



Configuring PMS or Print Billing

You must decide which billing option you want to use with BBSM—PMS or print billing, RADIUS, or credit cards—and configure the option in WEBconfig. This chapter describes PMS, including two-way PMS, and print billing (local non-PMS bill printing) and lists the PMS protocols that BBSM currently supports. Follow the procedures in this section to implement PMS or print billing for the site:

- [Overview, page 13-1](#)
- [Two-Way PMS Interface, page 13-2](#)
- [Supported PMS Protocols, page 13-2](#)
- [Configuring PMS or Print Billing, page 13-4](#)
- [Configuring PMS Call Types, page 13-6](#)
- [Mapping Rooms, page 13-9](#)

Overview

With PMS or print billing, the DailyHotel page set, which uses the Hotel accounting policy, sends the BBSM guest charges to the PMS or local printer. By default, charges are sent to the PMS or printer when the guest ends the session.



Caution

Verify that the physical connection to the PMS is working before continuing with this section. For details, refer to the [“Testing the PMS Interface \(WEB PMS Test\)”](#) section on page 7-3.

Refer also to the following:

- To clear any unwanted charges posted during the room mapping process, refer to the section on clearing charges in the *Cisco BBSM 5.3 Operations Guide*.
- To reconfigure page set parameters, such as when the guest charges are sent to the PMS or printer, refer to the [“Creating Custom Page Sets Manually”](#) section on page 18-12.
- To connect a BBSM server to a PMS, refer to [Chapter 7, “Connecting the PMS or Local Printer.”](#)

With PMS billing, the BBSM guest room is billed directly for the charges through the PMS. When charges are sent to the PMS, a one-letter call type is sent to the PMS as part of the billing record to classify the service that was used, such as Internet access charges or web printing. Although the PMS integrator determines the actual call types, you can modify the BBSM default call types and add, change, or delete custom call types.

With print billing, the BBSM charges are sent to a local printer. The printed bill consists of the date, time, room number, site number, port ID, and charge printed on a single line. The format and content of the print report cannot be changed.

Two-Way PMS Interface

With the two-way PMS feature, the PMS interface becomes bidirectional so you can pull data from the PMS for enhanced functionality. You can customize guest content and enable guests to view folios and check out from the room. BBSM provides a page set template that demonstrates how to use these features. The BiDirectional_DailyHotel page set template displays the following basic guest information: title, name, company, language, VIP status, arrival date, and departure date. You can customize the information with additional fields. For details, refer to the *Cisco BBSM 5.3 SDK Developer Guide*.

When the two-way PMS feature is enabled, BBSM monitors room status (checked-in/out). If no guest is checked into the room, BBSM prevents an unauthorized person from using the port. The PMS provides this room status during database swaps and through real-time check-in and check-out records. When a guest checks out of a room, port use is restricted until a new guest checks in. BBSM also restricts access if the checked-in guest is a cash-only guest and is not allowed to post charges to the room.

When multiple guests are registered to one hotel room, the two-way PMS interface behavior changes as described:

- Only basic Internet service is allowed, assuming that all guests in the room are allowed to post charges.
- The guest-based features—guest data, view folio, and remote checkout—are not available. BBSM cannot determine which guest is using the port in the hotel room, so guests receive basic Internet access, which is similar to using the DailyHotel page set.
- If at least one registered guest in the room is not allowed to post charges (cash only), then no Internet access is available.

The two-way PMS interface requires an active link to the PMS. However, BBSM maintains a local copy of guest information and enables a guest to connect to the Internet even if the PMS is unavailable. BBSM stores the incurred charges and sends them to the PMS when the link is re-established.

BBSM currently provides the two-way PMS interface only for the Micros-Fidelio protocol (both serial and TCP/IP connections). Using the BBSM SDK, you can extend any of the other existing protocols to take advantage of the bidirectional interface. You can also use the SDK to implement a new PMS protocol module that is not currently supported.

Supported PMS Protocols

BBSM provides interfaces for a number of standard PMS protocols. The currently supported PMS protocols include the following:

- Bell Hobic—Encore, GEAC/UX, GuestView, LanMark, LIBICA, Lodging Management System (LMS) from Inter-American Data (IAD), Logistics, Megasys Hospitality Systems, MSI, Promus 21, Protocol Technologies



Note The BBSM Bell Hobic PMS interface posts the room number as five characters, with padding of spaces added on the right if the room number contains less than 5 digits; for example, room number changes from 20 to 20xxx with *x* indicating a space.

- Xiox
- Micros-Fidelio—6.x and 7.x, Fidelio Express and Opera
- Hilton—Hilton H1, Hilton H2
- Hotel Information Systems (HIS)—CLS by Hotel Information Systems (Product Code: CLSS380IB; call and request BBSM interface)
- Maestro (Bell Hobic, XIOX, Hilton)

BBSM is also compatible with and has been deployed by billing through the FCS call accounting package that is widely used in China and the Asia Pacific.

BBSM now supports IP connections and bidirectional links to PMS systems. Currently, BBSM supports only the Micros-Fidelio IP-based PMS protocol and the Micros-Fidelio bidirectional PMS interface. If you want to interface to another IP-based PMS protocol or want a bidirectional link to another PMS system, you need to create a custom PMS module using the BBSM SDK.



Note

For additional information on the bidirectional PMS interface, refer to the [“Two-Way PMS Interface” section on page 13-2](#).

Configuring PMS or Print Billing

As of BBSM 5.3, PMS or print billing is configured for each server, not each site. Follow the steps below to configure PMS billing or print billing.



Note

When using a TCP/IP connection to a PMS system from the BBSM **internal** network, the PMS IP address must be in the Management range on BBSM.

- Step 1** From the Dashboard, click **WEBconfig**. The BBSM Server Settings web page appears.
- Step 2** In the NavBar, navigate to the Settings web page by choosing **Billing > PMS or Printer > Settings**. The Settings web page appears. (See [Figure 13-1](#).)

Figure 13-1 PMS or Printer Settings Web Page

The screenshot shows the 'Building Broadband Service Manager WEBconfig' interface. The breadcrumb trail is 'Billing - PMS/Print - Settings'. The main content area is divided into two sections: 'Property Management System' and 'Print'.

Property Management System:

- Enable PMS Billing:
- PMS IP Address:
- Enable Two-Way PMS:
- PMS Protocol:
- PMS TCP/IP Port:
- Database Resync Time: : each day

Print:

- Print Billing Locally:
- Local Billing Printer:

A yellow callout box on the right contains the following text: "To print bills locally, check the **Print Billing Locally** box instead of the **Enable PMS Billing** check box. If **Print Billing Locally** is checked and the printer is not connected directly to the BBSM server, enter the exact name of the default network printer, as defined in the Printers folder, in the **Local Billing Printer** field."

At the bottom of the form are 'Requery' and 'Save' buttons.

Configure the PMS billing or print billing options based on the information in [Table 13-1](#) and click **Save**.

Table 13-1 PMS or Printer Settings Web Page Options

Field	Description
Property Management System	
Enable PMS Billing	Check if you are using PMS billing to send room charges to the hotel PMS.
PMS Protocol	From the drop-down menu, choose a PMS protocol: <ul style="list-style-type: none"> • MicrosFidelio TCP/IP • Bell Hobic • Hilton • MicrosFidelio Serial • Xiox
PMS IP Address	Note This field supports the IP-based PMS interface. You must choose the MicrosFidelio TCP/IP protocol. For an IP-based PMS, enter the IP address for the PMS.
PMS TCP/IP Port	Enter the port to be used for the interface to the PMS. (You must choose the MicrosFidelio TCP/IP protocol.)
Enable Two-Way PMS	Check if you are using two-way communication between BBSM and the PMS. (For two-way PMS to work, you must choose one of the MicrosFidelio PMS protocols.)
Database Resync Time (per day)	Note This field is enabled only if you chose Enable Two-Way PMS. Enter the time of day—hour and minute—that you want for synchronizing the PMS database with the BBSM database. Because resyncing the database can take several minutes or several hours, depending on the number of guest rooms on the property, the default time is 4 a.m. Because guests may not be able to connect during the resync, Cisco recommends that you set a time at which guests do not usually activate sessions.
Print	
Print Billing Locally	Check if you will be printing bills to a local printer.
Local Billing Printer	Enter the name of the printer to be used for billing. This name must match <i>exactly</i> the default printer name as it is defined in the Printers folder for printing to work.
Buttons	
Requery	Refreshes the web page (click before saving changes).
Save	Saves the changes made to the web page.

Configuring PMS Call Types

If you are using PMS billing, you may want to add, change, or delete PMS call types. Follow the steps below to configure the call type options.

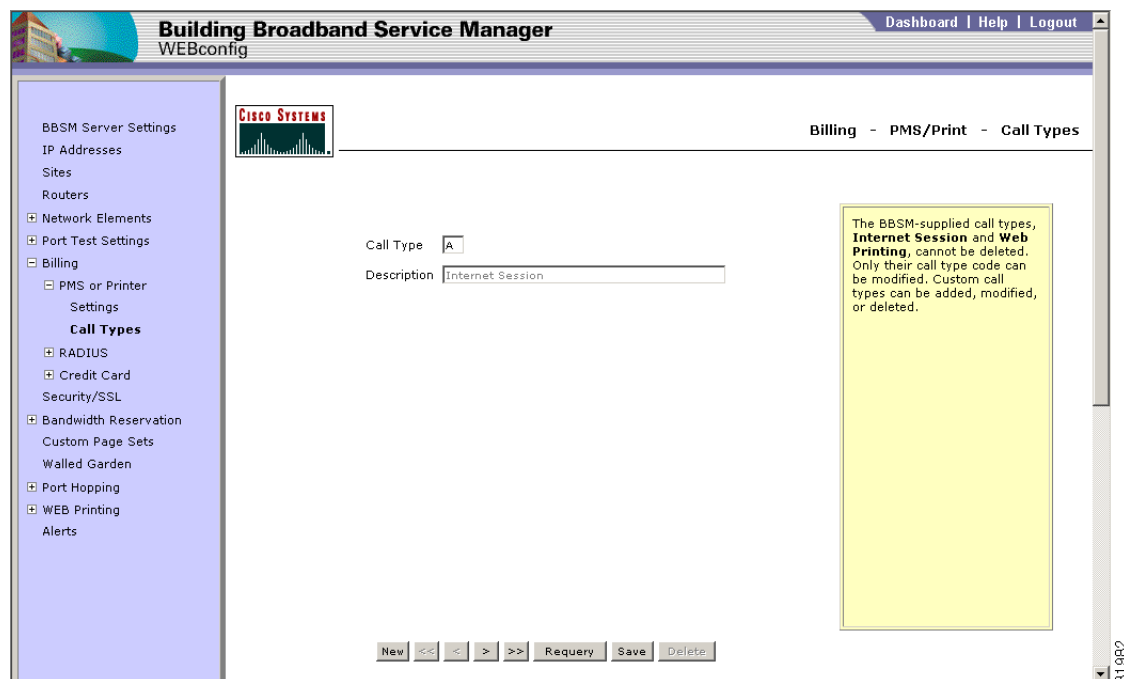


Note

The BBSM-supplied call types, **Internet Session** and **Web Printing**, cannot be deleted, and only the call type code can be modified. Custom call types, however, can be added, modified, or deleted.

- Step 1 Contact the hotel or the PMS integrator to find out what call types are defined for the PMS.
- Step 2 From the Dashboard, click **WEBconfig**. The BBSM Server Settings web page appears.
- Step 3 In the NavBar, navigate to the Call Types web page by choosing **Billing > PMS or Printer > Call Types**. The Call Types web page appears. (See [Figure 13-2](#).)

Figure 13-2 Call Types Web Page



- Step 4 Configure the call types based on the information shown in [Table 13-2](#) and click **Save**. The server can have multiple call types such as *A* for Internet charges and *W* for web printing.

Table 13-2 Call Types Web Page Options

Field	Description
Call Type	Specify the one-letter call type code: <ul style="list-style-type: none"> If you are not given another specific value to use with your hotel PMS, enter the letter "A," which is the default call type code. If the hotel PMS uses other codes, enter the one-letter values for them.
Description	For the existing call type codes, keep the default descriptions, which are Internet Session and WEB Printing. As mentioned above, these default call type records are automatically created, and their descriptions cannot be changed. You can create a new call type description with a new call type code (letter).
Buttons	
New	Enters a new call type. A new web page appears so the new call type description and code can be added.
Requery	Refreshes the web page (click before saving changes).
Save	Saves the changes made to the web page.
Delete	Deletes the specified custom call type.

Configuring a Laptop for Mapping Rooms

After running the Address Change and the Switch Discovery wizards and configuring DNS forwarding during the initial setup, you can map the rooms or locations.

You should map rooms if you plan to use location-based billing, such as in a hotel environment. If you are using RADIUS or credit card billing, you do not need to map rooms.

This section describes these procedures:

- [Configuring the Laptop, page 13-7](#)
- [Configuring the Browser, page 13-9](#)

Details of how to map the rooms are provided in the [“Mapping Rooms” section on page 13-9](#).

Configuring the Laptop

Verify that your laptop meets the following requirements, then configure it as described in the sections that follow.

To map rooms, you need a laptop that meets the following specifications:

- Windows 95, 98, ME, 2000 Professional, or XP Professional operating system.
- A NIC that is configured to use TCP/IP with DHCP enabled and DNS disabled. (For Windows 2000 Professional, set it to obtain a DNS server address automatically.)
- One of these web browser releases: Internet Explorer 5.0 or later, or Netscape 4.7x or later

Configuring Windows

Follow this procedure to configure a laptop that is operating on a Windows 95, 98, or ME operating system.

-
- Step 1 From your desktop, right-click **Network Neighborhood**.
 - Step 2 Click **Local Area Connection** and then click **Properties**.
 - Step 3 Select the **Configuration** tab.
 - Step 4 Choose the TCP/IP protocol for your network interface card (Windows 95, 98, or ME) and click **Properties**. The TCP/IP Properties dialog box appears.
 - Step 5 Select the **IP Address** tab.
 - Step 6 Click the **Obtain an IP address automatically** radio button.
 - Step 7 Select the **Gateway** tab and remove all gateway addresses.
 - Step 8 Select the **DNS Configuration** tab and click **Disable DNS**.
 - Step 9 Click **OK** in each window to close the TCP/IP Properties and Network or General windows. (If you receive a request to copy files from your Windows CD, follow the instructions.)
 - Step 10 If a dialog box appears, asking you if you want to restart, click **Yes**.
-

Follow this procedure for setting up a laptop that is operating on a Windows 2000 Professional or Windows XP Professional operating system.

-
- Step 1 Uncheck the Client for Microsoft Networks check box, as follows:
 - a. Choose **Start > Settings > Network and Dial-up Connections**. The Network and Dial-up Connections window appears.
 - b. Right-click **Local Area Connection**, and from the drop-down menu, choose **Properties**. The Local Area Connection Properties window appears.
 - c. Uncheck the **Client for Microsoft Networks** check box.



Note If you do not uncheck the Client for Microsoft Networks check box, the ASP files will load very slowly.

- Step 2 Choose **Internet Protocol (TCP/IP)** and click **Properties**. The Internet Properties (TCP/IP) Properties window appears.
- Step 3 Verify that **Obtain an IP address automatically** and **Obtain a DNS server automatically** are both selected and click **OK**.
- Step 4 Click **OK** three times to close all windows.



Note You do not have to reboot.

Configuring the Browser

Regardless of the type of browser that you are using, it must be set to connect directly to the Internet with all proxy server options turned off.

Follow this procedure to configure Internet Explorer 5.0 or later.

-
- Step 1** Open Internet Explorer.
 - Step 2** Choose **Tools > Internet Options**. The Internet Options window appears.
 - Step 3** Select the **Connections** tab and click **LAN Settings**. The Local Area Network (LAN) Settings window appears.
 - Step 4** Uncheck all check boxes and then click **OK**.
 - Step 5** Close Internet Explorer.
-

Follow this procedure to configure Netscape 4.7x or later.

-
- Step 1** Open Netscape.
 - Step 2** From the Edit menu, choose **Preferences**. The Preferences window appears.
 - Step 3** Double-click **Advanced** and choose **Proxies**. The Proxies Preferences window appears.
 - Step 4** Click the **Direct connection to the Internet** radio button and then click **OK**.
-

Mapping Rooms

When ports are configured initially, room or location designators are created automatically for each port. This section describes how to replace these designators with actual designators. This process is called *room mapping*. This procedure also describes how to test the port. Note the following about how ports are configured:

- During the initial configuration, ports can be configured as follows:
 - Switches and access points—Ports can be configured initially using the Switch Discovery Wizard or WEBconfig.
 - CMTSSs—Ports cannot be configured using the Switch Discovery Wizard. They can be configured using the Network Element Port Settings pop-up window in WEBconfig or mapped using the dynamic CMTS port-room configuration. For information on mapping ports and rooms dynamically for cable modems, refer to the [“Dynamic Port-Room Configuration for CMTSSs”](#) section on page 13-13.
- If switches, access points, and/or CMTSSs are being added after the initial configuration, they can all be configured using the Network Element Port Settings pop-up window in WEBconfig.

**Caution**

The only way to ensure that your port-room mapping is accurate is to use this Map Rooms option to map locations or rooms. If you enter port locations the first time using the Port Locations field in Port Control, there is no way to verify that ports have been mapped to the correct room numbers. After rooms have been mapped, you can update port locations using Port Control.

Basic Room Mapping

This section describes the basic procedure for mapping room and testing the network devices.

In addition, CMTS ports and rooms can be mapped dynamically. Refer to the [“Dynamic Port-Room Configuration for CMTSs” section on page 13-13](#).

Before you begin mapping rooms, you may want to modify the DailyHotel page set so that a new charge will be incurred for each room that is mapped. By default, the DailyHotelPackage.asp file sets the bWelcomeBackMAC parameter to *true*, which means that the laptop that is being used to map the rooms only incurs a charge the first time it connects. To change this, navigate to the `c:\atcom\ekgnkm\DailyHotelPackage.asp` file on the BBSM server, open the file with Microsoft Notepad, and look for bWelcomeBackMAC. Change the value of this parameter from *true* to *false*. Remember to change this setting back to *true* after you map your rooms if you prefer that setting.

Refer to these sections for additional information that may help you:

- For detailed instructions on changing page set parameters, refer to the [“Creating Custom Page Sets Manually” section on page 18-12](#).
- To clear any unwanted charges posted during the room mapping process, refer to the section on clearing pending hotel charges in the *Cisco BBSM 5.3 Operations Guide*.

Follow this procedure to map each room and test the port for switches, access points, and CTMSs.

Step 1 At the location or room, connect the laptop to a jack (BBSM port).

Step 2 Launch Internet Explorer. The BBSM Start page appears.



Note You must have an active BBSM session to map a room.

Step 3 Click **Connect**. You now have an active BBSM session.

Step 4 Enter the BBSM Dashboard’s URL: **http://<internal_IP_address>:9488/www**, where <internal_IP_address> is the internal IP address of the BBSM server you want to access; for example, type **http://10.10.2.1:9488/www**, and press **Enter**. The Enter Network Password dialog box appears.

Step 5 Enter your username and password. The username was defined when the site was created. Leave the domain name blank. (You must have administrator or operator privileges to map the rooms.) Click **OK**.



Note If you leave the browser open, the login identification information is cached, and you do not need to enter it again. If you close your browser between rooms, you will be prompted to re-enter the password.

Step 6 From the Dashboard, click **Map Rooms**. (For a BBSM server that has multiple sites, choose the appropriate site from the drop-down menu.) The Map Rooms web page appears. (See [Figure 13-3](#).)

Figure 13-3 Map Rooms Web Page

The screenshot shows a web browser window with the following elements:

- Header:** "Building Broadband Service Manager" and "Map Rooms". Navigation links: "Dashboard | Help | Logout".
- Logo:** Cisco Systems logo on the left.
- Page Title:** "Map Rooms" on the right.
- Main Content:**
 - Text: "Enter location identifier (room name or number) below:"
 - Text input field.
 - Checkbox: "Check here if this is a meeting room."
 - Buttons: "Submit" and "Reset".
- Footer:** A small vertical number "86228" on the right side of the browser window.

- Step 7** Enter the appropriate guest room or location number. If you need to correct the room number, click **Reset**.
- Step 8** If applicable, check the **Check here if this is a meeting room** check box. Checking this box sets the page set for that port to the MeetingRoom page set.
- Step 9** To map the room to the port, click **Submit**. A confirmation web page appears, indicating that the room is mapped correctly. At this point, the connection between the port and the room has not been tested:
- In the "Time of last port test" field, the word *never* appears.
 - In the Packet Loss field, the message *100% - (No packets transmitted)* appears.
- (Figure 13-4 shows the confirmation web page.)

**Note**

If the port to room mapping failed, the port number will show **ERROR** rather than a valid port number. If this message appears, the actual room has not been mapped.

Figure 13-4 Room-Mapped Confirmation Web Page

The screenshot shows the 'Building Broadband Service Manager' web interface. The page title is 'Map Rooms' and it includes navigation links for 'Dashboard', 'Help', and 'Logout'. A Cisco Systems logo is visible in the top left. The main content area displays the following information:

Room #

is mapped to site:port

as a guest room

[Disconnect](#)

Switch Mode

Time of last port test:	never
Packet Loss:	100% - (No Packets transmitted)

The page also features a 'Map Rooms Results - Map Rooms' link in the top right and a small '56970' indicator in the bottom right corner.

Step 10 To test the port connection, click **Port Test**. Wait several seconds for the test to complete. Again, the confirmation web page appears, this time showing the following:

- In the “Time of last port test” field, the time that the packet was transmitted appears.
- In the Packet Loss field, the message *0.00% - (Pass)* appears.

(Figure 13-5 shows the port test web page for basic room mapping.)

If the port test fails, repeat the test. If the test fails repeatedly, contact the Cisco TAC. Refer to the “[Obtaining Technical Assistance](#)” section in the preface to this user guide.

Figure 13-5 Port Configured for Room Confirmation Web Page

The screenshot shows the 'Building Broadband Service Manager' web interface. The page title is 'Map Rooms Results - Map Rooms'. The main content area displays the following information:

- Room #**: 6016
- is mapped to site:port**: 1:0001000100017
- as a guest room**
- [Disconnect](#) (blue link)
- Switch Mode**: 100Mbps
- Time of last port test**: 05/30/2002 5:02:29 AM
- Packet Loss**: 0.00% - (Pass) (highlighted in green)
- PortTest** (button)

- Step 11** When the port test is complete, enter this URL in the address line on the browser:
<http://<internal IP address>/disconnect.asp>
- Step 12** Disconnect from the room jack.

Dynamic Port-Room Configuration for CMTSs

In previous releases of BBSM, the CMTS ports had to be mapped to each cable modem before the rooms could be mapped. As of BBSM 5.2, the room mapping procedure has changed as follows:

- You do not need to generate a port map before mapping rooms for the cable modems.
- An active session is not required.
- BBSM assigns a default page set, DailyHotel, so you can map the rooms without having previously mapped the ports.



Note

If a port designator was already created automatically, the room is mapped just as it is described in the “Basic Room Mapping” section on page 13-10.

However, if you want to change the default page set, you must configure the CMTS port using the WEBconfig CMTS Network Element Port Settings pop-up window before performing the dynamic port-room configuration. Refer to the “Adding and Configuring CMTSs” section on page 12-7.

**Caution**

If you change network device port settings, including the page set, your existing port parameters will be reset.

Follow this procedure to map the cable modem ports and rooms in one step. This procedure assumes that the ports have not been mapped before this procedure.

- Step 1** Connect a laptop and launch Internet Explorer. The Enter Network Password dialog box appears.
- Step 2** Enter your username and password. The username was defined when the site was created. Leave the domain name blank. (You must have administrator or operator privileges to map rooms.) Click **OK**. The Map Rooms web page appears. (See [Figure 13-6](#).)

Figure 13-6 Map Rooms Web Page

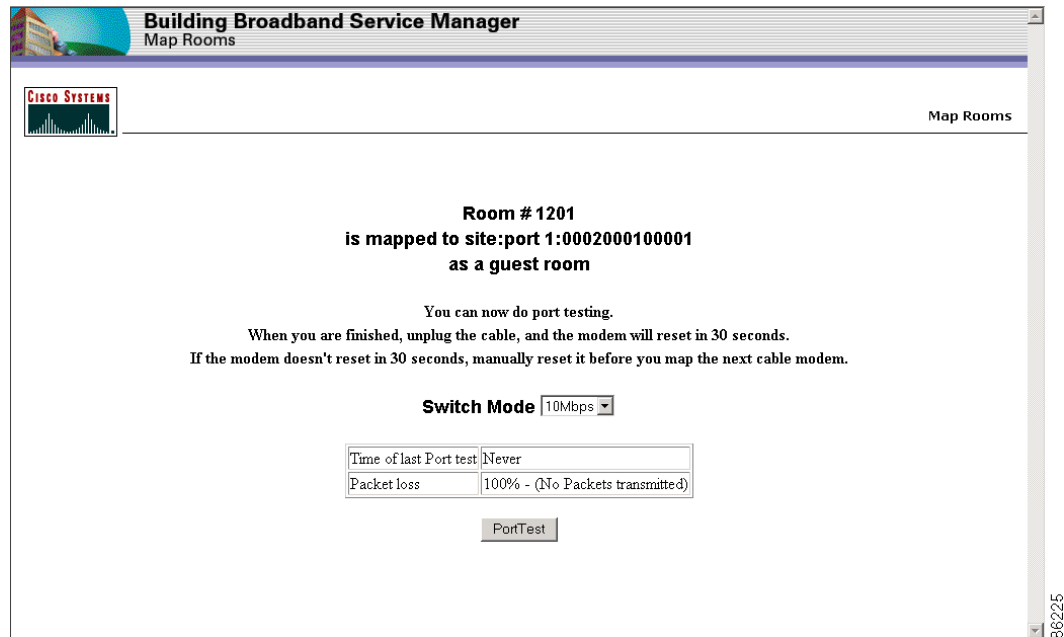
**Note**

If you leave the browser open, the login identification information is cached, and you do not need to enter it again. If you close your browser between rooms, you will be prompted to re-enter the password.

- Step 3** Enter the appropriate guest room or location number. If you need to need to correct the room number, click **Reset**.
- Step 4** If applicable, check the **Check here if this is a meeting room** check box. Checking this box sets the page set for that port to the MeetingRoom page set.
- Step 5** To map the room to the port, click **Submit**. A confirmation web page appears, indicating that the room is mapped correctly. At this point, the connection between the port and the room has not been tested:
- In the “Time of last port test” field, the word *Never* appears.
 - In the Packet Loss field, the message *100% - (No packets transmitted)* appears.

Figure 13-7 shows the confirmation web page.

Figure 13-7 Room-Mapped Confirmation Web Page

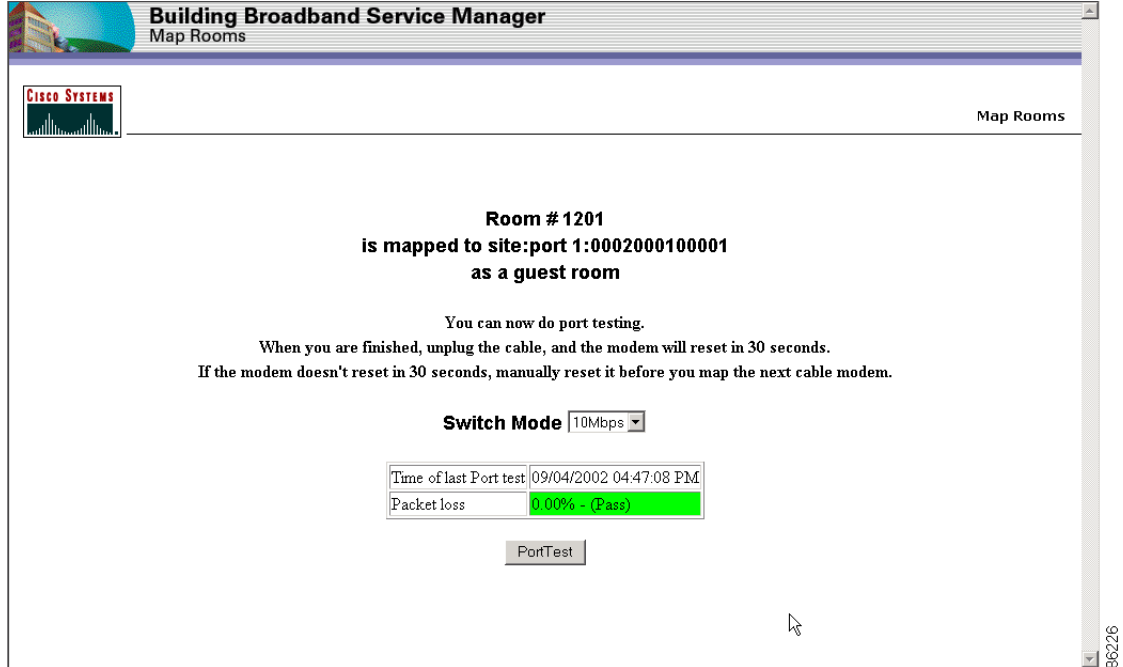


- Step 6** To perform the optional port test, click **Port Test**. Wait several seconds for the test to complete. Again, the confirmation web page appears, this time showing the following:
- In the “Time of last port test” field, the time that the packet was transmitted appears.
 - In the Packet Loss field, the message *0.00% - (Pass)* appears.

(Figure 13-8 shows the port test web page.)

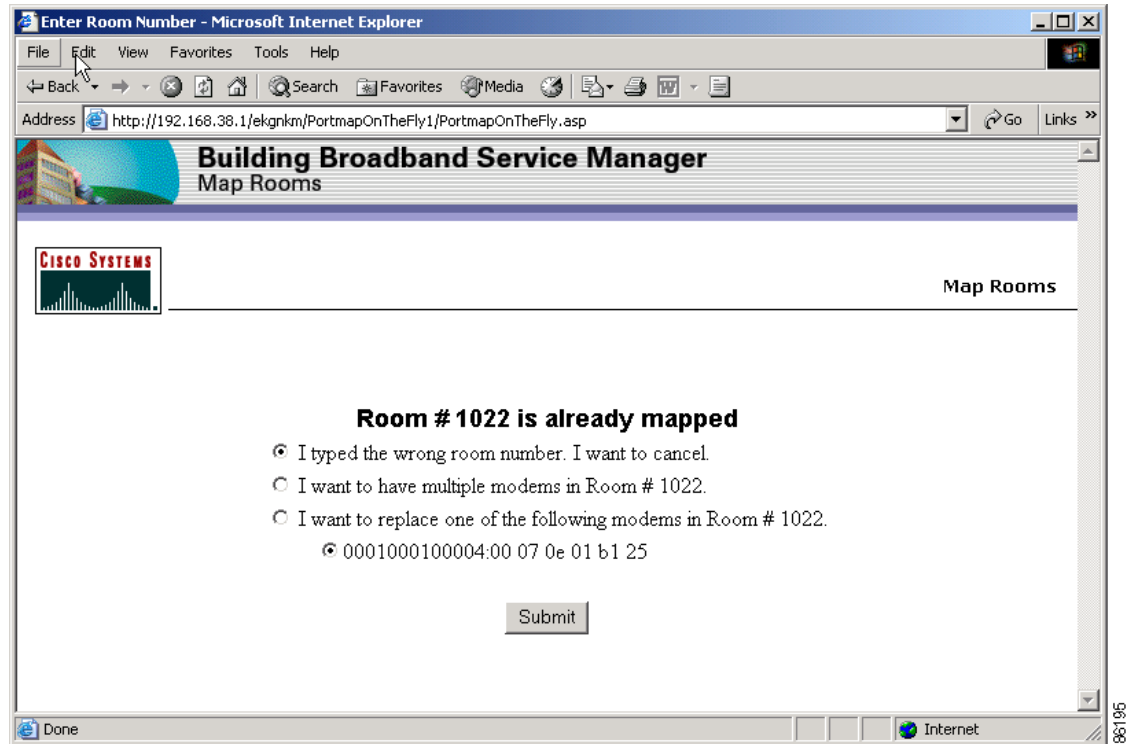
If the port test fails, repeat the test. If the test fails repeatedly, contact the Cisco TAC. Refer to the “[Obtaining Technical Assistance](#)” section in the preface to this user guide.

Figure 13-8 Port Configured for Room Confirmation Web Page



- Step 7** When the port test is complete, unplug the cable connected to the cable modem. The cable modem resets within 30 seconds. (If the cable modem does not reset, manually reset it.)
- Step 8** To map additional modems in the same room, follow the steps below:
- Repeat Steps 1 through 4. A web page appears, showing that you have already mapped this room. (See Figure 13-9.)
 - Click **I want to have multiple ports in Room x** and click **Submit**.
 - To perform the optional port test, repeat the test procedures previously described.

Figure 13-9 Room Already Mapped Web Page



- Step 9** When you are mapping the second or subsequent cable modem rooms, if you entered an incorrect room number and the *Room x is already mapped* web page appears (Figure 13-9), click **I typed the wrong room number. I want to cancel** and **Submit**. You are returned to the Map Rooms web page where you can enter the correct room number and continue with the procedure.
- Step 10** If you want to replace an existing cable modem with another one, click **I want to replace one of the following modems in Room # x** and then click the cable modem to be replaced. Click **Submit**.

