# Peripherals and Trunk Groups


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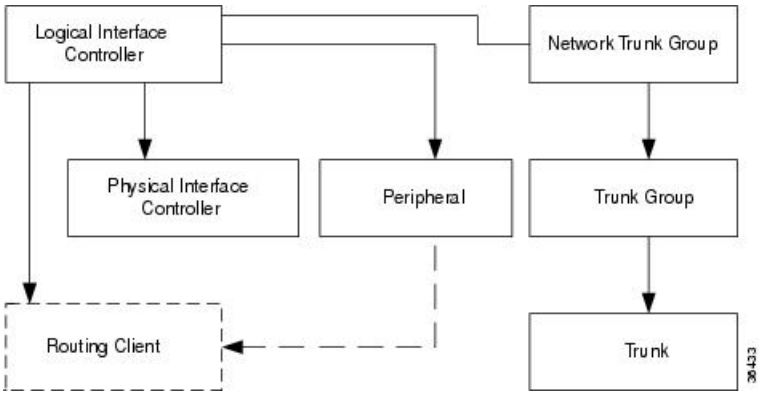
## Peripheral Subsystem

A *peripheral* is a switch, such as an ACD, PBX, VRU, or Unified Communications Manager (Unified CM). Calls arrive at the peripheral through *trunks* that are organized into trunk groups. The Unified Intelligent Contact Management (Unified ICM) system software monitors activity at each peripheral and can route calls to targets at each peripheral.

The logical interface controller and physical interface controller represent the peripheral gateway (PG) through which the peripheral communicates with the system.

To view the elements in a peripheral subsystem, see the following figure.

***Figure 1: Peripheral Subsystem***




The routing client figures into this subsystem only if the peripheral acts as a routing client (that is, if it sends routing requests to the system software).

### Related Topics

The Routing Client Subsystem

# Peripheral Gateways

Each peripheral communicates with the system software through a peripheral gateway (PG). The PG is a interface between the Unified CM platform and third-party hardware like the ACD, PBX, VRU, monitoring status information from the peripheral and sending it to the Central Controller. If the peripheral acts as a routing client, the PG sends routing requests to the system software.

The PG can be a single simplex system or a pair of duplex systems. A single PG can service more than one peripheral; however, each peripheral uses one, and only one, PG.

**Note** Although a PG may consist of a pair of duplex systems, only one of them is active at a time, so that the system software sees it as a single, logical and physical PG.

# Peripherals and Trunk Groups

This chapter describes how to configure peripherals and the trunk groups associated with them.

It includes:

- An introduction to the peripheral subsystem
- Instructions on how to view, define, delete, or modify:
  - peripheral gateways
  - peripherals
  - network trunk groups
  - trunk groups
  - trunks

### Related Topics

Peripheral Terminology

# Peripheral Gateway Records

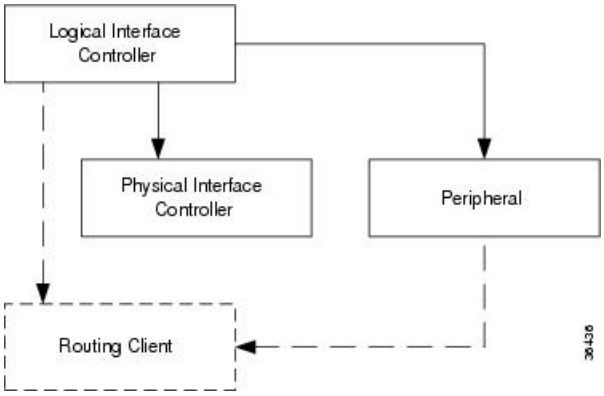
Use the PG Explorer to view, define, modify, or delete peripheral gateway records.

The PG Explorer generates and maintains PG records for a logical interface controller, a physical interface controller, associated peripherals, and, if appropriate, an associated routing client.

**Note** If you are configuring a PG for a duplexed pair, you need to define the information only once.

The following figure shows the records generated by the PG Explorer.

*Figure 2: Records Generated by PG Explorer*




# View PG Records

To view PG records, follow these steps:

**Procedure**

**Step 1** From the Configuration Manager menu, select **Tools** > **Explorer Tools** > **PG Explorer**. The PG Explorer window appears.

**Step 2** In the **Select filter data** box, select the filters you want.

**Step 3** Click **Retrieve**. Names of retrieved PGs appear in the tree list box.

**Step 4** In the tree list box, select the PG whose records you want to view. The configuration information displays in the tabbed fields on the right.

**Step 5** To view a peripheral's record: in the tree list box, expand the tree branch for the selected PG, and select the PG's peripheral icon.

The peripheral configuration information displays in the window on the right. For field descriptions, see the online help.

# PG Explorer Tab Descriptions

The following tables describe the tabbed property fields and buttons that configure a PG. Use these fields to define and update PGs and their associated peripherals.

## Logical Controller Tab

Use the Logical Controller tab to view, define, and update PG definitions. In the Unified CCE database, a PG is identified by its logical controller.

*Table 1: Logical Controller Tab Field Descriptions*

| Field | Description |
|---|---|
| **Logical Controller ID (required)** | A unique identifier used to reference the PG's Logical Interface Controller table.<br>This is a read-only field. When you create a new PG, the system places UNASSIGNED in this field and automatically creates an ID when you save your edits. |
| **Physical Controller ID (required)** | A unique identifier for the PG's physical controller.<br>This is a read-only field. When you create a new PG, the system places UNASSIGNED in this field and automatically creates an ID when you save your edits. |
| **Name (required)** | An enterprise name for the PG. This name must be unique for all PGs in the enterprise.<br>An enterprise name:<br>• Is a character-string name commonly used to identify an object in the database.<br>• Must be unique among all objects of a specific type. For example, each service must have an enterprise name that is unique among all services.<br>• Can be up to 32 characters. The valid characters are upper-case and lower-case letters, digits, periods (.) and underlines (_). The first character of the name must be a letter or digit.<br>**Note** This name is used in composite names, which are limited to a 32 character length, for example, an agent enterprise name. Therefore, keep the name short. |
| **Client Type (required)** | (selection list) The type of client that the PG services.<br>When defining a new PG, select one from the pop-up selection box.<br>Selecting a type of peripheral automatically places that type's default values in the associated peripheral's Client type, Peripheral Service Level type, Service Level type, and Service Level Threshold fields. |
| **Configuration Parameters** | A string containing information, such as logon information, specific to the PG.<br>For example: `-rtuser UserName -rtpswd Password` |
| **Description** | Additional information about the PG. |
| **Physical Controller Description** | Information about the physical controller. |

| Field | Description |
|---|---|
| **Primary CTI Address** | Address for computer telephony integration (CTI) server as <IP>:<port> in either dotted numeric or name format. If a CTI server is installed at the PG, enter its address. This address is needed if an agent is connected through a CTI server rather than through a peripheral. |
| **Secondary CTI Address** | Address for CTI server as <IP>:<port> in either dotted numeric or name format. The secondary CTI address is needed if a CTI server is installed at the PG and the Unified CCE system is duplexed.<br>**Note** If you use a simplex system, fill in both the addresses. |
| **Reporting Interval** | The system software stores historical information in either 15-minute or half-hour summaries (but not both), based on the reporting interval option set. The Router sends these records to the Logger, which in turn writes them to the Central Database.<br>Select the **15 Minute** or **30 Minute** reporting interval option (default is 30 Minute).<br>**Note** Be aware that the 15 Minute interval requires a larger amount of space than the 30 Minute interval.<br>This setting controls populating interval data only in the following tables:<br>• Agent_Interval<br>• Agent_Skill_Group_Interval<br>• Peripheral_Interval<br>• Service_Interval<br>• Skill_Group_Interval<br>• System_Capacity_Interval<br>There is another Reporting Interval setting on the PG Explorer's Logical Controller tab that controls populating interval data for a different set of tables.<br>**Important** If your solution uses Precision Queues, choose the same interval (15 minutes or 30 minutes) for both this setting and the setting on the **Logical Controller** tab. |

| Field | Description |
|---|---|
| **Time Source** | The time source that the PG uses to copy the historical interval data (15 or 30 minute) and send to the CallRouter. Any change made to the time source requires simultaneous shutdown (PG services to be stopped and restarted simultaneously) on both PG sides.<br><br>Two time source options are available:<br><br>• **Use Central Controller Time**. The PG uses the Central Controller CallRouter time source to obtain the historical interval (15 or 30 Minute) data and send to the CallRouter (default time source when adding or upgrading a PG).<br><br>• **Use ACD Time**. The PG uses the corresponding ACD time source to obtain only the 30-minute historical interval data and send to the CallRouter. (15-minute historical data is not supported for PGs that use the ACD time source.)<br><br>**Note** If the **Use ACD Time** option is enabled, the CallRouter-generated Call Type and Call Type Skill Group data will not align with the Peripheral-generated Skill Group data.<br><br>This option is available only for the following client types for the defined PG:<br><br>• Avaya Communication Manager<br><br>• Aspect Call Center<br><br>• UCC Enterprise Gateway |

# Peripheral Tab

Use the Peripheral tab and its associated tabs to view, define, and update the peripherals associated with a PG.

***Table 2: Peripheral Tab Field Descriptions***

| Field | Description |
|---|---|
| **Peripheral ID (required)** | A unique identifier for the peripheral. This is a read-only field. When you create a new PG, the system places UNASSIGNED in this field and automatically creates an ID when you save your edits. |
| **Name (required)** | An enterprise name for this peripheral. The name must be unique among all peripherals in the enterprise. |
| **Peripheral Name (required)** | The name of the peripheral as it is known at the local site. Unlike the Enterprise Name field, the value of this field does not have to be unique. For example, at each site you might label the peripherals Switch1, Switch2, and so forth. |

| Field | Description |
|---|---|
| **Client Type (required)** | The type of peripheral. The value for this field comes from the Logical Controller Client Type field. |
| **Location** | The peripheral's location; for example: the name of a city, building, or department. |
| **Abandoned Call Wait Time (required)** | Minimum time in seconds an incoming call must be queued before being considered an abandoned call if the caller hangs up. |
| **Configuration Parameters** | A string containing any parameters that must be sent to the device to initialize it. In most cases, leave this string blank. |
| **Call Control Variable Map** | A string that describes the mappings of the peripheral's call control variables to the system software's call control variables. |
| **Default Desk Settings** | (selection list) Default desk settings for agents associated with the peripheral.<br>**Note** If NONE is the only option in the selection list, you need to create desk settings. To create desk settings, use the Configuration Manager's Agent Desk Settings List tool. |
| **Peripheral Service Level Type (required)** | The default type of service level calculation to be performed by the peripheral for its associated services.<br>Specify one of the following:<br>• If the peripheral type is Aspect Call Center, choose the type of calculation to be performed by default. You can override the default for each individual service.<br>• If the peripheral type is not Aspect Call Center, choose **Calculated by Call Center**. |
| **Agent Phone Line Control (required)** | Indicates whether this agent peripheral supports multi-line control for all agents with more than one line configured on the phone.<br>Specify one of the following agent phone line control options:<br>• **Single Line**: Enables single line monitoring and reporting (default).<br>• **All Lines**: Enables multi-line monitoring and reporting.<br>**Note** For any configuration changes to reflect, an exit_opc or termination of both PG sides are required. |

| Field | Description |
|---|---|
| **Non ACD Line Impact (required)** | Indicates how many non-ACD calls the agent initiated on one of the non-ACD lines. (This field is populated only when the **All Lines** option is enabled.)<br>Specify one of the following non-ACD line impact options:<br>• **Available Agent Goes Not Ready**: Agent state is set to NOT READY with a system reason code when agent answers or places a call on a secondary line while in the AVAILABLE or NOT READY state.<br>• **Available Agent Stays Available**: Agent state is unchanged when agent is on a call on a secondary line.<br>**Note** Non-ACD lines are not a part of hunt group in UCCE. |
| **Description** | Additional information about the peripheral. |
| **Enable Post Routing** | If checked, indicates that post-routing is enabled. When this is enabled, the Routing Client tab is also enabled.<br>If you check **Enable Post Routing** in the Peripheral tab, also enter the properties in the Routing Client tab. |
| **Peripheral Auto-Configured** | Checked, indicates peripheral is auto configured. |

## Advanced Tab

The Advanced tab allows you to view (and define or edit, if you have maintenance access) the advanced properties of the selected peripheral.

***Table 3: Advanced Tab Field Descriptions***

| Field | Description |
|---|---|
| **Available Holdoff delay (required)** | The number of seconds to wait after the end of a call before recording the agent as available. The value you enter here is the default for all skill groups associated with the peripheral. You can change the value for individual skill groups. |
| **Default Route** | The default route associated with this peripheral. |
| **Answered Short Calls Threshold** | The maximum length, in seconds, for a short call to the peripheral. Any calls with a duration below the threshold are considered short. You might then choose to factor out short calls from handle times you calculate. |
| **Network VRU** | The type of network VRU. If the peripheral is a VRU, that is, used as a network VRU, select the name of the network VRU from the drop-down list. |

| Field | Description |
|---|---|
| **Agent Auto-Configuration** | Specifies whether agent auto-configuration is enabled for the peripheral.<br>**Note** Agent Reporting implies Auto Configuration. Agent Reporting without auto-configuration is NOT supported. Unified ICM does not support Agent Reporting on manually configured agents with auto-configuration off.<br>**Internal IPTA only**<br>Specifies whether the peripheral belongs to internal IPTA. |

## Skill Group Mask Tab

This tab allows you to view (and define or edit, if you have maintenance access) the default number of sub-skill groups associated with the selected peripheral.

**Important** Sub-skill groups are not supported for Unified Contact Center Enterprise; however, they are supported for certain TDM peripheral gateways (as configured in an Avaya Communication Manager PG). Sub-skill groups are also not supported for non-voice skill groups. That is, you cannot create sub-skill groups for these media classes: single-session chat, multi-session chat, blended collaboration, and email.

**Note** For some peripherals, the Configuration Manager can automatically create subgroups (primary, secondary, and so on) for each skill group.

### Sub-Skill Group Check Boxes

**Note** These check boxes are enabled only for supported TDM peripherals.

The maximum number of subgroups that may be created depends on the peripheral's client type, and may be none. Where subgroups are available, a default selection has been made. You may change this default, either to none or any number up to the maximum number allowed for this client type.

If you later edit the subgroup selection, removing any previously used subgroups may cause loss of reporting information and must be done carefully. Changes done here will be reflected in all skill group entries that currently exist for this peripheral, which do not explicitly override the settings in the peripheral.

Check a box for each sub-skill group for each non-enterprise skill group you want to be associated by default with the peripheral. For each box you check, a skill group record is created in the database if the primary skill group uses the peripheral's default.

The number of sub-skill groups used by a primary skill group is specified in the Subgroup Mask tab of the Skill Group Explorer. There, you can add more sub-skill groups than are defined for the peripheral if the selected skill group requires additional ones.

**Note** The Sub-Skill group check boxes are dimmed for enterprise skill groups.

## Routing Client Tab

A routing client represents an entity that sends routing requests to the system software through a logical interface controller. Use the Routing Client tab to view, define, or update a PG's routing clients.

***Table 4: Routing Client Tab Field Descriptions***

| Field | Description |
|---|---|
| **Name (required)** | An enterprise name for this routing client. The name must be unique among all routing clients in the enterprise. |
| **Timeout Threshold (required)** | The maximum time, in milliseconds, the routing client can wait for a response to a routing request. The NIC sends a default response slightly before this threshold. |
| **Late Threshold (required)** | The 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 TimeoutThreshold. |
| **Timeout Limit (required)** | The number of seconds to wait for routing responses before the routing client terminates communication with the system software. When a response from the CallRouter exceeds the time-out threshold, the routing client starts a timer. If the timer reaches the specified time-out limit before the routing client receives any responses from the CallRouter, the routing client assumes the Unified ICM system is off-line and stops sending it routing requests. |
| **Default MR Domain ID (required)** | (selection list) The MRD associated with the routing client. |
| **Default Call Type** | The call type to be used for any route request that does not match a defined call type mapping. The drop-down list contains all configured call types.<br>The system software uses the default call type for any routing request from the routing client that does not otherwise map to a call type. If you do not define a default call type for the routing client, the system software uses a general default call type. |
| **Configuration Parameters** | An optional string containing the configuration parameters to be used by the controller to initialize the routing client. For a public network client, this field generally specifies the subsystem for the NIC to use. |
| **Use DN/Label Map** | Indicates that the Dialed Number (DN) Label table is used to determine which labels are valid for each dialed number (if checked), or that all labels for the routing client are valid for all dialed numbers (if not checked). You can leave this field unchecked. |
| **Client Type** | Indicates the type of client. It is the same as the PG's Client Type. |

| Field | Description |
|---|---|
| **Description** | Additional information about the routing client. |
| **Network Routing Client** | A name used to associate routing clients across instances. |
| **Network Transfer Preferred** | Checked, indicates network transfer is preferred. When the target of a call transfer is reachable by both a label defined for the requesting routing client and by another label defined for the network routing client that pre-routed the call, this option indicates which choice is preferred. |
| **Congestion Treatment Mode** | Congestion treatment mode for routing clients. The default value is 0 when you add a new routing client.<br>The congestion treatment mode definitions are as follows:<br>• 0 - Use Congestion Control settings.<br>• 1 - Use Dialed Number (DN) as default label for call treatment.<br>• 2 - Use routing client as a default label for call treatment.<br>• 3 - Use global user-defined label for call treatment.<br>**Note** To configure a user-defined label, use the Congestion Setting Configuration tool.<br>• 4 - Dialog fail with an appropriate error code.<br>• 5 - Release message to the routing client. |
| **Default Label** | Indicates the default label for the routing client to treat the call when the system is congested. |

**Related Topics**

Routing a Call

## Peripheral Monitor Tab

A *peripheral monitor* is an entity that you want to monitor at the peripheral. Not all peripherals require peripheral monitor records.

You must configure peripheral monitor records for Extension numbers on a Definity switch.

*Table 5: Peripheral Monitor Tab Field Descriptions*

| Field | Description |
|---|---|
| **Current Peripheral Monitor Entries** | Lists the current peripheral monitor data (Type, Extension, and Configuration Parameter) entered for the selected PG.<br>**Note** The peripheral monitor records are initially sorted by PeripheralMonitorID (the default sort order). Click any column header to reverse the sort order (ascending-to-descending or descending-to-ascending). The indicator to the right always points to the lowest item in the current list order. |
| **Type (required)** | The type of entity to be monitored: ACD Directory Number (ACD DN), Meridian Position, Queue, Route Control Group (RCG), Routing Device, Station, Avaya Aura Contact Center (AACC) CDN, Trunk, Vector Directory Number (VDN), or Virtual Routing Device. |
| **Extension** | For an Avaya (Definity), if there is a single extension number, enter the number here (for example, 6002) and do not enter it in the parameter string. If there is more than one number, leave this field blank and enter the numbers as a range in the parameter string. |
| **Configuration Parameters** | A parameter string to be passed to the peripheral along with the extension string to start monitoring on the specified extension:<br>• For an Avaya (Definity), if there is more than one extension number, enter them here as a range, for example, 6001-6020. If there is only one extension number, leave the parameter string blank. |
| **New** | Click this button to enter new monitor data. Then select a type from the Type selection list, fill in any other appropriate field information, and press the **Enter** key. |
| **Delete** | Click this button to delete the selected row item from the list of current peripheral monitor entries. |
| **Extension** | Displays the extension of the selected current peripheral monitor entries for editing purposes. Click **Save** when you finish editing to save your changes. |
| **Configuration Parameter** | Displays the configuration parameter of the selected current peripheral monitor entries for editing purposes. Click **Save** when you are done editing to save your changes. |
| **Type** | Displays the type of the selected Current peripheral monitor entries for editing purposes. Click **Save** when you are done editing to save your changes. |

## Default Route Tab

Use this tab to create a default route for each MRD that is associated with a peripheral.

*Table 6: Default Route Tab Descriptions*

| Field/Button | Description |
|---|---|
| **Current Default Route Entries** | **Media routing domain**<br>The media routing domain configured for the selected default route entry.<br>**Route**<br>The default route configured for the media routing domain of the selected default route entry.<br>**Note** The default route configured for the media routing domain of the selected default route entry. Click any column header to reverse the sort order (ascending-to-descending or descending-to-ascending). The indicator to the right always points to the lowest item in the current list order. |
| **New** | Click to enter new default route data. Then, enter a media routing domain and a route. |
| **Delete** | Click to delete the selected row item from the list of current default route entries. |
| **Media Routing Domain (required)** | Enter the media routing domain when creating a new default route entry. |
| **Route** | Enter the route when creating a new default route entry. |

## Agent Distribution Tab

Use the Agent Distribution tab to list and view the agent distributions currently defined in the Unified ICM database and (if you have maintenance access) to define new agent distributions and edit or delete existing ones. This data is stored in the database Agent Distribution table.

**Note** The PG Explorer (and the assigning of agent distribution) is not available on a *limited* Administration and Data Server.

*Table 7: Agent Distribution Tab Field Descriptions*

| Field | Description |
|---|---|
| **Enable Agent Reporting** | Specifies whether agent reporting is enabled for the peripheral. Select this option if you want the peripheral to report agent-level statistics to the system software.<br>**Note** Agent Reporting implies Auto Configuration. Agent Reporting without auto-configuration is NOT supported. Unified ICM does not support Agent Reporting on manually configured agents with auto-configuration off.<br>**Note** If the peripheral's client type is CUCM, select an agent desk setting in the PG Explorer's Peripheral tab before you can enable agent reporting. The peripheral's client type is indicated in the PG Explorer's Peripheral tab. |
| **Agent Event Detail** | Specifies whether agent event detail reporting is enabled for the peripheral. This check box is enabled only if the **Enable agent reporting** checkbox is selected. Making this selection results in agent reason codes being added to agent reporting.<br>**Note** This checkbox is enabled by default if you are adding a CUCM PG. |
| **Agent Distribution Entries** | Lists the agent distributors (Administration Clients or Administration & Data Servers) available for distributing agent report data for the selected peripheral.<br>**Site name**<br>One or more names of agent distribution sites associated with the selected peripheral.<br>**Agent real-time data**<br>**N** indicates that agent real time data is not enabled. **Y** indicates that agent real time data is enabled.<br>**Agent historical data**<br>**N** indicates that agent historical data is not enabled. **Y** indicates that agent historical data is enabled. |

| Field | Description |
|---|---|
| **Currently Selected Site** | **Administration & Data Server site name**<br>The name of the currently selected site in the agent distribution entries list.<br>**Agent real time data**<br>If checked, enables the flow of agent real time data from the peripheral to the Administration & Data Server. Unchecked, disables the flow of agent real time data.<br>**Agent historical data**<br>If checked, enables the flow of agent historical data from the peripheral to the Administration & Data Server. If unchecked, disables the flow of agent historical data.<br>**Note** If you configured a site name, you must enable both the Agent real-time data and Agent historical data if needed. Then restart the Distributor Service. If you did not configure a site name, the agent historical data flows from the peripheral to the Administration & Data Server by default only for the AW-HDS-DDS type. |
| **New** | Click to add a new Administration & Data Server site. This places *NEW* in the **Administration & Data Server site name** input box and in the **Agent Distribution Entries** list. Replace *NEW* in the Administration & Data Server site name input box with the name you want. Then check the check box if you want to enable it, and click **Save**. |
| **Delete** | To delete an Administration & Data Server site, select that site's name in the Agent Distribution Entries list and click this button. Then click **Save**. |

**Note** For information on how to use the agentcfg.exe command line utility to import agent data, see Agents

# PG and Peripheral Definitions

Use the PG Explorer to define a PG and its associated peripherals.

**Related Topics**

Configuration Manager Menus

## Define a PG

**Note** Unified CCE System Peripheral Gateways contains an example of how to define a PG on a child deployment.

To define a PG, perform the following:

### Procedure

**Step 1** From the Configuration Manager menu, select **Tools** > **Explorer Tools** > **PG Explorer**. The PG Explorer window appears.

**Step 2** In the Select filter data box, click **Retrieve**. This enables the **Add PG** button.

**Step 3** Click **Add PG**. A new PG appears in the tree list box with a **To Be Inserted** icon next to it. Tabbed fields also appear on the right for the new PG's configuration information.

**Step 4** Fill in the tabbed fields.

**Step 5** If desired, set security settings on the records.

**Step 6** Click **Save** to save the newly defined PG in the database.

### Related Topics

Configuration Manager Menus

## Define a Peripheral

To define a peripheral:

### Procedure

**Step 1** Follow the steps for viewing a PG.

The selected PG's configuration information appears in the fields on the right.

**Step 2** In the tree list box, select the PG to which you want to add a peripheral. This enables the **Add Peripheral** button.

**Step 3** Click **Add Peripheral**. A peripheral is added to the selected PG in the tree list box. Also, a new set of tabbed fields appear on the right for the new PG's configuration information.

**Step 4** Enter the needed peripheral configuration information in the fields on the right.

**Step 5** If desired, set security settings on the records.

**Step 6** Click **Save**.

After you have defined a peripheral, you can define the trunks, agents, groups, and services associated with that peripheral.

### Related Topics

Peripherals and Trunk Groups, on page 1
Apply Security Settings

# Unified CCE System Peripheral Gateways

On the Administration & Data Server, run the Configuration Manager to add the Unified CCE system peripheral gateways.

## Configure Unified CCE System PGs

To configure Unified CCE system PGs with the Configuration Manager tools:

**Procedure**

**Step 1** Select **Cisco Unified CCE Tools** > **Administration Tools** > **Configuration Manager** .

**Step 2** Start the PG Explorer Tool, then in the Main window click **Retrieve**.

**Step 3** Click **Add PG**.

This creates both the peripheral gateway and the peripheral.

a) Enter **UCCE** for the Name.
b) Select **UCCE System** for the Client Type.
c) If no desk settings are set, set them now. Click **OK**.

The Agent Desk Settings List Tool appears.

d) Click **Add**.

The Attribute tab appears.

e) Enter the Name **default**.
f) Leave all other settings at their defaults and click **Save**.
g) Close the Desk Settings List Tool.

**Step 4** Go back to the PG Explorer Tool.

a) Select **UCCE-1** as the peripheral.
b) On the Peripheral tab, set the Default Desk Settings to **default**.
c) On the Agent Distribution tab, click **New**.
d) Set the Administration & Data Server site name to **BELO-5C-Site 1** and leave all other settings at their defaults.
e) On the Routing Client tab, enter the Name **UCCE_RC** and leave all other settings at their defaults.
f) Click **Save**.

The Logical Controller ID (5000) and the Physical Controller ID (5000) are now indicated on the Logical Controller tab.

g) Reboot the system peripheral gateway servers (BELO-5A and BELO-5B).

The Central Controller setup and configuration is now complete. The peripheral gateways can now be installed and configured to communicate with the Central Controller.

## Add Instance

This task is performed on the child system peripheral gateway servers BELO-5A (PG1A) and BELO-5B (PG1B).

To add the instance with the Web Setup Tool after the reboot:

**Procedure**

**Step 1** Enter **http://BELO-5B/setup** (or BELO-5A, as applicable) and log in to the Web Setup Tool to add the Instance. The main Web Setup Tool window appears.

**Step 2** Click **Instance Management**, then click **Add**.

The Add Instance dialog appears.

**Step 3** Select **BELO** (the facility), then **bh03** (the Instance to add).

**Step 4** Click **Save**.

**Step 5** Click **Log Out**.

# PG or peripheral modification

Use the PG Explorer to modify a PG or a peripheral.

## Modify PG and Peripheral Records

To modify a PG and peripheral record:

**Procedure**

**Step 1** Follow the steps for viewing a PG.

The selected PG's configuration information displays in the fields on the right.

**Step 2** Edit the configuration information.

**Note** You cannot modify fields that are greyed out.

***Table 8: Rules for Changing a PG Client Type***

| If the PG Client Type is | Then it must be |
|---|---|
| **Generic** | Changed to Non-Generic (ACD or VRU). |

When you make a modification, the **Changed** icon appears next to the selected item (PG or peripheral) in the tree list box.

**Step 3** Click **Save**.

The modified data is saved in the Unified ICM database and the **Changed** icon is removed from the PG or peripheral in the tree list box.

# PG or Peripheral Deletion

Use the PG Explorer to delete a PG or a peripheral.

## Delete a PG or Peripheral

To delete a PG or a peripheral:

**Procedure**

**Step 1** Follow the steps for viewing a PG.

The selected PG's configuration information displays in the fields on the right.

**Step 2** In the tree list box, select the PG or peripheral whose records you want to delete.

**Note** If you select a PG, the records for all peripherals associated with it will also be deleted. If you select a peripheral, only its records will be deleted.

**Step 3** Click **Delete**. This places a **Marked for Deletion** icon ☒ next to the selected item in the tree list box. This also toggles the **Delete** button to **Undelete**.

To undelete an item marked for deletion, select it in the tree list box and click **Undelete**.

**Step 4** Click **Save**.

This deletes from the database the PG or peripheral marked for deletion and removes it from the tree list box. Once you do this, you cannot undelete the deleted item.

# Agent Targeting Rules

If you're routing calls to agents on a PG from another PG/routing client, configure agent targeting rules. This helps you to route the calls successfully. Using agent targeting rules to configure call routing for Unified CCE agent PGs is simpler and significantly reduces the amount of time spent on configuration. The agent attempts to log in to an extension to which the router can't target a call based on configured agent targeting rules. In this scenario, the peripheral gateway rejects the login request and returns an error. The error includes the cause for login failure.

Agent targeting rules are supported for system PGs, and CallManager PGs in Unified Contact Center Enterprise (Unified CCE) deployments.

It supports a standalone Unified CCE, Unified CCE child of a Unified ICM parent. A Unified ICM Unified CCE Enterprise in a network analysis module (NAM) deployment is also supported.

In a NAM environment, you can use agent targeting rules on the Unified ICM side in a Unified CCH deployment to target agents. However, if the NAM side requires label validation you can either define all the labels. The agent targeting rules at the CICM on the NAM side generate these labels. You can also turn off label validation. The **Validate Returned Labels** checkbox in the ICM Gateway node must be *unchecked* for calls routed using agent targeting rules to work. The calls fail at the NAM for not defining the labels, and turning on label validation. This happens even though a response with a valid label was sent from the CICM.

**Note** Hunt groups aren't supported on monitored agent lines. Agent extensions can't be added to hunt lists or hunt groups. PG can be Single Line or Multiline mode.

If the PG is in the single-line mode, the hunt groups are supported on the unmonitored (non-ACD) line; however, the hunt groups aren't supported on the agent extension. The agent line can't be part of a hunt list or a hunt group.

If the PG is in multiline mode, hunt groups aren't supported on any of the agent's extensions when the agent is logged in. If the agent has multiple lines, none of the lines on the first four lines monitored by the Unified CCE are a part of the hunt group.

Hunt groups aren't supported on an agent's monitored lines while the agent is logged in.

## Configure Agent Targeting Rules

You can define one or more rules for a peripheral. However, each rule must cover a different agent extension range for the same routing client. In other words, if there are multiple rules that a routing client can use to target a peripheral, there must be no overlapping extension ranges in those rules.

**Note** To use agent targeting rules, you must have both the Central Controller and the PGs upgraded to the same version of Unified ICM that supports the Agent Targeting Rules feature.

To configure agent targeting rules:

### Procedure

**Step 1** Using the PG Explorer tool, Define a PG that directly targets an agent. On the Advanced tab, select the **Rules Preferred** option, which indicates that the CallRouter will use the agent targeting rule (if one exists). Save the PG.

**Step 2** Using the Agent Targeting Rule List tool, create the rule:

a) Add a name for the rule in the **Name** field.

b) Select the PG you just defined in the **Peripheral** field.

c) Select the **Rule type**:

- **Agent Extension**: Enter the agent extension prefix. This option directly targets the agent. The agent is identified by an ID, which will display in the PreCall and Connect messages. (The agent's extension is included as the label.)
- **Substitute Agent Extension**: Enter the agent extension length. When using this type, the label returned will be the combined Agent Extension prefix and the actual agent extension. For example, if the call from Unified Customer Voice Portal (Unified CVP) goes through the target agent on a CallManager PG, use this option.
- **Translation Route**: A translation route is used to move the call. This option allows pre-routing of calls directly to an agent without requiring direct-inward-dial (DID) to all agents. Translation routes require the generation of a second label, used to target the agent from the peripheral's local routing

client. For example, select a translation route associated with the peripheral and define the extension range.

d) Select the routing client in the Routing client group box by clicking **Add** (defines where the call comes from).
e) Add the phone extension range in the Extension Ranges group box by clicking **Add**.
f) Click **Save**.

When the CallRouter routes a call, it will check if there is a rule for that routing client. The CallRouter decides which rule to use based on routing client, PG, and extension range. When the CallRouter finds a rule, it uses the rule type to decide how to construct a label to send to the routing client.

**Note** When configuring an agent targeting rule for a translation route, if you are using agent targeting rule type 3 (translation route), you must also configure the translation route DNIS as dialed numbers associated with the target agent's peripheral routing client in Unified ICM. The dialed numbers must be mapped to the route points that are configured in Unified CM and associated with the Java telephony API (JTAPI) user. This is necessary to complete the translation route rule.

# Trunk Groups and Trunks

Every peripheral has one or more associated trunk groups, with each trunk group containing one or more physical trunks. Trunk groups map to trunk sets defined by the peripheral.

A peripheral dispatches a call to the appropriate skill target based on the trunk group on which the call arrives and the DNIS value that accompanies it. The peripheral treats all trunks with a particular trunk group the same, but it might treat trunks within another trunk group differently.

When setting up trunk groups and trunks, you must specify:

- Each trunk group that can receive calls
- How many trunks are in each trunk group, or configuration information for each trunk in the group

This section describes how to configure the trunk groups and trunks that will be used by routing clients and peripherals.

## Network Trunk Groups, Trunk Groups, and Trunks

Routing clients deliver calls to trunk groups at the peripheral. However, a routing client might group the trunks differently from the way the peripheral groups them. The groups as seen by the routing client are called network trunk groups.

A network trunk group:

- Is a collection of peripheral trunk groups.
- Can map directly to a single trunk group at the peripheral or to multiple trunk groups.

- Can also map to trunk groups at different peripherals, provided that all the peripherals are associated with the same PG. (Only valid for VRU peripherals.)

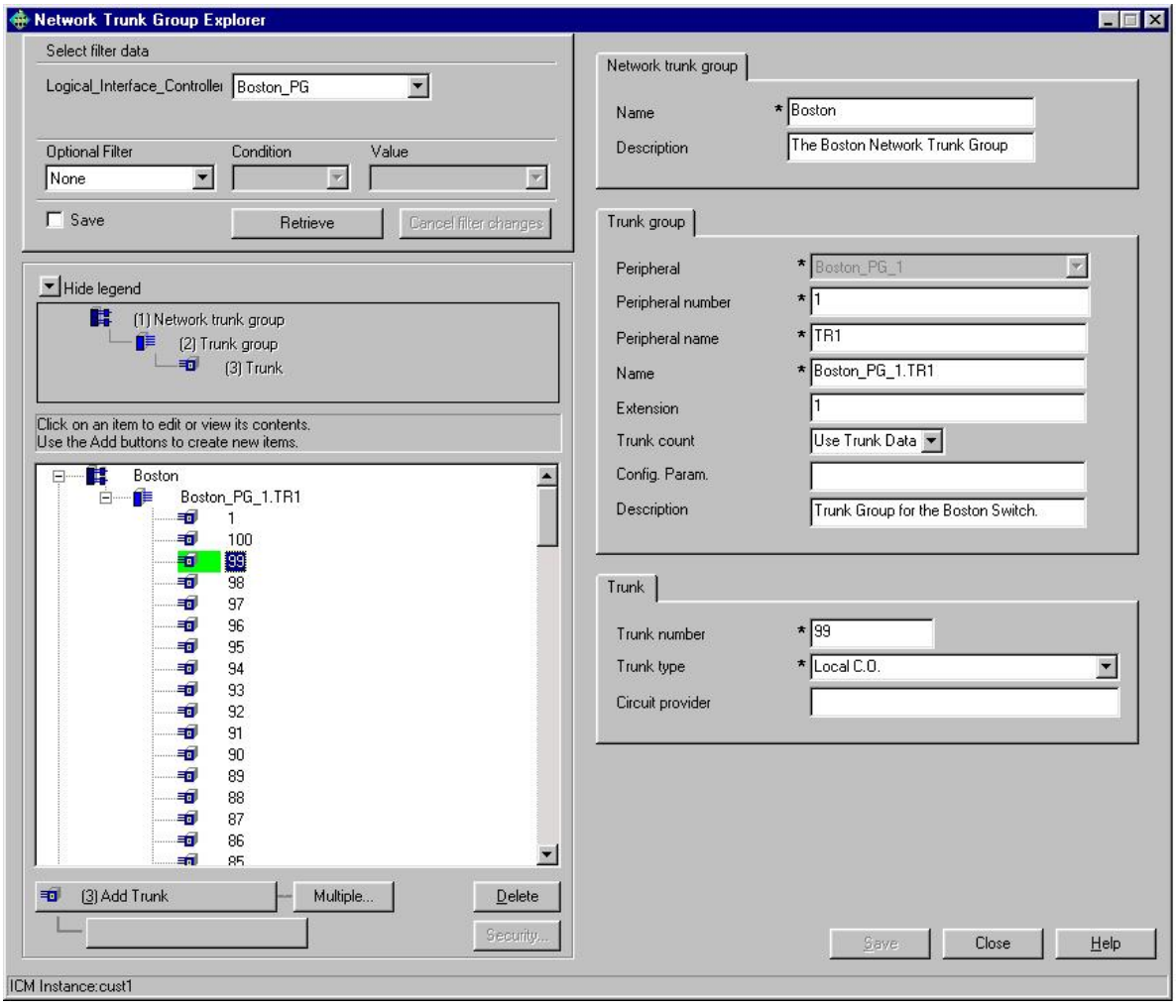
## View a Network Trunk Group, Its Trunk Groups, and Trunks

To view a network trunk group, its trunk groups, and trunks:

### Procedure

**Step 1** From the Configuration Manager menu, select **Tools** > **Explorer Tools** > **Network Trunk Group Explorer**. The Network Trunk Group Explorer window appears.

***Figure 3: Example Network Trunk Group Explorer Window***




**Step 2** In the **Select filter data** box, select the filters you want.

**Step 3** Click **Retrieve**. This enables the **Add** button and displays a list of the retrieved network trunk groups in a tree list box on the left side of the Explorer window.

**Step 4** In the tree list box, select the network trunk group whose records you want to view or modify. The selected network trunk group's configuration information displays in the tabbed fields on the right.

**Step 5** To view trunk group or trunk data, expand the tree and select the tree item whose properties you want to view or edit. In the above figure, Trunk 99 is selected. This trunk belongs to the Boston_PG_1 trunk group, which belongs to the Boston network trunk group.

The property tabs on the right side of the Explorer window display the properties of the item selected in the tree list box. Properties with an asterisk are required. If you have maintenance access, you can define or edit these properties.

## Edit a Network Trunk Group, Its Trunk Groups, and Trunks

To edit a network trunk group, its trunk groups, and its trunks:

**Procedure**

**Step 1** From the Configuration Manager menu, select **Tools** > **Explorer Tools** > **Network Trunk Group Explorer**. The Network Trunk Group Explorer window appears.

**Step 2** In the **Select filter data** box, select the filters you want.

**Step 3** Click **Retrieve**. This displays a list of retrieved network trunk groups in a tree list box on the left side of the Explorer window.

**Step 4** In the tree list box, select the item you want to edit. Expand the tree if necessary. This displays the selected item's property tab on the right side of the window.

**Step 5** Edit the appropriate properties.

**Step 6** Click **Save**.

**Related Topics**

Network Trunk Groups, Trunk Groups, and Trunks, on page 21

## Define a Network Trunk Group, Its Trunk Groups, and Trunks

Follow the steps to define a network trunk group, its trunk groups, and its trunks:

**Procedure**

**Step 1** From the Configuration Manager menu, select **Tools** > **Explorer Tools** > **Network Trunk Group**. The Network Trunk Group Explorer window appears.

**Step 2** In the **Select filter data** box, select the filters you want.

**Step 3** Click **Retrieve**. This displays a list of the retrieved trunk groups and enables the add functionality.

**Step 4** This step depends on what you want to do:

a) To add a new network trunk group, click **Add Network Trunk Group**.

b) To add a new trunk group, select the network trunk group to which you want to add a group, and click **Add Network Trunk Group**.

c) To add a new trunk, select the trunk group to which you want to add a trunk, and click **Add Trunk**.

**Step 5** Enter the appropriate values in the tabbed property fields on the right side of the window.

**Step 6** Click **Save**.

**Related Topics**

Network Trunk Groups, Trunk Groups, and Trunks, on page 21

## Delete a Network Trunk Group, Its Trunk Groups, and Trunks

Follow the steps to delete a network trunk group, its trunk groups, and its trunks:

**Procedure**

**Step 1** From the Configuration Manager menu, select **Tools** > **Explorer Tools** > **Network Trunk Group Explorer**. The Network Trunk Group Explorer window appears.

**Step 2** In the **Select filter data** box, select the filters you want.

**Step 3** Click **Retrieve**. This displays a list of the retrieved network trunk groups.

**Step 4** In the tree list box, select the network trunk group, trunk group, or trunk whose records you want to delete.

**Note** If you select a network trunk group, the records for all trunk groups and trunks associated with it will also be deleted. If you select a trunk, only its records will be deleted.

**Step 5** Click **Delete**.

**Step 6** This places a **Marked for Deletion** icon ☒ next to the selected item in the tree list box. This also toggles the **Delete** button to **Undelete**.

To undelete an item marked for deletion, select it in the tree list box and click **Undelete**.

**Step 7** Click **Save**.

This deletes from the database the item marked for deletion and removes it from the tree list box. Once you do this, you cannot undelete the deleted item.

## Define Multiple Trunks

You can quickly define multiple trunks of the same type for a specific trunk group by using the **Multiple** button in the Network Trunk Group Explorer window.

To define multiple trunks:

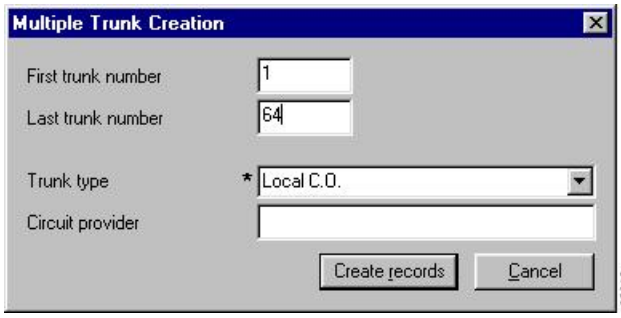
**Procedure**

**Step 1** From within the **Network Trunk Group Explorer**, select the trunk group to which you want to add trunks. This enables the **Multiple** button.

**Note** You must have an existing trunk from the peripheral defined before you click **Multiple**.

**Step 2** Click **Multiple**. The Multiple Trunk Creation dialog appears.

*Figure 4: Multiple Trunk Creation Dialog*




**Step 3** Set the **First trunk number** and the **Last trunk number** fields so that you define the range of trunks you want.

**Step 4** In the Trunk type field, select the trunk type.

**Step 5** (optional) In the Circuit provider field, enter the name of the carrier that provides the circuit for this trunk.

**Step 6** Click **Create records**. The tree list box will display a list of the numbered trunks beneath the selected trunk group and the Trunk tab on the right side of the window will display the properties of the trunk at the end of the series of numbers.

**Step 7** In the Network Trunk Group Explorer window, click **Save**.

**Note** If a trunk number in the range you specified has already been used, that trunk number is selected in the tree list box and a message displays. Before you can save the data, you must edit the trunk number.