



CODONICS

PACS and 3D Workstations



Modality



Supports all modalities

Infinity®



Virtua® Medical Disc Publisher

SmartRouting enables automatic and intelligent transfer of data to multiple destinations



Back-up



SmartRouting™ Quick Start Guide

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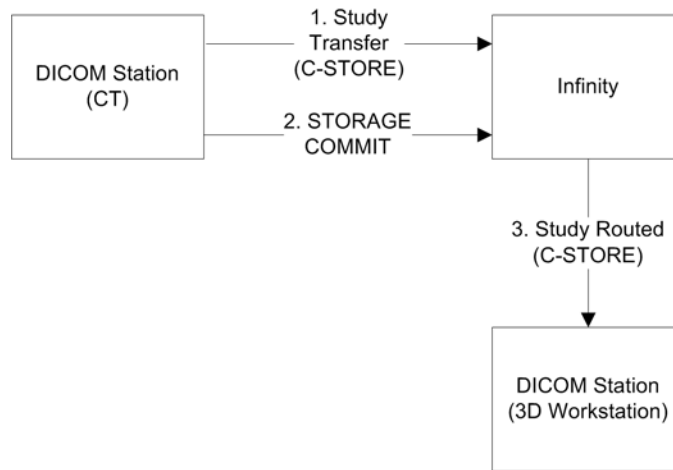
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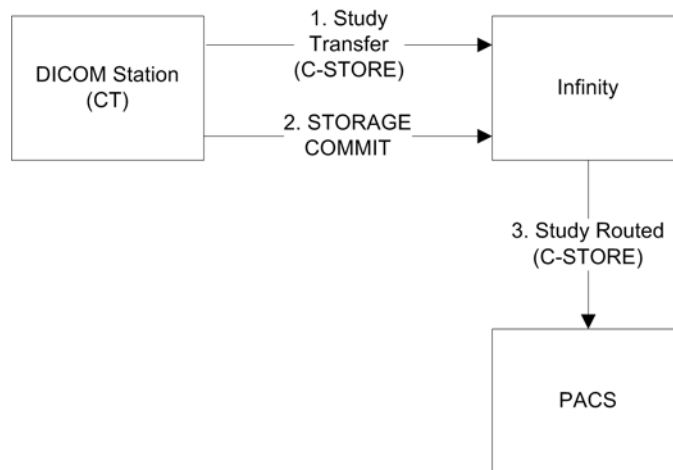
SmartRouting Overview

Codonics® Infinity® SmartRouting allows completed studies received by Infinity to be routed to other DICOM destinations, based on a set of matching study criteria. This is sometimes referred to as “Store and Forward.”

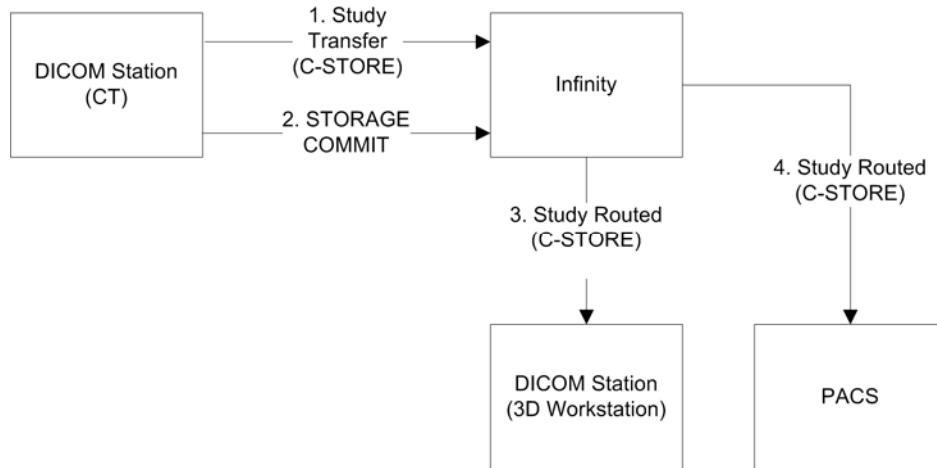
One typical use for SmartRouting is when Infinity is being used as a local modality storage enhancement device, for example, with a multi-slice CT. In this scenario, the CT sends studies to Infinity, which receives and stores them at a very fast rate. Once a full study has been received, as indicated by a successful Storage Commitment transaction, Infinity then forwards that study on to a 3D workstation for post-processing.



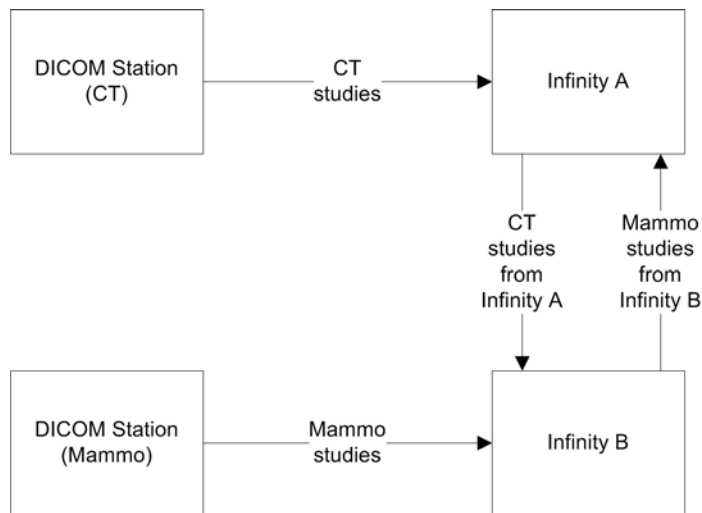
Another example involves the same local modality storage scenario, but with an enterprise PACS as the final destination, rather than a 3D workstation.



One final example is a combination of the previous two: once a study is received by Infinity, it is routed to a 3D workstation AND to an enterprise PACS.



SmartRouting can also be configured to allow one Infinity system to mirror another, providing total redundancy of data. Everything that is sent to Infinity A is forwarded to Infinity B, unless it came from Infinity B originally. Similarly, everything sent to Infinity B is forwarded to Infinity A, unless it came from Infinity A originally. This ensures that each Infinity “Stores and Forwards” to the other, but that they do not send duplicates back and forth.



Routing Configuration Overview

There are several components that have to be configured to support Infinity SmartRouting:

- The **source and destination DICOM stations** for Infinity. These are configured using the Infinity Administration tool.
- **Triggers**, which define when a study is complete and ready to be routed to its destinations. The trigger for each source DICOM station is configured using the Administration tool. The trigger for each source DICOM station is also specified on the **SmartRouting** tab of the Infinity Configurator tool.
- **Routing rules**, which define the studies to be routed, given the occurrence of a trigger, and the destinations for those studies. Routing rules are created and maintained using the SmartRouting Routing Rules wizard in the Configurator tool.

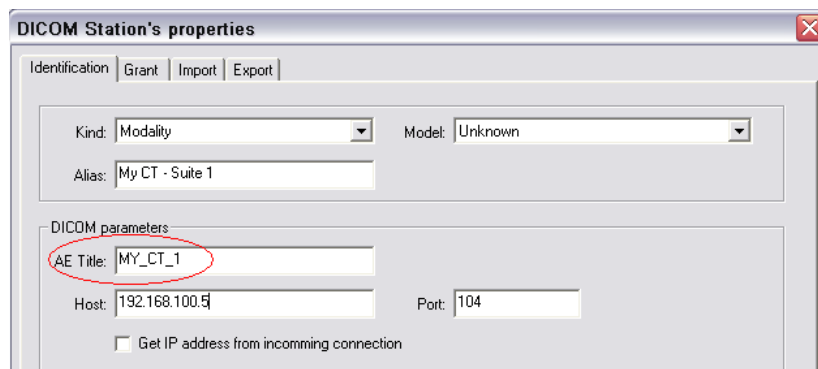
This manual covers configuration information specific to configuring source and destination DICOM stations for SmartRouting. A complete description of configuring DICOM stations for use with Infinity is available in the Infinity Medical Image Server User's Manual.

Configuring DICOM Stations

DICOM station configuration involves setting up the basic DICOM connectivity information for each DICOM host that will participate in SmartRouting (sources and destinations), as well as defining the study-completed trigger for each study source.

Basic DICOM Station Connectivity

DICOM station configuration involves setting up the basic DICOM connectivity information for each DICOM host that will participate in SmartRouting (sources and destinations).



For information about performing basic DICOM connectivity configuration, refer to the Infinity Medical Image Server User's Manual.

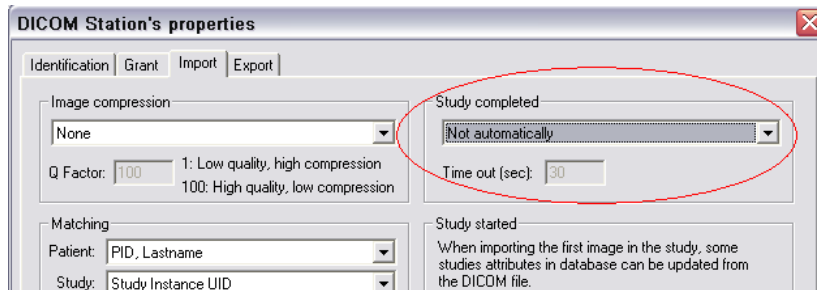
Configuring DICOM Station Study Completion

Routing can be triggered by study completion. In other words, once Infinity marks a study as complete, it is eligible for routing based on the configured routing rules.

Study completion is defined in the **Import** tab of the Administration tool's DICOM Station Properties dialog box. This allows the conditions that indicate study completion to be customized for each DICOM station source.

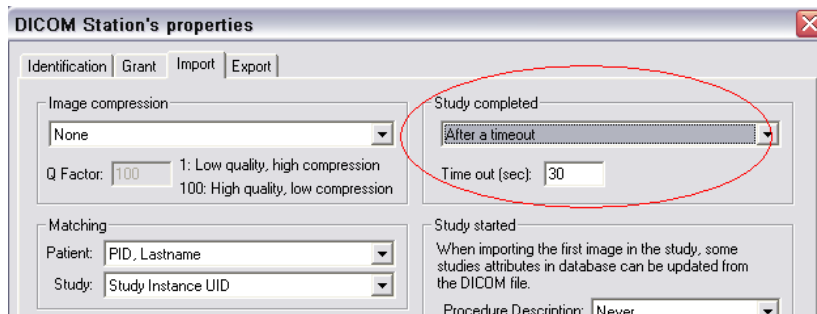
The study completed options are selected in the **Study completed** panel of the **Import** tab. The available options are:

- **Not automatically.** A study must be manually marked as complete from within the Infinity Study Manager. (For more information about using Study Manager, refer to the Infinity Medical Image Server User's Manual.)

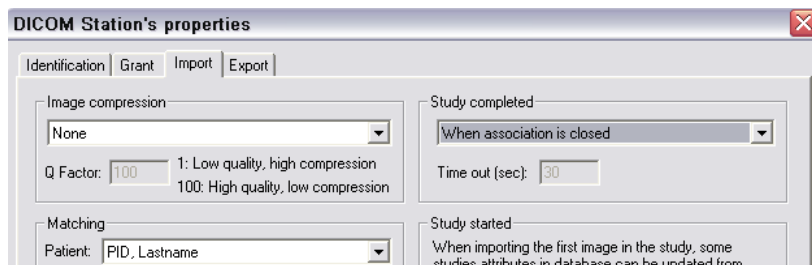


NOTE: Not automatically is not an option for SmartRouting because studies would not be forwarded automatically.

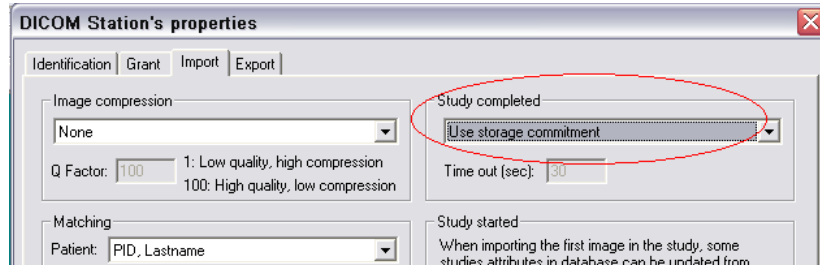
- **After a timeout.** The study is considered complete when a timeout period has elapsed since the last image, series, or study was received. The timeout is configured in seconds. The default is 30 seconds.



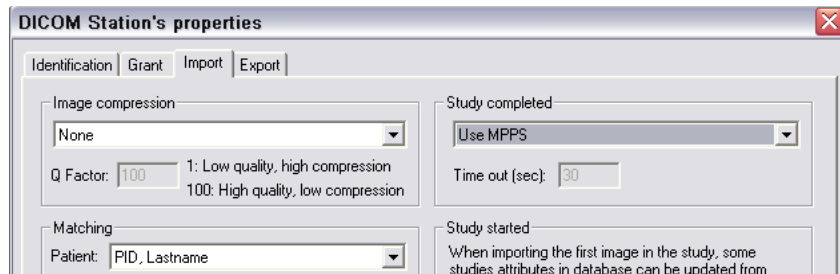
- **When association is closed.** The study is considered complete when the DICOM association is closed.



- **Use storage commitment.** The study is considered complete when a Storage Commit operation is completed.



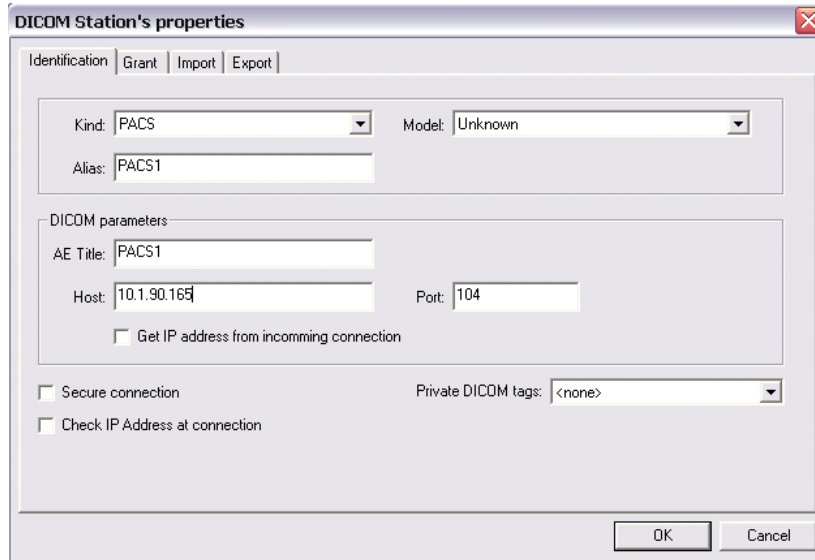
- **Use MPPS.** The study is considered complete when the Modality Performed Procedure Step status is set to completed.



The triggers for each DICOM station source are also listed in and can be edited from the **SmartRouting** tab of the Infinity Configurator. For more information, refer to "Configuring Triggers in SmartRouting" on p. 18.

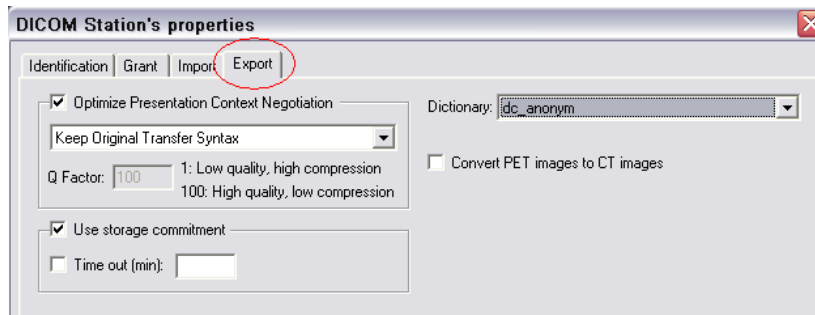
Configuring DICOM Station Destinations

DICOM station destinations are defined by their DICOM AE Title, as configured in the Infinity Administration tool.



The screenshot shows the 'DICOM Station's properties' dialog box with the 'Identification' tab selected. The 'Kind' dropdown is set to 'PACS' and the 'Model' dropdown is set to 'Unknown'. The 'Alias' text field contains 'PACS1'. Under 'DICOM parameters', the 'AE Title' text field contains 'PACS1', the 'Host' text field contains '10.1.90.165', and the 'Port' text field contains '104'. There are three checkboxes: 'Get IP address from incoming connection' (unchecked), 'Secure connection' (unchecked), and 'Check IP Address at connection' (unchecked). The 'Private DICOM tags' dropdown is set to '<none>'. 'OK' and 'Cancel' buttons are at the bottom right.

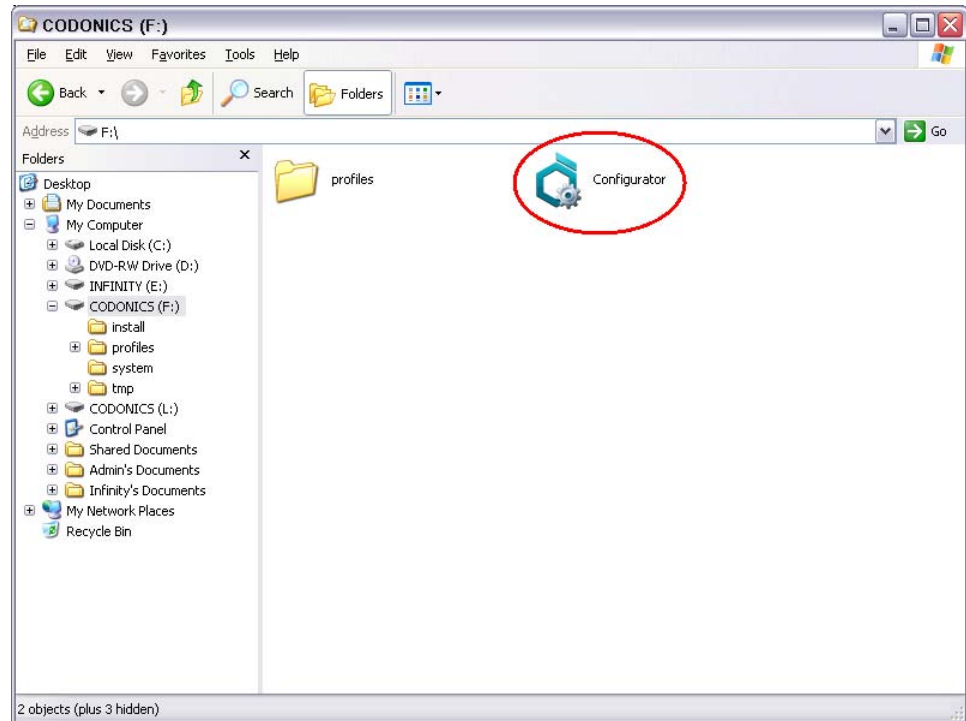
Because destinations are tied to a particular DICOM station configuration, all export configuration features on the **Export** tab (e.g., Compression, Anonymization, and Storage Commitment) are available for each station destination.



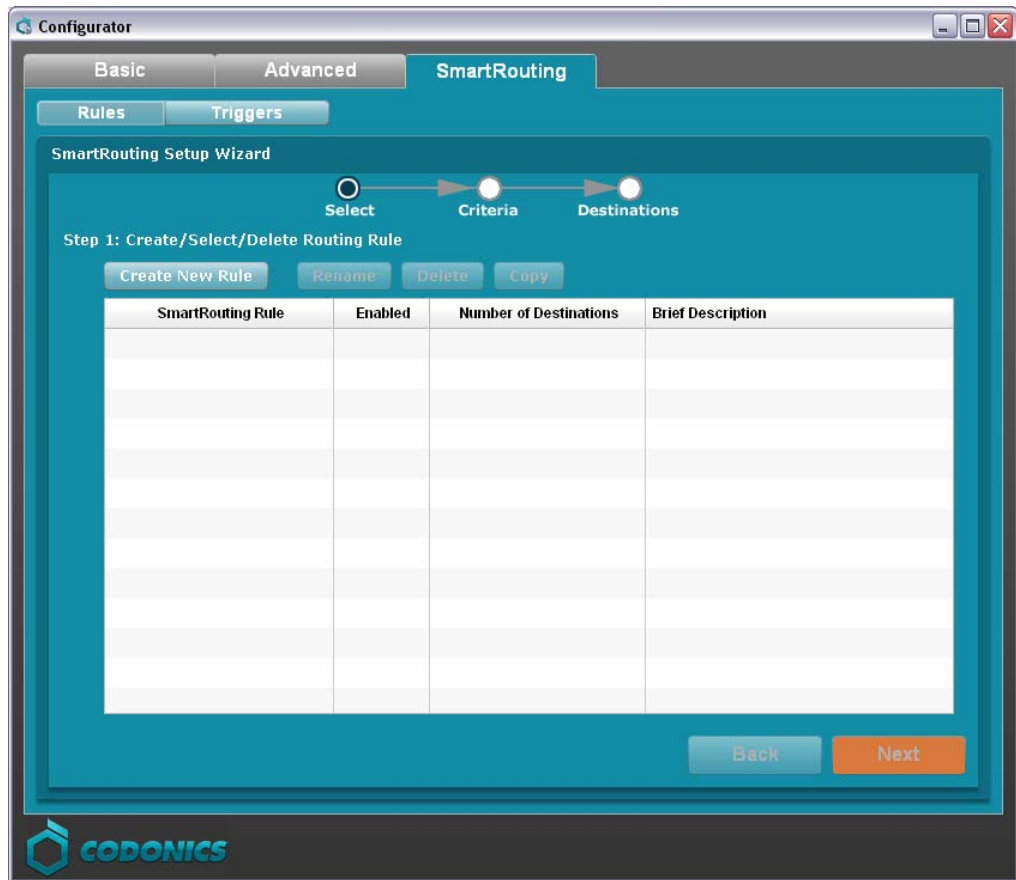
The screenshot shows the 'DICOM Station's properties' dialog box with the 'Export' tab selected. The 'Optimize Presentation Context Negotiation' checkbox is checked. The 'Keep Original Transfer Syntax' dropdown is set to 'Keep Original Transfer Syntax'. The 'Q Factor' is set to '100', with a legend indicating '1: Low quality, high compression' and '100: High quality, low compression'. The 'Dictionary' dropdown is set to 'dic_anonym'. The 'Convert PET images to CT images' checkbox is unchecked. The 'Use storage commitment' checkbox is checked, and the 'Time out (min):' text field is empty. 'OK' and 'Cancel' buttons are at the bottom right.

Accessing the SmartRouting Tab in the Configurator

1. Remove the SmartDrive from Infinity.
2. Connect the SmartDrive to a PC.



3. Run Configurator.exe.
4. Click the **SmartRouting** tab.



Creating Rules in SmartRouting

A SmartRouting *rule* defines a complete routing action, including:

- The name of the routing rule.
- The routing criteria that define what studies and/or series will be routed as part of the rule's action.
- The routing destinations for the rule.

Multiple routing rules can be configured on a single Infinity system.

NOTE: Non-optimal routing rules (e.g., setting up a multi-slice CT to trigger on an image) can affect performance.

As each study is marked as completed, it is compared against the criteria of each routing rule, and then forwarded to the appropriate destinations if the criteria are met.

The screenshot shows the 'Configurator' application window with the 'SmartRouting' tab selected. The 'SmartRouting Setup Wizard' is displayed, showing a progress bar with three steps: 'Select', 'Criteria', and 'Destinations'. The current step is 'Step 2: Edit Rule Title and Criteria'. The 'Rule Title' field is empty. Under 'Criteria', the 'Route All Studies' checkbox is checked. Below this, there are several criteria categories with corresponding input fields: 'Calling AE Title', 'Called AE Title', 'Modality', 'Body Part Examined', 'Referring Physician', 'Requesting Physician', 'Reading Physician', 'Series Description', and 'Study Description'. At the bottom, there are options for 'Study Received Time' (Between 00:00 and 00:00) and 'Study Received Days' (Mon, Tue, Wed, Thu, Fri, Sat, Sun). 'Back' and 'Next' buttons are visible at the bottom right. The CODONICS logo is in the bottom left corner.

Before explaining how to use the Setup wizard, you need to be familiar with how routing criteria is used to select the studies that will be routed by the rule.

Routing Criteria

Routing criteria specify particular study or series attributes, along with a set of matching values, such that if a completed study meets these criteria, it will be routed to the destinations defined in the routing rule.

Criteria are defined as matching rules based on standard DICOM attributes and values.

attribute1 = value1

Multiple attributes which are used in the routing criteria can be matched (there is an implicit logical AND between them):

attribute1 = value1 AND

attribute2 = value2

Values can be specified using the following special operators which are used in the routing criteria:

* = wildcard (match any characters)

! = logical NOT

| = logical OR

The following table lists the supported criteria attributes.

Study Attributes	
<i>Attributes</i>	<i>DICOM (Group,Element) - Name</i>
PROCEDURE DESCRIPTION	(0008,1030) – Study Description
REFERRING PHYSICIAN	(0008,0090) – Referring Physician's Name
READING PHYSICIAN	(0008,1060) – Name of Physician(s) Reading Study
REQUESTING PHYSICIAN	(0032,1032) – Requesting Physician

Series Attributes	
<i>Attributes</i>	<i>DICOM (Group,Element) - Name</i>
MODALITY	(0008,0060) – Modality
BODY PART EXAMINED	(0018,0015) – Body Part Examined
SERIES DESCRIPTION	(0008,103E) – Series Description
CALLED AE TITLE	Called AE Title for original C-STORE operation
CALLING AE TITLE	Calling AE Title for original C-STORE operation

In addition, routing criteria can include time and date specifiers that relate to when the study is originally received by Infinity:

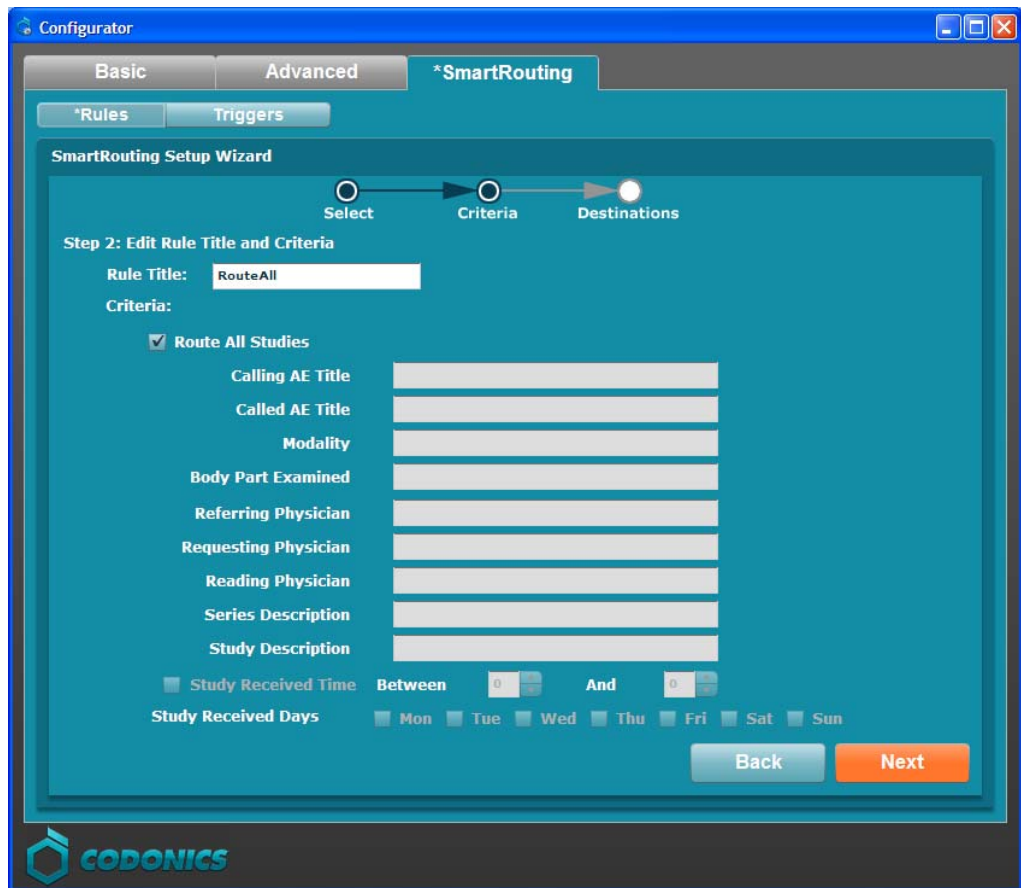
- A **Study Received Time** criteria includes a start and stop time (for example, studies stored between 9 PM and 6 AM can be routed to a particular destination).
- A **Study Received Days** criteria includes an option checkbox for each day of the week (for example, studies stored on the weekend can be routed to a particular destination).

CAUTION: When using Study Received Time and Study Received Days, make sure to check that the time (found in the lower right hand corner of the Infinity desktop and/or the Dashboard of the System Status user interface) is correctly set for Infinity. Regularly check that the time is correct especially if the unit is shutdown or rebooted.

NOTE: When a series is matched, only that series will be routed.

Entering the Rule Title and Routing Criteria

The first screen of the Setup wizard includes a field for entering the rule title, then a list of fields and options for defining the study match criteria. Only studies that match the criteria defined here will be routed as part of this rule's routing action.



The match criteria include the following fields and options:

- Selecting the **Route All Studies** option will cause all studies received by Infinity to be forwarded to the destinations defined for this rule. Deselecting this option will enable the other criteria fields and options.
- Several **study and series attribute** fields, such as Modality and Reading Physician, are included, for entering match criteria by these attributes.
- To route only studies received within a specific time range, select the **Study Received Time** option, and then enter the start and end times of the time range. Time is represented in military time (24-hr time).
- To route only studies received on particular days of the week, select one or more **Study Received Days** day options.

When you are finished entering the title and study match criteria, click the **Next** button.

Rules Criteria Examples

The following are some examples of typical criteria that can be used in a routing rule.

Example 1: Route everything that is received.

Criteria:
 Route All Studies

Example 2: Route everything *except* studies received from a particular host (e.g. INF_SYNC_1).

Calling AE Title

Example 3: Route only from a specific host.

Calling AE Title

Example 4: Route from a group of hosts.

Calling AE Title

Example 5: Route only permanent studies.

Calling AE Title

Example 6: Route only CT studies.

Modality

Example 7: Route studies referred by Dr. Jones.

Referring Physician	Dr. Jones
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Example 8: Route studies to be read by Dr. Smith.

Reading Physician	Dr. Smith
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Example 9: Route MR studies of the knee.

Modality	MR
Body Part Examined	KNEE

Example 10: Route studies that are received during the night shift (9PM-6AM).

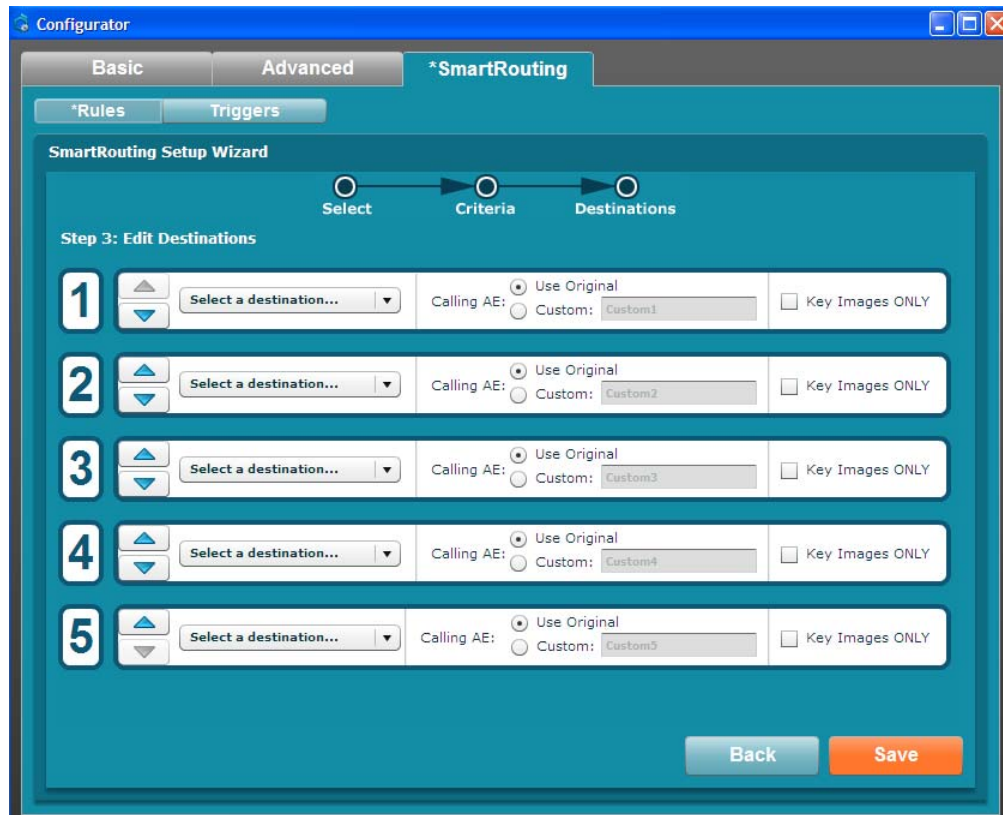
<input checked="" type="checkbox"/> Study Received Time	Between	08:00	And	17:00
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Example 11: Route studies that are received on the weekend (Saturday or Sunday).

Study Received Days	<input type="checkbox"/> Mon	<input type="checkbox"/> Tue	<input type="checkbox"/> Wed	<input type="checkbox"/> Thu	<input type="checkbox"/> Fri	<input checked="" type="checkbox"/> Sat	<input checked="" type="checkbox"/> Sun
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Specifying Destinations

The next Setup wizard screen is the Destinations screen.



Up to five destinations can be specified. The following parameters are available for each destination:

- Select the **destination** from the pop-up menu. The AE Titles for all DICOM station destinations that have been configured for Infinity (using the Administration tool) are included in this menu.
- Specify whether the **default (original) Calling AE Title** for the destination will be used, **or** enter a **custom Calling AE Title**.

A custom Calling AE Title can be entered for the destination to control the Calling AE Title used during the C-STORE Association that executes the forwarding operation. Otherwise, the default Calling AE is used, which is the same Calling AE Title used when the study was originally stored to Infinity.

- Select the **Key Images Only** option to allow only key images to be sent to the destination. If this option is not selected, then all images of the matching studies are sent.

To reorder the destinations in the list, use the Up and Down arrows at the left of the destination entries.

When you are finished specifying the destinations, click the **Save** button. The rule is saved and is added to the rules list.

Destination Examples

The following are some examples of typical destinations that can be used in a routing rule.

Example 1: Send to the PACS using the default Calling AE Title.

Step 3: Edit Destinations

1	PACS_1	Calling AE: <input checked="" type="radio"/> Use Original <input type="radio"/> Custom: Custom1	<input type="checkbox"/> Key Images ONLY
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Example 2: Send to a Workstation using a custom Calling AE Title.

Step 3: Edit Destinations

1	MY_WS	Calling AE: <input type="radio"/> Use Original <input checked="" type="radio"/> Custom: ws1	<input type="checkbox"/> Key Images ONLY
---	-------	---	--

Example 3: Send to another Infinity and the PACS.

Step 3: Edit Destinations

1	perm	Calling AE: <input checked="" type="radio"/> Use Original <input type="radio"/> Custom: Custom1	<input type="checkbox"/> Key Images ONLY
2	PACS_1	Calling AE: <input checked="" type="radio"/> Use Original <input type="radio"/> Custom: Custom2	<input type="checkbox"/> Key Images ONLY

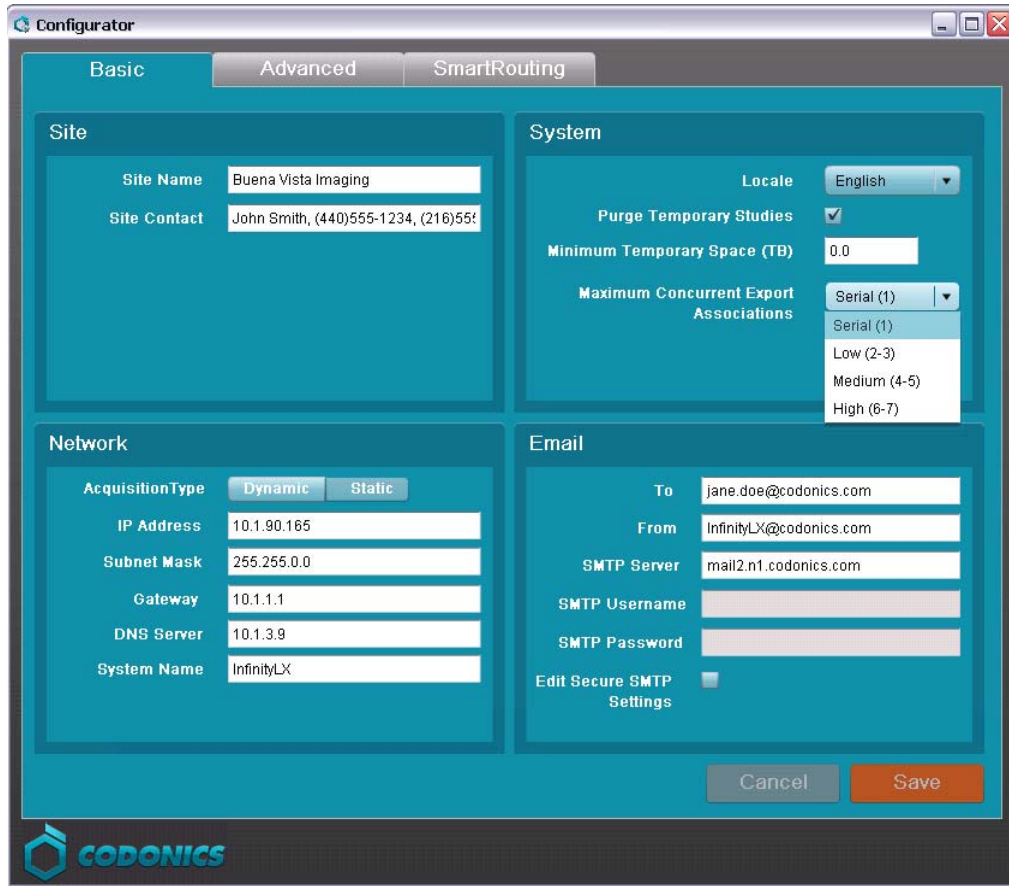
Example 4: Send only key images to a special workstation.

Step 3: Edit Destinations

1	MySpecialWS	Calling AE: <input checked="" type="radio"/> Use Original <input type="radio"/> Custom: Custom1	<input checked="" type="checkbox"/> Key Images ONLY
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NOTE: To improve export performance to a destination, you can change the Maximum Concurrent Export Associations on the Basic tab of the Configurator. Serial(1) will export one study, series, or image to one destination at a time. By choosing more concurrent export associations, the system will try to send studies, series, or images concurrently to multiple destinations.

NOTE: The Maximum Concurrent Export Associations field also affects exporting studies via the Study Manager.



Maintaining Rules

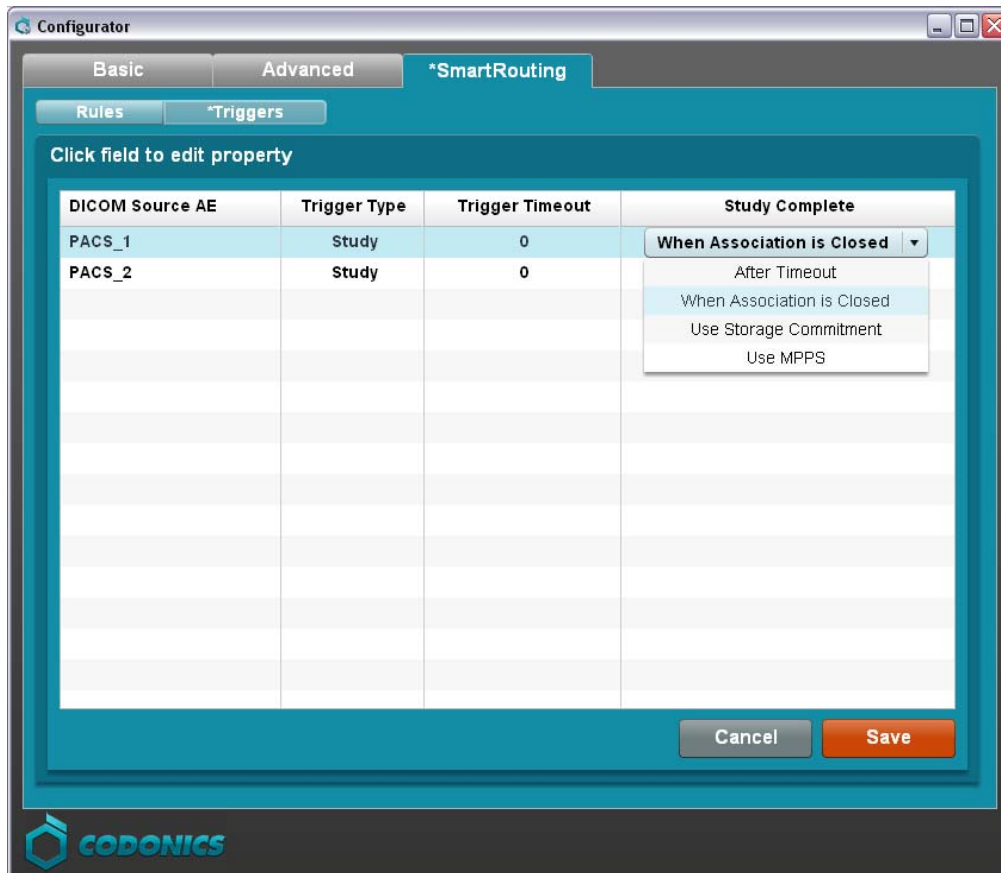
Rules can be renamed, copied to create a new rule based on an existing one, and deleted.

To Do This:	Perform These Steps
Rename a rule	Select the rule, then click the Rename button. Enter the new name in the Title field.
Copy a rule	Select the rule, then click the Copy button. The Setup wizard is prefilled with the settings of the rule that was copied.
Delete a rule	Select the rule, then click the Delete button. You are prompted to confirm the deletion.

Configuring Triggers in SmartRouting

Triggers are used to optimize the performance of SmartRouting. As previously described in “Configuring DICOM Station Study Completion” on p. 4, SmartRouting can be triggered by different study completion definitions. In other words, once Infinity marks a study as complete, it is eligible for routing based on the configured routing rules. Refer to “Use Cases for Triggers” on p. 39 for a description of the differences between study, series, and image triggers and an explanation of the study completion types.

On the **Triggers** subtab, the DICOM station sources that are configured for Infinity are listed. The list includes the trigger settings that were configured for each source using the Infinity Administration tool.



To edit a source trigger, click the trigger field and make the necessary change. Then click the **Save** button to save your changes.

NOTE: A * means that there is a change on the page which has not been saved.

Reinserting the SmartDrive in Infinity

When SmartRouting configuration is complete, disconnect the SmartDrive from the PC and insert it in the Infinity main chassis. Infinity must be rebooted for the SmartRouting settings to take effect.

NOTE: It is recommended that you confirm the first few studies or series that are SmartRouted are correctly received and stored on the DICOM destination it was intended to be sent.

Use Cases for Rules

CAUTION: Before rebooting or cycling power to Infinity, make sure all studies are SmartRouted. If an unexpected power loss occurs, confirm that studies intended to be routed have correctly and completely reached their proper destination. If the intended study has not fully reached their proper destination, delete the study on Infinity and resend the entire study to Infinity.

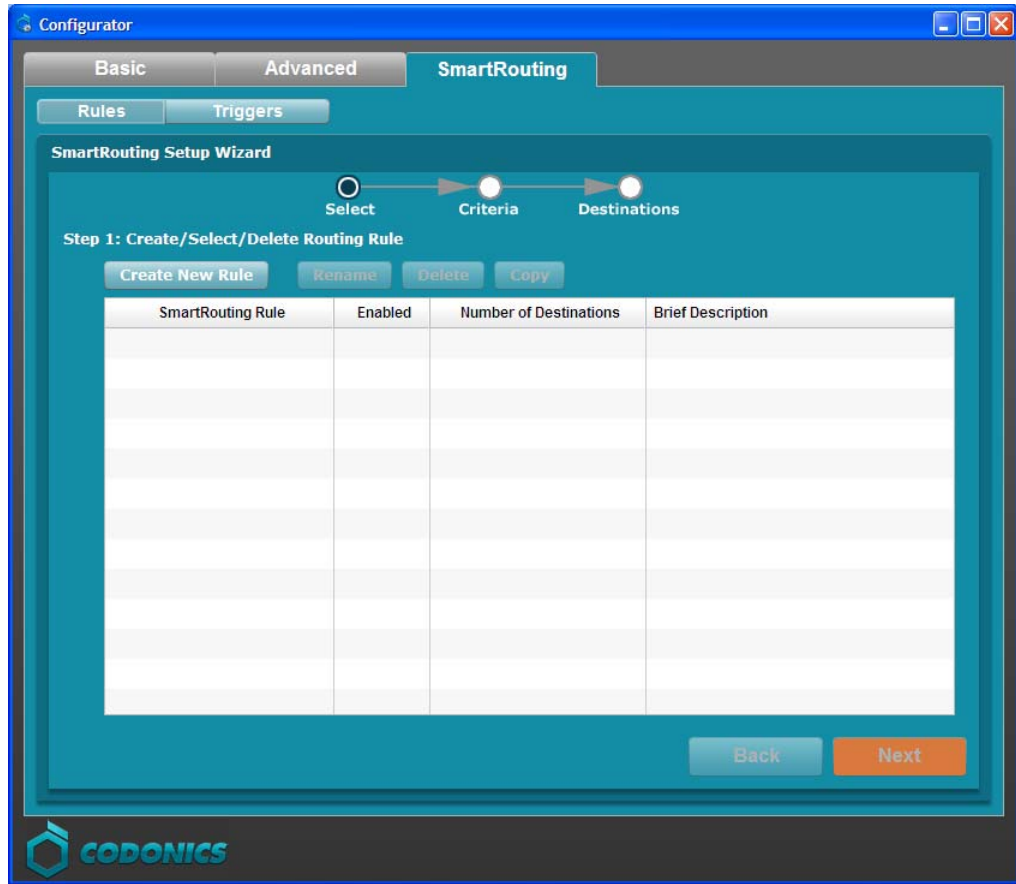
Use Case 1

Route everything that is received on Infinity to additional destinations.

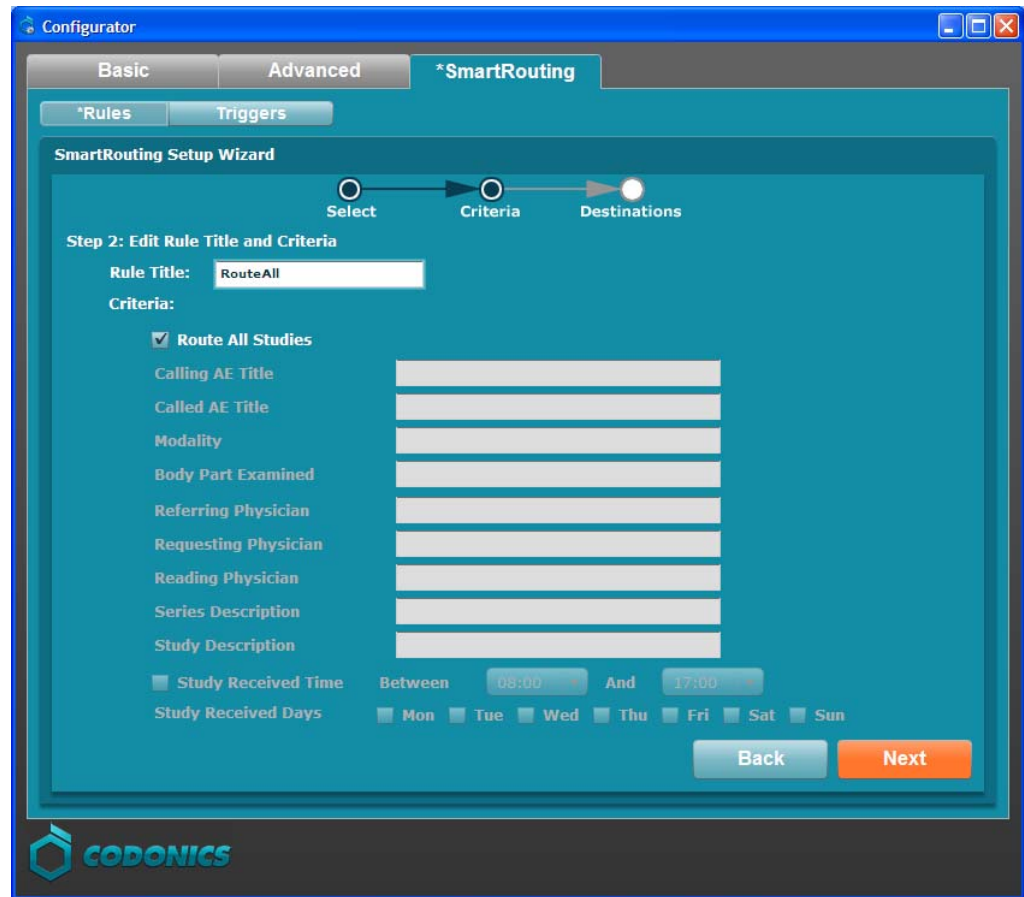
Step 1: Create a New Rule

The SmartRouting Setup wizard is used to create and configure SmartRouting rules.

1. To create a new rule, click the **Rules** subtab. Then click the **Create New Rule** button to start the Setup wizard.



2. Enter a **Rule Title** (e.g., RouteAll) for the rule.

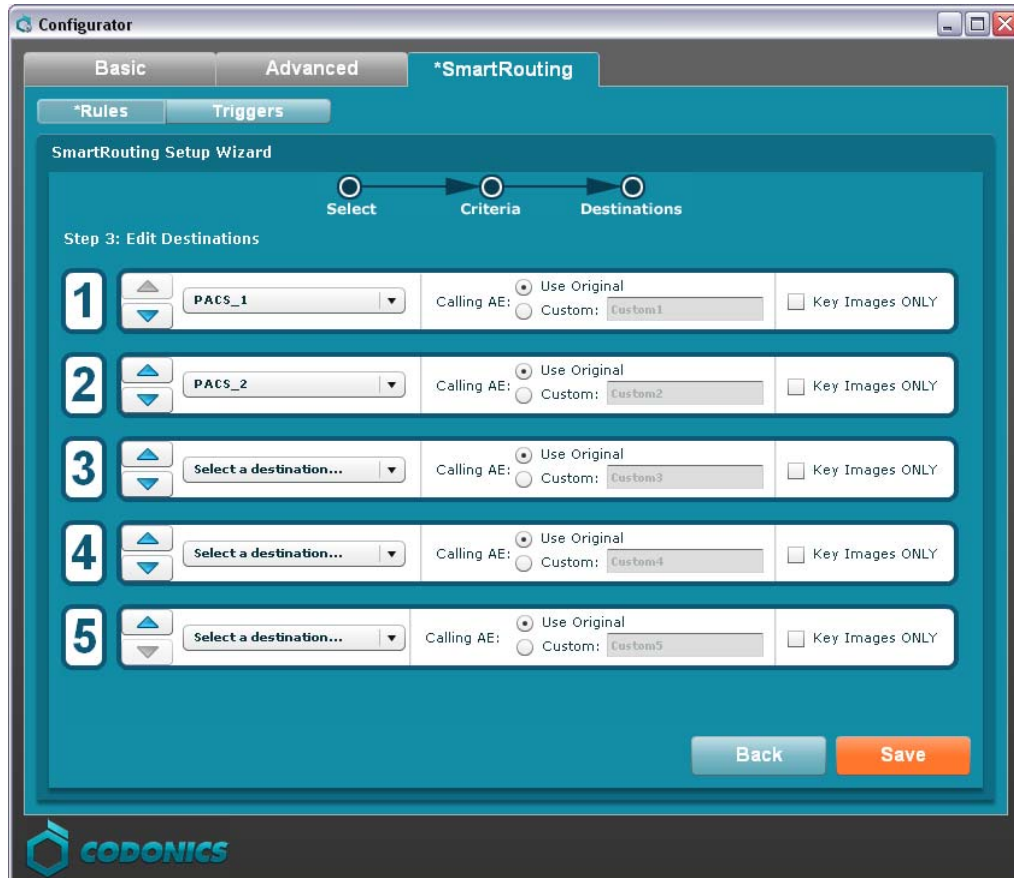


Step 2: Select the Criteria

1. Select the **Route All Studies** check box.
2. Click the **Next** button.

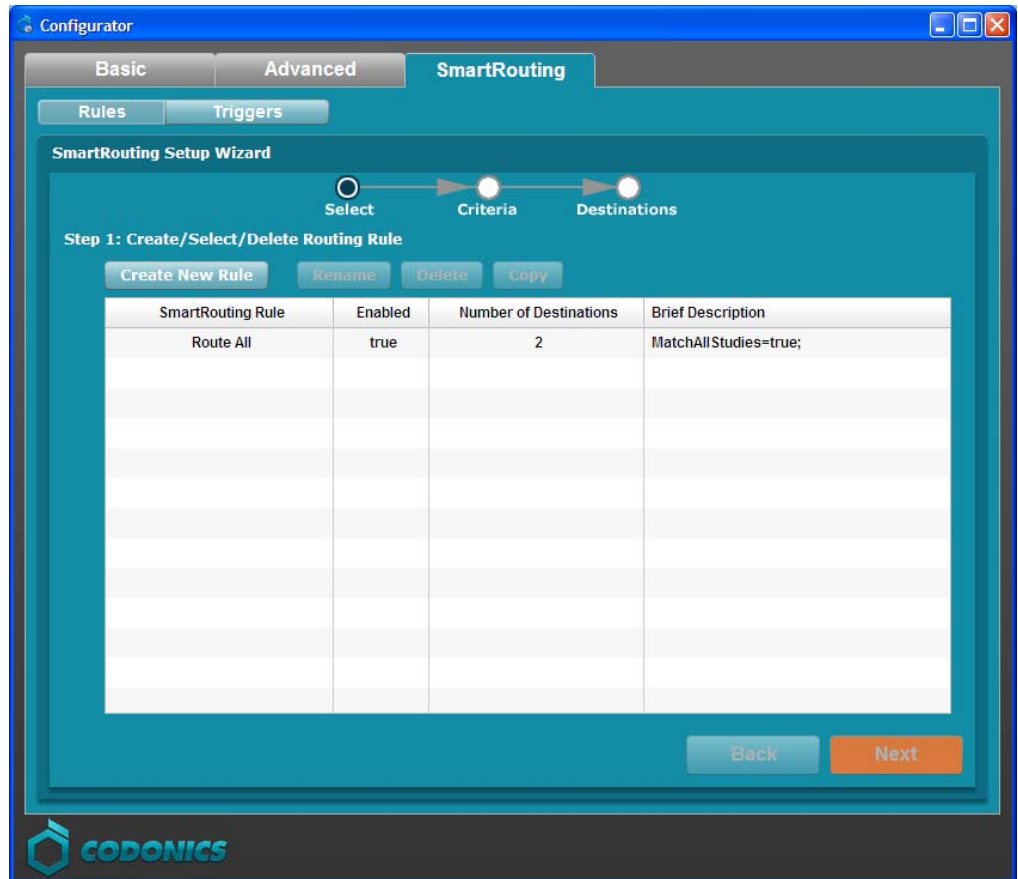
Step 3: Select the Destination(s)

1. Select the destination (e.g., PACS_1, PACS_2) from the drop-down list. The AE Titles for all DICOM station destinations that have been configured for Infinity (using the Administration tool) are included in this menu. You can select up to five destinations.



2. Click the **Save** button.

The Configurator will return to the **Rules** tab and the new rule RouteAll will appear in the table.

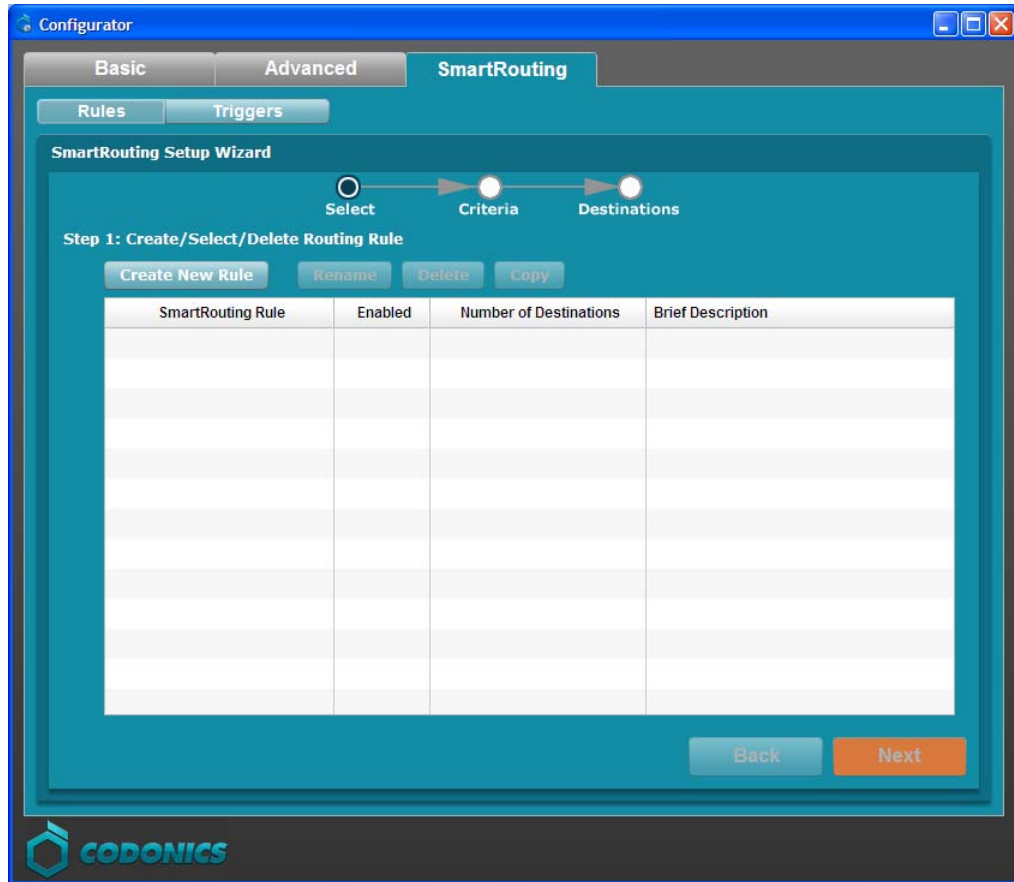


Use Case 2

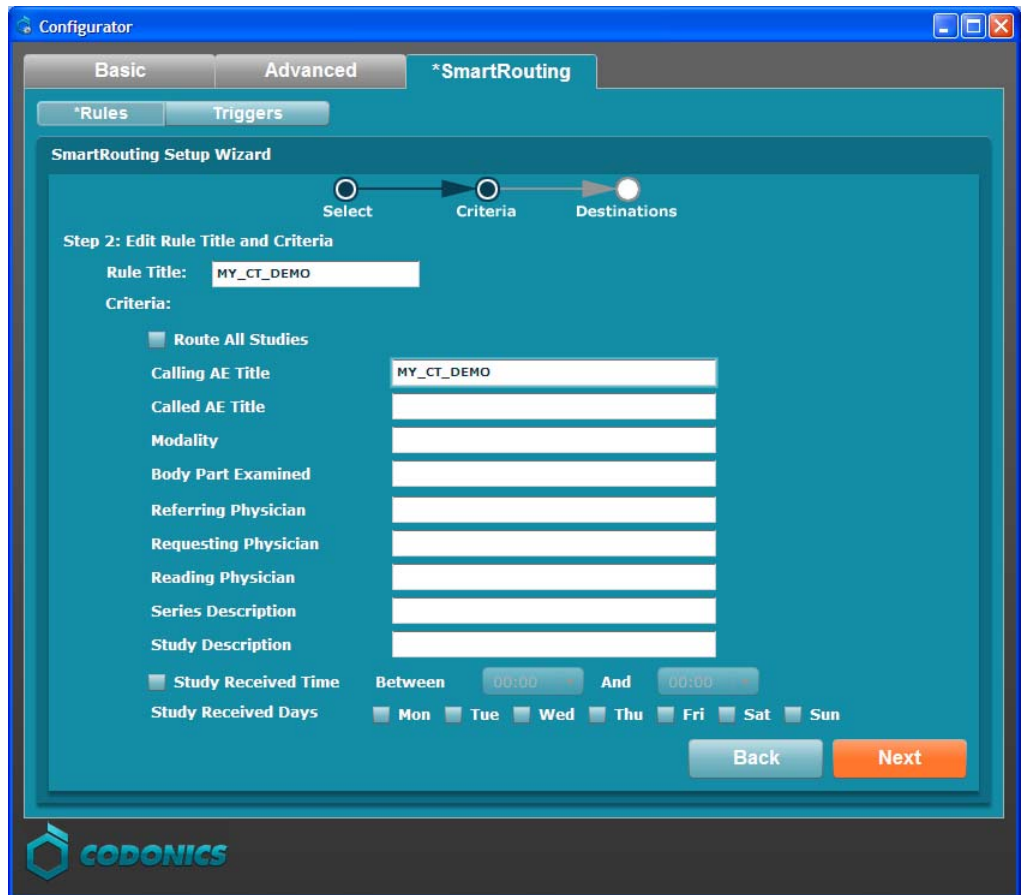
Route only studies sent from a specific host (CallingAE = MY_CT_DEMO) to additional destinations.

Step 1: Create a New Rule

1. To create a new rule, click the **Rules** subtab. Then click the **Create New Rule** button to start the Setup wizard.



2. Enter a **Rule Title** (e.g., My_CT_Demo) for the rule.

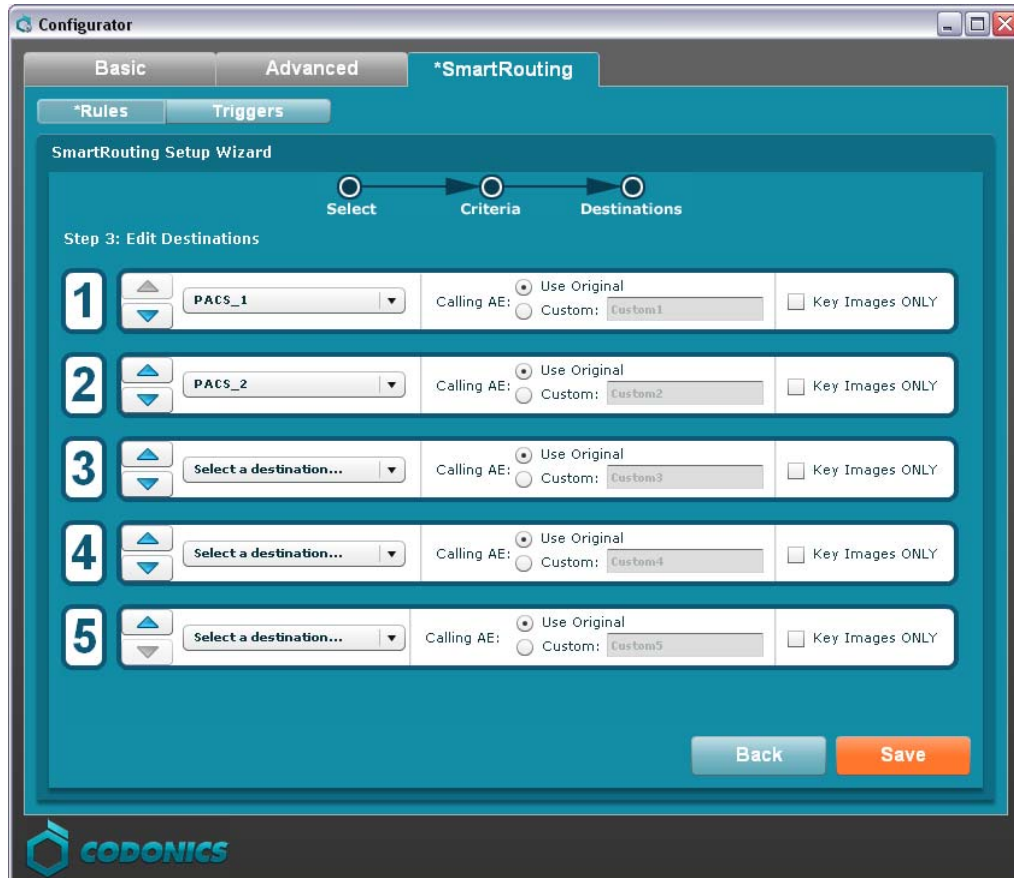


Step 2: Select the Criteria

1. Enter the **Calling AE Title** (e.g., MY_CT_DEMO).
2. Click the **Next** button.

Step 3: Select the Destination(s)

1. Select the destination (e.g., PACS_1, PACS_2) from the drop-down list. The AE Titles for all DICOM station destinations that have been configured for Infinity (using the Administration tool) are included in this menu. You can select up to five destinations.



2. Click the **Save** button.

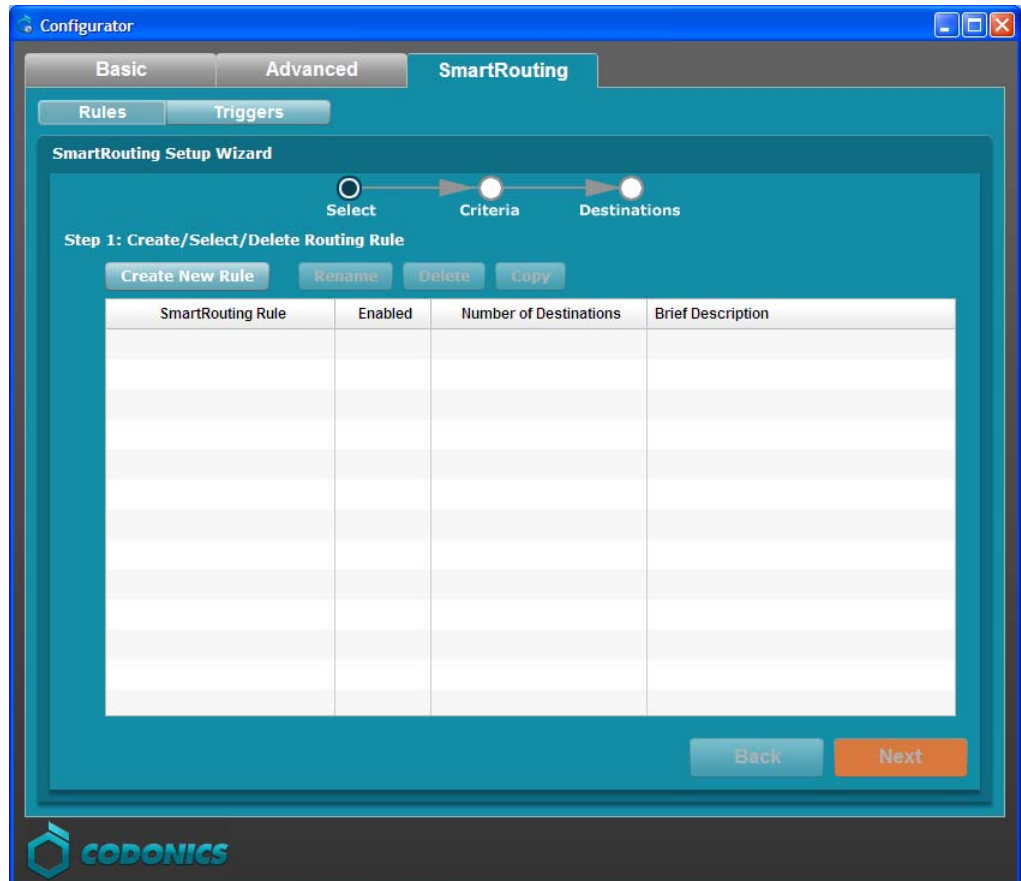
The Configurator will return to the **Rules** tab and the new rule MY_CT_DEMO will appear in the table.

Use Case 3

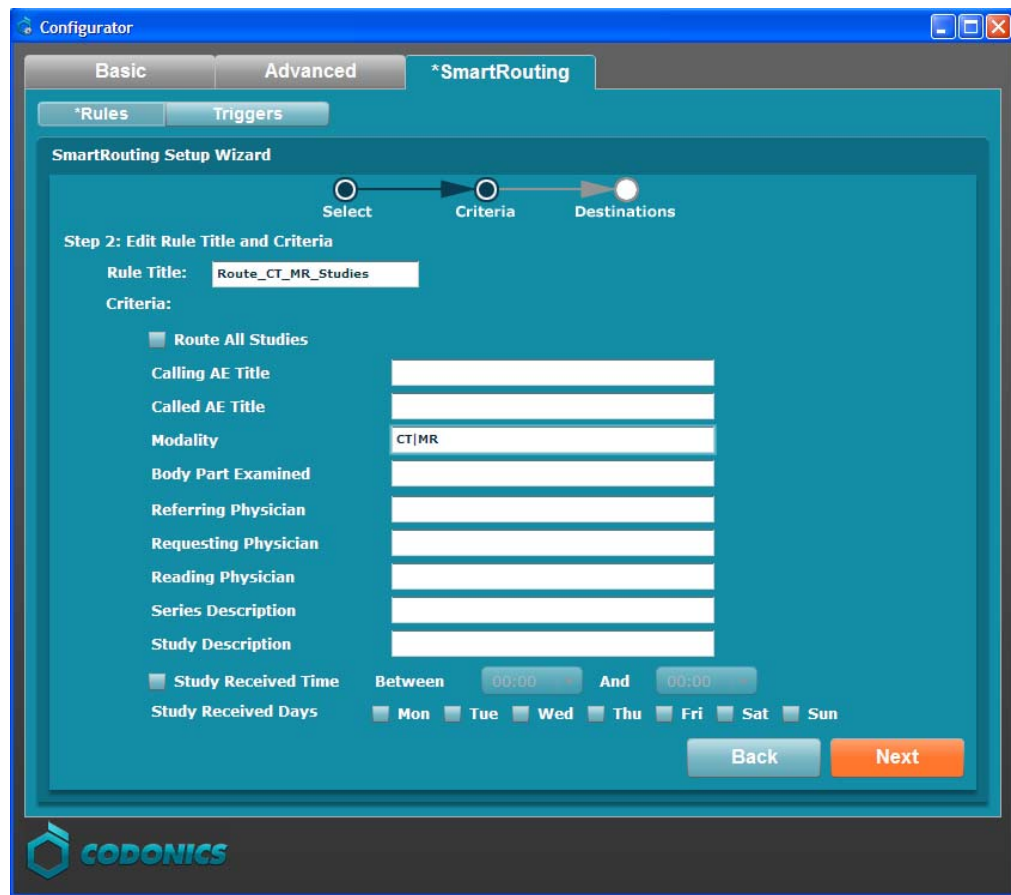
Route only CT and MR studies.

Step 1: Create a New Rule

1. To create a new rule, click the **Rules** subtab. Then click the **Create New Rule** button to start the Setup wizard.



2. Enter a **Rule Title** (e.g., Route_CT_MR_Studies) for the rule.

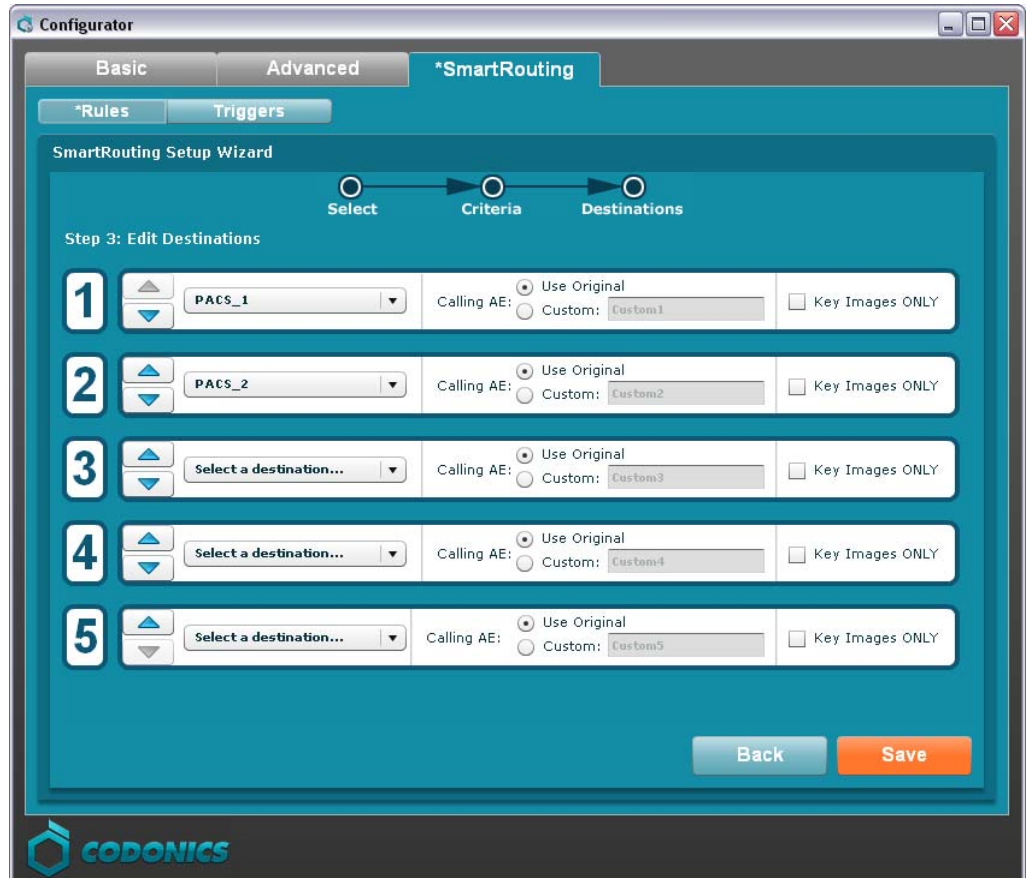


Step 2: Select the Criteria

1. Enter the **Modality** (e.g., CT|MR).
2. Click the **Next** button.

Step 3: Select the Destination(s)

1. Select the destination (e.g., PACS_1, PACS_2) from the drop-down list. The AE Titles for all DICOM station destinations that have been configured for Infinity (using the Administration tool) are included in this menu. You can select up to five destinations.



2. Click the **Save** button.

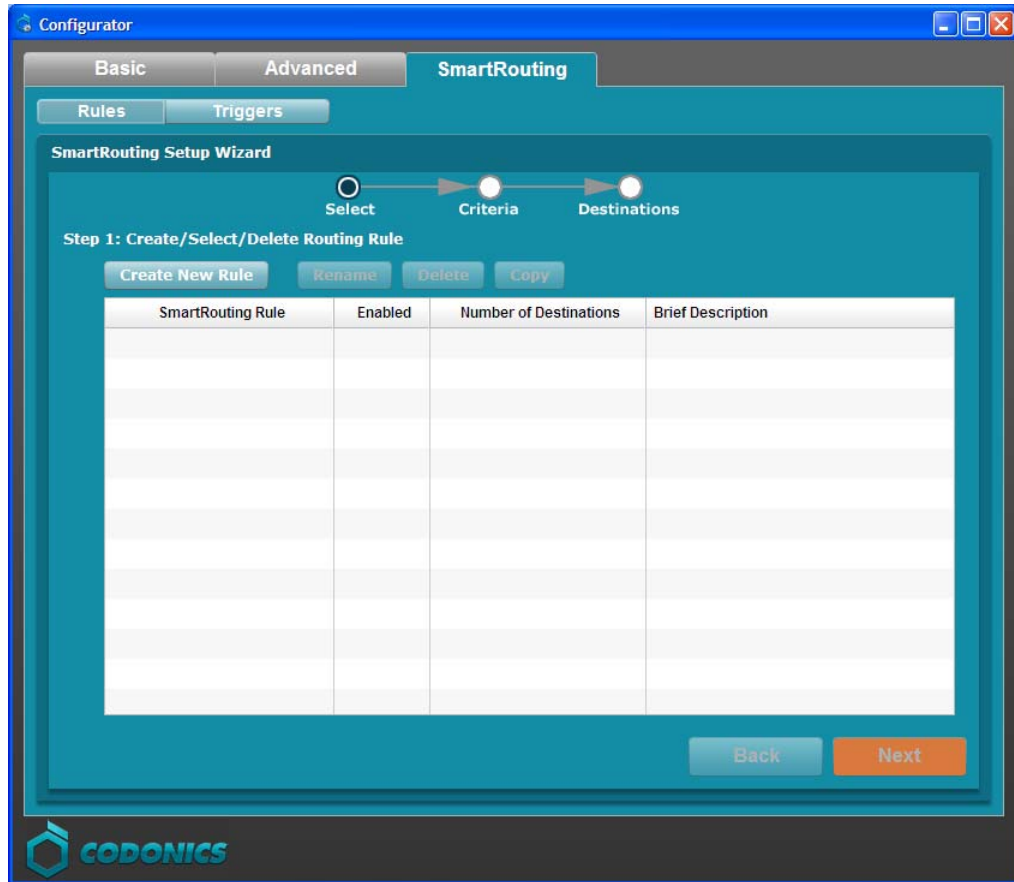
The Configurator will return to the **Rules** tab and the rule `Route_CT_MR_Studies` will appear in the table.

Use Case 4

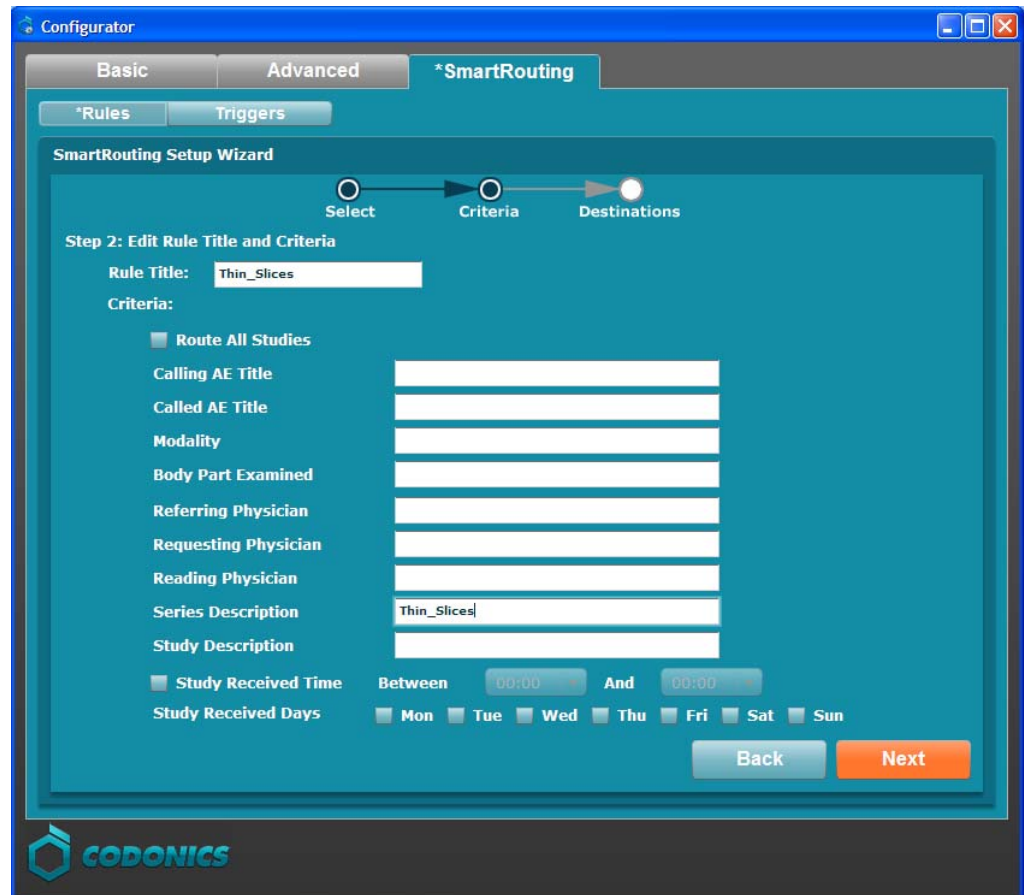
Send different series to different destinations (for example, you want to send “thin” CT slices to a 3D workstation and “thick” CT slices to a PACS).

Step 1: Create a New Rule

1. To create a new rule, click the **Rules** subtab. Then click the **Create New Rule** button to start the Setup wizard.



2. Enter a **Rule Title** (e.g., Thin_Slices) for the rule.

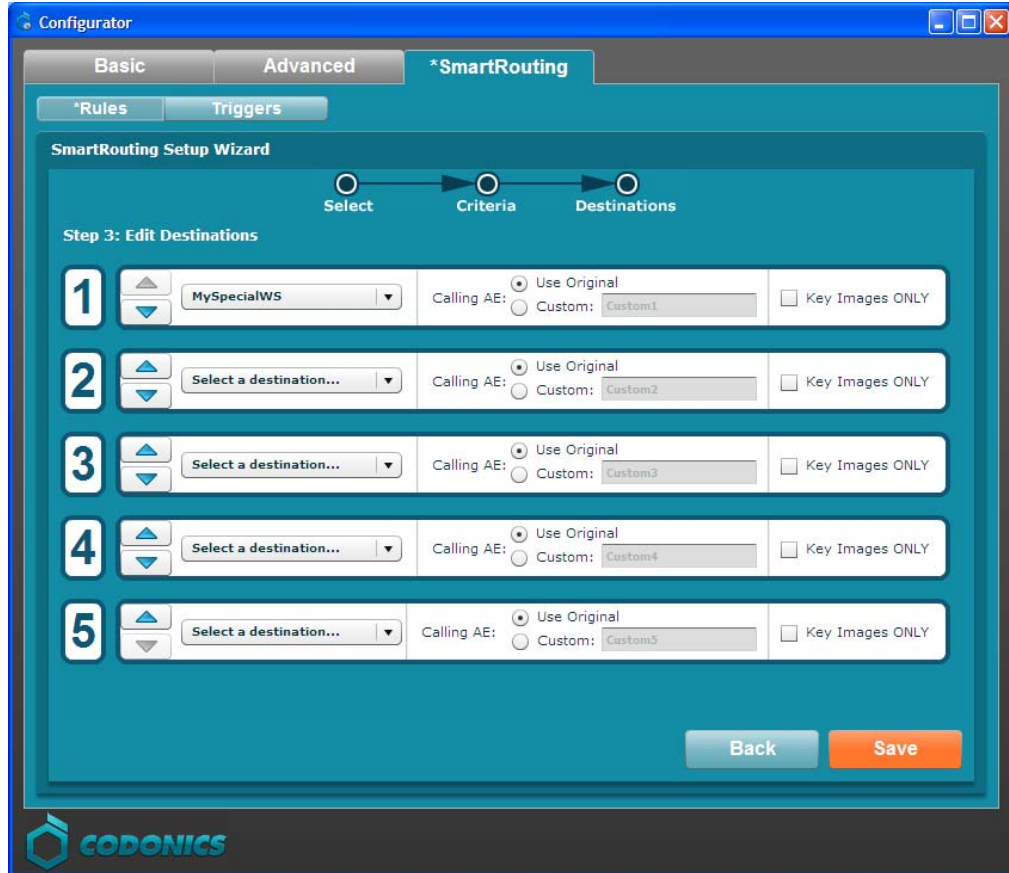


Step 2: Select the Criteria

1. Enter the **Series Description** (e.g., Thin_Slices).
2. Click the **Next** button.

Step 3: Select the Destination(s)

1. Select the destination (e.g., MySpecialWS) from the drop-down list. The AE Titles for all DICOM station destinations that have been configured for Infinity (using the Administration tool) are included in this menu. You can select up to five destinations.

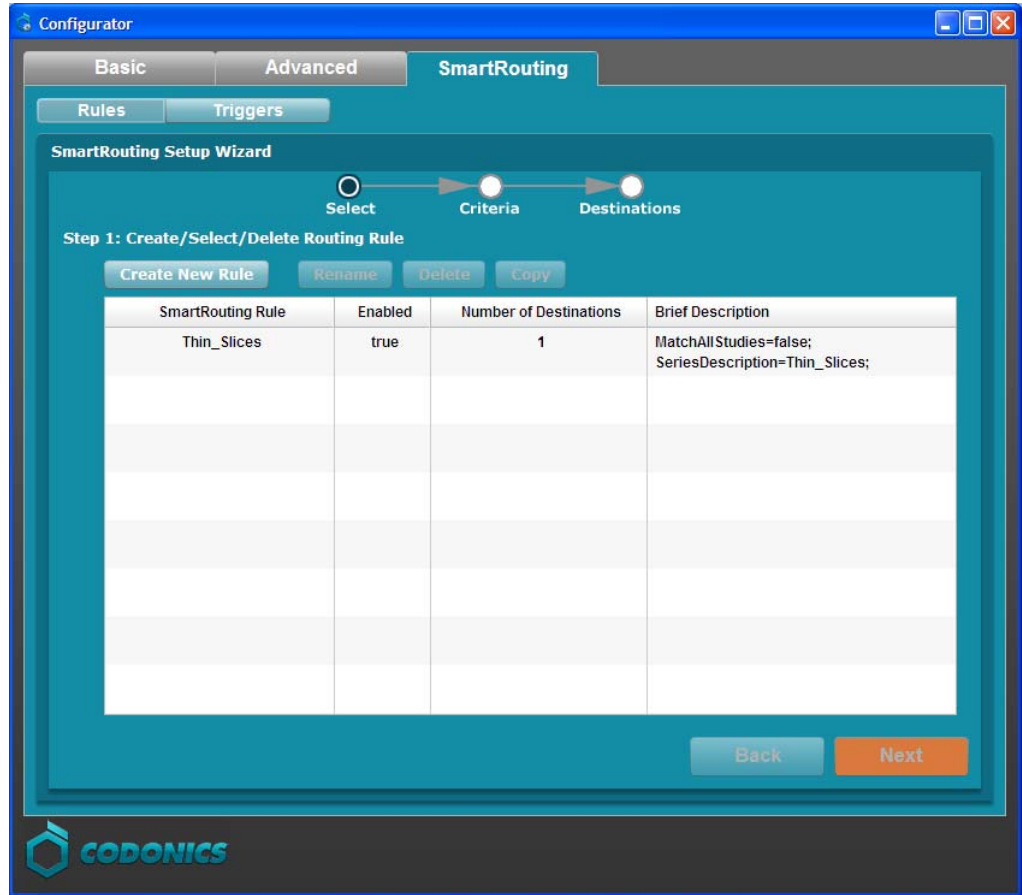


2. Click the **Save** button.

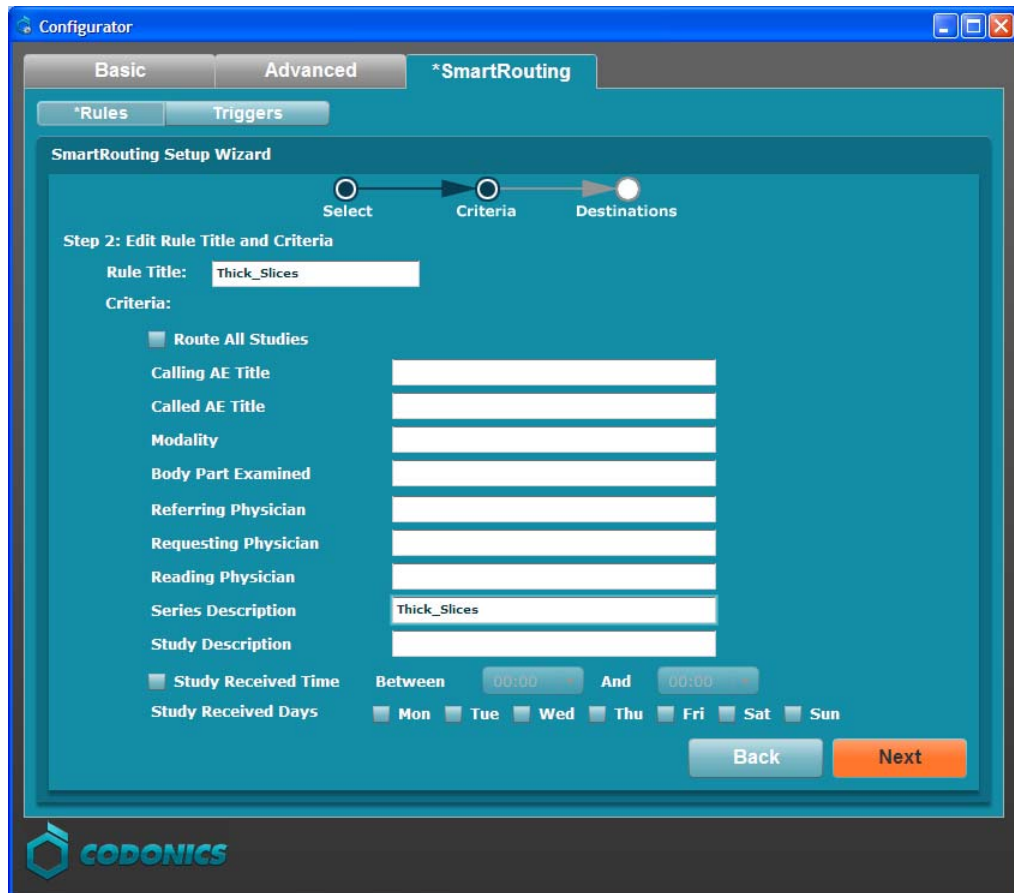
The Configurator will return to the **Rules** tab and the new rule **Thin_Slices** will appear in the table.

Step 4: Create Another New Rule

1. To create an additional new rule, click the **Rules** subtab. Then click the **Create New Rule** button to start the Setup wizard.



2. Enter a **Rule Title** (e.g., Thick_Slices) for the rule.



Step 2: Select the Criteria

1. Enter the **Series Description** (e.g., Thick_Slices).
2. Click the **Next** button.

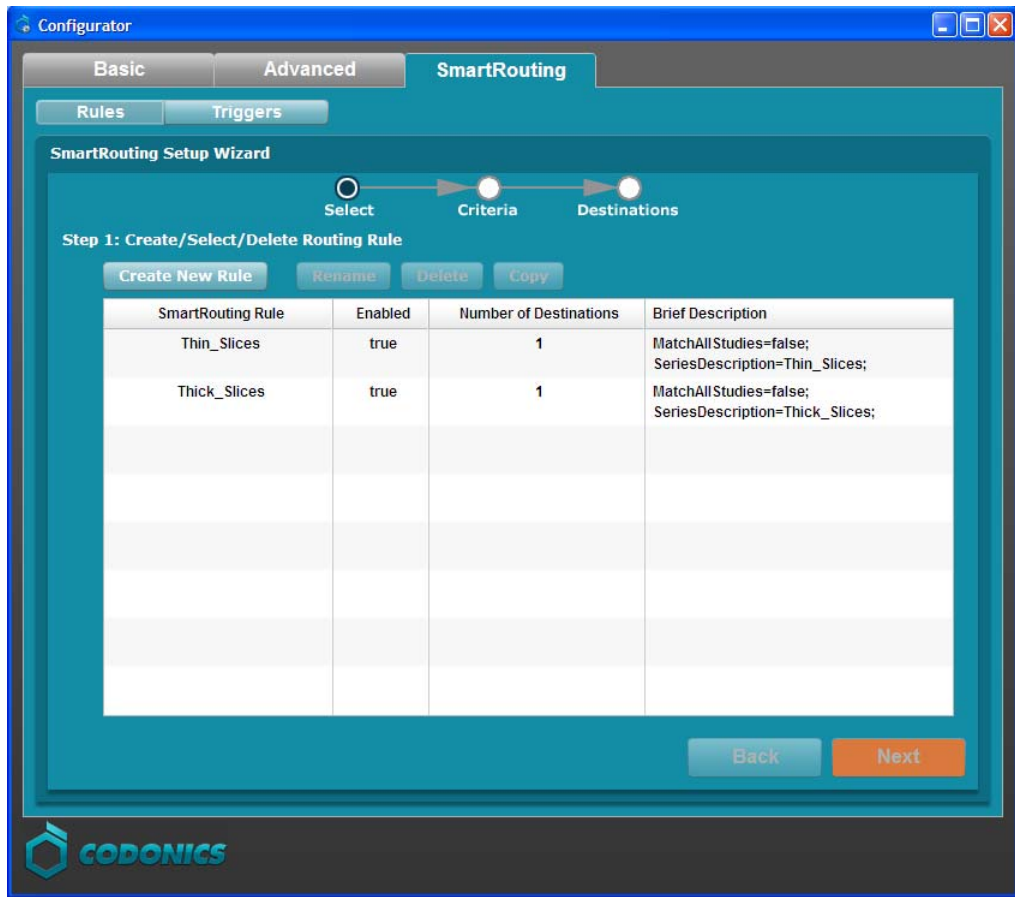
Step 3: Select the Destination(s)

1. Select the destination (e.g., PACS1) from the drop-down list. The AE Titles for all DICOM station destinations that have been configured for Infinity (using the Administration tool) are included in this menu. You can select up to five destinations.

The screenshot shows the 'Configurator' application window with the 'SmartRouting' tab selected. The 'SmartRouting Setup Wizard' is displayed, showing a progress bar with three steps: 'Select', 'Criteria', and 'Destinations'. The current step is 'Step 3: Edit Destinations'. The wizard contains five rows, each with a numbered box (1-5), a destination selection dropdown, a 'Calling AE' section with radio buttons for 'Use Original' and 'Custom', and a 'Key Images ONLY' checkbox. Row 1 has 'PACS1' selected in the dropdown and 'Custom1' in the 'Custom' field. Rows 2-5 have 'Select a destination...' in the dropdown and 'Custom2' through 'Custom5' in the 'Custom' fields. At the bottom right, there are 'Back' and 'Save' buttons. The CODONICS logo is visible at the bottom left of the window.

2. Click the **Save** button.

The Configurator will return to the **Rules** tab and the new rule **Thick_Slices** will appear in the table along with the **Thin_Slices** rule.



Use Case 5

Route studies referred by Dr Jones.

Step 1: Create a New Rule

1. To create a new rule, click the **Rules** subtab. Then click the **Create New Rule** button to start the Setup wizard.

The screenshot shows the 'Configurator' application window with the 'SmartRouting' subtab selected. The 'SmartRouting Setup Wizard' is displayed, showing a progress bar with three steps: 'Select', 'Criteria', and 'Destinations'. The current step is 'Step 2: Edit Rule Title and Criteria'. The 'Rule Title' field contains 'Dr Jones'. Under 'Criteria', there is a checkbox for 'Route All Studies' which is unchecked. Below this are several criteria fields: 'Calling AE Title', 'Called AE Title', 'Modality', 'Body Part Examined', 'Referring Physician' (containing 'Dr Jones'), 'Requesting Physician', 'Reading Physician', 'Series Description', and 'Study Description'. At the bottom, there are checkboxes for 'Study Received Time' (unchecked) and 'Study Received Days' (with checkboxes for Mon, Tue, Wed, Thu, Fri, Sat, Sun). There are also time selection fields for 'Between' and 'And' times, both set to '00:00'. 'Back' and 'Next' buttons are visible at the bottom right. The CODONICS logo is at the bottom left of the window.

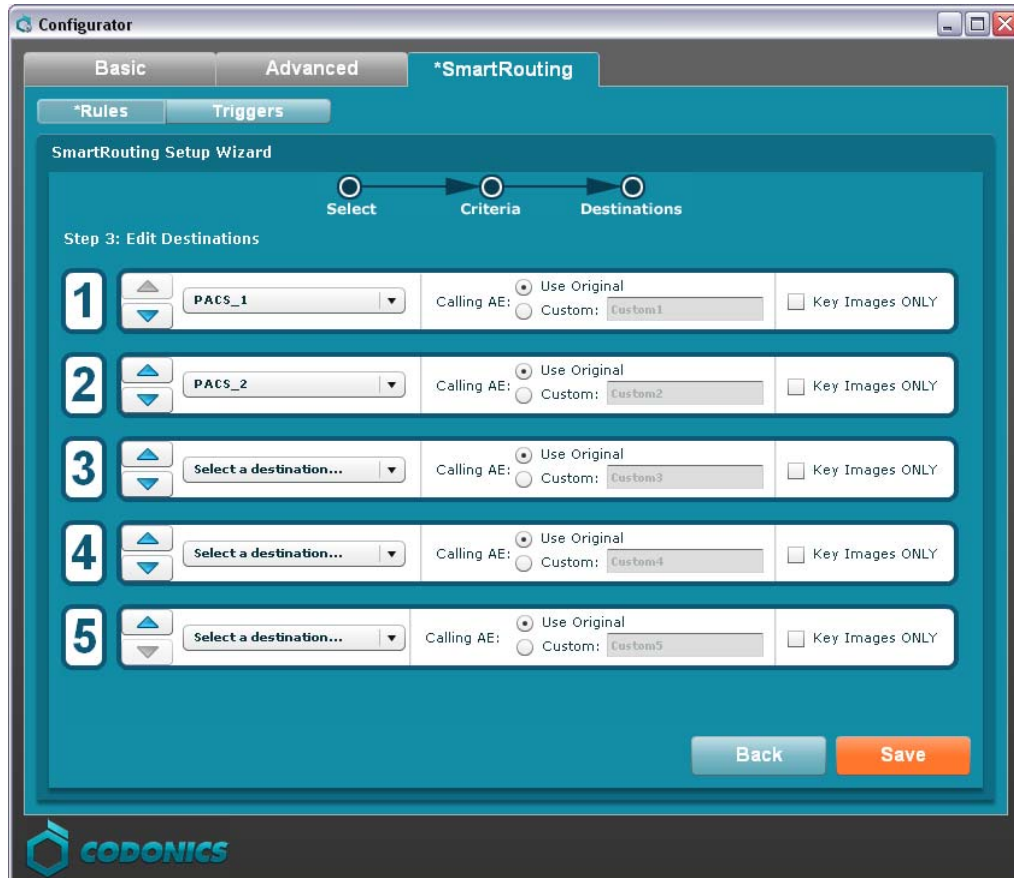
2. Enter a **Rule Title** (e.g., Dr Jones) for the rule.

Step 2: Select the Criteria

1. Enter the **Referring Physician** (e.g., Dr Jones).
2. Click the **Next** button.

Step 3: Select the Destination(s)

1. Select the destination (e.g., PACS_1, PACS_2) from the drop-down list. The AE Titles for all DICOM station destinations that have been configured for Infinity (using the Administration tool) are included in this menu. You can select up to five destinations.



2. Click the **Save** button.

The Configurator will return to the **Rules** tab and the new rule Dr Jones will appear in the table.

Use Cases for Triggers

CAUTION: Changing the Study Complete option will change the settings in the Infinity Administration Tool for the DICOM destination. This can affect whether JPEG thumbnails are generated. See the Infinity Medical Image Server User's Manual for thumbnail generation and use in the Infinity Web Viewer.

Use Case: Series Triggers

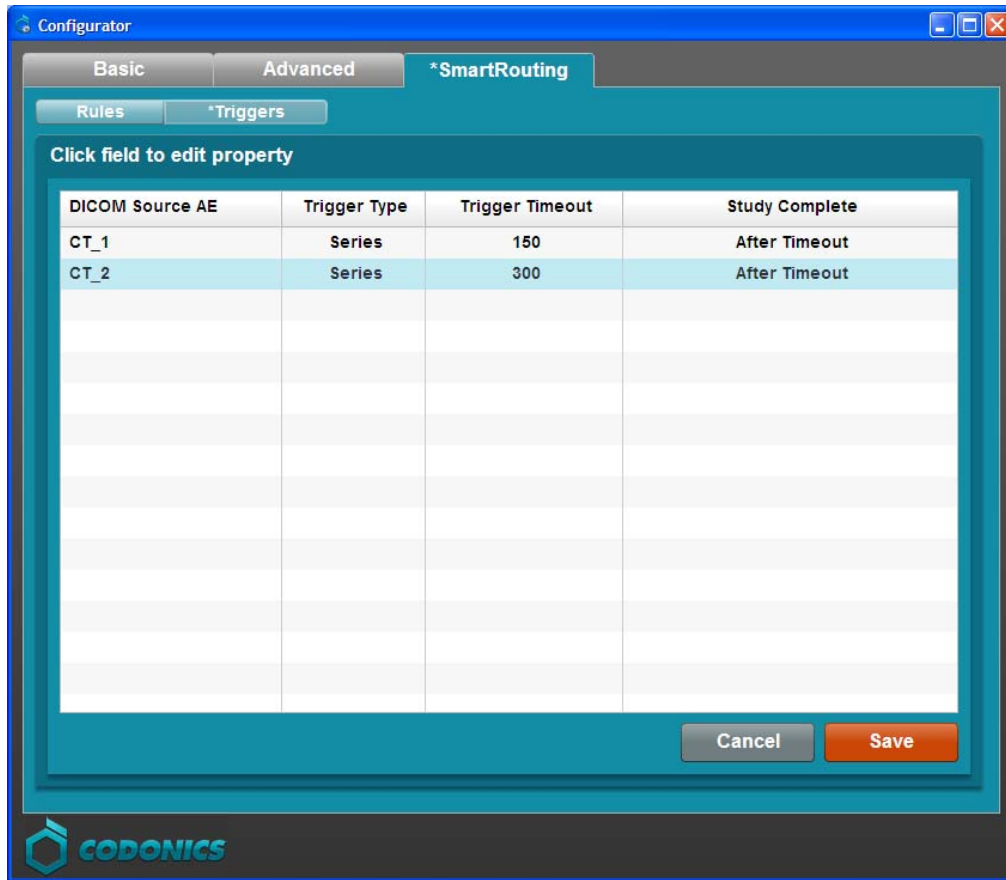
A series trigger is the most efficient and probably the fastest trigger type because it begins forwarding as soon as the first series is received after the specified trigger timeout is reached.

It is useful in the following scenarios:

- You are not sure which trigger type to use (this is a good default).
- You want to begin forwarding images of a study before the entire study is received by Infinity (for example, you want to forward CT images to a 3D workstation as soon as the first series is received so that reconstruction can begin as soon as possible).

NOTE: When using series triggers, only the Trigger Timeout field is used. The Study Complete field is not used. Changing the Study Complete field can affect whether JPEG thumbnails are generated.

NOTE: The Trigger Timeout for series trigger starts counting when the first image is stored in the database and is reset for each image stored into the database. When determining the proper timeout, select a value that corresponds to image size (e.g., large image sizes should have a larger timeout value while smaller image sizes should have a smaller timeout value). If the timeout is not properly set, the timeout will occur prematurely and images will be routed but inefficiently (e.g., they will be routed multiple times to the same destination).



In the above example:

- Series stored from CT1 to Infinity will be forwarded to the defined destination (refer to “Specifying Destinations” on p. 14) 150 seconds after the last image of the series is inserted into the database.
- Series stored from CT2 to Infinity will be forwarded to the defined destination 300 seconds after the last image of the series is inserted into the database.

Make sure to click the **Save** button to save your settings.

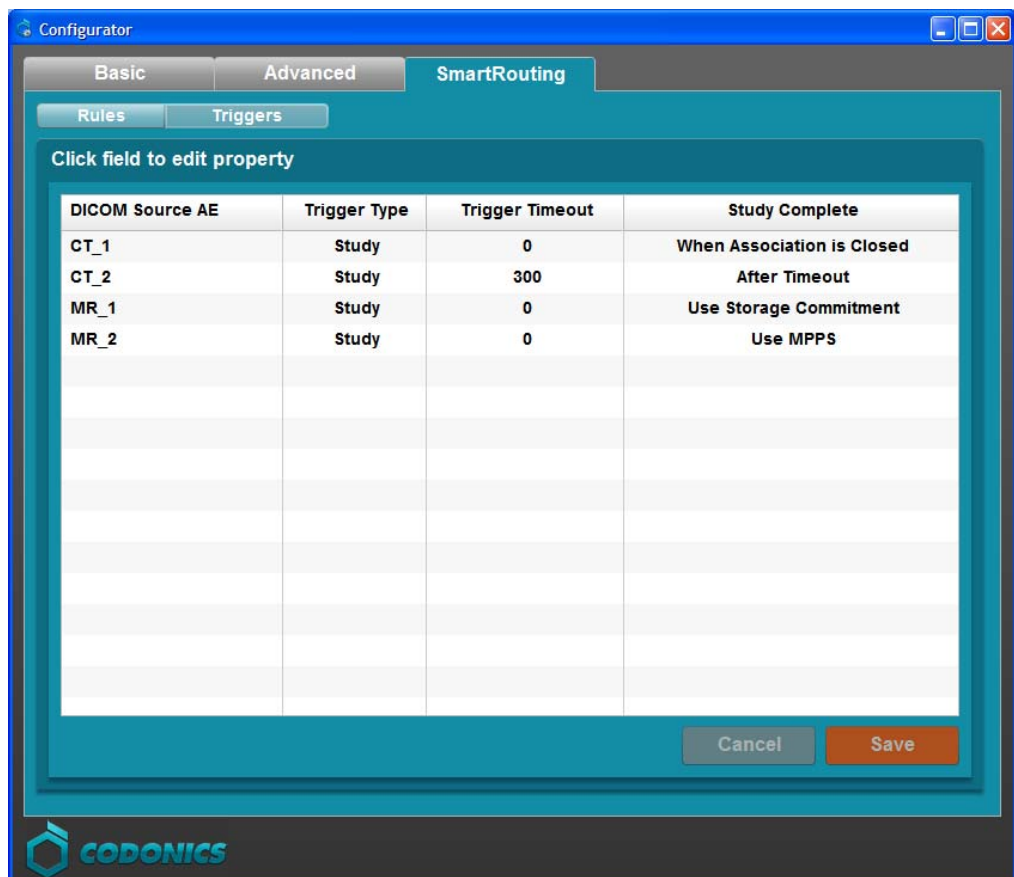
Use Case: Study Triggers

NOTE: Refer to “Configuring DICOM Station Study Completion” on p. 4 for the definition of the different options for what constitutes study completion.

A study trigger ensures that an entire study is received before any forwarding begins. It is useful in the following scenario:

- You want to send images to Infinity as fast as possible (for example, you want to free up your modality as quickly as possible, and are not as concerned about when the forwarded images arrive at their ultimate destination).
- You want to defer routing until Storage Commit is complete.

NOTE: The Trigger Timeout for study trigger starts counting when the first image is stored in the database and is not reset for each image stored into the database. When determining the proper timeout, select a value that corresponds to the largest image count (e.g., studies with many images should have a larger timeout value while studies with few images should have a smaller timeout value). If the timeout is not properly set, the timeout will occur prematurely and images will be routed but inefficiently (e.g., they will be routed multiple times to the same destination).



The screenshot shows the 'Configurator' application window with the 'SmartRouting' tab selected. Underneath, the 'Triggers' sub-tab is active. A table lists configurations for four DICOM Source AEs: CT_1, CT_2, MR_1, and MR_2. The table has four columns: 'DICOM Source AE', 'Trigger Type', 'Trigger Timeout', and 'Study Complete'. The 'Study Complete' column contains dropdown menu options. At the bottom right of the table area are 'Cancel' and 'Save' buttons. The CODONICS logo is visible at the bottom left of the window.

DICOM Source AE	Trigger Type	Trigger Timeout	Study Complete
CT_1	Study	0	When Association is Closed
CT_2	Study	300	After Timeout
MR_1	Study	0	Use Storage Commitment
MR_2	Study	0	Use MPPS

The example above indicates:

- Studies stored from CT1 to Infinity will be forwarded to a specified destination (refer to “Specifying Destinations” on p. 14) once the association is closed and when all images are inserted into the Infinity database.
- Studies stored from CT2 to Infinity will be forwarded to a specified destination after 300 seconds since the first image was inserted into the Infinity database.
- Studies stored from MR1 to Infinity will be forwarded to a destination after the study is determined to be committed to the Infinity Database (i.e., Storage Commit operation is completed).
- Studies stored from MR2 to Infinity will be forwarded to a destination after the study is considered complete on Infinity, which in this case is when the Performed Procedure Step Status is set to COMPLETED.

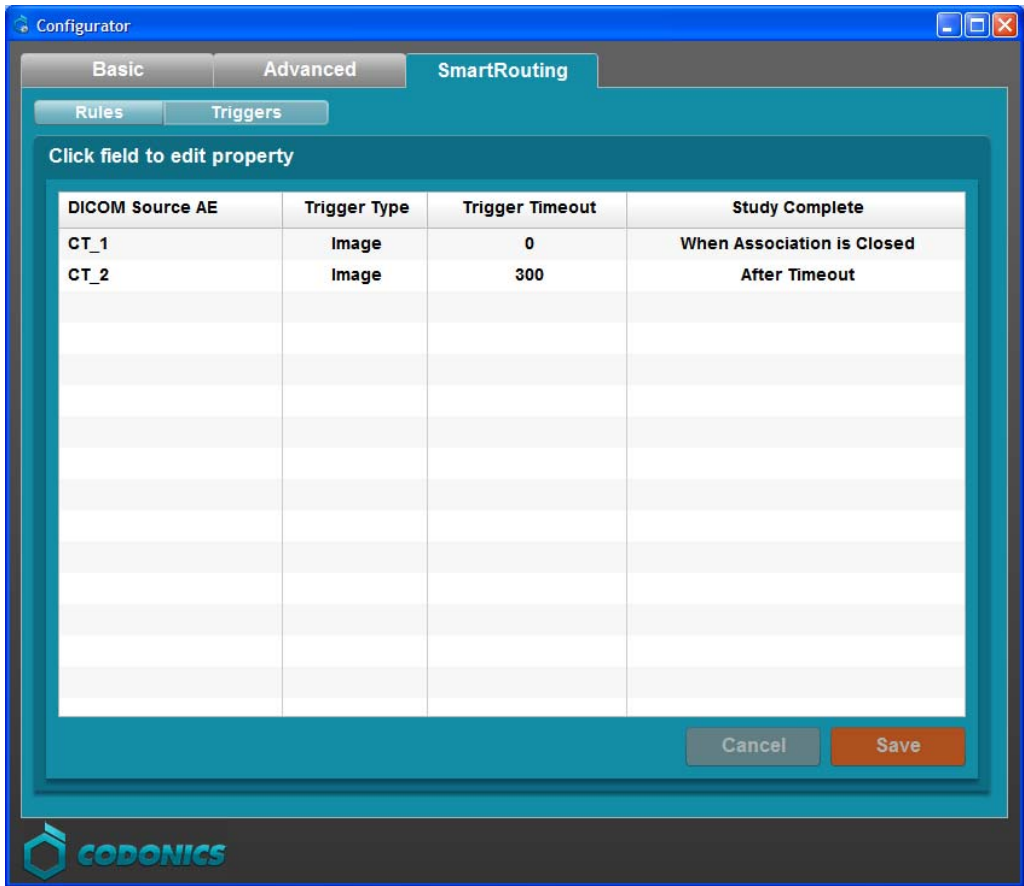
NOTE: Not Automatically is not an option for SmartRouting because studies would not be forwarded automatically.

Use Case: Image Triggers

An image trigger will forward each image as it is received, but may not perform as quickly as the series trigger if the study contains many small images. Image triggers are typically not recommended because of the processing overhead. However, they could be useful in the following scenarios:

- You have only a few images per study (for example, CR and DR studies are often only a few images).
- You have very large images (for example, Enhanced CT and MR images are usually quite large and contain many frames per image).

NOTE: Trigger Timeout and Study Complete are not used with image triggers.



In this example:

- Images from CT1 will be stored to a destination (refer to “Specifying Destinations” on p. 14) the moment they are received by Infinity.
- Images from CT2 will be stored to a destination the moment they are received by Infinity.

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