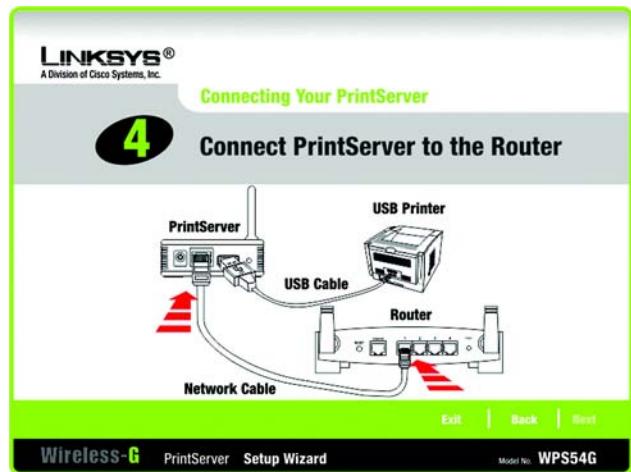


Figure 4-5: Connect PrintServer to the Router

- The next screen will ask you to connect power to the PrintServer. Click Next.

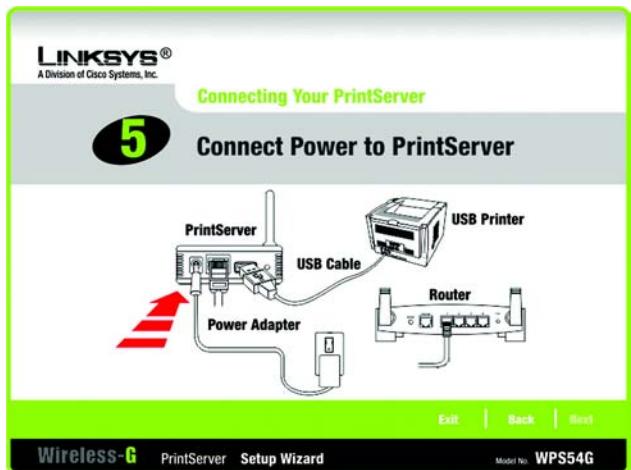


Figure 4-6: Connect Power to PrintServer

7. The next screen will ask you to connect power to your printer. Click **Next**.

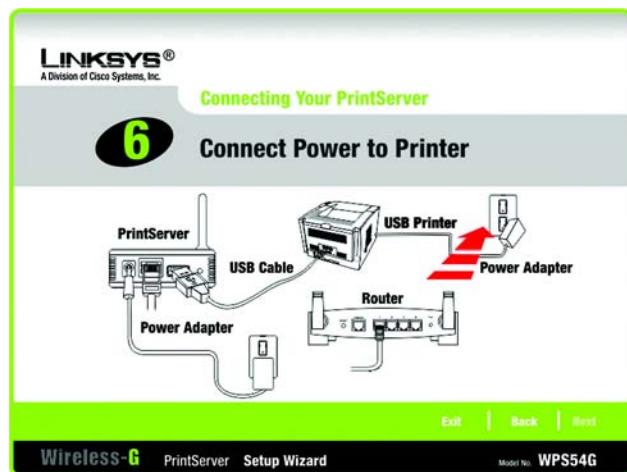


Figure 4-7: Connect Power to Printer

8. After the Setup Wizard has found the PrintServer, the *Wireless-G PrintServer Setup* screen will appear. A list of all compatible printer servers will be displayed. Your PrintServer is listed by its default server name. Next to the PrintServer's Server Name is its IP Address. Note the IP Address so you can use it to access the PrintServer's web-based utility, as described in "Chapter 6: Configuring the PrintServer Using the Web-based Utility." Select the PrintServer you want to configure and click **Next** to continue.

Click the **Refresh** button to refresh the screen. Click **Back** to return to the previous screen.

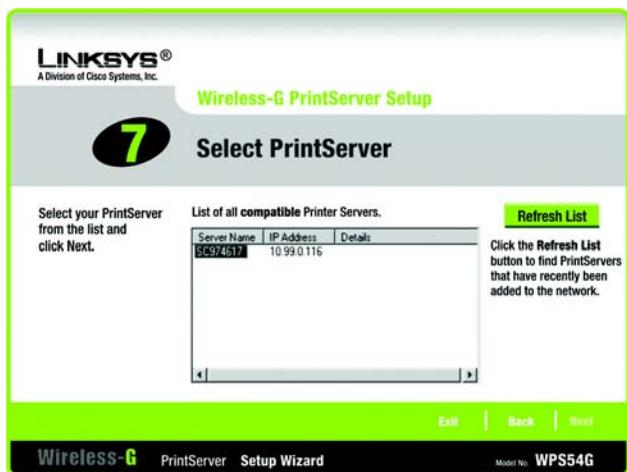


Figure 4-8: Select PrintServer

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- Enter the PrintServer's default password, **admin**. Click **Enter** to continue. (You will be able to change this password later.)



Figure 4-9: Password

- The *Basic Settings* screen will appear. If you want to change the PrintServer Name or Workgroup Name, enter the new names in the respective fields.

Click **Next** to continue, or click **Back** to return to the previous screen.

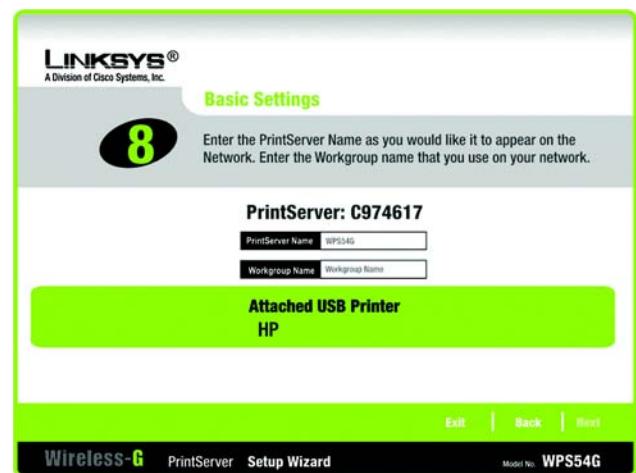


Figure 4-10: Basic Settings

11. The *IP Settings* screen will appear. If your network uses a router with a DHCP setting that automatically assigns IP addresses, select **Automatically obtain an IP address (DHCP)**. If your network uses a static IP address, select **Set IP configuration manually**, and enter the IP Address, Subnet Mask, and Gateway in the fields provided.

Click **Next** to continue, or click **Back** to return to the previous screen.

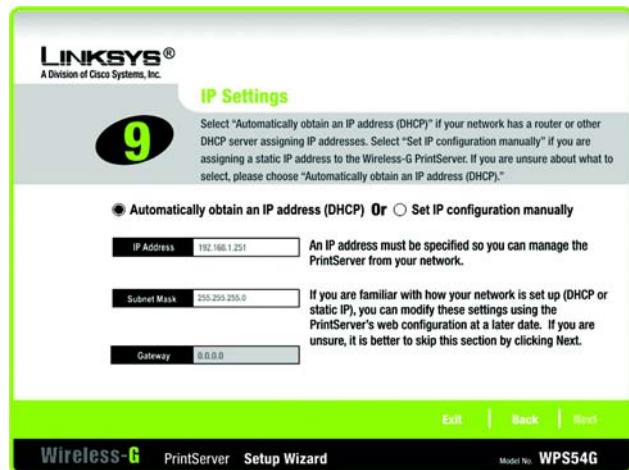


Figure 4-11: IP Settings

ip (internet protocol): a protocol used to send data over a network

ip address: the address used to identify a computer or device on a network

static ip address: a fixed address assigned to a computer or device connected to a network.

12. The *Set PrintServer's Password* screen will appear. If you want to change your password, enter your current password in the *Current Password* field. Enter the new password in the *New Password* field, and then enter it again in the *Verify Password* field.

Click **Next** to continue, or click **Back** to return to the previous screen.



Figure 4-12: Set PrintServer's Password

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13. The *Wireless Settings* screen will appear. In the **SSID** field, enter your wireless network's SSID or name. This is the unique name shared by all devices in a wireless network. The SSID is case-sensitive and should have 32 characters or fewer.

Select the channel at which the network broadcasts its wireless signal (available only if you selected Ad-Hoc for the Network Type setting).

The Network Type setting shows a choice of two wireless modes. Select **Infrastructure** if you want the PrintServer to communicate using an access point or wireless router. Select **Ad-Hoc** if you want the PrintServer to communicate without using an access point or wireless router.

Click **Next** to continue, or click **Back** to return to the previous screen.

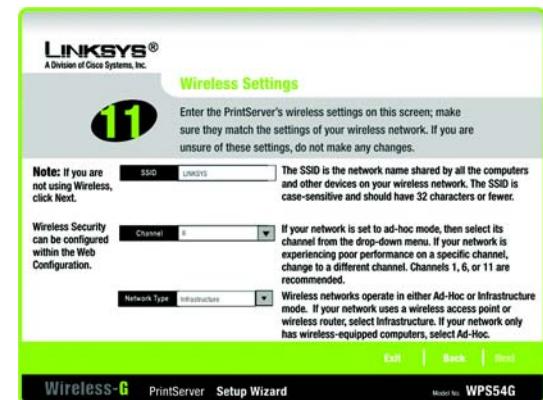


Figure 4-13: Wireless Settings

ssid: your wireless network's name.

infrastructure: configuration in which a wireless network is bridged to a wired network via an access point.

ad-hoc: a group of wireless devices communicating directly to each other (peer-to-peer) without the use of an access point.

14. The *Wireless Security Settings* screen will appear. Select the type of security you want to use: **WEP (64-Bit)**, **WEP (128-Bit)**, or **WPA-Pre-Shared Key (TKIP)**. All devices in a network must use the same type. Then proceed to the appropriate instructions for your wireless security method.

If you do not want to use wireless security, keep the default, **Disabled**.

WPA-Pre-Shared Key (TKIP)

Enter a Passphrase (also known as a Pre-Shared Key) that is 8-64 characters in length. Click **Next** to continue, or click **Back** to return to the previous screen.



Figure 4-14: Wireless Security Settings - WPA

wpa (wi-fi protected access: a wireless security protocol using TKIP (Temporal Key Integrity Protocol) encryption, which can be used in conjunction with a RADIUS server).

WEP

Enter a Passphrase. If you use a Passphrase, a WEP key will be automatically generated after you click the Next button. The Passphrase is case-sensitive and should have 16 alphanumeric characters or fewer. It must match the passphrase of your wireless network and is compatible with Linksys wireless products only. (You will have to enter the WEP key(s) manually on any non-Linksys wireless products.)

If you want to enter the WEP key manually, then keep the default, **Disabled**. You will need to enable WEP encryption and enter the WEP key manually using the PrintServer's Web-based Utility. (Refer to "Chapter 6: Configuring the PrintServer Using the Web-based Utility" for instructions.)

Click **Next** to continue, or click **Back** to return to the previous screen.

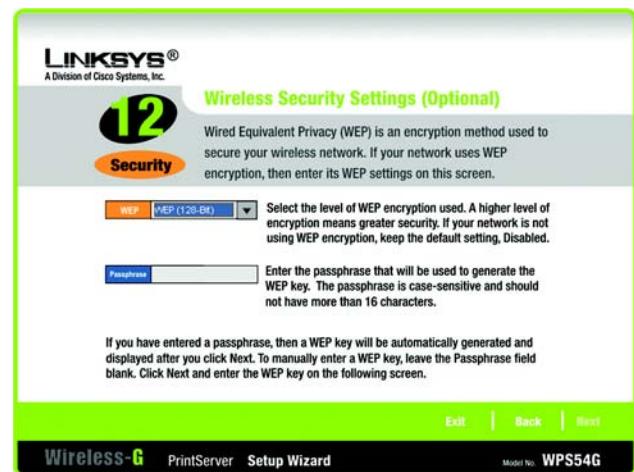


Figure 4-15: Wireless Security Settings - WEP

wep (wired equivalent privacy): a method of encrypting data transmitted on a wireless network for greater security.

passphrase: used much like a password, a passphrase simplifies the WEP encryption process by automatically generating the WEP encryption for Linksys products.

- The *Confirmation* screen will appear. Your old and new settings will be displayed. If you want to save the new settings, click **Next**. If you want to make a change, click **Back**. If you want to exit the Setup Wizard, click **Exit**.



Figure 4-16: Confirmation

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16. After the new settings are saved, the next screen will ask you to remove the power from the PrintServer. Click **Next** to continue.



Figure 4-17: Remove Power from PrintServer

17. The next screen will ask you to disconnect the network cable from the PrintServer. Click **Next** to continue.

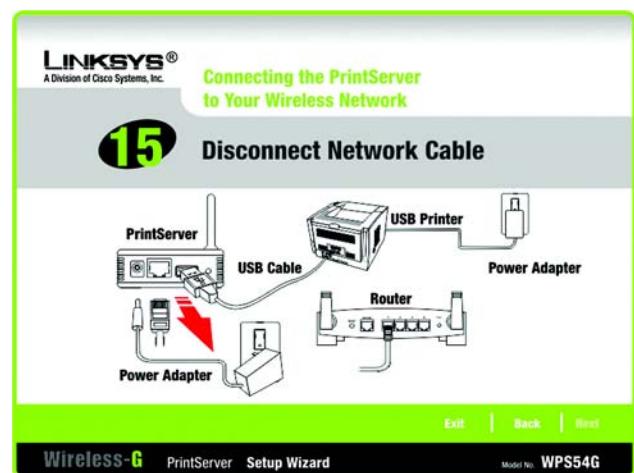


Figure 4-18: Disconnect Network Cable

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18. The next screen will ask you to reconnect the power to the PrintServer. Click **Next** to continue.

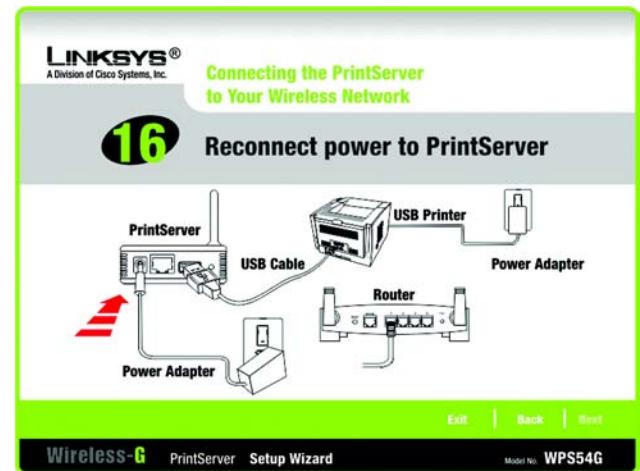


Figure 4-19: Reconnect Power to PrintServer

19. The next screen will indicate that the PrintServer is now part of your wireless network. Click **Next** to continue.



Figure 4-20: Wireless is Now Active

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20. The next screen will indicate that the setup of the PrintServer is complete. Now you will need to install the driver. Click **Next** to install the driver. The installation will occur automatically. Then proceed to the *Configuration of the PrintServer Driver* section of “Chapter 5: Windows Driver Installation”.

If you have additional computers on your network, insert the Setup CD-ROM into the next computer and select **Set up Computer** on the *Welcome* screen. Then proceed to “Chapter 5: Windows Driver Installation”.

If you want to make a change, click **Back**. If you want to exit the Setup Wizard, click **Exit**.

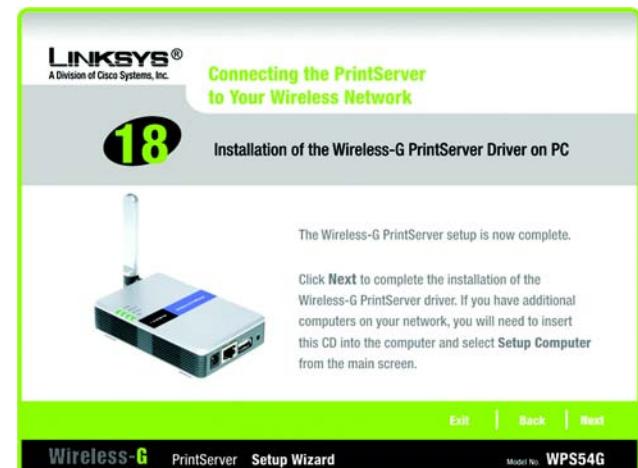


Figure 4-21: Installation of PrintServer Driver

Chapter 5: Windows Driver Installation

Overview

This section installs the PrintServer's software on your Windows 98, Me, 2000, or XP computers so they can use the PrintServer for print jobs. (The PrintServer is fully compatible with Windows 98, Me, 2000, and XP.)

At this point, you must have the following:

- the PrintServer hardware installed on your network. If not, see "Chapter 3: Connecting the PrintServer."
- the PrintServer configured on your network. If not, see "Chapter 4: Configuring the PrintServer Using the Setup Wizard."
- TCP/IP installed on each of your computers.
- an IP address assigned to each of the computers on your network.
- an IP address assigned to the PrintServer by you or your network router. By default the PrintServer has DHCP enabled so the network router will automatically assign an IP address. If you need to manually assign an IP address, run the Setup Wizard on the Setup CD-ROM or go to "Chapter 7: Bi-Admin Management."

It is assumed that your CD-ROM drive's letter name is designated as "D". If your CD-ROM drive is named another letter, replace all instances of "D" with the appropriate letter.

If you need to install the PrintServer's driver on computers without a CD-ROM drive, you can create a setup disk by using a computer with a CD-ROM drive to copy the contents of D:\Driver\PTP onto a floppy disk.

Using the Instructions in This Chapter

If you followed the instructions in "Chapter 4: Configuring the PrintServer Using the Setup Wizard," then the driver has already been installed. Proceed to this section, "Configuration of the PrintServer Driver."

If you clicked Set up Computer on the *Welcome* screen of the Setup Wizard, then proceed to the next section, "Driver Installation."



HAVE YOU: already set up your printer? Linksys recommends that you set up your printer and install your printer's driver before you install the PrintServer's driver.

Driver Installation

1. Make sure you have no programs or applications running on your computer.
2. If you haven't already done so, insert the Setup CD-ROM into the computer's CD-ROM drive. The Setup CD-ROM should run automatically. If it does not, click the **Start** button and choose **Run**. In the field that appears, enter **D:\setupWizard.exe** (if "D" is the letter of your CD-ROM drive).
3. When you see the *Welcome* screen, click **Set up Computer** to continue.

If you have not set up the PrintServer, click **Set up PrintServer**. Then proceed to "Chapter 4: Configuring the PrintServer Using the Setup Wizard".

To view the User Guide, click **User Guide**. To end the installation, click **Exit**.

4. The *Welcome* screen of the Print Server Driver program will appear first. Click **Next** to continue with the driver installation, or click **Cancel** to quit the setup program and then close the open programs.



Figure 5-1: Welcome



Figure 5-2: Driver Setup Welcome

5. The *Choose Destination Location* screen will appear. Choose the location where the driver's folder will be installed. To install the driver in the default location, click **Next** to continue.

If you want the folder to be installed in a different location, click the **Browse** button and select the location. Then click **Next** to continue.

You can also click **Back** to return to the previous screen or click **Cancel** to end the driver installation.



Figure 5-3: Choose Destination Location

Wireless-G PrintServer

6. The *Select Program Folder* screen will appear. An icon will be added to the program folder listed. You may change the name for the program folder, if you wish. Click **Next**.

You can also click **Back** to return to the previous screen or click **Cancel** to end the driver installation.



Figure 5-4: Select Program Folder

7. When the driver is installed, the *Setup Complete* screen will appear. The Print Driver must still be configured, so make sure that **Configure Print Driver now** is selected. Click **Finish** to end the driver installation and begin the driver configuration.



Figure 5-5: Setup Complete

Configuration of the PrintServer Driver

- The *Wireless-G PrintServer Setup* screen will automatically appear. Select the appropriate printer, and then click **Next**.



NOTE: If the PrintServer is not listed, then click **Refresh**. If the PrintServer cannot be found, then select **Disable Firewall when Searching PrintServer** and click **Refresh** again.



Figure 5-6: Wireless-G PrintServer Setup

- The *Wireless-G PrintServer Diagnostic - Check Printer Driver Installation* screen will appear. Select the driver for your printer, and click **Next** to continue.

If you need to assign a driver, then click **Assign** and follow the on-screen instructions.

If the driver for your printer is not installed, you will see a new window pop up. The message will ask you to exit the Wizard and install the driver for your printer. Click **OK** and install the driver. After the driver has been installed, run the Setup Wizard and click **Driver Install** on the *Welcome* screen.



Figure 5-7: Wireless-G PrintServer Diagnostic - Check Printer Driver Installation

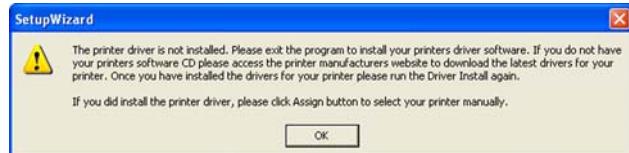


Figure 5-8: Printer Driver Not Installed

Wireless-G PrintServer

3. The *Wireless-G PrintServer Diagnostic - Check Network Status* screen will appear. Make sure the status says "Connected" and then click **Next**. If the status does not say "Connected," then double-check the cable connections and PrintServer settings.

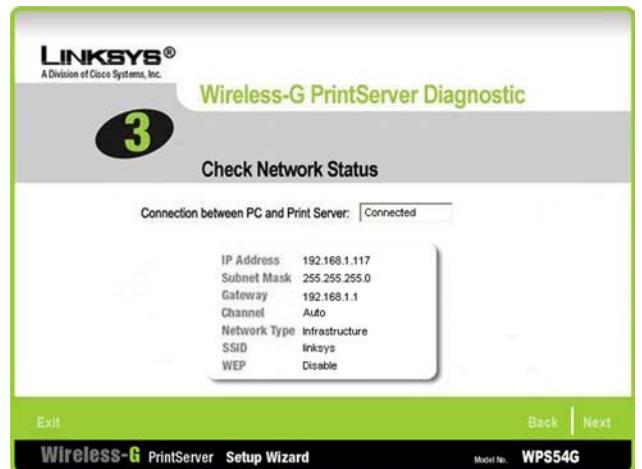


Figure 5-9: Wireless-G PrintServer Diagnostic - Check Network Status

4. The *Wireless-G PrintServer Diagnostic - Congratulations* screen will appear. If you want to print a test page, click **Test Print**. Then click **Finish**.



Figure 5-10: Wireless-G PrintServer Diagnostic - Congratulations

Wireless-G PrintServer

- The Print Server diagnostic icon will appear in the system tray of your desktop. When you double-click the icon, you will see the *PrintServer Info* screen.

If you want to run the wizard that configures the printer driver, click the **Diagnostics** button.

To close the *PrintServer Info* screen, click the **Close** button.

When you right-click the Print Server diagnostic icon, you will see a menu. To see the version number of the Print Server Utility, click **About**. To see the *PrintServer Info* screen, click **Info**. To close the Utility, click **Exit**.

The driver installation and configuration is complete. You can now use the PrintServer.

If you would like to change the PrintServer's settings, use the PrintServer's web-based utility. For more information, refer to "Chapter 6: Configuring the PrintServer Using the Web-based Utility."



Figure 5-11: PrintServer Diagnostic Icon

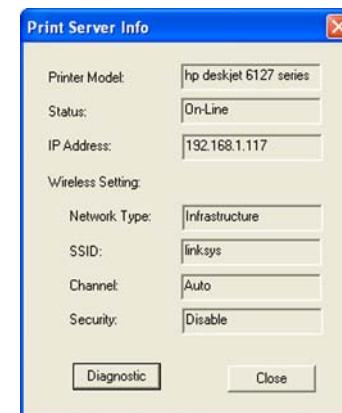


Figure 5-12: PrintServer Info



Figure 5-13: Right-click Icon

Chapter 6: Configuring the PrintServer Using the Web-based Utility

Overview

After setting up the PrintServer with the Setup Wizard, the PrintServer will be ready for use. However, if you'd like to change its settings, use the PrintServer's web-based utility. This chapter will describe each web page of the utility and each page's key functions. The utility can be accessed via your web browser through the use of a networked computer.

There are six main tabs: Setup, Protocol, Wireless, Printer, Status, and Exit. Additional tabs will be available after you click one of the main tabs, except for the Setup tab.

To access the web-based utility, launch Internet Explorer or Netscape Navigator, and enter the PrintServer's IP address in the *Address* field. Then press **Enter**.



NOTE: Use the PrintServer's IP address that you noted when you ran the Setup Wizard. Otherwise, insert the Setup CD-ROM, and when the *Welcome* screen appears, click **Setup Wizard**. Follow the instructions until you reach the *Wireless-G PrintServer Setup* screen. Note the IP address, and then click **Back** until you reach the *Welcome* screen. Click **Exit**.

The Setup Tab

The first screen that appears is the Setup tab and allows you to change the PrintServer's general settings.

WPS54G Device Name

Enter the PrintServer's name in the field provided. The name is located on a sticker on the bottom of the PrintServer.

Password

Current Password. To change the PrintServer's password, enter the current password in the *Current Password* field.

New Password and Verify Password. Enter the new password in the *New Password* field, and then enter the new password again in the *Verify Password* field.

Protocols

The TCP/IP protocol is enabled by default.

Enable: Apple Talk or NetBEUI. Check the box(es) for AppleTalk or NetBEUI, if they are used by your network.

Click the **Save** button to apply your changes, or click **Cancel** to cancel your changes.



Figure 6-1: Setup Tab

The Protocol Tab - TCP/IP

Click the TCP/IP tab to view or change the TCP/IP values of the PrintServer.

IP Address

Obtain an IP Address Automatically. If your network router is using DHCP to assign IP addresses, select **Obtain an IP Address Automatically**. By default, **Obtain an IP Address Automatically** is enabled.

Use the Following IP Address. If you need to assign the PrintServer a fixed IP address (also known as static IP address), select **Use the Following IP Address**, and enter the appropriate values under IP Address, Subnet Mask, and Gateway. Make sure the IP Address and Subnet Mask are appropriate for your network. If you change the PrintServer's IP address, make sure you that you reconnect to the PrintServer using that new IP address. Otherwise, you will not be communicating with the PrintServer. In most cases, the Gateway IP address is the IP address of your router, and you should complete the *Gateway* field if you will use the PrintServer for Internet printing. (To find out your router's IP address, consult your router's documentation.)

Connection

Delay before reconnection attempt. Set how long you want the PrintServer to wait between attempts.

Number of reconnection attempts. Specify the number of times that the PrintServer will attempt to connect to the network.

Click the **Save** button to apply your changes, or click **Cancel** to cancel your changes.



Figure 6-2: Protocol Tab - TCP/IP

The Protocol Tab - AppleTalk

AppleTalk is a network communications protocol that allows computers to talk to each other using Ethernet. Typically only Macintoshes use AppleTalk, although other platforms can use it if they have the necessary, third-party software.

Communication

Printer Object Type. The Printer Object Type can be obtained from the manufacturer of the printer. Enter the type of printer in the field provided. For each printer connected to the PrintServer, you will choose the Communications Protocol that allows the devices on the network to communicate.

Communication Protocol. Select the type of Communication Protocol you will use, **ASCII** or **Binary** for each printer, according to the recommendation of the printer's manufacturer. For more information, refer to the printer's documentation.

Click the **Save** button to apply your changes, or click **Cancel** to cancel your changes.



Figure 6-3: Protocol Tab - AppleTalk

The Protocol Tab - NetBEUI

NetBEUI connection settings of the PrintServer are available on this tab.

Domain Name

Enter the name of the domain that you want the PrintServer associated with in the *Domain Name* field.

If you are unsure of the Domain Name, you can find it out by looking on any computer already on the network. In Windows 98, right-click **Network Neighborhood** and select **Properties**. Under the Identification tab, there will be listed that computer's name, and the Domain to which it is connected. For Windows Me, 2000, or XP, right-click **My Network Places**. In Windows Me, choose **Properties** from the menu that appears. In Windows 2000 or XP, choose **Properties** from the menu that appears. Then, right-click **Local Area Connection** and choose **Properties**. The Domain name will appear. If you want the PrintServer to be connected to that same Domain, enter that Domain name here. If no Domain name exists there, you will use the Workgroup name from that window.

Options

Response Time. You can specify the Response Time that you prefer for the PrintServer. This is the amount of time (measured in seconds) that the PrintServer will wait for a response from the network before "timing out."

Abort Print Job if Error. You also have the option to use this feature, Abort Print Job if Error. Selecting Yes here will terminate the printing if there is an error of any kind. If you select No, print jobs that have errors will be sent to the printer, but might not print properly.

Click the **Save** button to apply your changes, or click **Cancel** to cancel your changes.



Figure 6-4: Protocol Tab - NetBEUI

The Protocol Tab - SNMP

Use this screen to view or change the PrintServer's SNMP (Simple Network Management Protocol) settings.

The PrintServer supports SNMP, which allows network administrators to monitor and control the PrintServer through the use of network management platforms, such as HP OpenView.

The appropriate MIB file must be imported into your SNMP management program using the Import-Compile command. Check your program's documentation for details on this procedure. The MIB file is named Mib2p.mib and is provided in the MiB folder on the Setup CD-ROM.

General

SysContact. Enter the name of the contact person in the *SysContact* field.

SysLocation. Enter the location of the contact person in the *SysLocation* field.

Management Stations

Station No. Select the number of the management station from the *Station No.* drop-down menu (1-4). Click the **Get Data** button to display the information for the selected station.

IP Address. Enter the IP address of the management station running the SNMP program.

Community. Enter the name of the SNMP community, which is usually **public** or **private**.

Access. Select the level of access for this management station, **Not Accessible**, **Read-only**, or **Read/Write**.

Trap Receivers

Receiver No. Select the number of the trap receiver from the *Receiver No.* drop-down menu (1-4). Click the **Get Data** button to display the information for the selected trap receiver.

IP Address. Enter the IP address of the trap receiver that will be sent the trap messages or notifications.

Community. In the *Community* field, enter the name of the SNMP community, which is usually **public** or **private**.

Enable with Severity level. To designate a severity level, click the checkbox next to *Enable with Severity level*. From the following drop-down menu, select the desired level of severity, with 1 meaning least severe.

Click the **Save** button to apply your changes, or click **Cancel** to cancel your changes.



Figure 6-5: Protocol Tab - SNMP

The Wireless Tab - Basic

This screen allows you to change the PrintServer's basic wireless settings.

Configuration

Regulatory Domain and MAC Address. The PrintServer's Regulatory Domain and MAC Address are listed and cannot be changed.

SSID. In the *SSID* field, enter the name of your wireless network. This is the unique name shared by all devices in a wireless network. The SSID is case-sensitive and should have 32 characters or fewer.

Channel No. If your network is set to ad-hoc mode, select your network's channel setting from the *Channel No.* drop-down menu.

Network Type. The Network Type setting shows a choice of two wireless modes. Select **Infrastructure** if you want the PrintServer to communicate using an access point or wireless router. Select **Ad-Hoc** if you want the PrintServer to communicate without using an access point or wireless router.

Click the **Save** button to apply your changes, or click **Cancel** to cancel your changes.



Figure 6-6: Wireless Tab - Basic

The Wireless Tab - Security

Configure the security of your wireless network on this screen. Wi-Fi Protected Access (WPA) and two levels of Wired Equivalent Privacy (WEP) encryption are available. If you do not want to use wireless security, select **None** from the *Security Mode* drop-down menu.

Wireless Security

Security Mode. To use WPA, select **Pre-Shared Key**. To use WEP, select the level of WEP encryption you want to use, **64 Bit Keys (10 Hex chars)** or **128 Bit Keys (26 Hex chars)**. Then proceed to the instructions for your security method.

WEP

Default Transmit Key. Select the Default Transmit Key used by your wireless network. This indicates which WEP key your network uses for WEP encryption.

Passphrase. Enter a Passphrase and click the **Generate Keys** button to automatically generate WEP Keys 1-4. The Passphrase is case-sensitive and should have no more than 16 alphanumeric characters. It must match your wireless network's passphrase and is compatible with Linksys wireless products only. (Enter the WEP key(s) manually on any non-Linksys wireless products.)

Key 1 to Key 4. To enter the WEP keys manually, leave the *Passphrase* field blank and enter your WEP key(s). For 64-bit WEP encryption, each key must have 10 hexadecimal characters, while for 128-bit WEP encryption, the key must have 26 hexadecimal characters. Valid hexadecimal characters are "0"-“9” and “A”-“F”.

Authentication. Select your wireless network's authentication type. The default is **Open System**, for which the sender and the recipient do NOT use a WEP key for authentication. You can also choose **Shared Key**, for which the sender and recipient use a WEP key for authentication.

Click the **Save** button to apply your changes, or click **Cancel** to cancel your changes.

Pre-Shared Key (WPA)

WPA Algorithm. TKIP is the default algorithm.

WPA Shared Key. Enter your Pre-Shared Key, which must have 8-63 characters in length.

Click the **Save** button to apply your changes, or click **Cancel** to cancel your changes.

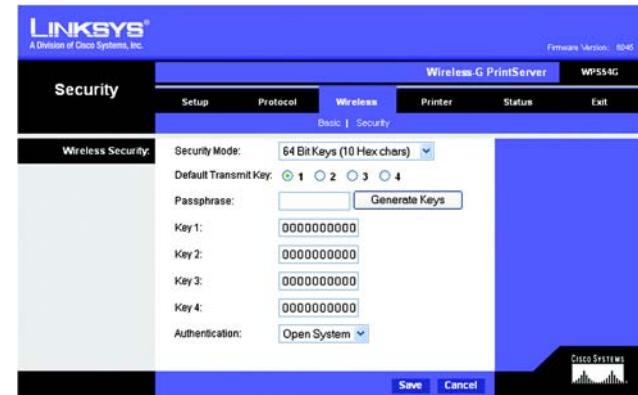


Figure 6-7: Wireless Tab - Security (WEP)



Figure 6-8: Wireless Tab - Security (WPA)

The Printer Tab - Internet Printing

Internet Printing allows you to automatically print any e-mails that are sent to a specific e-mail account on your network. This is especially useful for printing information when you are not connected to the network. You can print from any location where you can access e-mail.

Mail Server

Mail Server IP Address. Enter the address of your mail server. (This value must be a fixed IP address.)

Account Name and Password. Enter the Account Name and Account Password.

Verify Password. Enter the password again in the *Verify Password* field.

Check Mail every. Specify how often you want the PrintServer to check for e-mail to be printed.

Redirect unprintable Mail to. Specify an e-mail address to which e-mails that cannot be printed are routed; this is useful for both graphic-intensive e-mails and for troubleshooting purposes.

Printer

Printer Model. Enter the Printer Model in the field provided. You can find this in the Device Manager.

Printer Port. Choose the appropriate Printer Port from the drop-down menu: USB, the PrintServer's USB port, or **Logical Printer 1-3**. The PrintServer has three logical or virtual printer ports. For example, you can have three different configurations for your USB printer: Logical Printer 1 for landscape orientation, Logical Printer 2 for double-sided copies, and Logical Printer 3 for manual feed. Then configure the Logical Printers on the Logical Port tab, so Logical Printers 1, 2, and 3 will be mapped to the physical printer on the PrintServer's USB port.

Options

Print every E-Mail. Click this checkbox if you want to print every e-mail message.

Print Banner Page. Enabled by default, this feature tells the PrintServer to print a banner page for every print job (the banner page describes the print job). Click the checkbox to remove the checkmark and disable this feature.

Mail response when printed. Click this checkbox if you want an e-mail sent when a print job is complete.

Click the **Save** button to apply your changes, or click **Cancel** to cancel your changes.

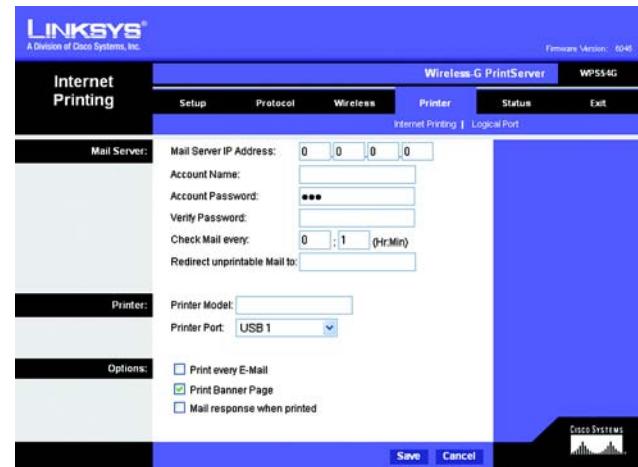


Figure 6-9: Printer - Internet Printing