



## Advanced Configuration Options

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Cisco recommends that you use the Setup Wizard for the initial configuration before using the advanced options in this chapter. This chapter covers the tools that enable you to change option settings to better tailor your operation.

Again, by performing the procedures in [Chapter 2, “Setting Up BBSM Hotspot,”](#) you should be fully operational. This chapter is divided into the following sections:

- [Configuring Your Server \(Hotspot Configuration\), page 3-1](#)—How to configure your server using the Hotspot Configuration tool
- [Configuring Ports \(Port Configuration\), page 3-27](#)—How to configure ports using the Port Configuration tool
- [Using the Custom Web Page Wizard, page 3-32](#)—How to create custom web pages using the Custom Web Page Wizard

### Configuring Your Server (Hotspot Configuration)

After using the Setup Wizard, you can make server changes using the Hotspot Configuration tool. When you click on the Hotspot Configuration tool on the Dashboard, it displays the Server Settings web page and the navigation bar (NavBar) that is used for selecting all of the configuration web pages. To close the Hotspot Configuration tool and return to the Dashboard, click the Dashboard link in the upper right-hand corner of the web page.

In conjunction with the options available to you on the NavBar, the Hotspot Configuration tool and this section are divided into the following functionality:

- [Configuring Server Settings, page 3-2](#)
- [Configuring IP Addresses, page 3-3](#)
- [Configuring Routers, page 3-6](#)
- [Configuring Network Devices, page 3-10](#)
- [Configuring Billing Options, page 3-16](#)
- [Configuring Security/SSL, page 3-22](#)
- [Configuring Walled Gardens, page 3-25](#)

## Configuring Server Settings

To configure the basic network and bandwidth management settings, use the Server Settings web page. Use the following procedure to configure these settings.

- Step 1** From the Dashboard, click **Hotspot Configuration**. The Server Settings web page appears. (See [Figure 3-1](#).)

**Figure 3-1** Server Settings Web Page

**Server Settings**

IP Addresses  
Routers  
Network Devices  
Billing  
Security/SSL  
Custom Web Pages  
Walled Garden

**Software Information**  
Version "BBSM 1.0 Build 0.30"  
Updates "None"

**Location Information**  
Location Name: Pacific Plaza  
Location Description: San Diego

**Network Configuration**  
Maximum Active Sessions: 150  
E-Mail Relay Server: (IP Address or FQDN)  
Currency Type: USD  
Bandwidth Throttle:   
Port Hop Delay: 20 minutes

**Location:**  
For identity purposes, the Location Name and Location Description should be unique.

**E-mail Relay Server:**  
To properly relay e-mails, you must enter the IP address or fully qualified domain name of the SMTP server.

**Currency Type:**  
The designated currency type will be the type used for all functions on this server. The default is US dollars (USD).

**Bandwidth Throttle:**  
Check this box if you plan to offer the option to choose a bandwidth when connecting.

**Port Hop Delay:**  
Enter the time BBSM Hotspot will look for a disassociated user before terminating the session.

Defaults Requery Save

- Step 2** Configure the network configuration and bandwidth management options, based on the information shown in [Table 3-1](#).
- Step 3** To save the changes made on the web page, click **Save**.

**Table 3-1 Server Settings Web Page Options**

Field	Description
<b>Location Information</b>	
Location Name	Enter a specific property name. You can use up to 50 alphanumeric characters, such as “Joes Coffee Shop” or “2nd Level Conference Rooms.”
Location Description	Enter optional descriptive text for the location, such as the city or address. You can use any alphanumeric word or phrase up to a maximum of 100 characters, such as “San Diego, CA,” or “Guest cubicles in the northeast annex.” This field is optional.
<b>Network Configuration</b>	
Maximum Active Sessions	Displays the maximum number of allowable active sessions, which is the maximum number of simultaneous users. BBSM Hotspot supports up to 150 simultaneous users.
E-Mail Relay Server	Enter the IP address or fully qualified domain name (FQDN) for the e-mail relay server that is used by your ISP to forward non-web based e-mail, such as Microsoft Outlook or Eudora e-mail programs, from public locations. An example FQDN is www.ispemail.com. The FQDN can contain a maximum of 100 characters.  This field is optional. Use it only if you want to provide your end users with e-mail support.
Currency Type	From the drop-down menu, select the local currency type for BBSM Hotspot transactions. Note that this currency type will be the designated currency type for the entire BBSM Hotspot server. The default type is USD (for U.S. dollars).
Bandwidth Throttle	Check this box if you plan to offer end users the option to choose a particular bandwidth when they connect. Bandwidth throttling allows the administrator to control the maximum bandwidth allocated to end users per port.
Port Hop Delay	Enter the number of minutes between 1 and 60 that BBSM Hotspot will search for the end user after disassociating from the original port. If the end user is not found within this time frame, the BBSM Hotspot session is terminated. The default number of minutes is 20.  <b>Note</b> Port hopping is configured for each port. For an overview of the port hopping feature, refer to the <a href="#">“Port Hopping” section on page 2-38</a> .
<b>Buttons</b>	
Defaults	Displays the default parameter settings.
Requery	Before you have saved any changes, click to return the web page to the previously saved settings.
Save	Saves the changes made to the web page.

## Configuring IP Addresses

You must configure the following IP address ranges that BBSM Hotspot uses. This configuration applies to the entire BBSM Hotspot server.

- Network device IP address range
- End-user client IP address ranges (DHCP and Static)

During the initial configuration, you use the Setup Wizard or the Address Change Wizard to configure these fields. You can also use this Hotspot Configuration tool to configure or change these IP addresses. If you are using a multinet, you must also configure the Temp DHCP Client address range.

Refer to the following sections for additional information:

- For additional information about public and private IP addresses, refer to [Private and Public IP Addresses \(Multinet\)](#), page 2-40.

- For the step-by-step instructions on running the Setup Wizard, refer to [Running the Setup Wizard, page 2-2](#).
- For the step-by-step instructions on running the Address Change Wizard, refer to [Running the Address Change Wizard, page A-1](#).

Use the following procedure to add, change, or delete IP addresses using the Hotspot Configuration tool.

- Step 1** From the Dashboard, click **Hotspot Configuration**. The Server Settings web page appears.
- Step 2** In the NavBar, click **IP Addresses**. The IP Addresses web page appears. Note that the Multinet 2 and Temp DHCP Lease Duration fields only apply to a server configured for multinet. (Figures 3-2 and 3-3 show the web pages for singlenet and multinet.)

**Figure 3-2 IP Addresses Web Page for a Singlenet**

The screenshot shows the Cisco BBSM Hotspot configuration interface. The page title is "IP Addresses" and it includes a navigation menu on the left with options like "Server Settings", "IP Addresses", "Routers", "Network Devices", "Billing", "Security/SSL", "Custom Web Pages", and "Walled Garden". The main content area is divided into two sections: "Internal Network Address Ranges" and "TCP/IP Properties".

Internal Network Address Ranges	
Network Device Address Start	10.10.2.2
Network Device Address End	10.10.2.49
DHCP Client Address Start	10.10.2.50
DHCP Client Address End	10.10.2.170
Static Client Address Start	10.10.2.171
Static Client Address End	10.10.2.254

TCP/IP Properties	
Internal NIC IP	10.10.2.1
Internal NIC Subnet Mask	255.255.255.0
External NIC IP	10.10.1.2
External NIC Subnet Mask	255.255.255.0
Default Gateway	10.10.1.1

At the bottom of the form are "Requery" and "Save" buttons. A yellow caution box on the right contains the following text:

The TCP/IP Properties cannot be changed or updated on this page. Use the Setup Wizard or the Address Change Wizard to make any changes.

**CAUTION:**  
Do NOT use Window's Networking and Dial-up Connections feature to change the external IP addresses.

Figure 3-3 IP Addresses Web Page for Multinets

Hotspot Configuration

Server Settings  
**IP Addresses**  
 Routers  
 Network Devices  
 Billing  
 Security/SSL  
 Custom Web Pages  
 Walled Garden

**Internal Network Address Ranges**

	Multinet 1	Multinet 2
Network Device Address Start	192.10.2.2	192.25.25.100
Network Device Address End	192.10.2.50	192.25.25.150
DHCP Client Address Start	192.10.2.51	192.25.25.2
DHCP Client Address End	192.10.2.171	192.25.25.50
Static Client Address Start	192.10.2.172	
Static Client Address End	192.10.2.254	
Temp DHCP Client Address Start	192.25.25.51	
Temp DHCP Client Address End	192.25.25.99	

**TCP/IP Properties**

Internal NIC IP	192.10.2.1	192.25.25.1
Internal NIC Subnet Mask	255.255.255.0	255.255.255.0
External NIC IP	10.10.1.2	
External NIC Subnet Mask	255.255.255.0	
Default Gateway	10.10.1.1	

**DHCP Properties**

Temp DHCP Lease Duration: 60 seconds

Requery Save

**CAUTION:**  
 Do NOT use Window's Networking and Dial-up Connections feature to change the external IP addresses.

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**Step 3** Enter the IP configuration data, based on the information shown in Tables 3-2 and 3-3.

Table 3-2 IP Addresses Configuration

Parameter	Network Type		
	Single	Multinet	
		1	2
DHCP client IP address ranges	X	X	X
Static client IP address ranges	X	X	—
Temp DHCP IP address ranges	—	Multinet 1 or 2, whichever address range is higher	

**Step 4** Verify that the TCP/IP IP properties are correct, which is necessary for BBSM Hotspot to function properly. If they are incorrect, refer to the “[Running the Address Change Wizard](#)” section on page A-1 to change them.

**Step 5** To save the changes, click **Save**.

Table 3-3 IP Addresses Web Page Options

Field	Description
<b>BBSM Hotspot Internal Network Address Ranges</b>	
Network Device Address Start Network Device Address End	Enter the starting and ending IP addresses to be assigned to switches and access points. To access equipment remotely over the Internet, put network equipment in this range.
DHCP Client Address Start DHCP Client Address End	Enter the starting and ending IP addresses to be assigned to end-user clients configured as DHCP clients. This address range must be on the same subnet as your internal network interface card (NIC).
Static Client Address Start Static Client Address End	Enter the starting and ending IP addresses for end-user clients that are configured with static IP addresses. This address range enables BBSM Hotspot to perform adaptive network address translation (NAT) for statically configured clients in a bridged environment.  <b>Note</b> All other NAT and PAT functionality is handled by the external router.
Temp DHCP Client Address Start Temp DHCP Client Address End ( <i>multinets only</i> )	Enter the starting and ending IP addresses for the DHCP leases received by clients when they initially connect to the network in a multinet environment. This address range can be on either Multinet 1 or Multinet 2.
<b>BBSM Hotspot TCP/IP Properties</b> ( <i>These fields are read only.</i> )	
Internal NIC IP Internal NIC Subnet Mask	The IP address and subnet mask of the internal NIC that connects to the base switch.
External NIC IP External NIC Subnet Mask	The IP address and subnet mask of the external NIC that connects to the external router.
Default Gateway	The default gateway to the Internet.
<b>BBSM Hotspot DHCP Properties</b>	
Temp DHCP Lease Duration (in seconds) ( <i>multinets only</i> )	Enter the lease time for the temporary DHCP leases received by clients when they initially connect to the network. This time should be set low so that when the client chooses their IP preference, they will receive their final IP address in a short amount of time. The longer it takes for the client to receive their final IP address, the more likely it is that the Temp DHCP range will fill up, thereby preventing additional clients from connecting. The default is 60 seconds.
<b>Buttons</b>	
Requery	Before you have saved any changes, click to return the web page to the previously saved settings.
Save	Saves the changes made to the web page.

## Configuring Routers

In BBSM Hotspot, all network devices are associated with a router. This association tells BBSM Hotspot how to build routes to the networks internal to itself. When you add routers, make sure you physically install them before attempting to configure them. (Refer to your network configuration information to configure the router fields.)



### Note

In a bridged BBSM Hotspot internal network, all network devices are associated with router 0, the BBSM Hotspot server. If your internal network is bridged, you do not need to configure a router on BBSM Hotspot.

Use the following procedure to configure a router on the BBSM Hotspot internal network.

- Step 1** From the Dashboard, click **Hotspot Configuration**. The Server Settings web page appears.
- Step 2** In the NavBar, click **Routers**. The Routers web page appears. (Figures 3-4 and 3-5 show the Routers web page for a singlenet and a multinet.)

**Figure 3-4 Routers Web Page for a Singlenet**

The screenshot shows the Cisco BBSM Hotspot configuration interface. The top navigation bar includes "Dashboard | Help | Logout". The left sidebar contains a menu with "Server Settings", "IP Addresses", "Routers" (highlighted), "Network Devices", "Billing", "Security/SSL", "Custom Web Pages", and "Walled Garden". The main content area features the Cisco Systems logo and the title "Routers". The configuration form includes the following fields and controls:

- Router Number: 0
- Gateway to Router:
- Router IP Address:
- Client Start:
- Client End:
- Client Subnet Mask:
- Router Supports SNMP:
- SNMP Password:
- Create DHCP Scope:

At the bottom of the form are buttons for "New", navigation arrows, "Requery", "Save", and "Delete". A yellow callout box on the right contains the following text:

**Gateway to Router:**  
Enter the IP address of the first router on the internal internal network.

**Create DHCP Scope:**  
Check this box if BBSM Hotspot is your DHCP server.

**Multinet:**  
If you are using a multinet configuration, refer to the online documentation for special instructions.

The page number "86721" is visible in the bottom right corner.

Figure 3-5 Routers Web Page for a Multinet

The screenshot shows the Cisco BBSM Hotspot configuration interface. The main content area is titled "Routers" and displays configuration options for two multinets. The configuration is as follows:

	Multinet 1	Multinet 2
Router Number	1	
Gateway to Router	192.10.2.5	
Router IP Address	192.16.26.1	192.16.25.1
Client Start	192.16.26.2	192.16.25.2
Client End	192.16.26.150	192.16.25.254
Client Subnet Mask	255.255.255.0	255.255.255.0
Temp DHCP Start	192.16.26.151	
Temp DHCP End	192.16.26.254	
Router Supports SNMP	<input checked="" type="checkbox"/>	
SNMP Password	atcoms	
Create DHCP Scope	<input checked="" type="checkbox"/>	

At the bottom of the configuration area are buttons for "New", navigation arrows, "Requery", "Save", and "Delete".

**Gateway to Router:**  
Enter the IP address of the first router on the internal internal network.


**Create DHCP Scope:**  
Check this box if BBSM Hotspot is your DHCP server.

**Multinet:**  
If you are using a multinet configuration, refer to the online documentation for special instructions.

**Step 3** Enter the router data, based on the information shown in Table 3-4. Note that for router number 0, which is the BBSM Hotspot server, all fields except Router Number and SNMP Password are disabled. These fields are only enabled if the router number is greater than 0.

**Step 4** To save the changes, click **Save**.

Table 3-4 Routers Web Page Options

Field	Description
Router Number	Displays the router number of the router being configured. BBSM Hotspot autogenerated this number.
Gateway to Router	Enter the IP address of the first hop from the BBSM Hotspot server to the router. This address should be on the BBSM Hotspot server's internal network and is the router's external address if the router is connected directly to the BBSM Hotspot server's network.
Router IP Address	Displays the client-side IP address of the router. On clients, this IP address is the default gateway. In the case of clients connected to the BBSM Hotspot server internal network, the gateway is the BBSM Hotspot server's internal NIC address. The default is 127.0.0.1. (This loopback IP address refers to the BBSM Hotspot server and cannot be changed for router 0.)
Client Start Client End Client Subnet Mask	Enter the starting and ending DHCP IP addresses and the subnet mask for the clients connecting to this router.
Router Supports SNMP	<p>If you are using a router that supports SNMP, check the check box:</p> <ul style="list-style-type: none"> <li>For router 0 (the BBSM Hotspot server), the check box is checked and read only. The SNMP password field is enabled.</li> <li>For routers other than router 0, the field is enabled. If the administrator checks the check box, the SNMP password field is enabled. Otherwise, the SNMP password is disabled.</li> </ul> <p> <b>Caution</b> Note the following restrictions to disabling Router Supports SNMP. Because BBSM Hotspot will not know the client's MAC address, BBSM Hotspot will not be able to use any network device to determine if the session is still active (the administrator must configure the null switch), which affects many BBSM Hotspot operations, including reporting, the Daily access policy Welcome Back feature, and any per-port policy.</p>
SNMP Password	Enter the SNMP password (community string) that is used when communicating with the router. The default is "atcoms."
Create DHCP Scope	<p>Check this check box if BBSM Hotspot is your DHCP server. A DHCP scope is created on the BBSM Hotspot server for the router subnet, as determined by the IP addresses in the Client Start and End fields.</p> <p>Leave the check box unchecked if you are using a DHCP server other than BBSM Hotspot.</p>
<b>Buttons</b>	
New	Adds a new router web page with a router number. (When you add routers, make sure that you physically install them before attempting to configure them.)
Requery	Before you have saved any changes, click to return the web page to the previously saved settings.
Save	Saves the changes made to the web page.
Delete	Deletes the router from the site.

## Configuring Network Devices

BBSM Hotspot supports the use of access points and switches for network devices. This section describes how to configure or change them.



### Caution

The SNMP password located in Hotspot Configuration under Network Devices must match the SNMP Read/Write Community String password that is configured in the network device software. If the BBSM Hotspot password does not match the SNMP password (community string), BBSM Hotspot cannot communicate with or locate end users connected to the network device. To change the network device password, follow the manufacturer's instructions. To change the BBSM Hotspot SNMP password, refer to the following access point or switch configuration subsection.

## Configuring Access Points

Use the following procedure to configure an access point.

- Step 1** From the Dashboard, click **Hotspot Configuration**. The Server Settings web page appears.
- Step 2** In the NavBar, navigate to the Access Points web page by choosing **Network Devices > Access Points**. The Access Points web page appears. (See [Figure 3-6](#).)

**Figure 3-6** Access Points Web Page

- Step 3** Configure the access points, based on the information shown in [Table 3-5](#), and then click **Save**. The Network Devices - Port Settings window appears. ([Figure 3-7](#) shows the window for a multinet configuration.)

**Note**

If port configuration records already exist, the Network Devices - Port Settings window does not pop up automatically. Click **Port Settings**.

- Step 4** Enter the applicable information, based on the information in [Table 3-6](#).
- Step 5** To save the data, click **Submit**. You are returned to the Access Points web page.

**Table 3-5 Access Points Web Page Options**


Field	Description
Cluster Number	Displays the cluster number associated with the access point to be configured.
Access Point IP Address	Enter a unique IP address from the network device IP address range.
Router	From the drop-down menu, select the IP address of the router that this access point is connected to.
Cisco Access Point Type	From the drop-down menu, select the type of Cisco access point.
Disable AP	<p>Check this check box if you do not want BBSM Hotspot to look for clients on the ports for the access point. Use this feature when troubleshooting or when the access point is not yet installed on the network.</p> <p><b>Note</b> If you disable an access point, its IP address remains reserved. If you need to reuse the IP address for a different network device, change the IP address of the disabled access point.</p>
SNMP Password	<p>Enter the SNMP community string (password) that is used when communicating with the access point. The default is “private.”</p> <p> <b>Caution</b> We recommend that you change the default password on the access points and on BBSM Hotspot, because the default password is well known and could compromise network security.</p>
<b>Buttons</b>	
Port Settings	Click to configure the access point ports. The Network Devices - Port Settings window appears. Enter the correct information, as described in <a href="#">Table 3-6</a> , and then click <b>Submit</b> .
New	Click to add a new access point. The web page changes to reflect this new access point.
Defaults	Displays the default parameter settings.
Requery	Before you have saved any changes, click to return the web page to the previously saved settings.
Save	Saves the changes made to the web page.
Delete	Deletes the access point.

Figure 3-7 Network Devices - Port Settings Window (Multinet Example)

Network Device Port Settings - Hotspot Configuration - Microsoft Internet Explorer

**CISCO SYSTEMS** Network Devices - Port Settings

Type Cisco 2950-24 (12.0)  
 Number of Client Ports 23

Location Prefix   
 Web Page   
 Start Page   
 Bandwidth Per User  Only for RADIUS and free access methods.  
 Enable Port Hopping   
 Client IP Address Range (DHCP)  Multinet 1  Multinet 2

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**Table 3-6 Network Devices - Port Settings Window Options**

Field	Description
Type	Displays the type of configured access point or switch.
No. of Client Ports (switches only)	<i>This field only appears when you are using a switch.</i> Displays the number of client ports on the switch. The default number varies, depending on the selected switch.
Location Prefix	If desired, enter a location prefix. The prefix can contain a maximum of 40 characters. (This field is optional.)
Web Page	From the drop-down menu, choose the desired web page set. For descriptions of the default web pages that ship with BBSM Hotspot, refer to <a href="#">Table 2-10 on page 2-34</a> .  <b>Note</b> If you will be using SSL and have not yet installed your SSL certificate, select the “Clear” version of the web page until you install the certificate and then change your web page to the SSL web page. For example, select RADIUSClear until the certificate is installed, then after installing the certificate, change the web page to RADIUS. If you select an SSL web page before installing the certificate, the end user will not be able to connect.
Start Page	BBSM Hotspot automatically enters the Start page for the network device, based on the web page set. If you want to change the Start page, enter the complete URL for your web page.
Bandwidth Per User (RADIUS or free access web pages only)	<i>This field is enabled only when RADIUS or free access web pages are being used.</i> From the drop-down menu, choose the desired bandwidth throttling value, in kbps, for clients connected to this network device. The bandwidth is effective only if bandwidth throttling is turned on. (Refer to the “ <a href="#">Configuring Server Settings</a> ” section on page 3-2.) If you select a web page that gives the end user a bandwidth choice, that selection overrides this setting. The default is “Full-Speed.”  <b>Note</b> If you are using a web page that supports several access types, such as Hotspot, HotspotClear, or a custom web page, the Bandwidth Per User field is enabled only to support end users that connect using RADIUS. End users that connect using credit cards will still be choosing their own bandwidth when they connect. In addition, if the RADIUS server is configured to send back a particular bandwidth when the user connects, that bandwidth overrides any bandwidth chosen by using the Port Settings window.
Enable Port Hopping	Check this check box to enable port hopping.
Client IP Address Range (DHCP) (multinets only)	<i>This field only appears when you are using multinets.</i> If you are using multiple networks, click the default multinet number for clients connected to this network device: Multinet 1 or Multinet 2.  <b>Note</b> If you select a web page set that gives the end user the choice of a public or private IP address, that selection overrides this setting.
<b>Buttons</b>	
Submit	Enters the changes you have made.
Reset	Before you have submitted the changes, resets the data to the stored information.
Cancel	Cancels any changes.

## Configuring Switches

Use the following procedure to configure each switch. Most installations have two types of switches: base switches and client switches:

- A base switch, also known as an aggregation switch, provides connections to client switches.
- Client switches provide connections to clients, such as laptops.

Unused ports on the base switch can be used as client ports if the base switch is added to the Switches web page and if a sufficient number of switch ports are available. When the base switch is also being used as a client switch, the ports connected to client switches must be marked as uplink.

You can also refer to the following sections:

- For instructions on how to mark a port for uplink, refer to [Configuring Ports \(Port Configuration\)](#), page 3-27.
- For additional information about switch clustering, refer to [Cisco Switch Clustering](#), page 2-40.

- Step 1** From the Dashboard, click **Hotspot Configuration**. The Server Settings web page appears.
- Step 2** In the NavBar, navigate to the Switches web page by choosing **Network Devices > Switches**. The Switches web page appears. (See [Figure 3-8](#).)

**Figure 3-8** Switches Web Page

The screenshot shows the Cisco BBSM Hotspot configuration interface. The top navigation bar includes 'Dashboard | Help | Logout'. The left sidebar lists various configuration categories, with 'Switches' selected. The main configuration area is titled 'Network Devices - Switches' and contains the following fields and controls:

- Cluster Number: 2
- Cluster Member No.: 1
- No. of Client Ports: 23
- Cluster/Switch IP Address: [Empty text box]
- Router: 127.0.0.1
- Cisco Switch Type: Cisco 3550Packet-24 (12.1.11)
- Disable Switch: [Unchecked checkbox]
- SNMP Password: private
- Aging Period: 300 seconds
- Packet Inactivity Period: 300 seconds

Below the configuration fields are buttons for 'Port Settings', 'New Cluster/Switch', and 'New Cluster Member'. At the bottom of the page are navigation buttons: '<<', '<', '>', '>>', 'Defaults', 'Requery', 'Save', and 'Delete'. A yellow callout box on the right side of the page provides detailed instructions for several fields:

- No. of Client Ports:** Enter the number of ports on the switch that can be used as clients.
- Cluster/Switch IP Addr:** Enter the unique IP address from the network device address range assigned to this switch.
- Aging Period:** Enter the number of seconds the switch waits before inactive clients.
- Packet Inactivity Period:** Used only for Catalyst 2924 and 2912 LRE switches.
- Port Settings:** Use this button to configure all ports on the selected switch.
- Note:** For details about switch clusters, refer to the online documentation.

- Step 3** Configure the switches, based on the information shown in [Table 3-7](#), and then click **Save**. The Network Devices - Port Settings window appears. (See [Figure 3-7 on page 3-12](#).) (If port configuration records already exist, the Network Devices - Port Settings window does not pop up automatically. Click **Port Settings**.)
- Step 4** Enter the applicable information, based on the information in [Table 3-6 on page 3-13](#).
- Step 5** To save the data, click **Submit**. You are returned to the Switches web page.

Table 3-7 Switches Web Page Options

Field	Description
Cluster Number Cluster Member No.	Displays the cluster and member number associated with the switch to be configured.
No. of Client Ports	Enter the number of ports that can be used as clients on switch 1 of the cluster or a single switch. The default is 24.
Cluster/Switch IP Address	Enter a unique IP address in the network device IP address range assigned to the cluster. Check with the person installing your clusters and switches if you are unsure of this IP address. <b>Note</b> If you are not using clustering, just enter the IP address of your switch.
Router	From the drop-down menu, choose the IP address of the router that this site and cluster are connected to. If the site and cluster are directly connected to the BBSM Hotspot server, use the default IP address for the BBSM Hotspot server, which is "127.0.0.1."
Cisco Switch Type	From the drop-down menu, select the supported switch type, such as Cisco Catalyst 2950. For a list of supported switch types, refer to the following web site: <a href="http://www.cisco.com">http://www.cisco.com</a>
Disable Switch	Check this check box if you do not want BBSM Hotspot to look for clients on the cluster ports. Use this feature when troubleshooting or when the switch is not yet installed on the network. (If you disable a switch, its IP address remains reserved. If you need to reuse the IP address for a different switch, change the IP address of the disabled switch temporarily; otherwise, you will not be able to update Hotspot Configuration.)
SNMP Password	Enter the SNMP password (community string) that is used when communicating with switches. <b>Note</b> We recommend that the default password on the switches and on BBSM Hotspot be changed, because the default password is well known and could compromise network security.
Aging Period	Enter the number of seconds that the network device will wait before eliminating inactive clients from its internal tables, which causes BBSM Hotspot to automatically sign off the client. The default time period is 300 seconds (5 minutes).
Packet Inactivity Period	<i>This field is disabled for any switch type that does not support packet activity.</i> Enter the number of seconds that a user can be idle before being automatically signed off by BBSM Hotspot.
<b>Buttons</b>	
Port Settings	Click to configure the settings for all ports on this switch. The Network Devices - Port Settings window appears. Enter the correct information, as described in <a href="#">Table 3-6 on page 3-13</a> , and then click <b>Submit</b> .
New Cluster/Switch	Adds a new cluster to the site. A new web page appears with blank fields so the new cluster and the associated switches can be configured.
New Cluster Member	Adds a new network device to an existing cluster. A new web page appears with blank fields so the associated parameters can be configured. Note that if a switch is not cluster capable or not configured as a cluster switch, BBSM Hotspot considers the switch as a cluster of a single switch.
Defaults	Displays the default parameter settings.
Requery	Before you have saved any changes, click to return the web page to the previously saved settings.
Save	Saves the changes made to the web page.
Delete	Deletes the switch.

## Configuring Billing Options

If you want to bill end users for Internet access, instead of allowing free access, you must decide which billing options you want to use—RADIUS, credit cards, and/or access codes—and then configure BBSM Hotspot for the options. BBSM Hotspot supports any combination of these billing options.

Access codes do not require any special configuration. For information on access codes, refer to [Managing Access Codes, page 4-15](#).

The following sections describe how to configure these options.

### Configuring Credit Card Billing

If you are using credit card billing, you must configure a credit card authorization server. This section also describes how to configure and test the credit card interface.

#### Configuring the Credit Card Billing Options

Use the following procedure to configure the credit card billing options.

- Step 1** From the Dashboard, click **Hotspot Configuration**. The Server Settings web page appears.
- Step 2** In the NavBar, navigate to the Credit Card web page by choosing **Billing > Credit Card**. The Server web page appears. (See [Figure 3-9](#).)

**Figure 3-9** Credit Card Web Page

The screenshot shows the Cisco BBSM Hotspot configuration interface. The top navigation bar includes 'Dashboard | Help | Logout'. The left sidebar lists various configuration categories, with 'Billing' and 'Credit Card' highlighted. The main content area is titled 'Billing - Credit Card Servers' and contains the following configuration fields:

- Credit Card Server:** A text input field with the placeholder '(IP Address or FQDN)'.
- Connection Timeout:** A text input field containing '30' followed by the label 'seconds'.
- Merchant ID:** A text input field.

To the right of these fields is a yellow information box:

**Merchant ID:**  
This identifies you to the credit card billing service. In the case of CyberSource, the ID is alphanumeric and a maximum of 30 characters.

**Note:**  
If the ICS Credit Card policy is used, the Merchant ID has to match the key files that are generated under the c:\opt\ics\keys directory.

At the bottom of the configuration area are three buttons: 'Defaults', 'Requery', and 'Save'.

- Step 3** Configure the credit card options, as described in [Table 3-8](#).

**Step 4** To save the changes, click **Save**.

**Table 3-8 Credit Card Web Page Options**

Field	Description
Billing Server Address	Enter the IP address or FQDN for the credit card server. The FQDN is limited to 100 characters.
Connect Timeout	Enter the number of seconds during which BBSM Hotspot attempts to connect to the credit card server. The default is 30 seconds.
Merchant ID	Enter the merchant ID. This identifier specifies the merchant, such as the hotel or hotspot owner, that originates the charges being sent to the credit card billing service provider, such as CyberSource. If the credit card billing service provider is CyberSource, the merchant ID must be alphanumeric with a maximum of 30 characters. Other credit card billing service providers may have different rules for the format of the merchant ID.  <b>Note</b> For the ICS Credit Card accounting policy that ships with BBSM Hotspot, the merchant ID has to match the name of the key files generated under c:\opt\ics\keys directory.
<b>Buttons</b>	
Defaults	Displays the default parameter settings.
Requery	Before you have saved any changes, click to return the web page to the previously saved settings.
Save	Saves the changes made to the web page.

### Testing the Credit Card Interface

BBSM Hotspot performs credit card authentication and billing through the CyberSource ICS billing server. Before deploying BBSM Hotspot, the credit card interface needs to be tested to make sure that it functions properly.

Use the following procedure to test the interface.

- 
- Step 1** Set up an account for testing. At the CyberSource website, [www.cybersource.com/register](http://www.cybersource.com/register), fill out the form to obtain the free testing account.
- Step 2** Wait for a response email from CyberSource that contains the merchant ID.
- Step 3** Download the ecert program from CyberSource and use it to create the needed keys.
- a. From a DOS window, navigate to this directory:  
c:\opt\ics\keys
  - b. Enter this command: Ecert <merchant ID>.)

See the following example:

```
C:\opt\ics\keys>ecert test1
The application will now send the newly created key pair and
certificate request to the server.

Merchant id, test1
Server host name, setup.ic3.com
Server port number, 80

This process will add your new keys into the test environment.

Certificate generation completed successfully

Merchant password data written to, C:\opt\ics\keys\test1.pwd
Merchant certificate data written to, C:\opt\ics\keys\test1.crt
Merchant private key data written to, C:\opt\ics\keys\test1.pvt
Server certificate data written to, C:\opt\ics\keys\
CyberSource_SJC_US.crt

You are now ready to access the CyberSource test server. Upon request
CyberSource will activate your newly generated keys in the production
environment. At that time a CyberSource employee will verbally confirm your
password as given below, please make a note of it.

Certificate generation verification password, 9999-9999-9999-99999-99999

C:\opt\ics\keys>
```

**Step 4** On the Dashboard, click **Hotspot Configuration**. The BBSM Hotspot Server Settings web page appears.

**Step 5** Enter the billing server address and connect timeout:

- a. Navigate to the Credit Server web page by choosing **Billing > Credit Card**.
- b. In the Credit Card Server field, enter the IP address or FQDN of the signed credit card server; for example, MyCreditCardServer.com.
- c. In the Connect Timeout Seconds field, enter the number of seconds that BBSM Hotspot attempts to validate a credit card before rejecting the end user's input.
- d. In the Merchant ID field, enter the merchant ID.
- e. To save the changes, click **Save**.

**Step 6** Enter the currency type:

- a. In Hotspot Configuration, click **Server Settings**. The Server Settings web page appears.
- b. From the drop-down menu, enter the local currency type that the credit card server uses. Note that this currency type will be the currency type that the entire BBSM Hotspot server uses. The default is USD (U.S. dollars).
- c. To save the changes, click **Save**.

**Step 7** Select the appropriate web page, such as MinuteICS/MinuteICSClear, BlockICS/BlockICSClear or DailyICS/DailyICSClear:

- a. Navigate to the **Access Points** or **Switches** web page (depending on your usage) by choosing **Network Devices > Access Points (or Switches)**.
- b. To access the Network Devices - Port Settings pop-up window, click **Port Settings**.
- c. From the Page Set drop-down menu, select **MinuteICS** or **MinuteICSClear**:

- If you have SSL installed, select **MinuteICS**.
    - If you do not have SSL installed, select **MinuteICSClear**.
  - d. To save the changes, click **Save**.
- Step 8** From a laptop, verify that you can access the Internet through the selected web page:
- a. Connect a client to the BBSM Hotspot network and open the browser. The Start page appears.
  - b. Enter valid names and addresses.
  - c. Enter the credit card number and expiration dates provided by CyberSource:
    - For the credit card number, enter **4111111111111111** (the number 4 followed by 15 ones)
    - For the expiration date, from the drop-down menus, choose a month and year, such as **07(JUL) 2005**.
  - d. Click **Submit**. You will soon be connected to the Internet. Once connected, browse for at least 2 minutes before disconnecting.
- Step 9** Verify with CyberSource that the transactions were successful by logging onto the following website:
- ```
http://icstest.ic3.com/cs/search_request.pl
```
- a. To logon, use your Merchant ID as both the user name and password.
  - b. Do a search for ALL, Today's Requests.
  - c. Check under services that you get an Auth and a Bill.
- 

## Configuring RADIUS Billing

If you are using RADIUS for billing, you must configure BBSM Hotspot to operate as a RADIUS client. Configuring BBSM Hotspot for RADIUS billing allows BBSM Hotspot clients to be authenticated against a RADIUS server

BBSM Hotspot provides support for prepaid RADIUS accounts, which are configured on the RADIUS server. For prepaid RADIUS accounts, after the end user is authenticated, a web page appears that tells the user how many minutes are left on the account. Then the user clicks Continue and is taken to the configured web portal. The disconnect window shows the countdown of the minutes remaining until the session ends. At the end of the session, the window displays that the user is out of time, and the session terminates.

For additional information using RADIUS, see the [“Using RADIUS with BBSM Hotspot”](#) section on page 2-34.



### Note

You must install an SSL certificate to allow secure communication between the client and BBSM Hotspot. Refer to [Appendix B, “Installing an SSL Certificate.”](#)

---

Use the following procedure to configure the RADIUS server billing options.

This procedure assumes that you have already run the Setup Wizard to configure the ports to use either the RADIUS page set or a custom page set. (Refer to the [“Running the Setup Wizard”](#) section on page 2-2.)

---

- Step 1** From the Dashboard, click **Hotspot Configuration**. The Server Settings web page appears.

- Step 2** In the NavBar, navigate to the RADIUS web page by choosing **Billing > RADIUS**. The RADIUS web page appears. (See [Figure 3-10](#).)

**Figure 3-10 RADIUS Web Page**

**Cisco BBSM Hotspot**  
Hotspot Configuration

Dashboard | Help | Logout

**Billing - RADIUS Servers**

**CISCO SYSTEMS**

RADIUS Server:  (IP Address or FQDN)

RADIUS Shared Secret:  (Password)

Timeout:  seconds

Rank:

Enable Authentication:

Authentication Port:

Enable Accounting:

Accounting Port:

Allow Multiple Concurrent RADIUS Sessions:

NAT IP Address:

NAS Identifier:

RADIUS Accounting Interim Interval:

**Timeout:**  
BBSM Hotspot makes 3 tries to contact every RADIUS server. The default timeout of the Windows software is 90 seconds. If the Hotspot Timeout setting is too large and multiple servers are not responding, the user's browser may time out during the login process.

**Allow Multiple Concurrent RADIUS Sessions:**  
Leave unchecked to prevent multiple computers from using the same RADIUS account at the same time.

**Note:**  
Data in the NAT IP Address, NAS Identifier, and RADIUS Accounting Interim Interval fields can only be modified, not deleted.

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- Step 3** Configure the RADIUS server parameters, as described in [Table 3-9](#).

- Step 4** To save the changes, click **Save**.

Table 3-9 RADIUS Options

| Field                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RADIUS Server                      | Enter the IP address or FQDN of the RADIUS server. The DNS name can contain a maximum of 64 characters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| RADIUS Shared Secret               | Enter the RADIUS client password used to access the RADIUS server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Timeout                            | <p>Enter the number of seconds that the BBSM Hotspot server waits before attempting to access the RADIUS server a second or third time or before going to the next RADIUS server. Note that BBSM Hotspot will attempt to contact each RADIUS server three times before attempting to contact the next RADIUS server. The default for this setting is 5 seconds.</p> <p><b>Note</b> The IIS default ASP Script timeout period is 90 seconds. This timeout period is the number of seconds that the browser will attempt to access the Internet before timing out. This time period is important to note, because if you increase the RADIUS Servers Timeout period and more than one RADIUS server is unavailable, the total time period during which BBSM Hotspot attempts to contact the RADIUS servers may be greater than the timeout period for the browser itself. This will cause the end-user's browser to time out during authentication.</p> <p>For example, if the timeout period set is 20 seconds and two RADIUS servers are not responding, BBSM Hotspot attempts to contact the first RADIUS server three times within 60 seconds. If BBSM Hotspot cannot contact the first RADIUS server, it tries to contact the second server three times, again within 60 seconds. However, because the timeout period for IIS is 90 seconds, the browser will time out before BBSM Hotspot finishes searching for the second RADIUS server.</p> |
| Rank                               | Enter the order in which the BBSM Hotspot server attempts to contact RADIUS servers to authenticate a user. The BBSM Hotspot server contacts servers in ascending order of rank. The default is 30.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NAT IP Address                     | <p>If the BBSM Hotspot server is behind a NAT router, enter the public IP address that the router assigned to the BBSM Hotspot server. If the field is left blank, the RADIUS access policy uses the IP address of the external NIC. (Deleting the RADIUS server will not clear the data in this field. To clear this data, you must manually clear it and click Save.)</p> <p><b>Note</b> Changing this IP address for one RADIUS server changes it for all previously configured RADIUS servers.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NAS Identifier                     | <p>Enter a unique server identifier, such as "BBSM HotspotServer1." The RADIUS access policy uses this NAS identifier when sending authentication or accounting packets to the RADIUS server. If the field is left blank, the attribute is not sent. (Deleting the RADIUS server will not clear the data in this field. To clear this data, you must manually clear it and click Save.)</p> <p><b>Note</b> Changing the NAS identifier for one RADIUS server changes it for all previously configured RADIUS servers.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| RADIUS Accounting Interim Interval | <p>Enter the number of minutes between sending Interim-Update packets to a RADIUS Accounting server. If the value is 0, Interim-Update packets are not sent. The default is 0. (Deleting the RADIUS server will not clear the data in this field. To clear this data, you must manually clear it and click Save.)</p> <p><b>Note</b> Changing the RADIUS accounting interim interval for one RADIUS server changes it for all previously configured RADIUS servers.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Enable Authentication              | Check to enable BBSM Hotspot to verify the username and password with this RADIUS Authentication server (Authentication Access-Request message).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Authentication Port                | Enter the TCP port on the BBSM Hotspot server that the RADIUS server uses to communicate with the RADIUS authentication server. The default is 1645.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

Table 3-9 RADIUS Options (continued)

| Field                                     | Description                                                                                                                                                                                                                      |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enable Accounting                         | Check to enable BBSM Hotspot to contact this RADIUS Accounting server to log the Start, Interim-Update Accounting, and Stop accounting messages.                                                                                 |
| Accounting Port                           | Enter the TCP port on the BBSM Hotspot server that the RADIUS server uses to communicate with the RADIUS accounting server. The default is 1646.                                                                                 |
| Allow Multiple Concurrent RADIUS Sessions | Check this check box to enable a RADIUS user to have a BBSM Hotspot session active on more than one client at the same time. Leaving it unchecked prevents multiple clients from using the same RADIUS account at the same time. |
| <b>Buttons</b>                            |                                                                                                                                                                                                                                  |
| New                                       | Click to enter a new RADIUS server. A new RADIUS web page appears the parameters can be configured.                                                                                                                              |
| Requery                                   | Before you have saved any changes, click to return the web page to the previously saved settings.                                                                                                                                |
| Save                                      | Saves the changes made to the web page.                                                                                                                                                                                          |
| Delete                                    | Deletes the RADIUS server.                                                                                                                                                                                                       |

## Configuring Security/SSL

For securing client-BBSM Hotspot communication, you must enable the SSL protocol and specify the associated domain name. This section also describes how to change the MSDE 'sa' password.

Follow the steps below to configure SSL and change the MSDE password.

- 
- Step 1** From the Dashboard, click **Hotspot Configuration**. The BBSM Hotspot Server Settings web page appears.
  - Step 2** In the NavBar, click **Security/SSL**. The Security/SSL web page appears. (See [Figure 3-11](#).)

Figure 3-11 Security/SSL Web Page

**Step 3** Configure the security options, based on the information shown in [Table 3-10](#).

Table 3-10 Security/SSL Web Page Options

| Field                                | Description                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enable Domain Name for SSL Web Pages | Check this check box if you want to use SSL-enabled web page sets.<br><b>Note</b> You must purchase a fully qualified domain name for the BBSM Hotspot server to use SSL security. Refer to <a href="#">Appendix B, “Installing an SSL Certificate.”</a>                                                                                                                                                      |
| Full Domain Name                     | Enter the full domain name for the BBSM Hotspot server that web page sets will use to reach the BBSM Hotspot server. This domain name must match the name on the SSL certificate that is installed on BBSM Hotspot; for example, cisco.com. This is the name entered in <a href="#">Appendix B, “Installing an SSL Certificate.”</a> “Generating a Certificate Signing Request” section on page B-2, Step 13. |
| Change MSDE ‘sa’ Password            | Click <b>Change</b> to access the MSDE ‘sa’ Password Form, and change the password. (Refer to “ <a href="#">Changing the MSDE ‘sa’ Password</a> ” section on page 2-25.)                                                                                                                                                                                                                                      |
| <b>Buttons</b>                       |                                                                                                                                                                                                                                                                                                                                                                                                               |
| Requery                              | Before you have saved any changes, click to return the web page to the previously saved settings.                                                                                                                                                                                                                                                                                                             |
| Save                                 | Saves the changes made to the web page.                                                                                                                                                                                                                                                                                                                                                                       |

**Step 4** To save the changes, click **Save**.

## Adding Custom Web Pages to BBSM Hotspot

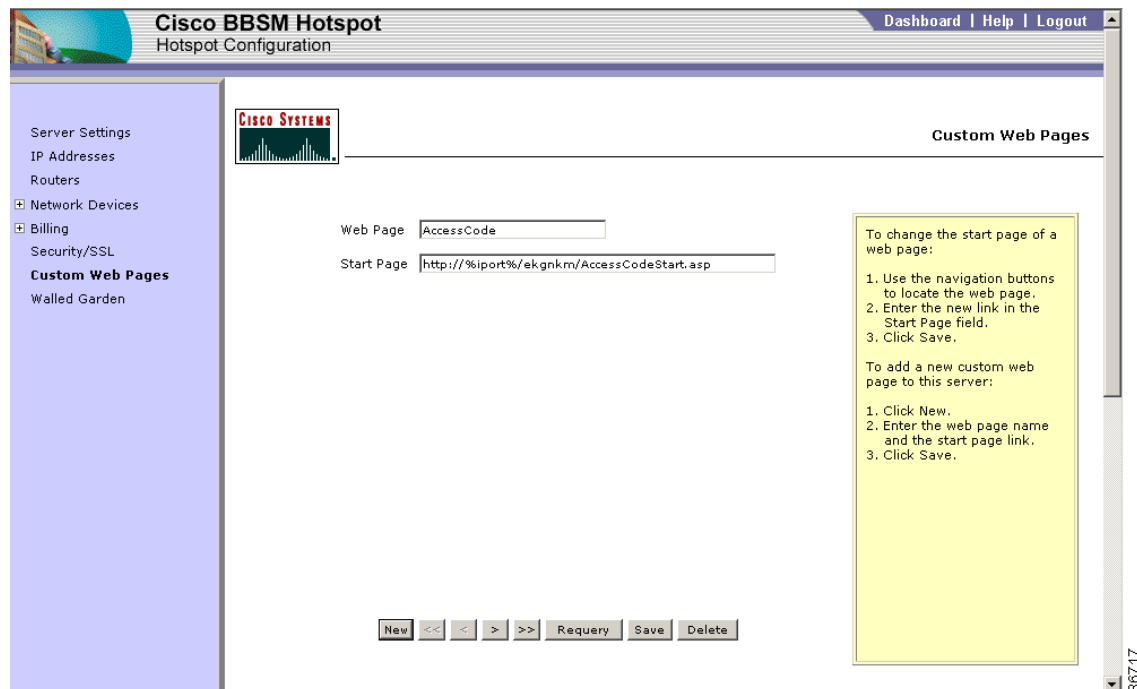
The web page set configured for a port controls the GUI displayed to the end users connecting on that port and how the users are authenticated for Internet access. You can use the BBSM Hotspot default web page sets or you, or your web developer, can create either completely new web pages or customize existing web pages by modifying the BBSM Hotspot default web pages. Refer to the following information about customizing web page sets:

- To create a custom web page set using the Custom Web Page Wizard, refer to the following section, [Using the Custom Web Page Wizard, page 3-32](#). The custom web page that you create is added automatically to BBSM Hotspot. You do not need to add the page manually.
- For information on manually creating a custom web page, refer to the *Cisco BBSM 5.2 SDK Developer Guide*. If necessary, contact the Cisco TAC to be sure that BBSM Hotspot can support the web page that you would like to create. Refer to the [Obtaining Technical Assistance](#) section in the Preface to this user guide.
- For an overview of web page sets and the BBSM Hotspot default web pages, refer to the “Using Web Pages” section on page 2-32.

After you manually create a custom web page set, you must add it to the list of available web pages in BBSM Hotspot. Use the following procedure to add the custom web page set.

- Step 1** From the Dashboard, click **Hotspot Configuration**. The Server Settings web page appears.
- Step 2** In the NavBar, click **Custom Web Pages**. The Custom Web Pages web page appears. (See [Figure 3-12](#).)

**Figure 3-12 Custom Web Pages Web Page**



- Step 3** Add the custom web page to BBSM Hotspot, based on the information shown in [Table 3-11](#).

**Step 4** To save the information, click **Save**.

**Table 3-11 Custom Web Pages Options**

| Field          | Description                                                                                                                                                                                                                                            |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Web Page       | Enter the name of the web page set.                                                                                                                                                                                                                    |
| Start Page     | Enter the complete URL of the Start page for your web page. The URL must be in the form “http://%iport%...,” because BBSM Hotspot translates %iport% to be either the BBSM Hotspot internal IP address or the BBSM Hotspot domain name, if applicable. |
| <b>Buttons</b> |                                                                                                                                                                                                                                                        |
| New            | Click to enter a new web page. A new blank web page appears so the web page and Start page can be added.                                                                                                                                               |
| Requery        | Before you have saved any changes, click to return the web page to the previously saved settings.                                                                                                                                                      |
| Save           | Saves the changes made to the web page.                                                                                                                                                                                                                |
| Delete         | Deletes this web page.                                                                                                                                                                                                                                 |

## Configuring Walled Gardens

BBSM Hotspot allows you to define free access to specific websites. This subset of the Internet that unauthenticated BBSM Hotspot end users can access is called a *walled garden*. These walled gardens offer you the opportunity to increase revenue by marketing various services to your guests, which in turn reduces your costs.

The following are typical walled garden links:

- Local weather and attractions
- Business traveller loyalty program portals
- Vendor services, such as car rental agencies

BBSM Hotspot defines each site in a walled garden by a full domain name, a network IP address, and a network subnet mask.

End users normally access walled garden sites through links on the Start page. If you want some ports to have access to walled garden sites, while other ports do not, create different Start pages for the applicable ports.

To add walled garden functionality to your web page sets, your web developer modifies the web pages with links to the walled garden sites.



### Caution

Configuring an excessive number of walled garden sites (100+) can impact BBSM Hotspot server performance.

Use the following procedure to establish each walled garden site.

**Step 1** From the Dashboard, click **Hotspot Configuration**. The Server Settings web page appears.

**Step 2** In the NavBar, select **Walled Garden**. The Walled Garden web page appears. (See [Figure 3-13](#).)

Figure 3-13 Walled Garden Web Page

The screenshot shows the Cisco BBSM Hotspot configuration interface. The page title is "Cisco BBSM Hotspot Hotspot Configuration". The left sidebar contains a menu with the following items: Server Settings, IP Addresses, Routers, Network Devices, Billing, Security/SSL, Custom Web Pages, and Walled Garden (which is highlighted). The main content area is titled "Walled Garden" and contains a "CISCO SYSTEMS" logo. Below the logo are three input fields: "Full Domain Name", "IP Address", and "Subnet Mask". To the right of these fields is a yellow help box with the following text:

**Full Domain Name:**  
Enter the domain name of the walled garden site, such as www.mysite.com.

**IP Address and Subnet Mask:**  
To gain access to walled gardens on this server, enter the IP address of the domain name given and the subnet mask 255.255.255.255.

To gain access to a walled garden network, enter the network address and its subnet mask, such as 255.255.255.0.

At the bottom of the page are buttons for "New", navigation arrows, "Requery", "Save", and "Delete".

- Step 3** Configure the Walled Garden options, based on the information shown in [Table 3-12](#).
- Step 4** To save the changes, click **Save**.
- Step 5** Use a client to open a browser and test access to your walled gardens. If the page looks incomplete, the walled garden website may be using several servers for page content. You must enter a domain name, IP address, and subnet mask for each of these servers.

**Table 3-12 Walled Garden Web Page Options**

| Field            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Full Domain Name | Enter the domain name of the walled garden website; for example, www.cisco.com.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| IP Address       | To gain access to walled gardens on a server, enter the domain name's IP address and the subnet mask of 255.255.255.255; for example,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Subnet Mask      | <p>where:</p> <p>www.cisco.com = 198.133.219.25:</p> <ul style="list-style-type: none"> <li>• IP address = 198.133.219.25</li> <li>• Subnet mask = 255.255.255.255</li> </ul> <p>To gain access to walled gardens on a network, enter the network address and the subnet mask; for example,</p> <p>where:</p> <p>www.cisco.com = 198.133.219.25<br/> business.cisco.com = 198.133.219.124<br/> newsroom.cisco.com = 198.133.219.119</p> <p>To add all three of these Cisco URLs to the walled garden list, you could enter them all individually, as in the first example, or because they are all on the same subnet (all start with 198.133.219.x), you can enter all of them with just one entry:</p> <ul style="list-style-type: none"> <li>• IP address = 192.133.219.0</li> <li>• Subnet mask = 255.255.255.0</li> </ul> <p>The x.x.x.0 tells BBSM Hotspot that the walled garden is a group of addresses, not just a single IP address. All IP addresses on the 198.133.219.x subnet are now part of the walled garden. This includes the range of addresses from 198.133.219.1 to 198.133.219.255. Different subnet masks will include different ranges of IP addresses.</p> |
| <b>Buttons</b>   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| New              | Click to enter a new walled garden site. Text fields on the page are cleared so that new data can be entered.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Requery          | Before you have saved any changes, click to return the web page to the previously saved settings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Save             | Saves the changes made to the web page.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Delete           | Deletes this website from BBSM Hotspot.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## Configuring Ports (Port Configuration)

This section describes how you can update network device port data by using the Port Configuration tool. This section is divided into two subsections:

- [Changing Port Settings for One Port, page 3-28](#)—How to change the port data for one port on a single switch or access point.
- [Changing Port Settings for More than one Port, page 3-31](#)—How to change the port data for more than one port on switches and access points.

## Changing Port Settings for One Port

Use the following procedure to change the port data for one port on a switch or access point.

- Step 1** From the Dashboard, click **Port Configuration**. The Port List web page appears. (See [Figure 3-14](#).)

**Figure 3-14** Port List Web Page

| Select                   | Port ID       | Uplink Port | Location | Port Hopping | Page Set   | Bandwidth  |
|--------------------------|---------------|-------------|----------|--------------|------------|------------|
| <input type="checkbox"/> | 0001000100001 | True        | 1-uplink | False        | FreeAccess | Full-Speed |
| <input type="checkbox"/> | 0001000100002 | False       | 2        | False        | FreeAccess | Full-Speed |
| <input type="checkbox"/> | 0001000100003 | False       | 3        | False        | FreeAccess | Full-Speed |

Buttons:

- Step 2** In the left-hand column, check the port that you want to update. (To return the web page to the previously saved settings, click **Requery**.)
- Step 3** Click **Port Settings**. The Port Configuration - Port Settings window for a single port change appears. (See [Figure 3-15](#).)



**Note** If the fields displayed in the Port Settings window do not match the port that was checked in the Port List, press **F5** to refresh the window.

Figure 3-15 Port Configuration - Port Settings Window for One Port (Singlenet Example)

Port Configuration - Microsoft Internet Explorer

CISCO SYSTEMS

Port Configuration - Port Settings

Port Settings

Port ID: 0001000100009

Port Location: 9

Start Authorized Period: Dec 27 2002 Time 04 : 14 PM

End Authorized Period: Dec 27 2002 Time 04 : 14 PM

Bandwidth Per User: Full-Speed Only for RADIUS and free access methods.

Web Page: FreeAccess

Start Page: http://%iport%/ekgnkm/FreeAccessStart.asp

Uplink Port:

Enable Port Hopping:

Comment:

Save Cancel

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- Step 4** Make the desired changes, based on the information in [Table 3-13](#).
- Step 5** To save the port changes that you made, click **Save**. A confirmation dialog box appears to indicate that the changes were successful.
- Step 6** To close the dialog box, click **OK**. You are returned to the Port List web page.

Table 3-13 Port Configuration - Port Settings Field Descriptions

| Field                                                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Port Settings</b>                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Port ID                                                          | Displays the unique number automatically assigned to each port during the Network Devices port configuration. This number cannot be changed. The port ID incorporates the cluster, switch, and port number on the switch. The format is xxxxyyyzzzzz, where xxxx is the cluster, yyyy is the switch, and zzzzz is the port.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Port Location                                                    | Enter the location associated with this port. This location can be a number or text.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Start Authorized Period<br>(not used)                            | <i>This field is not used.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| End Authorized Period<br>(not used)                              | <i>This field is not used.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Bandwidth Per User<br>(RADIUS and free access<br>web pages only) | <p><i>This field is enabled only when RADIUS or free access web pages are being used. From the drop-down menu, choose the desired bandwidth throttling value, in kbps, for clients connected to this network device. The bandwidth is effective only if bandwidth throttling is turned on. (Refer to the “Configuring Server Settings” section on page 3-2.) If you select a web page that gives the end user a bandwidth choice, that selection will override this default setting. The default is “Full-Speed.”</i></p> <p><b>Note</b> If you are using a web page that supports several access types, such as Hotspot, HotspotClear, or a custom web page, the Bandwidth Per User field is enabled only to support end users that connect using RADIUS. End users that connect using credit cards will still be choosing their own bandwidth when they connect. In addition, if the RADIUS server is configured to send back a particular bandwidth when the user connects, that bandwidth overrides any bandwidth chosen by using the Port Settings window.</p> |
| Web Page                                                         | <p>From the drop-down menu, choose the desired web page set. For descriptions of the default web pages that ship with BBSM Hotspot, refer to <a href="#">Table 2-10 on page 2-34</a>.</p> <p><b>Note</b> If you will be using SSL and have not yet installed your SSL certificate, select the “Clear” version of the web page until you install the certificate and then change your web page to the SSL web page. For example, select RADIUSClear until the certificate is installed, then after installing the certificate, change the web page to RADIUS. If you install the SSL web page before installing the certificate, the Start page will not display.</p>                                                                                                                                                                                                                                                                                                                                                                                                |
| Start Page                                                       | <i>This field is autogenerated based on the web page selected and is read only.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Uplink Port                                                      | Check this check box if the port is used as an uplink to another switch. For these uplink ports, BBSM Hotspot ignores MAC addresses so it does not report that clients are connected to the ports.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Enable Port Hopping                                              | Check this check box if you want to enable port hopping.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Client IP Address Range<br>(DHCP)<br>(multinets only)            | <b>Note</b> If you are using multiple networks, click the default multinet number for clients connected to this network device: Multinet 1 or Multinet 2. This setting determines the final multinet that the client will use after accepting the service. If you select a web page set that gives the end user the choice of a public or private IP address, that selection overrides this setting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Comment                                                          | Use this field to enter additional information about this port.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Buttons</b>                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Save                                                             | Saves the changes that were made.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Cancel                                                           | Cancel the changes and returns you to the Port Configuration web page.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## Changing Port Settings for More than one Port

Use the following procedure to change the port data for more than one port.

- Step 1** From the Dashboard, click **Port Configuration**. The Port Configuration web page appears. (See [Figure 3-14](#).)
- Step 2** In the left-hand column, check the ports that you want to update. If you want to select all of the ports, click **Select All**.
- Step 3** Click **Port Settings**. The Port Configuration - Multiple Port Settings window for multiple port changes appears. This example show a multinet configuration. (See [Figure 3-16](#).)



**Note** If the fields displayed in the Port Settings window do not match the ports that were checked in the Port List, press **F5** to refresh the window.

**Figure 3-16** Port Configuration - Multiple Port Settings Window (Multinet Example)

- Step 4** Make the desired changes, based on the field descriptions shown in [Table 3-13](#).



**Note** When multiple ports are selected, the options available from the Port Settings window are only those that apply to a group of ports.

- Step 5** Confirm the changes by checking the Port Configuration window.
- Step 6** To save the port changes that you made, click **Save**. A confirmation dialog box appears to show that the changes were successful, what fields were changed, and the changed values. (See [Figure 3-17](#).)

Figure 3-17 Confirmation Dialog Box



**Step 7** Click **OK** to close the dialog box. You are returned to the Port Configuration web page.

---

## Using the Custom Web Page Wizard

The Custom Web Page Wizard tool is located under Configuration on the Dashboard. This tool allows the administrator to easily create a basic custom web page. You can also use the Custom Web Page Wizard to modify or delete an existing custom web page that was created with the wizard.

The wizard allows you to add a photo and a logo to each new web page. These graphics must conform to maximum height and width requirements. The wizard automatically adds the new web page to the web page drop-down list of web pages in the Network Devices - Port Settings pop-up window.



### Caution

Be sure to close all active sessions before running any BBSM Hotspot wizard, including the Custom Web Page Wizard. Refer to the [“Deactivating Client Sessions”](#) section on page 4-21.

---



### Note

When running the wizard, you must use the web page navigation buttons, such as Back and Next. If you click the Internet Explorer browser’s **Back** button, your changes will be lost.

---

Use the following procedure to create a new custom web page:

---

**Step 1** From the Dashboard, click **Custom Web Page Wizard**. The Step 1 - Custom Web Page Name web page appears. (See [Figure 3-18](#).)

Figure 3-18 Step 1 - Custom Web Page Name Web Page

**Cisco BBSM Hotspot**  
Custom Web Page Wizard

Dashboard | Help | Logout

**Step 1 - Custom Web Page Name**

This wizard allows you to create or modify a custom web page. This is the web page that the end user sees while they connect to the internet.

Do one of the following:

- \* If you are creating a new custom web page, enter a name in the box on the left.
- \* If you are changing an existing custom web page, use the drop-down list to select it.
- \* Click the **Reset** button to clear any edits you have made.

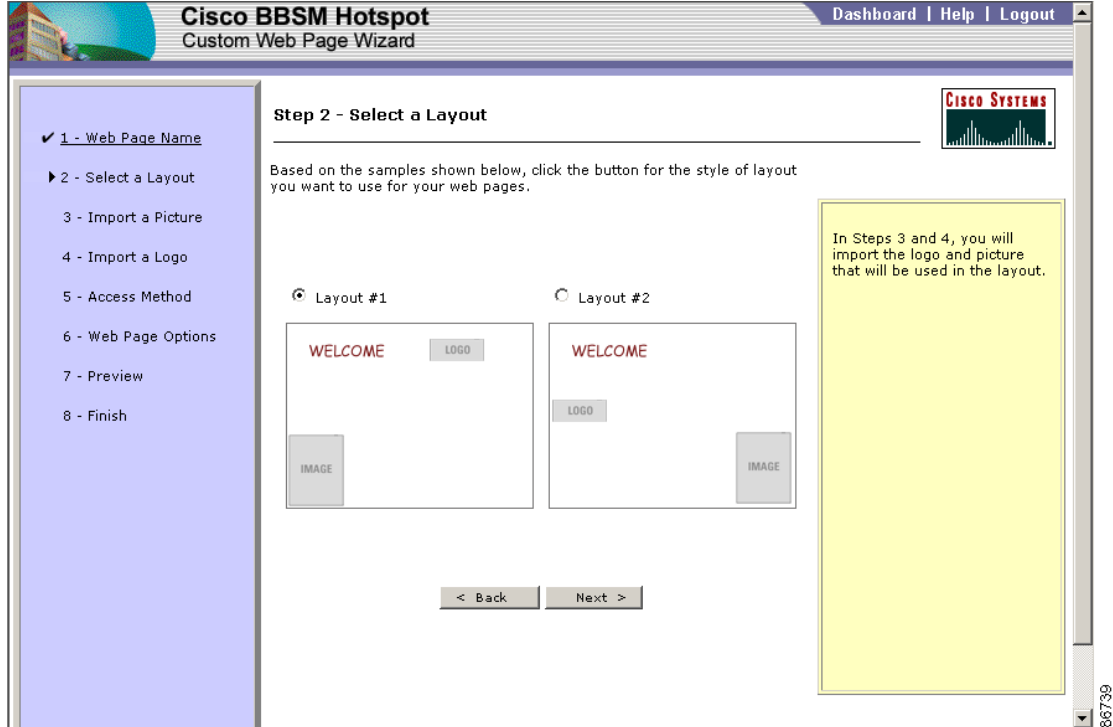
**Note:**  
Always use the wizard's Back or Next buttons, or the NavBar links, to move between pages. If you use your browser's Back or Forward buttons, the data you entered may be lost.

Enter Name for new Web Page:  -OR- Select Existing Web Page:

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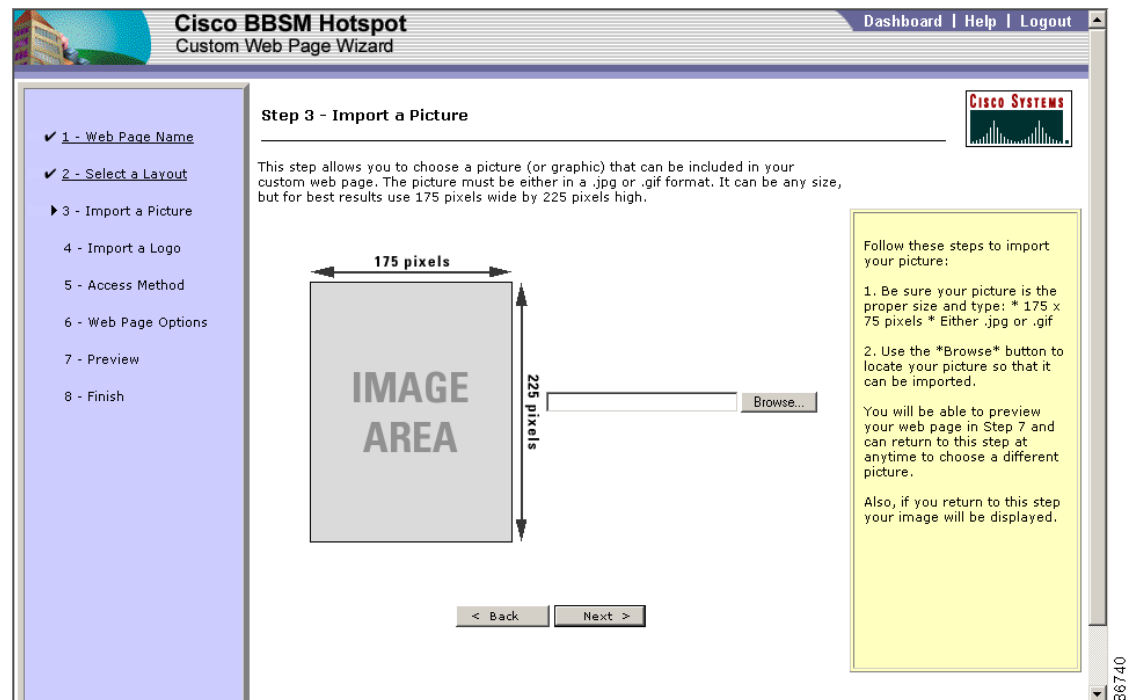
- Step 2** Do one of the following, based on whether you are creating a completely new web page, changing an existing one that was created earlier with this wizard, or deleting a web page:
- If you are creating a completely new web page, in the Enter Name for New Web Page field, enter the web page name.
  - If you are changing an existing web page that was created with this wizard, from the Select Existing Web Page drop-down menu, choose the web page that you want to change.
  - If you are deleting a web page, from the Select Existing Web Page drop-down menu, select the desired web page. Then click **Delete**. The web page is deleted.
- Step 3** Click **Next**. The Step 2 - Select a Layout web page appears. (See [Figure 3-19](#).)

Figure 3-19 Step 2 - Select a Layout Web Page



**Step 4** Click the desired web page layout, and then click **Next**. The Step 3 - Import a Picture web page appears. (See [Figure 3-20](#).)

Figure 3-20 Step 3 - Import a Picture Web Page

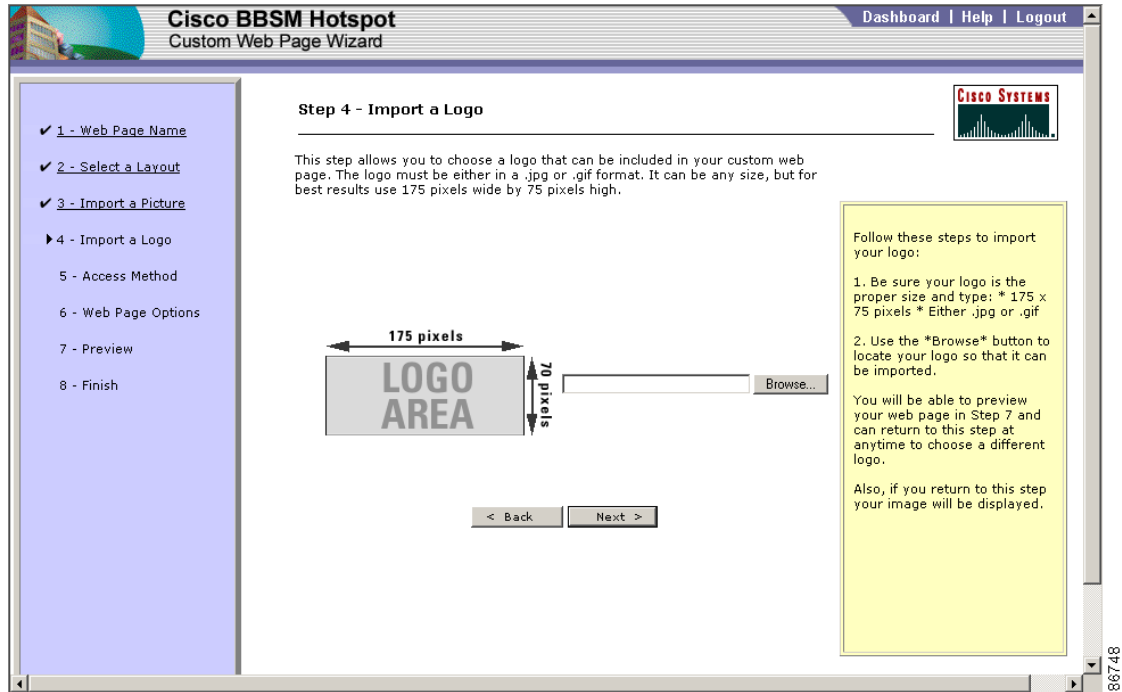


- Step 5** If you want to add a picture to the Start page at this time, click **Browse** to navigate to the file of the picture. The picture should be 175 by 225 pixels or smaller. (If you do not want to add a picture now, leave the file name blank.) Then click **Next**. The Step 4 - Import a Logo web page appears. (See Figure 3-21.)



**Note** If you added a picture, click **Back** to view it.

Figure 3-21 Step 4 - Import a Logo Web Page



**Step 6** If you want to add a logo to the Start page at this time, click **Browse** to navigate to the file of the logo. The logo should be 175 by 70 pixels or smaller. (If you do not want to add a logo now, leave the file name blank.) Then click **Next**. The Step 5 - Access Method web page appears. (See [Figure 3-22](#).)



**Note** If you added a logo, click **Back** to view it.

Figure 3-22 Step 5 - Access Method Web Page

- Step 7** Click the desired access method: **Free Access** or **Billed Access**. The web pages that appear next depend on which access method you select. Free access is the default.
- Step 8** If you selected Billed Access, check the type of billing you want to offer: **Credit Card**, **RADIUS**, and/or **Access Code**. Note that you are able to choose any combination of billing types. Then click **Next**.
- Step 9** Go to the appropriate step in the procedure, based on the access methods you chose in [Step 7](#):
- If you chose the Credit Card billing option, go to [Step 10](#).
  - If you chose the RADIUS billing option, go to [Step 12](#).
  - If you chose the Access Code billing option, go to [Step 13](#).
- Step 10** If you checked the Credit Card billing option in [Step 7](#), the Step 5a - Credit Card Pricing Options web page appears. (See [Figure 3-23](#).)

Figure 3-23 Step 5a - Credit Card Pricing Options Web Page

**Cisco BBSM Hotspot**  
Custom Web Page Wizard

Dashboard | Help | Logout

**Step 5a - Credit Card Pricing Options**

Choose the purchasing options you would like to offer your users. They can purchase Internet access by the day, minute, or block of time.

**Purchase Interval**

Day (24 Hours)

Minute-by-Minute Total Pre-Approval Amount  USD

Block of Time

**Price per Minute**

| Bandwidth Option | Price for Option                      |
|------------------|---------------------------------------|
| Full-Speed       | <input type="text" value="1.00"/> USD |

< Back    Next >

**Do the following:**

1. Choose the **Purchase Interval**. If needed, enter the option for that interval.
2. Enter the price for the Full-Speed option.

**Note:**  
You can turn bandwidth throttling on or off in the [Hotspot Configuration Server Settings](#) web page.

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Make the following selections. (If this information was previously set up on the server, these fields will show default this data.) Enter the data as follows:

- Check the Purchase Interval you want to offer: **Day**, **Minute-by-Minute**, or **Block of Time**:
  - If you chose Minute-by-Minute, the Total Pre-Approval Amount field appears. Enter the desired amount credit card amount. The end user's credit card must approve for this amount. If their credit card does not approve this amount, the end user will be denied access to the Internet.
  - If you chose Block of Time, the Duration of Block Time field appears. Enter the desired number of minutes that the end user can access the Internet.
- If you enabled bandwidth throttling on the Server Settings web page in Hotspot Configuration, check the bandwidth speeds you want to want to offer credit card user and, if desired, change the default prices. For example, if you want to offer a 512-kbps speed for \$5.00 and a 256-kbps speed for \$3.00, check only the boxes next to 512 kbps and 256 kbps and enter your price for each.
- Click **Next** and continue with [Step 11](#). The Step 5b - Credit Card Server appears. (See [Figure 3-24](#).)

Figure 3-24 Step 5b - Credit Card Server Web Page

**Step 11** On the Step 5b - Credit Card Server web page, make the following selections:

- a. Enter the IP address or FQDN for the credit card server, as provided by your credit card billing service, such as CyberSource.
- b. Enter the Merchant ID that is provided by your credit card service.
- c. If you want to test the connection to the credit card server, click **Yes**.
- d. To begin the test, click **Next**.
- e. If you chose to test the connection to the credit card server, text appears under the buttons to indicate that the test is in progress. When either the success or fail dialog box appears, click **OK** to continue to the next step or **Cancel** to return to this step to change the server information.

**Step 12** If you checked the RADIUS billing option in [Step 7](#), the Step 5a - RADIUS Server web page appears. (See [Figure 3-25](#).)



**Note**

If you chose both the Credit Card and RADIUS billing options, the RADIUS Server web page will be labeled step 5c instead of step 5a.

Figure 3-25 Step 5a - RADIUS Server Web Page

Make the following selections. (If this information was previously set up on the server, these fields will show default this data.) Enter the data as follows:

- a. In the RADIUS Server field, enter the IP address or FQDN.
- b. In the RADIUS Shared Secret field, enter the server password.
- c. If you want to test the connection to the server, click **Yes**.
- d. To begin the test, click **Next**.
- e. If you chose to test the connection to the RADIUS server, text appears under the buttons to indicate that the test is in progress. When either the success or fail dialog box appears, click **OK** to continue to the next step or **Cancel** to return to this step to change the server information.



**Note** For additional RADIUS configuration parameters, refer to the [“Configuring RADIUS Billing”](#) section on page 3-19.

**Step 13** Enter the final components needed for your web page. Depending on which access options you chose, the Step 6 - Web Page Options web page that appears after Steps 11 or 12 contains different information. All selected choices offer the standard options; however, if you chose credit card and/or RADIUS, you will also see a security option:

- If you chose free access or access codes, the Step 6 - Web Page Options web page for the free access or access code method appears. (See [Figure 3-26](#).)
- If you chose credit cards or RADIUS access, the Step 6 - Web Page Options web page for the credit card or RADIUS method appears. A security option is included for these access methods. (See [Figure 3-27](#).)

Figure 3-26 Step 6 - Custom Web Page Options Web Page using Free Access or Access Codes Only

**Cisco BBSM Hotspot**  
Custom Web Page Wizard

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**Step 6 - Custom Web Page Options**

This page is used to configure the remaining options for your custom web page.

**Welcome Text**

Welcome! To access the Internet, just click Connect.

Enter any descriptive text that you want to appear on the initial page used to access the Internet.

**Initial Web Page**

Once the user gains access to the Internet, have them see this web page:

End-User's Default Home Page

My Portal: http:// [ ]  
(Enter your portal, for example www.cisco.com)

< Back    Next >

It is recommended that you limit the welcome text to less than 500 characters so that it fits on the page.

To have the users always redirected to the web portal of your choice, select \*My Portal\* and enter the web address for the site.

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Figure 3-27 Step 6 - Custom Web Page Options Web Page using Credit Cards and/or RADIUS

**Cisco BBSM Hotspot**  
Custom Web Page Wizard

Dashboard | Help | Logout

**Step 6 - Custom Web Page Options**

This page is used to configure the remaining options for your custom web page.

**Welcome Text**

Welcome! To access the Internet, just click Connect.

Enter any descriptive text that you want to appear on the initial page used to access the Internet.

**Initial Web Page**

Once the user gains access to the Internet, have them see this web page:

End-User's Default Home Page

My Portal: http:// [ ]  
(Enter your portal, for example www.cisco.com)

**Security**

Use SSL    Check this box to allow secure communications (https) for RADIUS and credit card users.

Full Domain Name [ ]

< Back    Next >

It is recommended that you limit the welcome text to less than 500 characters so that it fits on the page.

To have the users always redirected to the web portal of your choice, select \*My Portal\* and enter the web address for the site.

If you plan to provide your users with secure communications, you must first buy and install an SSL certificate.

Refer to the [BBSM Hotspot User Guide](#) for details.

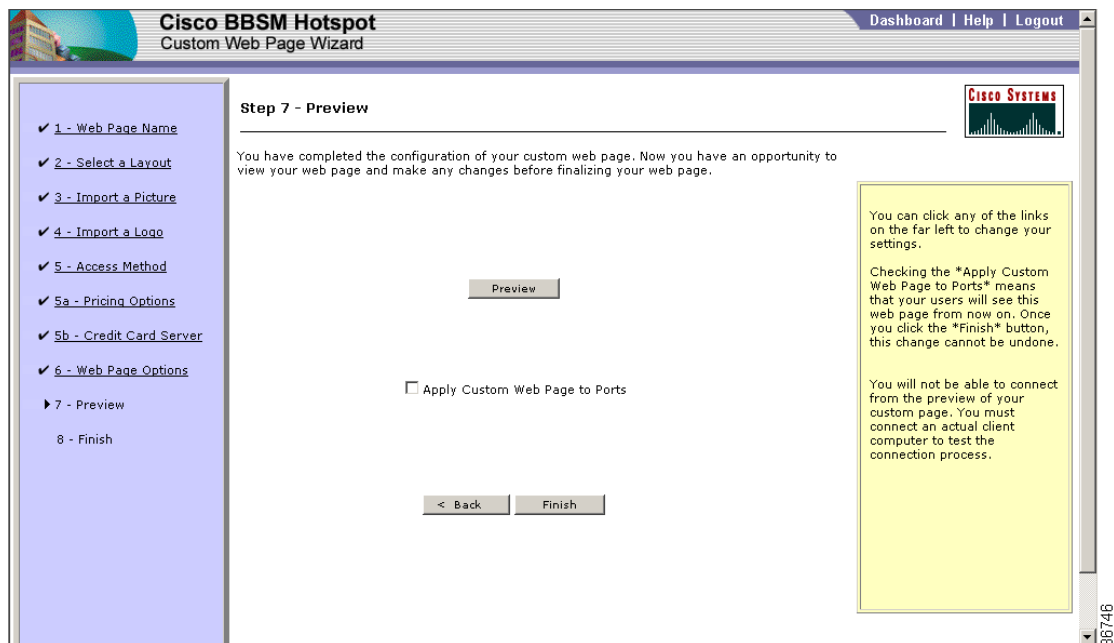
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Enter the final components for your web page:

- a. In the Welcome Text field, enter the text that you want to display on the Start page that the end user will use to access the Internet.

- b. In the Initial Web Page area, choose the desired option for the initial page that the end user sees when they connect to the Internet:
  - If you want the end user to see their previously established default home page, click **End-User's Default Home Page**.
  - If you want the end user to see a home page different from their personal home page, click **My Portal** and enter the URL of the desired web page.
- c. If you are using credit cards and/or RADIUS, in the Security area, check **Use SSL** and enter the domain name.
- d. Click **Next**. The Step 7 - Preview web page appears. (See [Figure 3-28](#).)

**Figure 3-28 Step 7 - Preview Web Page**



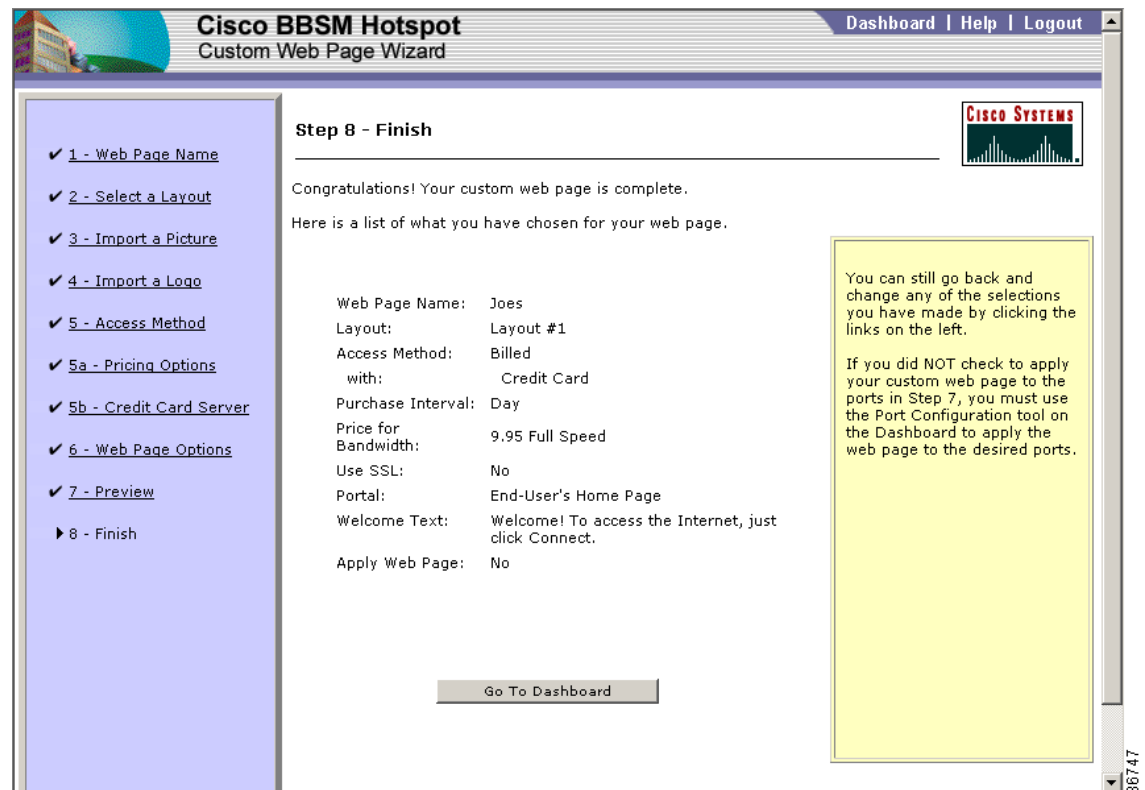
- Step 14** Click **Preview**. A preview of your custom web page appears. Note that this preview page does not allow you to connect. You must connect an actual client computer to test the connection process.
- Step 15** On the preview page, verify whether or not your custom web page is correct and then close the page:
- If you want to modify your web page, click the appropriate link in the NavBar on the left, make your changes, and click **7 - Preview** in the NavBar to return to the preview page and verify the changes.
  - If you want to apply this web page to all of your ports, click **Apply Custom Web Page to Ports**.



**Note** This option is only enabled if you have already completed the Setup Wizard.

- Step 16** To save your new web page, click **Finish**. The Step 8 - Finish web page appears. (See [Figure 3-29](#).) After clicking Finish, you still have the option to click any of the links in the NavBar to return to any of the previous steps.

Figure 3-29 Step 8 - Finish Web Page



**Step 17** You have completed the wizard. If you did not click **Apply Custom Web Page to Ports** in [Step 14](#) and apply the web page to all of your ports, you must use the Port Configuration tool to apply the web page to the desired ports. To access the Port Configuration tool and the Dashboard, click **Go To Dashboard**.

