



# Configuring Broadband Provisioning Registrar

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This chapter describes the configuration activities that you perform using these Main Menu options:

- [Configuration, page 4-1](#)
- [Technology Defaults, page 4-25](#)

## Configuration

The Configuration page displays a list of all default configurations that you can modify using the Broadband Provisioning Registrar (BPR) administrator user interface. These configurations include:

- [Configuring Default Settings, page 4-1](#)
- [Managing DHCP Criteria, page 4-4](#)
- [Configuring Custom Properties, page 4-8](#)
- [Configuring Extension Points, page 4-10](#)
- [Managing External Files, page 4-11](#)
- [Configuring the Class of Service, page 4-16](#)
- [Managing Licenses, page 4-20](#)
- [Publishing the Provisioning Information, page 4-22](#)

## Configuring Default Settings

The Defaults page, found under the Configuration option, lets you access the default settings for the overall system and the regional distribution unit (RDU). (See [Figure 4-1](#).)

Figure 4-1 Configure Defaults Page

This section describes how to view and change these default settings.

## Changing System Defaults

To change your system defaults:

- Step 1 Select **Configuration** on the Primary Navigation bar.
- Step 2 Select **Defaults** from the Secondary Navigation bar and the Configure BPR Defaults page appears. (See [Figure 4-1](#).)
- Step 3 Enter the appropriate information for the SNMP read and write community strings.



**Note** The default values appearing in this page can be changed using the BPR application program interface. Refer to the *Broadband Provisioning Registrar Developer's Guide* for additional information.

This information identifies the community strings that let you control access to MIB information stored on devices that support the SNMP protocol. Together, the read and write community strings act as passwords to access SNMP agent information. The write community string must be known by any device before information can be set on the SNMP agent.

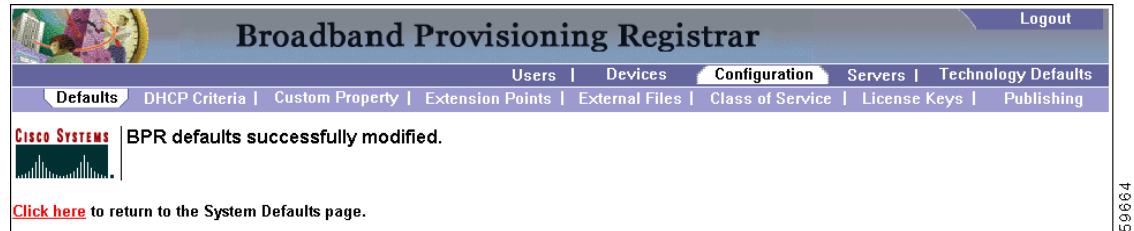
- **SNMP Write Community String**—Any device that may require SNMP information must know the write community string. The default write community string is **private**.
- **SNMP Read Community String**—Any device that can read or access the SNMP MIB must know the read community string. The default read community string is **public**.



**Note** To prevent unauthorized modification of configuration information, these community strings should be set on all SNMP Agents.

- Step 4 Click **Submit** when complete. Once the changes have been added to the administrative database, the BPR defaults successfully modified page appears. (See [Figure 4-2](#).)

Figure 4-2 BPR Defaults Successfully Modified Page



- Step 5 Click the link indicated in Figure 4-2, and the Configure BPR Defaults page appears. (See Figure 4-1.)

## Changing RDU Defaults

To change your RDU default settings:

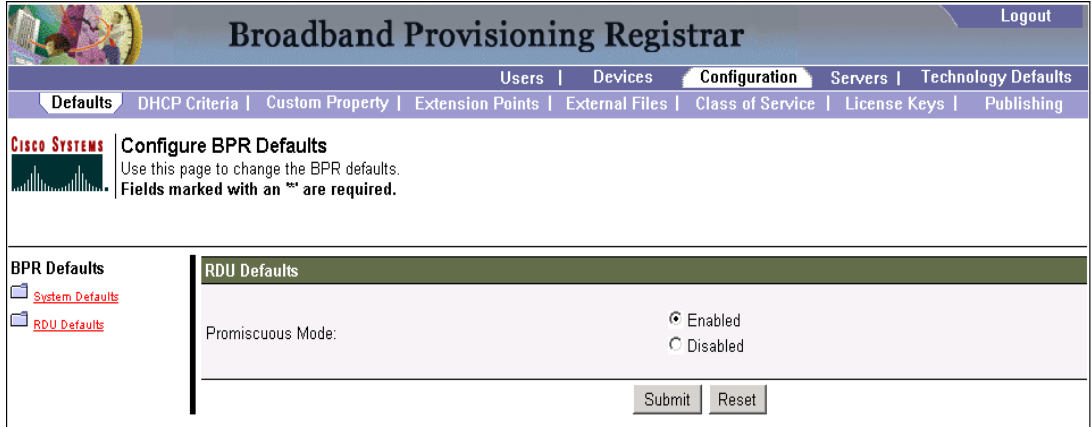
- Step 1 Select **Configuration** on the Primary Navigation bar.
- Step 2 Select **Defaults** from the Secondary Navigation bar and the Configure BPR Defaults page appears. (See Figure 4-3.)

Figure 4-3 Configure BPR Defaults Page



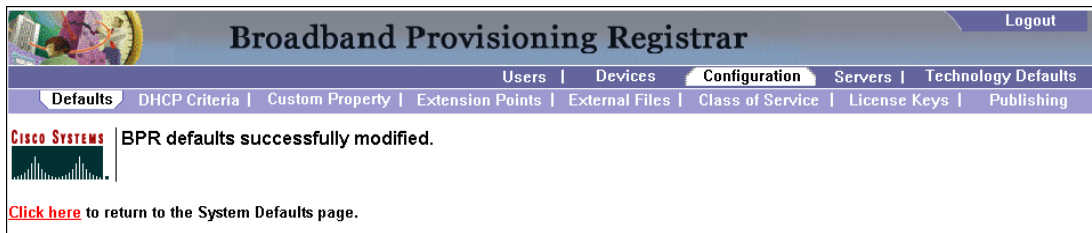
- Step 3 Click the **RDU Defaults** link to the left of the page, and the RDU Defaults page appears. (See Figure 4-4.)

Figure 4-4 RDU Defaults Page



- Step 4 Click either **Enabled** or **Disabled** to activate or de-activate the Promiscuous mode within the RDU.
- Step 5 Click **Submit** when complete. Once the changes have been made, the Defaults successfully modified page appears. (See Figure 4-5.)

Figure 4-5 Defaults Successfully Modified Page



- Step 6 Click the link indicated in Figure 4-5, and the RDU Defaults page appears. (See Figure 4-4.)

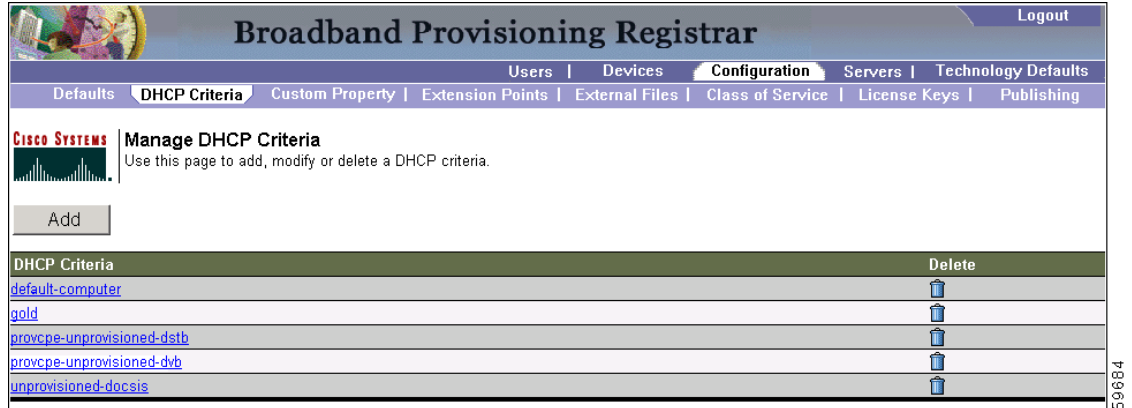
## Managing DHCP Criteria

DHCP criteria describes the specific criteria for a device when selecting a scope in Network Registrar. For example, a DHCP criteria called provisioned-docsis has an inclusion selection tag called tagProvisioned. The DHCP criteria is associated to a DOCSIS modem and, when this modem requests an IP address from the Network Registrar, Network Registrar will look for scopes that are associated to the scope selection tag called tagProvisioned and are in the correct network segment.

To access the DHCP Criteria page:

- Step 1 Select **Configuration** on the Primary Navigation bar.
- Step 2 Select **DHCP Criteria** from the Secondary Navigation bar and the Manage DHCP Criteria page appears. (See Figure 4-6.)

Figure 4-6 Manage DHCP Criteria Page



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## Adding DHCP Criteria

To add a DHCP criteria:

- Step 1** Click **Add**, on the DHCP Criteria page, and the Add DHCP Criteria page appears. (See Figure 4-7.)

Figure 4-7 Manage DHCP Criteria Page

The screenshot shows the 'Add DHCP Criteria' page in the Broadband Provisioning Registrar. The page title is 'Add DHCP Criteria' and it includes a sub-header: 'Use this page to add a DHCP criteria. Fields marked with an "\*" are required.' Below this are four text input fields:

- Name\*
- Client Class
- Inclusion Selection Tags
- Exclusion Selection Tags

Below these fields is a table for adding properties:

Property Name	Property Value
Property_1	<input type="text"/>

At the bottom of the form are 'Submit' and 'Reset' buttons.

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- Step 2** Enter the name of the DHCP criteria you want to create.
- Step 3** Enter the DHCP Criteria client class name.

**Step 4** Enter the inclusion and exclusion selection tags.



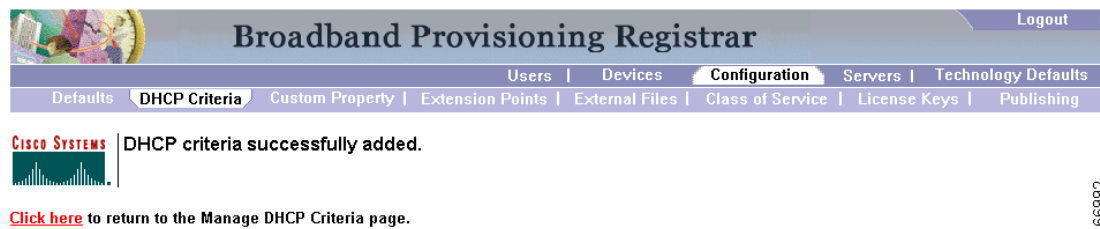
**Note** When creating new DHCP Criteria, the client class and selection tag names you have to enter must be set up, using the same names, from within Network Registrar. Refer to the *Network Registrar User's Guide* and the *Network Registrar CLI Reference Guide* if you require additional information on these activities.

**Step 5** You can add or modify the properties that are added on the DHCP criteria. Enter or select a Property Name, or select an existing name, and enter or modify the appropriate Property Value.

**Step 6** Click **Add** after changing or creating the property name-value pair.

**Step 7** Click **Submit** when complete. Once the changes have been added to the administrative database, the DHCP criteria successfully added page appears. (See [Figure 4-8](#).)

*Figure 4-8 DHCP Criteria Successfully Added Page*



**Step 8** Click the link indicated in [Figure 4-8](#), and the Manage DHCP Criteria page appears. (See [Figure 4-6](#).)

## Modifying DHCP Criteria

To modify existing DHCP criteria:

**Step 1** Click on the link corresponding to the criteria to be modified and the Manage DHCP Criteria page appears. (See [Figure 4-9](#).)

Figure 4-9 Manage DHCP Criteria Page

**Broadband Provisioning Registrar** Logout

Users | Devices | **Configuration** | Servers | Technology Defaults

Defaults | **DHCP Criteria** | Custom Property | Extension Points | External Files | Class of Service | License Keys | Publishing

**CISCO SYSTEMS** | **Manage DHCP Criteria**  
Use this page to add, modify or delete a DHCP criteria.

**DHCP Criteria**

Name\*: provcpe-unprovisioned-dvb

Client Class:

Inclusion Selection Tags:

Exclusion Selection Tags:

Property Name	Property Value
Property_1	<input type="text"/>

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- Step 2** Make the desired changes, to the client class, inclusion and exclusion selection tags, and the property value settings.
- Step 3** Click **Submit** when complete. Once the criteria changes have been added to the administrative database, the DHCP criteria successfully modified page appears. (See [Figure 4-10](#).)

Figure 4-10 DHCP Criteria Successfully Modified Page

**Broadband Provisioning Registrar** Logout

Users | Devices | **Configuration** | Servers | Technology Defaults

Defaults | **DHCP Criteria** | Custom Property | Extension Points | External Files | Class of Service | License Keys | Publishing

**CISCO SYSTEMS** | **DHCP criteria successfully modified.**

[Click here](#) to return to the Manage DHCP Criteria page.

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- Step 4** Click the link indicated in [Figure 4-10](#), and the Manage DHCP Criteria page appears. (See [Figure 4-6](#).)

**Note**

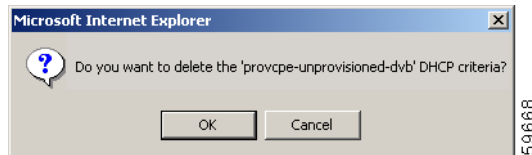
Subsequent device configurations will include the changes you implement here. However, all existing configurations do not get changed. To make the changes in any existing configuration, you must regenerate the configuration using the application programming interface (API).

## Deleting DHCP Criteria

Deleting DHCP criteria using the administrator application will not delete the actual DHCP server configurations from the DHCP server. You must delete the DHCP server configurations manually. To delete an existing criteria:

- 
- Step 1** Identify the criteria to be deleted from the Manage DHCP Criteria page. (See [Figure 4-6](#).)
  - Step 2** Click the **Delete** icon corresponding to the desired criteria, and a deletion dialog box (similar to [Figure 4-11](#)) appears.

*Figure 4-11 DHCP Criteria Deletion Dialog Box*



- Step 3** Click **OK** to delete the criteria. Once the criteria is deleted, the Manage DHCP Criteria page appears. (See [Figure 4-6](#).)



### Note

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You can delete a DHCP criteria only if there are no devices associated with that criteria.

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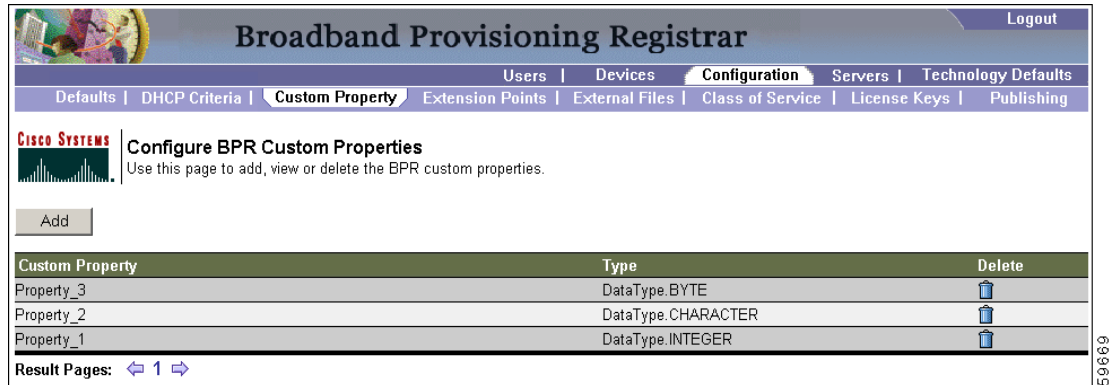
## Configuring Custom Properties

Custom properties are conditions applied to client classes configured in Network Registrar. To access the Custom Property configuration page:

- 
- Step 1** Select **Configuration** on the Primary Navigation bar.
  - Step 2** Select **Custom Property** from the Secondary Navigation bar and the Configure Custom Properties page appears. (See [Figure 4-12](#).)



Figure 4-12 Configure BPR Custom Properties Page

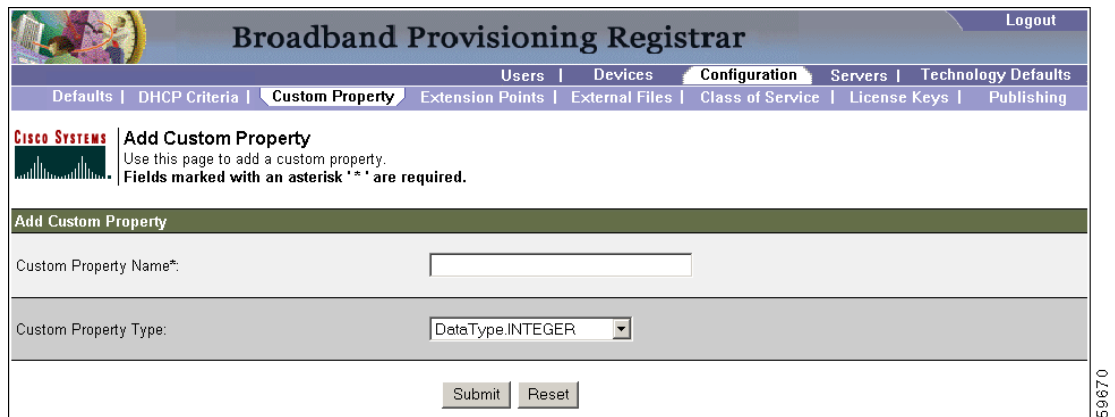


## Adding New Custom Properties

To add a new custom property:

- Step 1** Click **Add** on the Configure Custom Properties page, and the Add Custom Property page appears. (See [Figure 4-13](#).)

Figure 4-13 Add Custom Property Page



- Step 2** Enter the name of the new custom property.
- Step 3** Select a custom property type from the drop-down list.
- Step 4** Click **Submit** when complete. Once the property has been added to the administrative database, the Configure Custom Properties page appears. (See [Figure 4-14](#).)

Figure 4-14 Custom Property Successfully Added Page



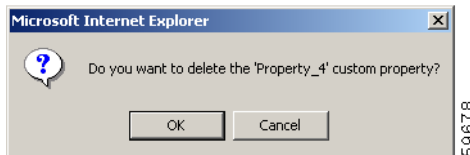
- Step 5 Click the link indicated in Figure 4-14, and the Configure BPR Custom Properties page appears. (See Figure 4-12.)

## Deleting Existing Custom Properties

To delete a custom property definitions:

- Step 1 Identify the custom property to be deleted from the Configure Custom Properties page.
- Step 2 Click the **Delete** icon corresponding to the desired custom property, and the custom properties deletion dialog box appears. (See Figure 4-15.)

Figure 4-15 Custom Properties Deletion Dialog Box



- Step 3 Click **OK** to delete the custom property. Once the custom property is deleted the Configure Custom Properties page appears.



**Caution** You can delete custom properties even if they are currently in use. This could cause extreme difficulty to other areas where the properties are in use.

## Configuring Extension Points

BPR comes with default extension points for Cisco Network Registrar. (See Figure 4-16.)

Figure 4-16 Configure Extension Point Settings Page

**Broadband Provisioning Registrar** Logout

Users | Devices | **Configuration** | Servers | Technology Defaults

Defaults | DHCP Criteria | Custom Property | **Extension Points** | External Files | Class of Service | License Keys | Publishing

**CISCO SYSTEMS** **Configure BPR Extension Point Settings**  
Use this page to change the BPR extension point settings.  
Fields marked with an \* are required.

**Extension Point Settings**

NR Attributes from Request Dictionary\*:

NR Attributes from Environment Dictionary:

**Caution**

The information found in this page is used for device detection. Before changing the information in these fields, verify that doing so will not adversely affect the device detection function.

Table 4-1 identifies the fields and buttons shown in Figure 4-16.

Table 4-1 Configure BPR Extension Points Page

Field or Button	Description
NR Attributes from Request Directory	Identifies attributes taken from the Network Registrar request dictionary.
NR Attributes from Environment Directory	Identifies attributes taken from the Network Registrar environment dictionary.
<b>Submit</b>	Activates or implements that changes you have made.
<b>Reset</b>	Returns all settings back to their previous setting.

## Managing External Files

Using the BPR administrator you can manage the external files served by a TFTP server (Figure 4-17.) You can add, delete, replace, or export any file type, including these:

- Template files—These are text files that contain DOCSIS options and values that, when used in conjunction with a DOCSIS class of service, provide dynamic DOCSIS file generation.



**Note** Template files can be created in any text editor, but must have the file extension `tmpl`.

- Static configuration files—These files are used as a configuration file for a device. For example, a static configuration file called `gold.cm` would identify the `gold` DOCSIS class of service. BPR treats this file type like any other binary file.
- IOS images—These are images stored in firmware for a Cisco device. The Cisco device can upload the image to upgrade its functionality. BPR treats this file type like any other binary file.

Figure 4-17 Manage External Files Page

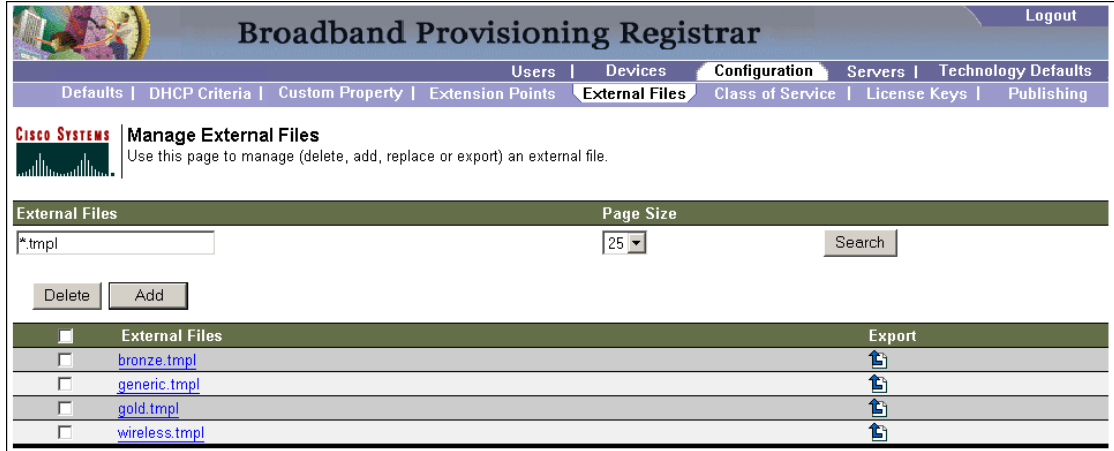


Table 4-2 identifies the fields and buttons shown in Figure 4-17.

Table 4-2 Manage External Files Page

Field or Button	Description
External Files	Identifies the filename of the appropriate template file. An asterisk (*) can be used as a wildcard character to allow searching for partial filenames.
Page Size	Identifies the length of page to be displayed.
<b>Search</b>	Initiates the search for an external file with a name that matches that entered in the External Files field.
<b>Delete</b>	Removes any selected external file from the database.
<b>Add</b>	Adds a new file.
External Files list	Displays a list of external files that match the search criteria.  <b>Note</b> The check boxes immediately to the left of any selected item in this list must be checked before any other function, such as a delete, replace, or export can be performed. You can select all items in the list by checking the first check box. However, the action you select is performed on <i>ALL</i> items in the list.
<b>Export</b>	Exports any selected file to the client's computer.

## Adding External Files

To add an existing external file:

- Step 1 Select **Configuration** on the Primary Navigation bar.
- Step 2 Select **External Files** from the Secondary Navigation bar. The Manage External Files page appears.
- Step 3 Click **Add** and the Add External Files page appears as shown in Figure 4-18.
- Step 4 Enter the **Source filename** and the **external (destination) filename**.



**Note** If you do not know the exact name source file, use the **Browse** function to navigate to the desired directory and select the file. By default, file sizes up to 12 MB are supported.

**Step 5** Click **Submit** to add the file. A confirmation page appears to indicate that the file has been added.

*Figure 4-18 Add External Files Page*

Table 4-3 identifies the fields and buttons shown in Figure 4-18.



**Note** If you do not enter an external filename, the filename of the source file is used.

*Table 4-3 Add External Files Page*

Field or Button	Description
Source File Name	Identifies the filename, including the complete path, of the file to be added.
External File Name	Identifies the filename used to identify this file.
<b>Browse</b>	Lets you navigate through the computer to locate the desired source file.
<b>Submit</b>	Activates or implements that changes you have made.
<b>Reset</b>	Clears all text field boxes.

## Replacing External Files

To replace an existing external file:

- Step 1** Select **Configuration** on the Primary Navigation bar.
- Step 2** Select **External Files** from the Secondary Navigation bar.
- Step 3** Click the link that corresponds to the desired file. The Replace External Files page (Figure 4-19) appears. Note that the selected filename already appears on this page.

- Step 4** Enter the path and filename of the source file to be used as a replacement for the displayed external filename.



**Note** If you do not know the exact name or location of the source file, use the **Browse** function to navigate to the desired directory and select the file.

- Step 5** Click **Submit**, to replace the selected file.
- Step 6** After submitting the replacement file, a confirmation page appears to indicate that the replacement was performed successfully.

*Figure 4-19 Replace External Files Page*

Table 4-4 identifies the fields and buttons shown in Figure 4-19.

*Table 4-4 Replace External Files Page*

Field or Button	Description
External File Name	Identifies the file to be replaced.
Source File Name	Identifies the filename and pathname, of the source file to be used.
<b>Browse</b>	Lets you navigate through the computer to locate the desired source file.
<b>Submit</b>	Activates or implements changes that you have made.
<b>Reset</b>	Returns all settings back to their previous setting.

## Exporting External Files

To export an external file, when the Internet Explorer browser is used:

- Step 1** Select **Configuration** on the Primary Navigation bar.
- Step 2** Select **External Files** from the Secondary Navigation bar.
- Step 3** Enter the filename of the external file, in the **External Files** field, that you want to export.
- Step 4** Click **Search**. The appropriate file should appear in the External Files list.

- Step 5** Click the **Export** icon that corresponds to the selected file. A dialog similar to that shown in [Figure 4-20](#) appears. Note that the name of the selected file already appears on this page.
- Step 6** Select **Save As** from the File menu and save the file in the appropriate directory.



**Note** If you export a \*.cm file (or any other binary file type), while using a Netscape browser, a series of standard save dialogs are displayed to allow the file to be exported with whatever filename and directory you choose.

*Figure 4-20 Export External Files Page*

```

#
# wireless.tpl:
#
# Sample class of service template for fixed wireless device. The fixed
# wireless examples show the use of the "instance" qualifier to specify how
# sub-options can be explicitly grouped into separate TLV's. In this example
# we show how only one instance of the 43.132.* sub-option can be present
# in a single option 43 TLV.
#

# Gold service class
option 3 1
option 4.1 1
option 4.2 2048000
option 4.3 512000
option 4.4 6
option 4.5 0
option 4.6 0
option 4.7 0

```

## Deleting External Files

Complete this procedure to delete an existing external file:

- Step 1** Select **Configuration** on the Primary Navigation bar.
- Step 2** Select **External Files** from the Secondary Navigation bar.
- Step 3** Enter the filename of the external file, in the **External Files** field, that you want to modify.
- Step 4** Click **Search**. The appropriate file will appear in the External Files list.
- Step 5** Select the appropriate file or files.
- Step 6** Click **Delete** and a confirmation dialog box appears.
- Step 7** Click **OK** to delete the file or **Cancel** to return to the Manage External Files page.

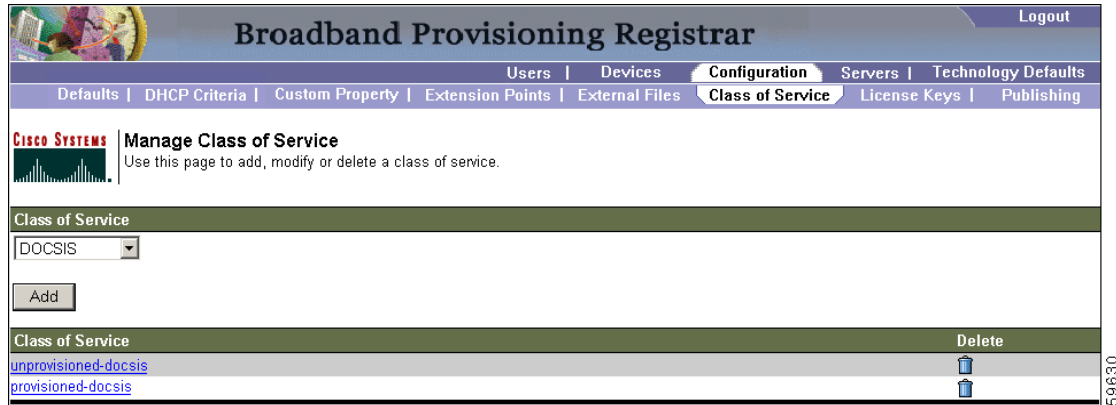


**Note** You cannot delete a file as long as it has a class of service associated with it.

## Configuring the Class of Service

Using the BPR administrator, you can configure the classes of service offered to your customers. For example, you can associate DOCSIS options with different DOCSIS classes of service. You can use the BPR administrator user interface to add, modify, view, or delete any selected class of service. Start with the Manage Class of Service page, as shown in [Figure 4-21](#).

*Figure 4-21 Manage Class of Service Page*



[Table 4-5](#) identifies the fields and buttons shown in [Figure 4-21](#).

*Table 4-5 Configure Class of Service Page*

Field or Button	Description
Class of Service	<p>A drop-down list that identifies the technology classes of service that you want to search for. This includes:</p> <ul style="list-style-type: none"> <li>• DOCSIS</li> <li>• DVB</li> <li>• XGCP</li> <li>• Computer</li> <li>• DSTB</li> <li>• Customcpe</li> </ul> <p><b>Note</b> Refer to the <a href="#">“Technology Defaults” section on page 4-25</a>, for additional information on these areas of technology.</p>
<b>Add</b>	Lets you add a new class of service.
<b>Search</b>	Lets you search for all available classes of service belonging to the group of services selected above.
Class of Service list	Displays the attributes of any selected class of service.
<b>Delete</b>	Lets you delete any selected class of service.



## Adding a Class of Service

To add a specific class of service:

- 
- Step 1** Select **Configuration** on the Primary Navigation bar.
  - Step 2** Select **Class of Service** from the Secondary Navigation bar.
  - Step 3** Click **Add**. The Add Class of Service page appears as shown in [Figure 4-22](#). This page identifies the various settings for the selected class of service.
  - Step 4** Enter the name of your new class of service.
  - Step 5** Select a **Class of Service Type**.
  - Step 6** Enter a **Property Name** and **Property Value** in the appropriate fields. After entering this information, it is referred to as a Property Name:Property Value pair. The Property name identifies the file to be booted and the Property value is the binary file that is actually loaded into the device.
    - For example:**

Assume that you want to create a new class of service called Gold-Classic for DOCSIS modems. You might:

      - a. Enter **Gold-Classic** as the Class of Service Name.
      - b. Select **DOCSIS** from the service type drop-down list.
      - c. Select the property `/COS/DOCSIS/file`.
      - d. Enter **Gold-Classic.cm** in the Property Value field and then continue with the rest of this procedure.
  - Step 7** Click **Add** to add the new class of service.
  - Step 8** Click **Submit** to finalize the process or **Reset** to return to the Manage Class of Service page.
  - Step 9** After adding the class of service, a confirmation page appears to indicate that the addition was performed successfully.

**Caution**

---

When adding a DOCSIS class of service, you must specify the property `/cos/docsis/file` with the name of a previously added external file.

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Figure 4-22 Add Class of Service Page

Table 4-6 identifies the fields and buttons shown in Figure 4-22.

Table 4-6 Add Class of Service Page

Field or Button	Description
Class of Service Name	Lets you enter the name of the new class of service.
Class of Service Type	A drop-down list that identifies the types of classes of service that you can search for.
Property Name	Specifies the boot filename.
Property Value	Specifies the binary filename used to implement the new class of service.
<b>Add</b>	Adds the new Property Name:Property Value pair to create the new class of service.
<b>Submit</b>	Activates or implements the changes you have made.
<b>Reset</b>	Returns all settings back to their previous setting.



Note

Subsequent device configurations will include the changes you implement here. However, all existing configurations do not get changed. To make the changes in any existing configuration, you must regenerate the configuration using the application programming interface (API).

## Modifying a Class of Service

To modify class of service properties:

- Step 1 Select **Configuration** on the Primary Navigation bar.
- Step 2 Select **Class of Service** from the Secondary Navigation bar.
- Step 3 Select the class of service to be modified.

- Step 4** Click the link corresponding to the desired class of service. The Modify Class of Service page appears as shown in [Figure 4-23](#). Note that the selected class of service name and type are displayed beneath the page description.
- Step 5** Make the necessary modifications to the name:value pairs, then click **Add**.
- Step 6** Click **Submit** to make the modifications to the class of service.
- Step 7** After modifying the class of service, a confirmation page appears to indicate that the modification was performed successfully.

*Figure 4-23 Modify Class of Service Page*

**Broadband Provisioning Registrar** Logout

Users | Devices | **Configuration** | Servers | Technology Defaults

Defaults | DHCP Criteria | Custom Property | Extension Points | External Files | **Class of Service** | License Keys | Publishing

**CISCO SYSTEMS** **Modify Class of Service**  
Use this page to modify a class of service.  
Fields marked with an "\*" are required.

Class of Service Name and Type	
Class of Service Name:	unprovisioned-docsis
Class of Service Type:	DOCSIS

Property Name	Property Value	
/cos/docsis/file	unprov.cm	Delete
Property_1	<input type="text"/>	Add

Submit Reset

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[Table 4-7](#) identifies the fields and buttons shown in [Figure 4-23](#).

*Table 4-7 Modify Class of Service Page*

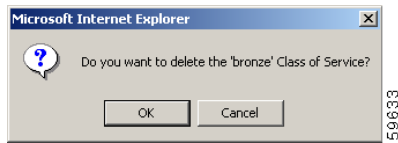
Field or Button	Description
Class of Service Name	Identifies the current class of service assigned to the selected device.
Class of Service Type	Identifies the type of service assigned.
Property Name	Specifies the boot filename.
Property Value	Specifies the binary filename used to implement the new class of service.
<b>Delete</b>	Deletes the selected Property Name:Property Value pair.
<b>Add</b>	Adds the modified Property Name:Property Value pair to the class of service list.
<b>Submit</b>	Activates or implements that changes you have made.
<b>Reset</b>	Returns all settings back to their previous setting.

## Deleting a Class of Service

To delete a class of service:

- 
- Step 1** Select **Configuration** on the Primary Navigation bar.
  - Step 2** Select **Class of Service** from the Secondary Navigation bar.
  - Step 3** Click the **Delete** icon for any desired class of service, and a confirmation dialog box similar to [Figure 4-24](#) appears.

*Figure 4-24 Delete Confirmation Dialog Box*



- Step 4** Click **OK** to delete the file or **Cancel** to return to the Modify Class of Service page. (See [Figure 4-23](#).)
- 



### Note

A class of service cannot be deleted if devices are associated with it.

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## Managing Licenses

Software licenses are used to activate specific features or to increase the functionality of your installation. Each is available as either a permanent license or an evaluation license.

- **Permanent**—A permanent license is one that is purchased for use in your network environment and activates the specific features for which it is intended.
- **Evaluation**—An evaluation license enables functionality for a specific amount of time after installation. You can upgrade an evaluation license to a permanent license by entering a new permanent license number.



### Caution

Do not attempt to deploy into a fully operational network with an evaluation license key installed. Any provisioning done using an evaluation license will be disabled when that evaluation license expires.

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Software licenses are entered during installation, as described in the *Broadband Provisioning Registrar Installation Guide*. However, when you upgrade from an evaluation license to a permanent license, you do not have to re-install the software. You can perform the upgrade directly from the BPR administrator user interface; you do not have to repeat the entire installation process.

The Manage License Keys page ([Figure 4-25](#)) displays a list of licenses that have been entered for your implementation. This BPR release supports both evaluation and permanent licenses for high-speed data (DOCSIS cable modems), residential VoIP (media termination adapters), and digital set-top boxes. The status of each available license is also displayed as either active, expired, not installed, or identifies the expiration date.

**Note**

You can upgrade your evaluation licenses to permanent status. You can also upgrade a permanent license to increase the number of authorized devices. When you reach the limit of your number of licensed devices, new devices will not be provisioned, but existing devices that are already provisioned continue to receive service.

*Figure 4-25 Manage License Keys Page*

**Broadband Provisioning Registrar** Logout

Users | Devices | **Configuration** | Servers | Technology Defaults

Defaults | DHCP Criteria | Custom Property | Extension Points | External Files | Class of Service | **License Keys** | Publishing

**CISCO SYSTEMS** Manage License Keys  
Use this page to manage your license keys for the BPR technologies.

Technology	License Key	Version	Type	Devices	Status
computer	A\$R\$R-wyvvhPe-sa-s	2.0.0	Permanent	1000	Installed on November 09, 2001
customcpe	ARKA-A\$R\$RywhM-s---cM9N	2.0.0	Permanent	1000	Installed on November 09, 2001
docsis	sSGf-tU-X9-s---cM9N	2.0.0	Permanent	1000	Installed on November 09, 2001
dstb	sGTA-tU-A\$-s---cTS-t	2.0.0	Permanent	1000	Installed on November 09, 2001
dvb	sTAK-tU-A\$R\$R-KK	2.0.0	Permanent	1000	Installed on November 09, 2001
xgcp	pmwH-sGTS-tU-A\$R\$R---cM9N	2.0.0	Permanent	1000	Installed on November 09, 2001

License Key:  Add/Upgrade

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Table 4-8 identifies the fields and buttons shown in Figure 4-25.

*Table 4-8 Manage License Keys Page*

Field or Button	Description
Technology	Specifies the type of technology implemented by a specific license. Available technologies include: <ul style="list-style-type: none"> <li>• DOCSIS</li> <li>• XGCP</li> <li>• Computer</li> <li>• DSTB</li> <li>• Custom CPE</li> </ul>
License Key	Specifies the license number for each available feature set.
Version	Identifies the version being used.
Type	Specifies the two types of licenses available, including: <ul style="list-style-type: none"> <li>• Permanent—A license activating full functionality for specific features.</li> <li>• Evaluation—A license enables full functionality for a fixed period.</li> </ul> <p><b>Note</b> Do not attempt to use an evaluation license in a BPR deployment.</p>

Table 4-8 Manage License Keys Page (continued)

Field or Button	Description
Devices	<p>Specifies the maximum number of devices that can be provisioned with your version of BPR.</p> <p><b>Note</b> As you approach the license limit, information is written to the log files. You are alerted to this fact when you reach 80% of your license limit. This alert is repeated at 2% increments until you reach 90% of your license limit. Thereafter, the alert is displayed at 1% increments.</p>
Status	<p>Specifies the current status of a license. The status can include:</p> <ul style="list-style-type: none"> <li>• Active—The license is valid and the appropriate feature can be used.</li> <li>• Expired—The evaluation license is no longer valid.</li> </ul>
License Key field	<p>Specify the license number in this field. BPR will recognize whether the license is permanent or an evaluation license and it will determine how many devices are authorized.</p>
<b>Add/Upgrade</b>	<p>Adds a new license or upgrades the software from evaluation to permanent.</p>

## Adding, Modifying, and Deleting a License

To add, modify, or delete a license:

- 
- Step 1** Obtain your new license key from either your Cisco Systems, Inc. representative or the Cisco Technical Assistance Center (TAC) web site. See the Preface in this guide for TAC contact information.
  - Step 2** Place your cursor in the License Key field.
  - Step 3** Enter the new license key.
  - Step 4** Click **Add/Upgrade** to install the new license key. If you enter a permanent license key, it overwrites the corresponding evaluation key (if that key was installed). If you enter a license key (permanent or evaluation) for a new technology, it will appear in the technology list.
- 

## Publishing the Provisioning Information

BPR has the capability to publish the provisioning information it tracks to an external datastore in real time. (See [Figure 4-26](#).) To do this, a publishing plug-in must be developed to write the data to the desired datastore. Refer to the *Broadband Provisioning Registrar Developer's Guide* for additional information.




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**Note** Care must be taken when using publishing plug-ins as they can decrease system performance.

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Figure 4-26 Manage Publishing Page

Plug-In	Current Status	Enable/Disable Plug-In
<a href="#">Test1Publisher</a>	Enabled	-
<a href="#">Test2Publisher</a>	Enabled	-
<a href="#">Test3Publisher</a>	Enabled	-

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Table 4-9 identifies the fields and buttons shown in Figure 4-26.

Table 4-9 Manage Publishing Page

Field or Button	Description
Plug-In	Identifies available publishing plug-ins.
Current Status	Identifies whether a plug-in is enabled or disabled.
Enable/Disable Plug-In	Enables or disables the associated plug-in.

## Publishing Datastore Changes

To publish changes to an external datastore:

- Step 1 Select **Configuration** on the Primary Navigation bar.
- Step 2 Select **Publishing** from the Secondary Navigation bar. The Manage Publishing page appears as shown in Figure 4-26. This page displays a list of all available database plug ins and identifies the current status of each.
- Step 3 Click on the appropriate dash or check symbol to enable or disable the required plug in. Note that as you click these symbols, the current status toggles from enabled (dash) to disabled (check). (See Figure 4-27.)

Figure 4-27 Enable/Disable Publishing Page

Plug-In	Current Status	Enable/Disable Plug-In
<a href="#">ComputerPublisher</a>	Enabled	-
<a href="#">DOCSISModemPublisher</a>	Disabled	✓
<a href="#">LeaseInfoTestPublisher</a>	Enabled	-
<a href="#">Test1Publisher</a>	Disabled	✓
<a href="#">Test2Publisher</a>	Enabled	-
<a href="#">Test3Publisher</a>	Enabled	-

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## Modifying Publishing Plug-in Settings

To modify the publishing plug-in settings:

- Step 1 Select **Configuration** on the Primary Navigation bar.
- Step 2 Select **Publishing** from the Secondary Navigation bar. The Manage Publishing page appears similar to that shown in [Figure 4-27](#).
- Step 3 Click the link corresponding to the plug-in you want to modify. The Modify Publishing Plug-in Settings page appears similar to that shown in [Figure 4-28](#).

*Figure 4-28 Modified Publishing Settings Page*

The screenshot shows the 'Broadband Provisioning Registrar' interface. The top navigation bar includes 'Logout', 'Users', 'Devices', 'Configuration' (selected), 'Servers', and 'Technology Defaults'. A secondary navigation bar includes 'Defaults', 'DHCP Criteria', 'Custom Property', 'Extension Points', 'External Files', 'Class of Service', 'License Keys', and 'Publishing' (selected). The main content area is titled 'Cisco Systems Modify Publishing Plug-in Settings' and includes the instruction: 'Use this page to modify publishing plug-in settings. Fields marked with an "\*" are required.' Below this is a form titled 'Modify Publishing Plug-in Settings' with the following fields:

Plug-in*	Test2Publisher
Server*	<input type="text"/>
Port*	<input type="text"/>
IP Address*	<input type="text"/>
User*	<input type="text"/>
Password*	<input type="text"/>
Confirm Password*	<input type="text"/>

At the bottom of the form are 'Submit' and 'Reset' buttons. A vertical ID number '59880' is visible on the right side of the screenshot.

- Step 4 Enter the required values in the Server, Port, IP Address, User, Password, and Confirm Password fields. These are all required fields and you must supply this information before proceeding.
- Step 5 Click **Submit** to make the changes to the selected plug-in or **Reset** to clear all fields on this page.



# Technology Defaults

The Technology Defaults page, available from the BPR Main Menu, gives you access to the current default settings for these supported technologies:

- Computers
- Custom CPE
- DOCSIS
- DSTB
- Gateway control protocol (XGCP)

## Computer Defaults

The Computer Defaults page (Figure 4-29) displays a list of default values currently applied to the computers supported by BPR.

Figure 4-29 Configure Computer Defaults Page

Table 4-10 identifies the fields and buttons shown in Figure 4-29.

Table 4-10 Configure Computer Defaults Page

Field or Button	Description
Default Class of Service	Identifies the current default class of service. This is the class of service that new unrecognized devices are assigned prior to being provisioned with a specific class of service.
Default DHCP Criteria	Identifies the criteria that BPR will use to override any specified client.
<b>Submit</b>	Activates or implements the changes that you have made.
<b>Reset</b>	Returns all settings back to their previous setting.



### Note

Any changes made will not affect the current devices.

## Custom Customer Premises Equipment Defaults

The Configure Custom CPE Defaults page (Figure 4-30) displays a list of default values currently applied to the computers supported by BPR.

Figure 4-30 Configure Custom CPE Page

Table 4-11 identifies the fields and buttons shown in Figure 4-30.

Table 4-11 Configure Custom CPE Defaults Page

Field or Button	Description
Default Class of Service	Identifies the default class of service. This is the class of service that new, unrecognized devices are assigned prior to being provisioned with a specific class of service.
Default DHCP Criteria	Identifies the default DHCP criteria used with this technology.
<b>Submit</b>	Activates or implements the changes that you have made.
<b>Reset</b>	Returns all settings back to their previous setting.



### Note

Any changes made will not affect the current devices.

## DOCSIS Defaults

The Configure DOCSIS Defaults page (Figure 4-31) displays a list of default DOCSIS values currently applied to cable modems supported by BPR.

Figure 4-31 Configure DOCSIS Defaults Page

Table 4-12 identifies the fields and buttons shown in Figure 4-31.

**Note**

Any changes made will not affect the current devices.

Table 4-12 Configure DOCSIS Defaults Page

Field or Button	Description
Default Class of Service	Identifies the current default class of service. This is the class of service that new unrecognized devices are assigned prior to being provisioned with a specific class of service.
Default DHCP Criteria	Identifies the default DHCP criteria used with this technology.
CMTS Shared Secret	Identifies the shared secret between BPR and the CMTS. The shared secret is used for authentication in dynamic DOCSIS mixing.
TFTP Modem Address Option	Enables or disables this option. This is equivalent to DOCSIS Option 20.
TFTP Time Stamp Option	Enables or disables this option. This is equivalent to DOCSIS Option 19.
<b>Submit</b>	Activates or implements the changes that you have made.
<b>Reset</b>	Returns all settings back to their previous setting.

## Digital Set-Top Box Defaults

The Configure DSTB Defaults page (Figure 4-32) displays a list of default values currently applied to digital set-top boxes supported by BPR.

Figure 4-32 Configure DSTB Page

Table 4-13 identifies the fields and buttons shown in Figure 4-32.

Table 4-13 Configure DSTB Defaults Page

Field or Button	Description
Default Class of Service	Identifies the current default class of service. This is the class of service that new, unrecognized devices are assigned prior to being provisioned with a specific class of service.
Default DHCP Criteria	Identifies the default DHCP criteria used with this technology.
<b>Submit</b>	Activates or implements the changes that you have made.
<b>Reset</b>	Returns all settings back to their previous setting.



**Note** Any changes made will not affect the current devices.

## Gateway Control Protocol Defaults

XGCP is a gateway control protocol that lets external call agents control gateways in a Voice over IP (VoIP) environment. The Configure XGCP Defaults page (Figure 4-33) displays a list of default values currently applied to the computers supported by BPR.

Figure 4-33 Configure XGCP Page

Table 4-14 identifies the fields and buttons shown in Figure 4-33.

Table 4-14 Configure XGCP Defaults Page

Field or Button	Description
Signalling Type	Identifies the xGCP signalling type, such as: S, M, etc.
Version Number	Identifies the xGCP version number in use.
Use old format for merit dumping string	Enables or disables the use of the old string format, which does not include the version number.
<b>Submit</b>	Activates or implements the changes that you have made.
<b>Reset</b>	Returns all settings back to their previous setting.



### Note

Subsequent device configurations will include the changes you implement here. However, all existing configurations do not get changed. To make the changes in any existing configuration, you must regenerate the configuration using the application programming interface (API).

