



## Routing Clients

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### The Routing Client Subsystem

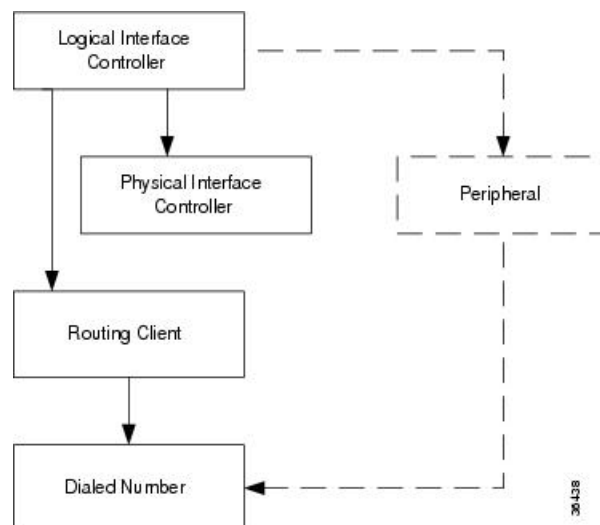
A *routing client* is an entity that sends route requests to the system software.

A routing client can be:

- A public network interexchange carrier (IXC), such as AT&T, BT, or MCI
- A private network peripheral, such as an Aspect automatic call distribution (ACD)

The following figure shows the elements of the routing client subsystem.

**Figure 1: Routing Client Subsystem**



## Interface Controllers

Each routing client must be associated with an interface controller. An interface controller operates on two levels: *physical* and *logical*. A physical device is a single instance of a device. A logical device is either a single physical device or more than one physical device running duplexed.

A physical interface controller can be a:

- **Network Interface Controller (NIC)**. An NIC communicates directly with the IXC's signaling network, reading call routing requests from the network and transferring them to the Central Controller. This chapter describes how to set up a NIC.
- **Peripheral Gateway (PG)**. A PG communicates with the ACD, PBX, or VRU at a contact center, monitoring status information from the peripheral and sending it to the Central Controller. The PG can also act as a routing client, sending routing requests to Unified ICM software.

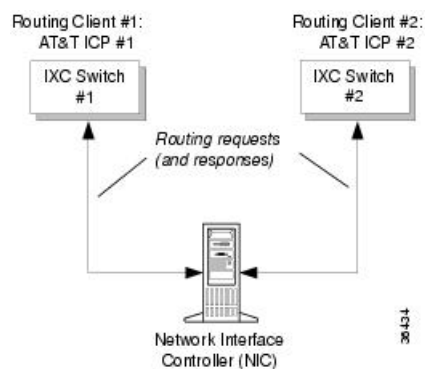
### Related Topics

[Peripherals and Trunk Groups](#)

## Routing Client Subsystems Examples

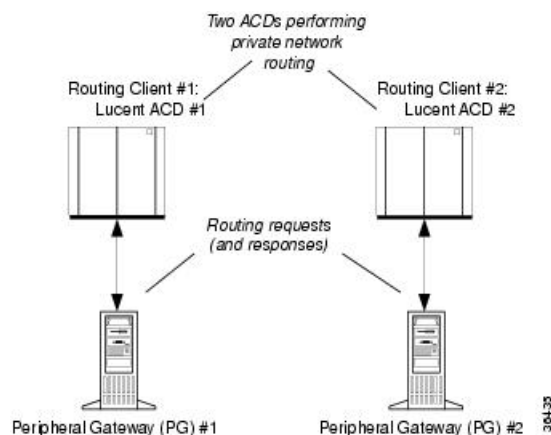
You can associate more than one routing client with a single logical interface controller. For example, if a Unified ICM NIC is serving two AT&T Intelligent Call Processing (ICP) subsystems, as shown in the following figure, you can define each as a separate routing client through the single logical interface controller.

**Figure 2: Two Clients / One Logical Interface Controller**



On the other hand, if you have two ACDs performing private network routing through two different peripheral gateways (PG), as shown in the following figure, you must define each as a routing client because each Peripheral Gateway is a separate logical interface controller.

**Figure 3: Two Clients / Two Logical Interface Controllers**



## NIC Configuration

Use the NIC Explorer to view, define, modify, or delete NIC information and its associated routing client information.

The NIC is the interface between the ICM platform and the Interexchange Carrier signaling network. Within the Unified ICM software the NIC reads call routing requests from the network and transfers them to the Central Controller. It consists of a logical interface controller and one or two physical interface controllers. The number of physical interface controllers permitted depends on the client type.

The NIC Explorer generates records that set up a logical interface controller, one or more physical interface controllers, and one or more routing clients.

### Related Topics

[View NIC and Routing Clients](#), on page 3

## View NIC and Routing Clients

To view a NIC and its routing clients, follow these steps:

### Procedure

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- Step 1** From the **Configuration Manager** menu, select **Tools > Explorer Tools > NIC Explorer**.  
The NIC Explorer window appears.
  - Step 2** In the **Select filter data** box, select the filters you want.
  - Step 3** Click **Retrieve**. The names of retrieved NICs are listed in the tree list box.
  - Step 4** In the **tree list** box, select the NIC whose records you want to view. The configuration information displays in the fields on the right.
  - Step 5** To view a routing client record, in the tree list box, expand the tree branch for the selected NIC and select the routing client icon.

The routing client configuration information displays in the window on the right.

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### Related Topics

[NIC Configuration](#), on page 3

## NIC Explorer Tab Descriptions

The following tables describe the tabbed property fields and buttons that configure a NIC and its routing clients.

### Logical Interface Controller Tab

The Logical Interface Controller tab allows you to view (and define or edit, if you have maintenance access) the properties of the selected logical interface controller.

*Table 1: Logical Interface Controller Tab Field Descriptions*

Field/Button	Description
<b>Controller ID (required)</b>	A unique identifier for the <b>NIC's</b> logical controller. This is a read-only field. When you create a new <b>NIC</b> , the system places <b>UNASSIGNED</b> in this field and automatically creates an <b>ID</b> when you save your edits.
<b>Name (required)</b>	The enterprise name for the NIC's logical controller. This name also identifies the NIC and must be unique for all logical controllers in the enterprise.
<b>Client Type (required)</b>	<p>The type of routing client serviced by the NIC. For example, Lucent, MCI, and so on. When defining a new NIC, select one from the pop-up selection box.</p> <p>Selecting a type of routing client automatically places that type's default values in the Routing Client's Timeout Threshold, Late Threshold, Timeout Limit, Use DN/Label Map, and Client Type fields.</p> <p><b>Note</b> For Windows server 2008 R2 only, when you select any of the unsupported NICs (Stentor, Sprint, and GKTMP), the following warning message is displayed:</p> <pre>Support for the &lt;name&gt; Network Interface Controller(NIC) on Windows Server 2008 R2 was not complete at the point of ICM/UCCE8.5(2) availability. This installation / configuration operation can be completed, but Cisco TAC must be consulted to obtain updated guidance for deployment(which may require additional system ES patch(s) and/or 3rd party software updates). Do you wish to proceed?</pre>

Field/Button	Description
<b>Configuration Parameter</b>	A string containing information such as logon information, specific to the interface controller device. For example:  <i>-rtuser UserName -rtpswd Password.</i>
<b>Description</b>	Additional information about the Logical interface controller.
<b>Add Physical Interface Controller</b>	Click this button to add one or more physical interface controllers.  This button is disabled when there is no client type, as in a new NIC record, or when the NIC node reaches its upper limit of Physical Interface Controllers.

## Physical Interface Controller Tab

The Physical Interface Controller tab allows you to view (and define or edit, if you have maintenance access) the properties of the selected NIC's physical interface controllers.

**Table 2: Physical Interface Controller Tab Descriptions**

Field/Button	Description
<b>Associated Physical Interface Controllers</b>	A duplexed <b>NIC</b> has two entries in the Physical Interface Controller table and a single entry in the Logical Interface Controller table.
<b>ID</b>	A unique identifier for the NIC's associated physical interface controller. This is a read-only field. When you create a new NIC, the system places <b>UNASSIGNED</b> in this field and automatically creates an <b>ID</b> when you save your edits.
<b>Name</b>	The enterprise name of the routing client associated with the <b>NIC</b> . This name must be unique for all physical controllers in the enterprise.
<b>Description</b>	Any other information about the physical interface controller.
<b>Modify</b>	To edit the name or description of the physical interface controller, click this button. In the Physical Interface Controller dialog enter your edits and click <b>OK</b> .
<b>New</b>	To enter a record for a new associated physical interface controller, click this button and in the Physical Interface Controller dialog, enter its enterprise name and click <b>OK</b> .  The system assigns an ID to the controller when you save it to the database. The NIC can represent multiple physical devices. The limit is different for different client types.
<b>Delete</b>	Deletes the selected physical interface controller.

## Routing Client Tab

The Routing Client tab allows you to view (and define or edit, if you have maintenance access) the properties of the selected routing client. The routing client is the entity that sends routing requests to the system software.

**Table 3: Routing Client Tab Descriptions**

Field	Description
<b>Name (required)</b>	The enterprise name of the routing client associated with the NIC. You can have more than one routing client associated with a NIC. Typically, each routing client maps to a subsystem within the ICX network.
<b>Timeout threshold (required)</b>	The maximum time, in milliseconds, that the routing client can wait for a response to a routing request. The NIC sends a default response slightly before this threshold.
<b>Late threshold (required)</b>	A threshold value, in milliseconds, for classifying responses as late. Any response that exceeds this threshold is considered late even if it does not exceed the Timeout Threshold.
<b>Timeout limit (required)</b>	The maximum time, in seconds, that the routing client waits for a response. This is the maximum time the routing client will tolerate consecutive response timeouts before it stops sending requests to the system software.
<b>Default call type</b>	An enterprise name for the call type. Initially, you can leave this field blank. For information on this field, refer to the <i>Scripting and Media Routing Guide for Cisco Unified ICM/Contact Center Enterprise</i> .
<b>Configuration parameters</b>	A string containing any initialization parameters that must be passed to the routing client. For a public network, this might include the subsystem number. A null value indicates no configuration parameters are provided.
<b>Use DN/Label map</b>	Indicates whether the Dialed Number (DN) Label table is used to determine which labels are valid for each dialed number. If not, all labels for the routing client are valid for all dialed numbers.
<b>Client type (required)</b>	The type of routing client that ultimately routes the call on the requesting Unified ICM system.  This field is enabled only for the routing client associated with an intelligent network call routing protocol (INCRP) NIC. In all other cases, it is the same as the logical interface controller's client type.
<b>Description</b>	Additional information about the routing client.
<b>Network routing client</b>	A name used to associate routing clients across instances.  The same string value for the routing client on the network analysis module (NAM) and the corresponding routing client on the Unified ICM (applies only for a network Unified ICM).
<b>Default Media Routing Domain</b>	(selection list) The MRD associated with the routing client.

Field	Description
<b>Congestion Treatment Mode</b>	<p>This field sets the congestion treatment mode for routing clients. The default value is 0 when you add a new routing client.</p> <p>The congestion treatment mode definitions are as follows:</p> <ul style="list-style-type: none"> <li>• 0 - Use Congestion Control settings.</li> <li>• 1 - Use Dialed Number (DN) as default label for call treatment.</li> <li>• 2 - Use routing client as default label for call treatment.</li> <li>• 3 - Use global user-defined label for call treatment.</li> </ul> <p><b>Note</b> To configure a user-defined label, use the Congestion Setting Configuration tool.</p> <ul style="list-style-type: none"> <li>• 4 - Dialog fail with an appropriate error code.</li> <li>• 5 - Release message to the routing client.</li> </ul>
<b>Default Label</b>	<p>Indicates the default label for the routing client to treat the call when the system is congested. Also see the following sections: <a href="#">Stentor NIC</a> and <a href="#">Gate Keeper (GK) NIC</a>.</p>

### Stentor NIC

If you specify Stentor NIC as the type of routing client, the NIC Explorer automatically creates two labels that are associated with the new routing client.

The following two fields are dimmed:

- Congestion Treatment Mode (with default value as 0: to treat the calls on congestion with Global Settings Default Label)
- Default Label (will be empty)

When a Stentor NIC routing client record is deleted, the preceding labels associated with the routing client are also deleted.

### Gate Keeper (GK) NIC

If you specify GK NIC as the type of routing client, the NIC Explorer automatically creates two labels that are associated with the new routing client.

The following two fields are dimmed:

- Congestion Treatment Mode (with default value as 4: to treat the calls on congestion with Dialog Fail)
- Default Label (will be empty)

When a GK NIC routing client record is deleted, the preceding labels associated with the routing client are also deleted.

### Related Topics

[Routing a Call](#)


[NIC Explorer Tab Descriptions](#), on page 4

## Modify NIC and Routing Clients

To modify a NIC and or its routing clients, follow these steps:

### Procedure

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- Step 1** Follow the steps for viewing a NIC.  
The selected NIC's configuration information displays in the fields on the right.
- Step 2** Edit the configuration information.  
You can modify all fields in the Logical Controller, Physical Controller, and Router Client tabs that are not dimmed.  
When you make a modification, the **Changed** icon  appears next to the edited item (NIC or routing client) in the tree list box.
- Step 3** Click **Save**.  
The modified data in the Unified ICM database is saved and the **Changed** icon is removed from the display in the tree list box.

### Related Topics

[View NIC and Routing Clients](#), on page 3


[NIC Explorer Tab Descriptions](#), on page 4

## Define NIC

To define a NIC, follow these steps:

### Procedure

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- Step 1** From the **Configuration Manager** menu, select **Tools > Explorer Tools > NIC Explorer**. The NIC Explorer window appears.
- Step 2** In the **Select filter** data box, click **Retrieve**. This enables the **Add NIC** button.
- Step 3** Click **Add NIC**. A new NIC and its routing client display in the tree list box. Next to each is a **To Be Inserted** icon .  
On the right of the tree list box, tabbed fields also display for the new NIC's and routing client's configuration information.
- Step 4** Fill in the tabbed fields.
- Step 5** Click **Save**. The newly defined NIC is saved in the database and the **To Be Inserted** icon is removed from the tree list box.
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**Related Topics**

[NIC Explorer Tab Descriptions](#), on page 4

## Define Routing Client

To define a routing client, follow these steps:

**Procedure**

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- Step 1** Follow the steps for viewing a NIC. The selected NIC's configuration information displays in the fields on the right.
  - Step 2** In the tree list box, select the NIC to which you want to add a routing client. This enables the **Add Routing Client** button.
  - Step 3** Click **Add Routing Client**. A new routing client icon appears under the selected NIC in the tree list box and a new Routing Client tab appears in the window on the right.
  - Step 4** Enter the needed routing client configuration information in the fields on the right.
  - Step 5** Click **Save**.

**Related Topics**


[View NIC and Routing Clients](#), on page 3

[Routing Client Tab](#), on page 6

## Delete NIC

Follow these steps to delete a NIC:

**Procedure**

- 
- Step 1** Follow the steps for viewing a NIC.  
The selected NIC's configuration information displays in the fields on the right.
  - Step 2** In the tree list box, select the NIC whose records you want to delete.
  - Step 3** Click **Delete**. This places a **Marked for Deletion** icon  next to the NIC in the tree list box. This also toggles the **Delete** button to **Undelete**.  
To undelete a NIC marked for deletion, select it in the tree list box and click **Undelete**.
  - Step 4** Click **Save**.  
This deletes from the database the NIC marked for deletion and removes it from the tree list box. After you do this, you cannot undelete the NIC.

**Related Topics**

[View NIC and Routing Clients](#), on page 3

## Dialed Number/Script Selectors

After you have set up a routing client, you need to define the dialed number/script selectors serviced by it. A dialed number/script selector can represent an actual number dialed by a caller or any string passed by a routing client to indicate the number dialed.

The Configuration Manager's Dialed Number/Script Selector List tool allows you to list the dialed number/script selectors currently defined in the Unified ICM database, to define new ones, and to view, edit, or delete the records of existing ones. The following instructions show you how to configure individual dialed number/script selectors.

For configuring multiple dialed number/script selectors at a time, see [Peripherals and Trunk Groups](#).

### Related Topics

[Peripherals and Trunk Groups](#)

## Manage Dialed Number/Script Selectors




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**Note** [Dialed Numbers on the Child Central Controller, on page 11](#) contains an example of how to configure dialed numbers on a child deployment.

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Follow the steps below to view, define, delete, or modify dialed number/script selectors:

### Procedure

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**Step 1** From within the **Configuration Manager** menu, select **Tools > List Tools > Dialed Number/Script Selector List**. The Dialed Number/Script Selector List window appears.

**Step 2** In the **Select filter data** area, select the **Routing client** and **Customer** associated with the dialed number/script selector.

**Note** Once you have saved a Dialed Number record to the Unified ICM database, you cannot update the Routing Client field.

If you are viewing or modifying a previously created record and you want to limit the number of records retrieved from the database, also select one of the optional filters.

**Step 3** Click **Retrieve**. This enables the **Add** button and displays a list of the retrieved dialed number/script selectors.

The properties of the dialed number/script selector selected in the Dialed Number/Script Selector list box on the left side of the window are displayed in the property tabs on the right side of the window:

The following properties are displayed:

- The Attributes tab allows you to view and (if you have maintenance access) to define, edit, or delete the attributes of the selected dialed number/script selector. Attributes with an asterisk are required.
- The Dialed Number Label tab allows you to map labels (in addition to a default label) to the selected dialed number/script selector.

- Step 4** This step depends on what you want to do:
- To add a new dialed number/script selector, click **Add** and enter the appropriate values in the tabbed property fields on the right side of the window.
  - To delete a dialed number/script selector, select that number in the **Dialed Number/Script Selector** list box and click **Delete**.
  - To edit a dialed number/script selector, select that number in the **Dialed Number/Script Selector** list box and edit the appropriate values in the tabbed property fields on the right side of the window.

- Step 5** Click **Save** to enter any edits into the database.

The dialog closes, and for a new dialed number/script selector, the Unified ICM database manager automatically generates a unique Dialed Number ID for the routing client.

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## Dialed Numbers on the Child Central Controller

Access the Configuration Manager on the Child Administration & Data Server to configure dialed numbers.

### Configure Dialed Numbers on the Child Central Controller

To configure dialed numbers on the Child Central Controller with the Configuration Manager Dialed Number/Script Selector List Tool:

#### Procedure

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- Step 1** Start the **Dialed Number/Script Selector List Tool**.
- Step 2** On the Main window of the Dialed Number/Script Selector List Tool, click **Retrieve**.
- Step 3** Click **Add**.
- The Dialed Number Attributes tab appears.
- Step 4** Select **IPCC\_RC** as the Routing Client.
- Step 5** Select **Cisco\_Voice** for the Media Routing Domain.
- Step 6** Set the Dialed Number String/Script Selector to **2500** (the route point set up on the Unified CM).
- Step 7** Set **IPCC\_RC\_2500** as the Name, then select **bh03** as the Customer setting.
- Step 8** Check **Permit Application Routing** on the route points controlled by the Parent (the Post route points and the Translation route points).
- This provides the link between the Parent and the Child. It gives the Parent visibility to the Dialed Number so it can handle it.
- Step 9** Click **Save**.
- The dialed number appears in the tree list.
- Step 10** Repeat this to add two more dialed numbers (one for each skill group).
- When complete, you have the following DNs:

- 2500
  - Connects to all of the skill groups.
  - Named IPCC\_RC\_2500.
- 2501
  - Connects to SG01.
  - Named IPCC\_RC\_2501.
- 2502
  - Connects to SG02.
  - Named IPCC\_RC\_2502.

**Step 11** Click **Save**, then **Close** to exit the Skill Group Explorer Tool.

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