



# Administering Application Policies

This chapter contains the following sections:

- [Understanding the Categorize Applications Tab, page 7-1](#)
- [Understanding the Define Application Policies Tab, page 7-5](#)
- [Understanding the Application Bandwidth Tab, page 7-9](#)

## Understanding the Categorize Applications Tab

The IWAN app operates with the Cisco NBAR2 Protocol Pack, which runs on routers within the IWAN network. NBAR2 categorizes network application traffic using the individual protocols in the Protocol Pack, in addition to any user-defined custom protocols. (“Protocols” define how NBAR2 categorizes a specific network application.) The IWAN app shows the applications defined by the NBAR2 Protocol Pack, grouped by application category.

The IWAN app 1.5.x releases operate with Protocol Pack 27.0.0 or 31.0.0. See the [Protocol Pack documentation](#) for details.

Use the **Categorize Applications** tab to view, edit, move, and add custom applications as shown in the following table:

**Table 7-1**      *Categorize Applications Tab*

No.	Task	Reference
1	View all of the installed applications in an alphabetized list or view the applications by category. View a summary of all applications. Search for a specific application.	<a href="#">Viewing Applications, page 7-2</a>
2	Move applications into different categories.	<a href="#">Moving Applications to a Different Category, page 7-2</a>
3	Edit application information.	<a href="#">Editing Application Information, page 7-3</a>
4	Add new custom application to an existing category.	<a href="#">Adding a New Application, page 7-3</a>
	Deleting Cisco IWAN custom applications.	<a href="#">Deleting NBAR2 Custom Applications, page 7-5</a>

**Note**

For a quick tutorial about what you can do on the Categorize Applications page, click **Teach Me** in the instructional text.

**Tutorial Video**

[IWAN App Application Policy](#)

## Viewing Applications

Use this procedure to view applications by list, by category, or view a summary of all installed applications.

**Procedure**

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- Step 1** From the Cisco IWAN home page, click **Administer Application Policy**. The Application Policy page opens.
- Step 2** Click the **Categorize Applications** tab. All of the installed applications are displayed in an alphabetized list.
- Step 3** To view the applications by category, click the **By Application Category/By Applications** drop-down list, and select **View By Application Category**.
- Not all categories are shown by default. To view all categories, click the **Show** link in the instructional text.
- Step 4** To view all of the applications in a particular category, click the down arrow for a category.
- Step 5** To view a summary of the total number of applications, popular applications, and custom applications, see the Applications Summary area.
- Step 6** To search for a specific application, enter one of the following parameters in the **Search** field: application short name, long description, ports, traffic class.
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## Moving Applications to a Different Category

To share bandwidth, you can move the application into a different category.

**Procedure**

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- Step 1** From the Cisco IWAN home page, click **Administer Application Policy**. The Application Policy page opens.
- Step 2** Click the **Categorize Applications** tab. All of the installed applications are displayed in an alphabetized list.
- Step 3** To view all of the applications in a particular category, click the down arrow by a category.
- Step 4** To move an application into a different category, drag-and-drop it into the appropriate category, and click **Apply Changes**.
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## Editing Application Information

Use this procedure to edit application information.

### Procedure

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- Step 1** From the Cisco IWAN home page, click **Administer Application Policy**. The Application Policy page opens.
  - Step 2** Click the **Categorize Applications** tab. All of the installed applications are displayed in an alphabetized list.
  - Step 3** To view all of the applications in a particular category, click the down arrow for a category.
  - Step 4** To edit application information, click on the pencil icon next to the application. Information about the application appears.
  - Step 5** Click **Edit**. The Edit Application dialog box opens.
  - Step 6** Make your changes, and click **Save**.
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## Adding a New Application

Use this procedure to add a new custom application.

### Procedure

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- Step 1** From the Cisco IWAN home page, click **Administer Application Policy**. The Application Policy page opens.
  - Step 2** Click the **Categorize Applications** tab. All of the installed applications are displayed in an alphabetized list.
  - Step 3** To add a new custom application, click the **Add Application** tab. The Add Application dialog box opens.
  - Step 4** Enter the following properties, and click **Add**:

Field	Description
Name	Name of the application.
Type	Options: <ul style="list-style-type: none"> <li>• <b>URL</b>—Click the button, then enter the application URL in the URL field.</li> <li>• <b>Server IP/Port</b>—Click the button to display additional fields. Select a protocol option using the Protocol drop-down list, then, and then enter the IP, port, and protocol for the application to use.</li> <li>• <b>DSCP</b>—Differentiated services code point (DSCP). Click the button, then choose a value from the drop-down list.</li> </ul>
Type	<p><b>URL</b> Click the button, then enter the application URL in the URL field.</p> <p><b>Server IP/Port</b> Click the button to display additional fields. See <a href="#">Supported Server IP/Port Combinations, page 7-4</a>.</p> <p><b>DSCP</b> Differentiated services code point (DSCP). Click the button, then choose a value from the drop-down list.</p>
Similar to	Click the field to display a list of available similar applications, and then choose an application.
Category	Choose a category from the drop-down list for the new application to reside.
Packet loss	(Optional) Specify a different value or keep the default value.
Delay	(Optional) Specify a different value or keep the default value.

## Supported Server IP/Port Combinations

The following table provides examples of supported combinations for the Server IP/Port option.

*Table 7-2 Example Combinations for Defining an Application*

Combination	IP/Subnet field (examples)	Protocol field (examples)	Port/Range field maximum 1000 ports in range (examples)
IP address only	192.0.2.0	IP	
Subnet only	192.0.2.0/16	IP	
Port only		TCP	2000
Port range only		TCP	2001-3000
Subnet and port	192.0.2.0/16	TCP	2000
Subnet and port range	192.0.2.0/16	TCP	2001-3000
IP address and port range	192.0.2.0	TCP	2001-3000

## Deleting NBAR2 Custom Applications

Use this procedure to delete NBAR2 custom applications.

### Procedure

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- Step 1** From the Cisco IWAN home page, click **Administer Application Policy**. The Application Policy page opens.
- Step 2** Click the **Categorize Applications** tab.
- Step 3** To delete a custom application, do the following:
- In the left window, change the **View By** filter from **Application Category** to **Applications**.
  - Click the **Edit** icon next to the application. The Edit Application dialog box opens.
  - Click the **Delete** button in the Edit Application dialog box.



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**Note** The Delete button is available only for custom applications (not EasyQoS custom apps or default Protocol Pack applications).

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- Click **OK** in the confirmation box. The application is removed from the user interface. (The deletion is finalized in a later step with the **Apply Changes** button.)



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**Note** If you change your mind, and do not want to delete the application, refresh the page. The application is restored with all of its configuration.

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- Step 4** To finalize the application deletion, click **Apply Changes** (top right corner).



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**Note** After you click **Apply Changes**, the application cannot be restored.

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- Step 5** To delete multiple applications at once, delete them from the user interface, and click **Apply Changes**. The Application Policy Summary page appears, listing all of the applications to be deleted.

- Step 6** Review the information in the summary and then do one of the following:
- Click the **Apply Now** radio button, and then click **Continue**.
  - Click the **Schedule** radio button, specify a date and time to delete the application, and then click **Continue**.
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## Understanding the Define Application Policies Tab

Use the **Define Application Policy** tab to define policies according to their relevance to the business.

### Application Categories

Application policies are categorized as one of the following:

- Business Relevant—Applications such as email, voice-and-video, file-sharing, backup-and-storage that are critical to the business.
- Default—Applications such as epayment.
- Business Irrelevant—Applications that are not relevant to the business such as social media and gaming applications.

### Application Policy

Application policy defines the QoS and PfR policies for each of the application categories.

Cisco IWAN QoS defines how traffic egresses the network. It is critical that the classification, marking, and bandwidth allocations align to the service provider offering to ensure consistent QoS treatment end-to-end.

The IWAN app follows a 12-class model on the ingress to mark all incoming applications, and traffic is marked again on the egress according to the service provider QoS profile attached to the WAN link.



#### Note

You can view the DSCP values and bandwidth allocated for each egress class, and edit the values in the service provider profiles through the **Configure Hub Site and Settings > Service Providers** tab.

To ensure proper QoS treatment, place the application categories in the right column. All categories placed in the Business Relevant column will be marked according to the traffic class for the corresponding applications. To view the traffic class for an application, open the **Categorize Applications** tab, then open the Category for the application, and click the edit button for the application. The following table shows how traffic classes map to specific DSCP values:

Table 7-3 Traffic Classes and DSCP Values

Traffic Class	DSCP Value
BROADCAST_VIDEO	CS5
BULK_DATA	AF11
INTERACTIVE_VIDEO	CS4
MULTIMEDIA_CONFERENCING	AF41
MULTIMEDIA_STREAMING	AF31
NETWORK_CONTROL	CS6
NETWORK_MANAGEMENT	CS2
SCAVENGER	CS1
SIGNALING	CS3
TRANSACTIONAL_DATA	AF21
VOIP_TELEPHONY	EF

All categories placed in **Business Irrelevant** are marked with a DSCP value of CS1, regardless of the traffic class attached to the application. Categories placed in the Default section keep their original incoming marking.

Optionally, set PfR path prioritization by enabling Application Performance for a category and selecting the Path Preference radio button. For each category, the WAN paths configured in the Service Providers tab (on the Configure Hub Site & Settings page) are shown in the category dropdown menu.

Optionally, Drop can be selected from the menu for the secondary path. If this option is selected, and the primary path goes out of policy, the PfR will drop the packets rather than failing over to the secondary path.

Optionally, multiple primary and secondary options can be selected. If the primary path goes out of policy, the SLA threshold for each application is monitored, and applications are dynamically moved to the secondary path.

To view or edit the SLA threshold values for an application, open the Categorize Applications tab, then open the Category for the application, and click the edit button for the application.

## Operations in the Define Applications Tab

Use the **Define Application Policy** tab to do the following:

**Table 7-4** *Define Applications Tab*

No.	Task	Reference
1	Move an application category to a different business group.	<a href="#">Understanding the Application Bandwidth Tab, page 7-9.</a>
2	Modify application performance.	<a href="#">Modifying the Application Performance, page 7-8</a>

## Moving an Application Category to a Different Business Group

Use this procedure to move an application category to a different business group.

### Procedure

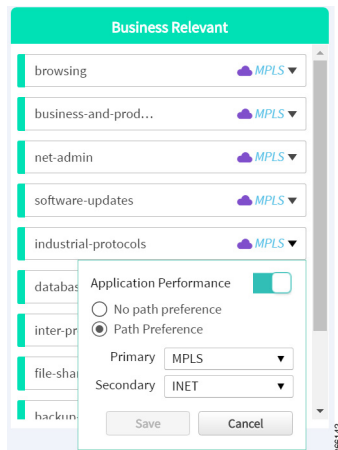
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- Step 1** From the Cisco IWAN home page, click **Administer Application Policy**. The Application Policy page opens.
- Step 2** Click the **Define Application Policy** tab. Applications are displayed in three categories: Business Relevant, Default, and Business Irrelevant.
- Step 3** To move an application from one business group to another, use the drag-and-drop feature. For example, you can drag the epayment application from the Default group and drop it into the Business Irrelevant group.
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## Modifying the Application Performance

Use this procedure to modify the application performance parameters.

### Procedure

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- Step 1** From the Cisco IWAN home page, click **Administer Application Policy**. The Application Policy page opens.
- Step 2** Click the **Define Application Policy** tab. All of the applications are displayed in three categories: Business Relevant, Default, and Business Irrelevant.
- Step 3** To modify the application performance, click the down arrow next to an application. The Application Performance dialog box opens as shown in the following figure.



- Step 4** Do the following:
- a. Click the **Application Performance** button to enable or disable it.
  - b. Choose the appropriate path preference radio button.



- c. Choose primary and secondary path from the drop-down list. The secondary path can be Drop.
- Step 5** Select a path preference, with Path 1 being the preferred path for traffic in this category. For example, Int (Internet).
- Step 6** After updating the path preference, click **Save**.
- Note** The **Save** option does not check for validations in conflict with future scheduled workflows. Please reevaluate scheduled jobs based on these changes and update scheduled jobs as required. If there is a conflict when the scheduled job is activated, it may fail at that time.
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## Understanding the Application Bandwidth Tab

Use the Application Bandwidth tab to view the bandwidth used across various applications. Based on this information you can choose to move applications into different categories. See [Moving Applications to a Different Category, page 7-2](#).

## Viewing the Application Bandwidth

Use this procedure to view the bandwidth used across different applications in a graphical format.

### Before You Begin

Make sure you have done the following:

- Added the Cisco APIC-EM controller IP address on the Prime application.
- Added the Prime credentials in Cisco APIC-EM.

### Procedure

- Step 1** From the Cisco IWAN home page, click **Administer Application Policy**. The Application Policy page opens.
- Step 2** Click the **Application Bandwidth** tab. The amount of bandwidth used per application category for each hub is displayed in a graphical format. You can also view the date and time the bandwidth is used the most.
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