



Provisioning Dial Plans with CMM

This chapter provides information and procedures for provisioning dial plans for Cisco Media Gateway Controller Software Release 7.4 using the Cisco Media Gateway Controller Manager (CMM).

The topics addressed in this chapter include:

- [CMM Overview, page 3-2](#)
- [Provisioning the Dial Plan, page 3-7](#)



Note

The dial plan provisioning procedures in this chapter are applicable only to Cisco Media Gateway Controller (MGC) software Release 7.4(x).

The CMM is an X Window System graphical user interface (GUI) that accesses Cisco Media Gateway Controller (MGC) information using the Simple Network Management Protocol (SNMP).

You can use the CMM to perform a variety of provisioning tasks, including:

- Setting up your system
- Provisioning component properties
- Adding or deleting system components
- Setting up links and signaling services
- Setting up dial plans and routing plans

The CMM can be used alone or with MML commands to provision dial plans for your system. For more information on using MML commands, refer to [Chapter 5, “Provisioning Dial Plans with MML.”](#)

You should have the information described in [Chapter 2, “Preparing for Dial Plan Provisioning,”](#) before beginning your dial plan provisioning session.

When provisioning dial plans, you must first ensure that all system components have been provisioned as described in the *Cisco Media Gateway Controller Software Release 7 Provisioning Guide*.

CMM Overview

The CMM provides a GUI that allows you to create dial plan provisioning sessions. The CMM saves your current provisioning session each time you click a **set** command. After you finish the provisioning session and choose **commit** or **deploy**, the CMM saves your dial plan as the active dial plan. After you have created the active dial plan, you cannot modify it. To make changes, you must save it with another name and commit or deploy the new provisioning session to make it active.

The software allows only one active provisioning session. Therefore, you cannot have an active MML provisioning session open at the same time you are using the CMM. Other users can access the CMM in read-only mode from a different host; however, the Create, Modify, Set, and Delete buttons are not enabled in read-only mode.



Note

Only one active TCM provisioning session is permitted to run on a host machine, and read-only mode is not permitted on that machine. You must use a different host machine to gain read-only access. Typically, the Cisco MGC software resides on a different host than the CMM provisioning tool, but they can both reside on the same host.

Read-only mode permits viewing of the current active provisioning data stored in the `/opt/CiscoMGC/etc` directory on the Cisco MGC host. Read-only users cannot access any other provisioning sessions, regardless of what is entered in the Source Version Name or Destination Version Name field. In read-only mode, information in the View, Traffic, and Number Analysis tabs can be edited and used to create files on the local machine. You can also export customer-specific files, such as dial plans, when in read-only mode.

The number of dial plans you can store might be limited by available disk space. Consider deleting old or unwanted dial plans, or saving them to another machine if you do not have sufficient disk space.



Note

If you change the default directory value, you must use the new value throughout this document where the `/opt/CiscoMGC/etc` directory is referred to.

Starting the CMM

To start the CMM, complete the following steps:

-
- Step 1** Log in as a member of the `mgcuser` group.
- You must be logged in to the CMM server or access it from a machine with X Window System capability. See the *Cisco Media Gateway Controller Software Release 7 Installation and Configuration Guide* for more information on setting up user privileges and access rights.
- Step 2** In the terminal window, enter:
- ```
cd /opt/CMM/bin
./start.sh cmm IPAddr/HostName SourceVersionName DestVersionName
```
- The system opens the X Window System interface, and the login window is displayed (Figure 3-1).



## Tip

Depending on the X Window System software you are using when entering data in the TCM, you might need to press the **Shift** key when using the **Backspace** key.

**Timesaver**

The system automatically enters the values in the login window if you type the IP Address (or Host Name) of the Cisco MGC host, Source Version Name, and Destination Version Name after the `./start.sh cmm` command as shown above. If you prefer, you can type them into the login window.

**Figure 3-1 Login Window**

**Note**

The terminal window in which you originally started the CMM remains open and, due to software limitations, extraneous error messages can appear. You can safely ignore these messages.

**Step 3** In the IP Address/Host Name field, enter the host name or the IP address of the Cisco MGC host.

**Step 4** Accept the default values (Public) in the Read and Write Community Name fields.

**Step 5** In the Source Version Name field, enter one of the following:

- **new**—Creates a new configuration.

If you are creating an entirely new dial plan, you must create a new configuration.

- **active**—Retrieves the active configuration for changing.

You can use information in the active configuration as the basis for a new configuration; however, you must enter a new destination version name. You cannot overwrite the active configuration.

- **SourceVersionName**—If you enter the name of an existing, inactive configuration, the system uses that configuration as a basis for a new configuration.

The name can be as many as 250 alphanumeric characters and must start with a letter or number.

To modify the information in an existing, inactive configuration, use the same name for both the source and destination version names. If the destination version name you specify exists, but is inactive, it can be overwritten and no error messages appear.

**Step 6** In the Destination Version Name field, enter the name of a new version you want to create.

The name can be as many as 250 alphanumeric characters, including hyphens or underscores; however, you cannot use the labels “active” or “new” in the Destination Version Name field.

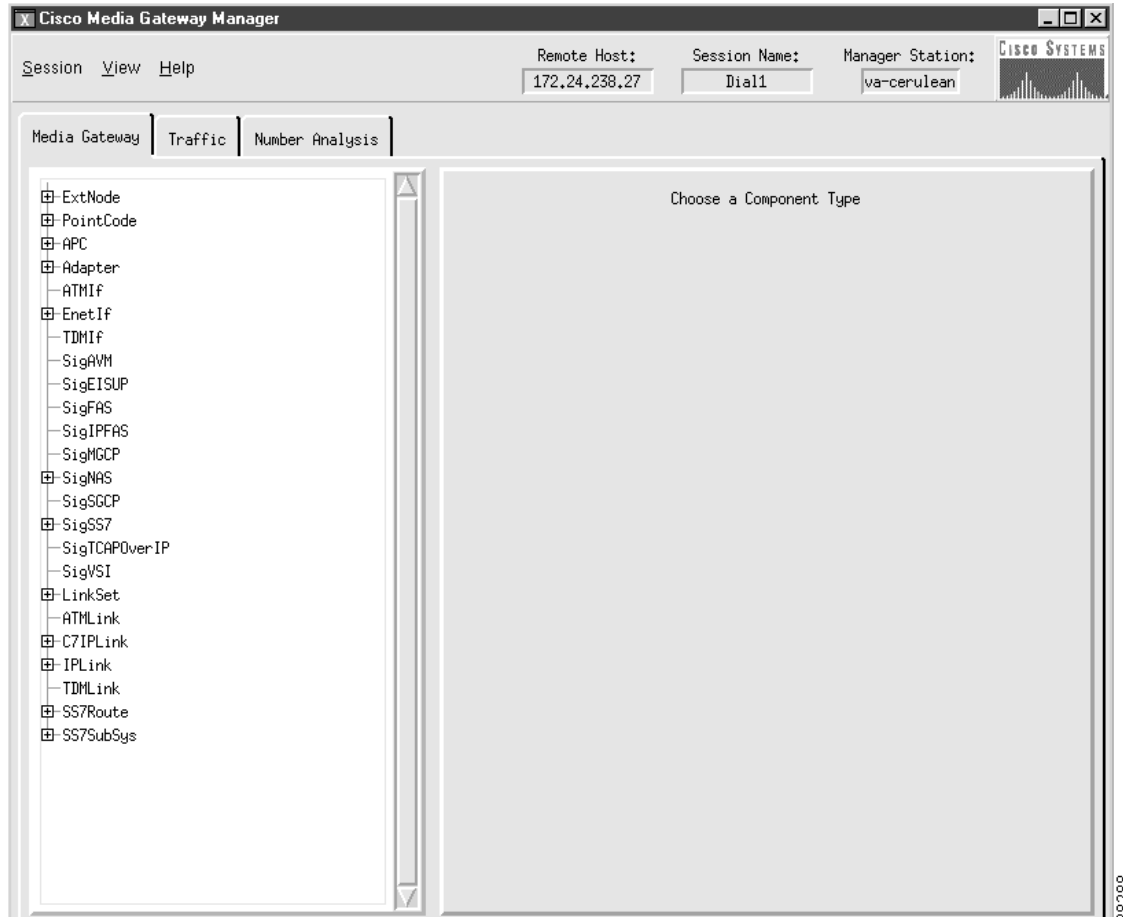
**Caution**

Do not name the destination directory “active.” The name “active” has a special meaning in the Cisco MGC software. If you use this name as the destination directory, you cannot access the configuration in later provisioning sessions.

If the destination directory you specify already exists, an error message is displayed. The Cisco MGC software does not allow you to overwrite an existing configuration unless you previously specified that configuration as the source version and it was inactive.

**Step 7** Click **Connect** to start the provisioning session. The CMM main window is displayed (Figure 3-2).

**Figure 3-2 Main Window**



**Note**

If you are working on a small window, all of the buttons may not be visible on your screen. Adjust the screen resolution or the font size until you can see all the buttons.

The CMM main window displays two panes. The left pane displays a list of components that you can select. To expand the component list, click the plus sign (+) next to the component name in the left pane. To select a component, click the component name. The right pane then displays fields in which you can enter data for the selected component.

The bottom left portion of the CMM main window provides status messages when you perform an action. For example, after you start the CMM the message “Cisco Media Gateway Controller Manager started” appears. After you click the **Create** button when creating an external node, the message “extnode set successful” appears.

## Navigating the CMM

This section describes the procedures to use when navigating the CMM.

### Tabs

The CMM main window provides tabs to navigate through the system. You click on these tabs to add or change network components. The top of the CMM main window contains the following tabs:

- Media Gateway—Used to add Cisco MGC components and provision component properties
- Traffic—Used to create customer-specific files, including trunk groups, trunks, and routing
- Number Analysis—Used to provision dial plans

### Information Boxes

The top of the CMM main window also contains the following information boxes:

- Remote Host—The IP address of the machine that contains the active provisioning session
- Session Name—The name of the provisioning session that you entered in [Step 6](#) above
- Manager Station—The IP address or host name of the CMM server

### Menu Bar

The CMM also provides a menu bar whose selections remain constant throughout the provisioning session; however, the menu choices depend on whether you are in read-only mode or read-write mode. The menu bar contains the following options: Session, View, and Help

### Session Menu

The Session menu contains the choices listed in [Table 3-1](#). The choices that are displayed in the Session menu depend on whether you are in read-only mode or read-write mode.

**Table 3-1 Session Menu Choices**

| Menu Choices | Description                                                                                                                                                                                           | Mode                    |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Sync         | Copies all dial plans on the active <sup>1</sup> host to the standby host if you have a continuous-service configuration.                                                                             | Read-only               |
| Stop         | Ends the current session.                                                                                                                                                                             | Read-write              |
| Deploy       | Ends the session and saves the current dial plan as the active dial plan. Copies the dial plan to the standby host if you have a continuous-service configuration.                                    | Read-write              |
| Commit       | Ends the session and saves the current dial plan as the active dial plan. In a continuous-service configuration, this is regardless of whether it is deployed on the active host or the standby host. | Read-write              |
| Exit         | Stops any open provisioning session and exits the TCM.                                                                                                                                                | Read-only<br>Read-write |

1. The active Cisco MGC in a continuous-service configuration is the machine that is currently processing calls. Do not confuse the active machine with the active provisioning session, which is located on the TCM host machine.

To activate the provisioning session:

- If you have a continuous-service configuration with two Cisco MGC hosts, choose **Deploy** from the Session menu. The dial plan is saved on the active host and copied to the standby host. You must restart the standby server after reconfiguration to apply changes.
- If you have a simplex configuration with one Cisco MGC host, choose **Commit** from the Session menu.
- If have a continuous-service configuration and you are in read-only mode, choose **Sync** from the Session menu to copy the dial plan from the active to the standby host.

**Note**

The CMM saves your dial plan each time you click the Create, Modify, Set, or Delete button. You can exit and return to the CMM later to modify this dial plan before you commit or deploy it.

**Note**

In a continuous-service configuration, always deploy the new dial plan onto the active MGC host.

## View Menu

The View menu contains the View Next option, which allows you to choose the number of data rows displayed in the CMM list boxes. For example, if you enter 10, the list boxes in the CMM display data 10 rows at a time. You can display a range of 1 through 999.

## Help Menu

The Help menu currently contains only software copyright and version information.

**Note**

In a continuous-service configuration, the XECfgParm.dat file on each machine must be configured properly. If you experience problems, verify the XECfgParm.dat files on both machines using the procedures in Chapter 2, “Installing the Cisco Media Gateway Controller Software,” in the *Cisco Media Gateway Controller Software Release 7 Installation and Configuration Guide*.

## Exiting the CMM

You can exit the CMM at any time by performing one of these actions:

- From the Session menu, choose **Exit**. Click **Yes** at the prompt.
- From any tab, click **Exit**. Click **Yes** at the prompt.
- Click the close box in the upper right corner of the CMM main window.

**Note**

The CMM main window closes without you receiving any notification.

# Provisioning the Dial Plan

The MGC enables you to create a dial plan to perform number analysis on both the A-number (calling number) and B-number (called number). For more information on creating a dial plan, refer to the “Creating a Dial Plan” section on page 2-5.

This section provides procedures for entering dial plan information into the CMM. You should already have your dial plan information recorded before beginning any data entry in the CMM.

This section contains the following subsections:

- [Creating the Dial Plan File, page 3-7](#)
- [Provisioning Result Sets, page 3-8](#)
- [Provisioning Pre-Analysis, page 3-11](#)
- [Provisioning Digit Trees, page 3-15](#)
- [Provisioning Digit Modification, page 3-19](#)
- [Provisioning the Service Name, page 3-22](#)
- [Provisioning Location, page 3-24](#)
- [Provisioning Cause Codes, page 3-26](#)
- [Processing the Number Analysis File, page 3-27](#)
- [Provisioning Whitelist and Blacklist Screening, page 3-28](#)

## Creating the Dial Plan File

To enter your dial plan information into the CMM, you must first create the dial plan file.

To create a dial plan file, complete the following steps:

---

**Step 1** Click the **Number Analysis** tab.

**Step 2** Click **Number Analysis**.

**Step 3** Enter the Customer Group ID.

The Customer Group ID is a 4-character alphanumeric name beginning with a letter.



**Caution**

Customer Group IDs should be created during the initial installation, configuration, and provisioning of your system. Each dial plan requires a Customer Group ID. Customer Group IDs must be assigned to an SS7 sigPath and the sigPath has to be in an out of service (OOS) status when the Customer Group ID assignment is made.

We suggest that you create a sufficiently large number of Customer Group IDs during the initial provisioning of your system to accommodate your anticipated needs, then assign Customer Group IDs to your users as they are needed.

Provisioning new Customer Group IDs for an operational system means that you have to take the SS7 sigPath OOS, which will result in a loss of service for any calls associated with that SS7 sigPath.

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**Step 4** Click **Create New**.

The Dial Plan component appears under the Customer Group ID you created in [Step 3](#).

**Step 5** Click the plus sign (+) next to the Dial Plan component.

The following dial plan components are displayed:

- Results
- Number\_Plan\_Indicator
- Nature\_of\_Address
- A\_Digit\_Tree (originating or terminating)
- B\_Digit\_Tree (originating or terminating)
- Digit\_Modification
- Service\_Name
- Location
- Cause
- NumAnFile

Depending on your dial plan, you can add information for only the types of analysis you want to perform.

For example, for A-number or B-number analysis, first enter the results you want to achieve in the Results window. Then enter the digits you want to analyze in either the A-digit tree or B-digit tree. The Cisco MGC analyzes the number one digit at a time and performs the results that you specify.

## Provisioning Result Sets

A result set is a grouping of results that can be connected to an A-digit tree, a B-digit tree, pre-analysis, or cause analysis. Each result set consists of a grouping of one or more results. Each result set requires a unique name, and each result within a result set requires a unique name. However, the result names do not need to be unique across result sets. It is the combination of the result set name and the result name that must be unique.

You can have only one result set for each digit string; however, you can have multiple results in a result set. When determining the result types for a result set, enter them in logical order—for example, from screening to route. Once a result set has a result type with an endpoint analysis point, that is the end of the result set; however, you can have as many intermediate analysis point result types in a result set as you want. Refer to [Table 2-4 on page 2-9](#) for a list of the analysis point result types.



### Note

The result set table is used only to group result types for provisioning.

For the dial plan to perform an action on a called or calling number, you must add a result for the action you want to occur. You must first create a result set. Your result set can contain one or more results (result types) that you want to occur in the sequence that you want them to occur.

## Adding a Result Set

To add a new result set, complete the following steps:

- 
- Step 1** In the CMM Main Window ([Figure 3-2 on page 3-4](#)) click the **Number Analysis** tab.
- Step 2** Click **Number Analysis**.
- Step 3** Select a Customer Group ID.  
The Dial Plan component appears under the Customer Group ID you select.
- Step 4** Click the plus sign (+) next to the Dial Plan component.  
The Dial Plan component section is expanded to display a list of choices.
- Step 5** Under the Dial Plan component, click **Results**.  
The **Result Type Table** window is displayed.
- Step 6** Click **New Result Set**.
- Step 7** Enter the new result set name.  
The result set name can be as many as 20 alphanumeric characters.
- Step 8** Click **Set**.  
The **Result Set** window is displayed.
- 

## Adding Results to a Result Set

To add result types to your new result set, continue with the following steps:

- 
- Step 1** Under the Dial Plan component, click **Results**.  
The **Result Type Table** window is displayed.
- Step 2** Click **Add Result Type** to choose a result to add to the result set.  
You can choose any result type from those listed:
- DIGIT\_REQ
  - ROUTE
  - INC\_NUMBERING
  - MODDIG\_B
  - MODDIG\_A
  - CAUSE
  - ANNOUNCEMENT
  - CPC\_REQ
  - CLI\_REQ
  - BSM\_REQ
  - FSM\_REQ
  - A\_NUMBER\_TYPE
  - B\_NUMBER\_TYPE
  - OTG\_NUMBERING
  - BLACKLIST

- CLI\_NBR\_LENGTH
- ROUTE\_PREF
- IN\_TRIGGER
- SCREENING
- DATA\_EXCHANGE

**Step 3** Enter the result type and any desired values in the displayed window, then click **Set**.

For detailed information on any result type, refer to [Table 1-3 on page 1-18](#) and the “[Result Type Definitions](#)” section on page 1-19.



**Note** Remember that the “end point” result types (CAUSE, ANNOUNCEMENT, WHITELIST, BLACKLIST, and CG\_PRES\_IND) must be the last result types in any result set.

## Modifying a Result in a Result Set

To modify a result type entry in a result set, complete the following steps:

- Step 1** Choose the result type from the list in the **Result Set** window and click **Modify Result**.
- Step 2** Make desired changes to the fields in the **Result Set** window and click **Set**.  
A dialog box appears requesting verification.
- Step 3** Click **Yes** to modify the result.

## Deleting a Result from a Result Set

To delete a result type entry from a result set, complete the following steps:

- Step 1** Choose the result type from the list in the **Result Set** window and click **Delete Result**.  
A dialog box appears requesting verification.
- Step 2** Click **Yes** to delete the result.

## Provisioning Pre-Analysis

Pre-analysis is an initial analysis request you can make on a digit string after receiving the IAM or Setup message. Pre-analysis also enables you to perform early analysis on the called number (B-number).

Pre-analysis can be performed on the following results:

- ROUTE
- INC\_NUMBERING
- BMODDIG
- B\_NUMBER\_TYPE

Using the incoming values for the Nature of Address (NOA) and Numbering Plan Indicator (NPI), you can perform pre-analysis on the first digit in the B-digit string before any formal analysis is performed.

**Note**

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The result is processed from either the NOA table or the NPI table.

---

## Provisioning the NPI Table

Even though NOA pre-analysis is performed first, the NPI table must be provisioned first if the NOA table refers to an NPI block.

To perform NPI table provisioning, complete the following steps:

- 
- Step 1** In the CMM Main Window ([Figure 3-2 on page 3-4](#)) click the **Number Analysis** tab.
- Step 2** Click **Number Analysis**.
- Step 3** Select a Customer Group ID.  
The Dial Plan component appears under the Customer Group ID you select.
- Step 4** Click the plus sign (+) next to the Dial Plan component.  
The Dial Plan component section is expanded to display a list of choices.
- Step 5** Under the Dial Plan component, click **Number\_Plan\_Indicator**.  
The **Numbering Plan Indicator** window is displayed ([Figure 3-3](#) on the next page).
- Step 6** Click **New Block** to add another block to the NPI table.  
There are 16 values (0 through 15) displayed for each NPI block added to the NPI table.
- Step 7** Enter a value for the number of new blocks to add to the NPI table and click **Set**.  
The **Numbering Plan Indicator** window is redisplayed with the specified number of blocks added to the NPI table.

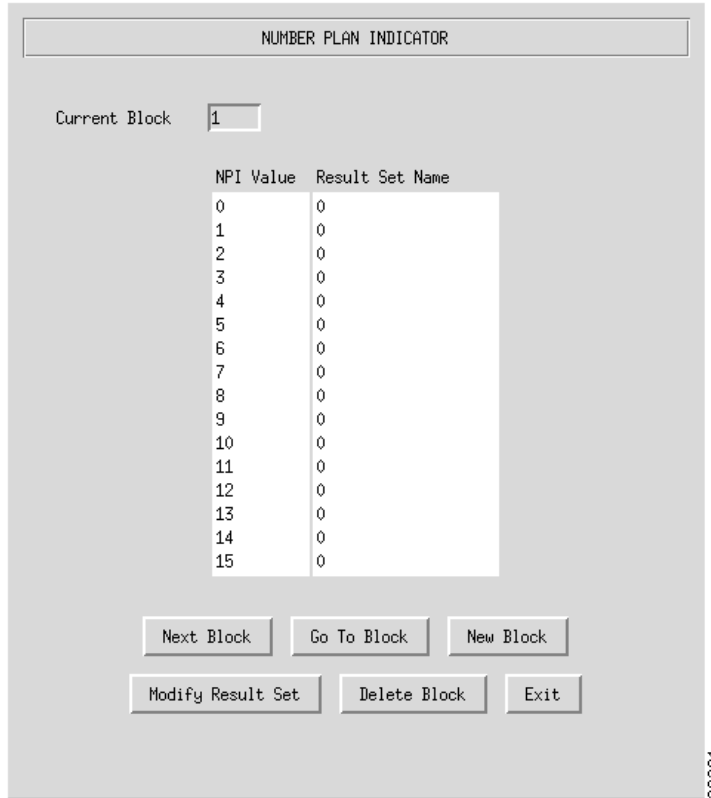
**Tip**

---

To keep the response time at a minimum, do not add any more NPI blocks than are necessary.

---

Figure 3-3 Numbering Plan Indicator Window



### Modifying the NPI Table

To modify a specific NPI block in the NPI table, complete the following steps:

- 
- Step 1** In the **Numbering Plan Indicator** window, enter the number of the NPI block you want to modify and click **Go To Block**. (Alternatively, you can also click **Next Block** to scan through the NPI blocks.)  
The NPI block you specified should be displayed in the **Numbering Plan Indicator** window.
- Step 2** In the **Numbering Plan Indicator** window, click **Modify Result Set**.
- Step 3** Make the desired changes to the NPI block fields and click **Set**.  
A dialog box appears requesting verification.
- Step 4** Click **Yes** to modify the selected NPI block.  
The **Numbering Plan Indicator** window is redisplayed with the selected NPI block changed.
- 

### Deleting an NPI Block

To delete a specific NPI block from the NPI table, complete the following steps:

- 
- Step 1** In the **Numbering Plan Indicator** window, enter the number of the NPI block you want to delete and click **Go To Block**. (Alternatively, you can also click **Next Block** to scan through the NPI blocks.)  
The NPI block you specified should be displayed in the **Numbering Plan Indicator** window.

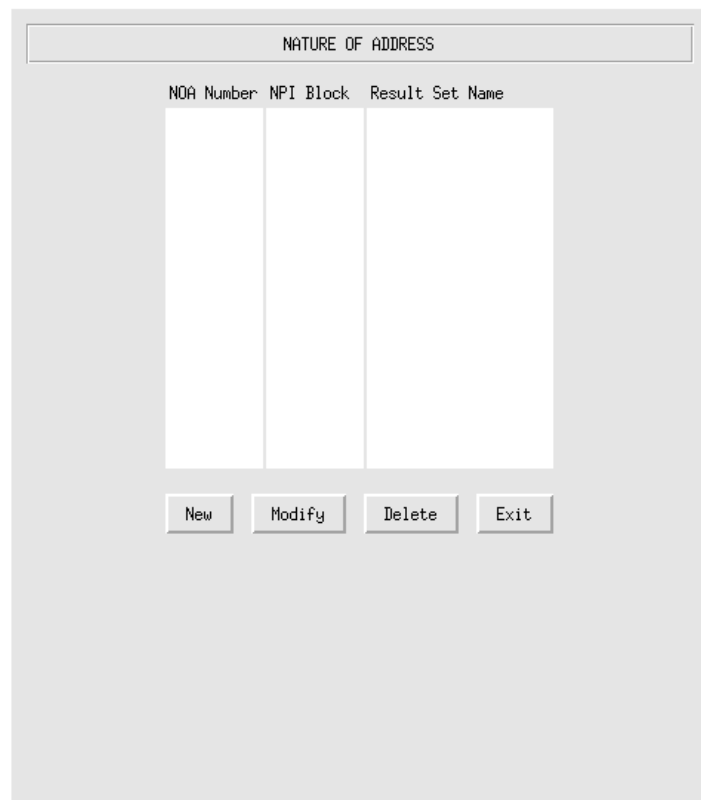
- Step 2** In the **Numbering Plan Indicator** window, click **Delete Block**.  
A dialog box appears requesting verification.
- Step 3** Click **Yes** to delete the selected NPI block.  
The **Numbering Plan Indicator** window is redisplayed with the selected NPI block deleted.

## Provisioning the NOA Table

To perform NOA table provisioning, complete the following steps:

- Step 1** In the CMM Main Window (Figure 3-2 on page 3-4) click the **Number Analysis** tab.
- Step 2** Click **Number Analysis**.
- Step 3** Select a Customer Group ID.  
The Dial Plan component appears under the Customer Group ID you select.
- Step 4** Click the plus sign (+) next to the Dial Plan component.  
The Dial Plan component section is expanded to display a list of choices.
- Step 5** Under the Dial Plan component, click **Nature\_of\_Address**.  
The **Nature of Address** window is displayed (Figure 3-4).

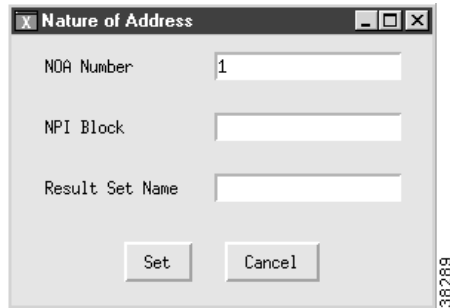
**Figure 3-4 Nature of Address Window**



**Step 6** In the **Nature of Address** window, click **New**.

The new **Nature of Address** window is displayed (Figure 3-5).  
The NOA number appears in the top block.

**Figure 3-5** *New Nature of Address Window*



**Step 7** Enter the NPI Block value and the Result Set Name and click **Set**.

The **Nature of Address** window is redisplayed with the data you just entered.



**Note** The NPI Block or the Result Set Name block must be filled in or an error message appears.

## Modifying a NOA Table

To modify a specific NOA block in an NOA table, complete the following steps:

**Step 1** Select the NOA block you want to modify in the **Nature of Address** window and click **Modify**.

**Step 2** Make the desired changes to the fields in the NOA window and click **Set**.

A dialog box appears requesting verification.

**Step 3** Click **Yes** to modify the selected NOA block.

The **Nature of Address** window is redisplayed with the selected NOA block changed.

## Deleting a NOA Block

To delete a specific NOA block in an NOA table, complete the following steps:

**Step 1** Select the NOA block you want to delete in the **Nature of Address** window and click **Delete**.

A dialog box appears requesting verification.

**Step 2** Click **Yes** to delete the selected NOA block.

The **Nature of Address** window is redisplayed with the selected NOA block deleted.

## Provisioning Digit Trees

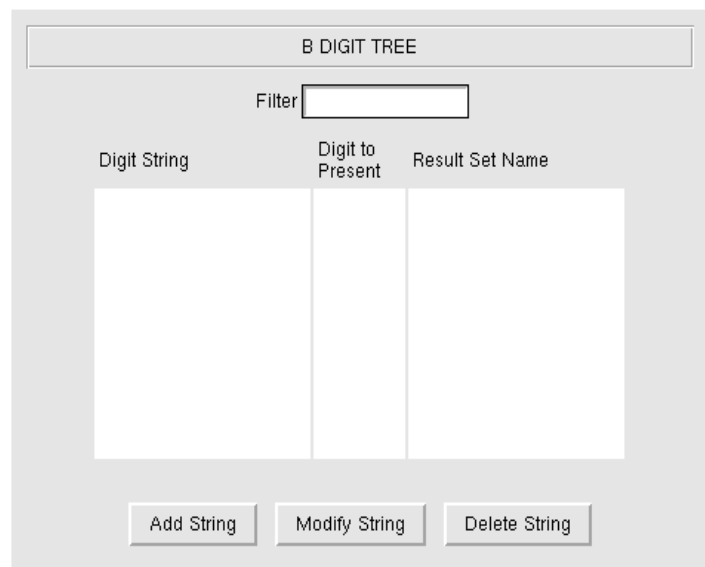
This section describes the procedures for provisioning the A-digit tree and B-digit tree.

### Provisioning the B\_Digit\_Tree (Originating)

To provision the B-digit tree, complete the following steps:

- 
- Step 1** In the CMM Main Window ([Figure 3-2 on page 3-4](#)) click the **Number Analysis** tab.
- Step 2** Click **Number Analysis**.
- Step 3** Select a Customer Group ID.  
The Dial Plan component appears under the Customer Group ID you select.
- Step 4** Click the plus sign (+) next to the Dial Plan component.  
The Dial Plan component section is expanded to display a list of choices.
- Step 5** Under the Dial Plan component, click **B\_Digit\_Tree**.  
Two branches, **Originating** and **Terminating**, are displayed.
- Step 6** Click **Originating**.  
A warning message appears indicating that no filter is set and all configured digit strings are displayed.
- Step 7** Enter a digit string in the filter box or click **OK**.
- Entering a digit string in the filter box locates that string in the B Digit Tree window.
  - Clicking **OK** displays all the digit strings in the B Digit Tree window ([Figure 3-6](#)).

**Figure 3-6 B-Digit Tree Window**



- Step 8** In the B Digit Tree window, click **Add String**.  
This displays the Add String box.

**Step 9** In the Add String box, enter the digit string, the Digits to Present value, and the Result Set Name, then click **Set**.

The B Digit Tree window is redisplayed with the information entered in the Add String box added.

**Step 10** Repeat [Step 8](#) and [Step 9](#) for all of the digit strings in your B-digit, originating dial plan.

---

### Modifying a Digit String

To modify a digit string, complete the following steps:

**Step 1** Choose the digit string in the B Digit Tree window and click **Modify String**.

This displays the Modify String box.

**Step 2** Make the desired changes to the digit string, the Digits to Present value, and the Result Set Name, then click **Set**.

A dialog box appears requesting verification.

**Step 3** Click **Yes** to modify the selected digit string.

The B Digit Tree window is redisplayed with the information entered in the Modify String box changed.



**Note** This procedure is the same for all of the other digit trees, with the appropriate name changes.

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### Deleting a Digit String

To delete a digit string, complete the following steps:

**Step 1** Choose the digit string in the B Digit Tree window and click **Delete**.

A dialog box appears requesting verification.

**Step 2** Click **Yes** to delete the selected digit string.

The B Digit Tree window is redisplayed with the selected digit string deleted.



**Note** This procedure is the same for all of the other digit trees, with the appropriate name changes.

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## Provisioning the B\_Digit\_Tree (Terminating)

To provision the B-digit tree, complete the following steps:

- 
- Step 1** In the CMM Main Window ([Figure 3-2 on page 3-4](#)) click the **Number Analysis** tab.
- Step 2** Click **Number Analysis**.
- Step 3** Select a Customer Group ID.  
The Dial Plan component appears under the Customer Group ID you select.
- Step 4** Click the plus sign (+) next to the Dial Plan component.  
The Dial Plan component section is expanded to display a list of choices.
- Step 5** Under the Dial Plan component, click **B\_Digit\_Tree**.  
Two branches, **Originating** and **Terminating**, are displayed.
- Step 6** Click **Terminating**.  
A warning message appears indicating that no filter is set and all configured digit strings are displayed.
- Step 7** Enter a digit string in the filter box or click **OK**.
  - Entering a digit string in the filter box locates that string in the B Digit Tree window.
  - Clicking **OK** displays all the digit strings in the B Digit Tree window.
- Step 8** In the B Digit Tree window, click **Add String**.  
This displays the Add String box.
- Step 9** Enter the digit string in the Add String box, the Digits to Present value, and the Result Set Name, then click **Set**.  
The B Digit Tree window is redisplayed with the information entered in the Add String box added.
- Step 10** Repeat [Step 8](#) and [Step 9](#) for all of the digit strings in your B-digit, terminating dial plan.
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## Provisioning the A\_Digit\_Tree (Originating)

To provision the A-digit tree, complete the following steps:

- 
- Step 1** In the CMM Main Window ([Figure 3-2 on page 3-4](#)) click the **Number Analysis** tab.
- Step 2** Click **Number Analysis**.
- Step 3** Select a Customer Group ID.  
The Dial Plan component appears under the Customer Group ID you select.
- Step 4** Click the plus sign (+) next to the Dial Plan component.  
The Dial Plan component section is expanded to display a list of choices.
- Step 5** Under the Dial Plan component, click **A\_Digit\_Tree**.  
Two branches, **Originating** and **Terminating**, are displayed.
- Step 6** Click **Originating**.  
A warning message appears indicating that no filter is set and all configured digit strings are displayed.

- Step 7** Enter a digit string in the filter box or click **OK**.
- Entering a digit string in the filter box locates that string in the A Digit Tree window.
  - Clicking **OK** displays all the digit strings in the A Digit Tree window.
- Step 8** In the A Digit Tree window, click **Add String**.  
This displays the Add String box.
- Step 9** Enter the digit string in the Add String box, the Digits to Present value, and the Result Set Name, then click **Set**.  
The A Digit Tree window is redisplayed with the information entered in the Add String box added.
- Step 10** Repeat [Step 8](#) and [Step 9](#) for all of the digit strings in your A-digit, originating dial plan.
- 

## Provisioning the A\_Digit\_Tree (Terminating)

To provision the A-digit tree, complete the following steps:

- 
- Step 1** In the CMM Main Window ([Figure 3-2 on page 3-4](#)) click the **Number Analysis** tab.
- Step 2** Click **Number Analysis**.
- Step 3** Select a Customer Group ID.  
The Dial Plan component appears under the Customer Group ID you select.
- Step 4** Click the plus sign (+) next to the Dial Plan component.  
The Dial Plan component section is expanded to display a list of choices.
- Step 5** Under the Dial Plan component, click **A\_Digit\_Tree**.  
Two branches, **Originating** and **Terminating**, are displayed.
- Step 6** Click **Terminating**.  
A warning message appears indicating that no filter is set and all configured digit strings are displayed.
- Step 7** Enter a digit string in the filter box or click **OK**.
- Entering a digit string in the filter box locates that string in the A Digit Tree window.
  - Clicking **OK** displays all the digit strings on the A Digit Tree window.
- Step 8** In the A Digit Tree window, click **Add String**.  
This displays the Add String box.
- Step 9** Enter the digit string in the Add String box, the Digits to Present value, and the Result Set Name, then click **Set**.  
The A Digit Tree window is redisplayed with the information entered in the Add String box added.
- Step 10** Repeat [Step 8](#) and [Step 9](#) for all of the digit strings in your A-digit, terminating dial plan.
-

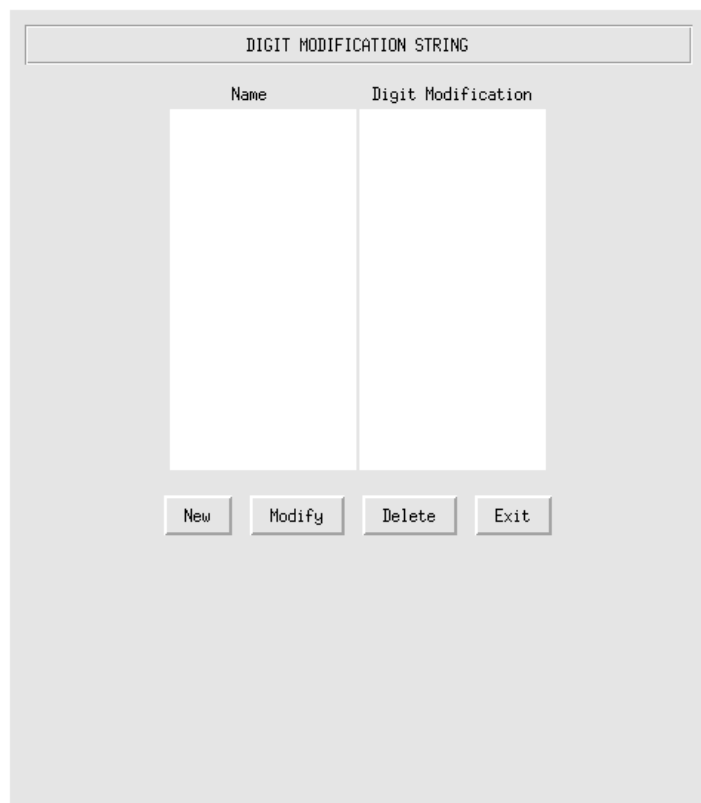
## Provisioning Digit Modification

B-digit modification (BMODDIG) pre-analysis allows you to remove one or more digits from anywhere in the digit string and replace the removed digits with one or more digits.

To add a result set that performs digit modification, complete the following steps:

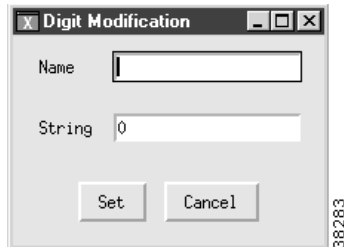
- 
- Step 1** In the CMM Main Window ([Figure 3-2 on page 3-4](#)) click the **Number Analysis** tab.
  - Step 2** Click **Number Analysis**.
  - Step 3** Select a Customer Group ID.  
The Dial Plan component appears under the Customer Group ID you select.
  - Step 4** Click the plus sign (+) next to the Dial Plan component.  
The Dial Plan component section is expanded to display a list of choices.
  - Step 5** Under the Dial Plan component, click **Digit\_Modification**.  
The Digit Modification String window is displayed ([Figure 3-7](#)).

**Figure 3-7** Digit Modification String Window



- Step 6** In the Digit Modification String window, click **New**.  
The Digit Modification window is displayed (Figure 3-8).

**Figure 3-8 Digit Modification Window**



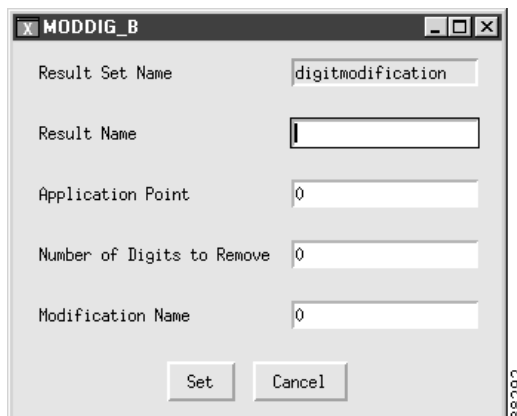
- Step 7** Enter the digit modification name in the Name box, enter a value in the String box, and click **Set**.  
The Digit Modification String window is redisplayed with the name and value from the Digit Modification window added.



**Note** The string value indicates the number (or numbers) inserted at the application point of the MODDIG\_B window associated with the named result set.

- Step 8** Under the Dial Plan component, click **Results**.  
The Result Type table window appears.
- Step 9** Click **New Result Set**.
- Step 10** Enter the new result set name and click **Set**.  
The Result Set window is redisplayed with the new result set name added.
- Step 11** Click **Add Result Type** and click **MODDIG\_B** from the list of results.  
The MODDIG\_B window, with the Result Set Name added, is displayed (Figure 3-9).

**Figure 3-9 MODDIG\_B Window**



- Step 12** Enter a Result Name, Application Point (where the digit modification is to start), Number of Digits to Remove, and a Modification Name, then click **Set**.  
The Result Set window is redisplayed with the MODDIG\_B information added.



---

**Note** The Modification Name entered is case sensitive and must match the name entered in Step 3 in the Digit Modification table.

---

**Step 13** Click **Add Result Type** and click **ROUTE** from the list of results.  
The Route window appears with the Result Set Name already added.

**Step 14** Enter a Result Name, enter a Route Group Name, and click **Set**.  
The Result Set window is redisplayed with another line with the ROUTE information added.



---

**Note** The Route Group Name must have been defined in the Routing file. If it has not been defined, an error message appears.

---

## Modifying a Digit Modification String

To modify a Digit Modification string, complete the following steps:

- 
- Step 1** Choose the digit modification name in the Digit Modification String window and click **Modify**.  
The MODDIG\_B window is displayed
- Step 2** Make the desired changes to the MODDIG\_B window fields, then click **Set**.  
A dialog box appears requesting verification.
- Step 3** Click **Yes** to modify the selected digit modification name.  
The Digit Modification String window is redisplayed with the changes to the selected digit modification string.
- 

## Deleting a Digit Modification String

To delete a Digit Modification string, complete the following steps:

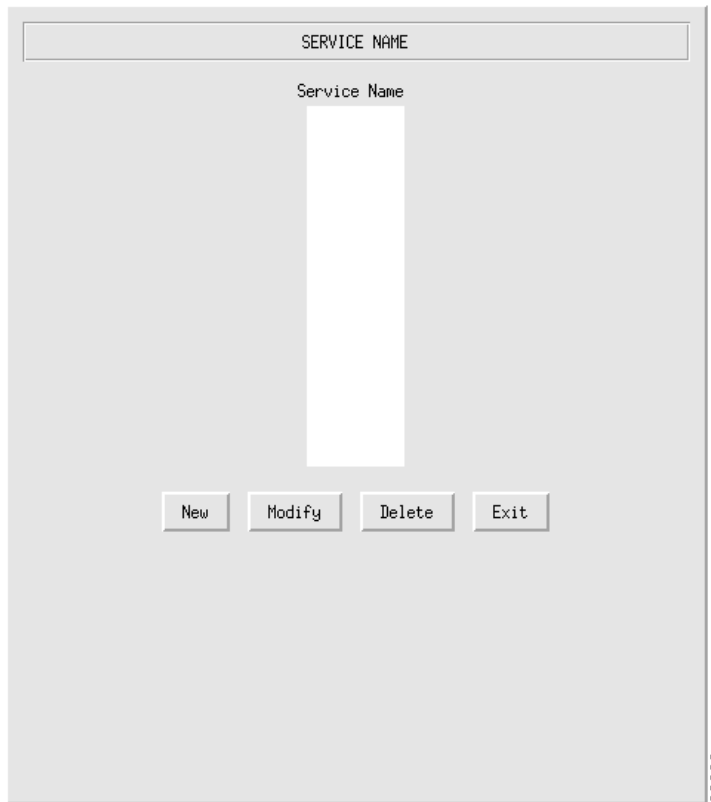
- 
- Step 1** Choose the digit modification name in the Digit Modification String window and click **Delete**.  
A dialog box appears requesting verification.
- Step 2** Click **Yes** to delete the selected digit modification name.  
The Digit Modification String window is redisplayed with the selected digit modification string deleted.
-

## Provisioning the Service Name

To provision a Service Name, complete the following steps:

- Step 1** In the CMM Main Window (Figure 3-2 on page 3-4) click the **Number Analysis** tab.
- Step 2** Click **Number Analysis**.
- Step 3** Select a Customer Group ID.  
The Dial Plan component appears under the Customer Group ID you select.
- Step 4** Click the plus sign (+) next to the Dial Plan component.  
The Dial Plan component section is expanded to display a list of choices.
- Step 5** Under the Dial Plan component, select **Service\_Name**.  
The Service Name window is displayed (Figure 3-10).

**Figure 3-10** Service Name Window



- Step 6** In the Service Name window, click **New**.  
This displays the New Service Name window (Figure 3-11).

**Figure 3-11** New Service Name Window



- Step 7** Enter a Service Name and click **Set**.  
The Service Name window is redisplayed with the new Service Name listed in the Service Name column.
- Step 8** Repeat [Step 6](#) and [Step 7](#) for each of the service names required to support your dial plan.
- 

## Modifying a Service Name

To modify a service name, complete the following steps:

---

- Step 1** Choose the service name you want to modify in the Service Name window, then click **Modify**.  
This displays the Modify Service Name window.
- Step 2** Make the desired changes to the service name, then click **Set**.  
A dialog box appears requesting verification.
- Step 3** Click **Yes** to modify the selected service name.  
The Service Name window is redisplayed with the selected service name changed.
- 

## Deleting a Service Name

To delete a service name, complete the following steps:

---

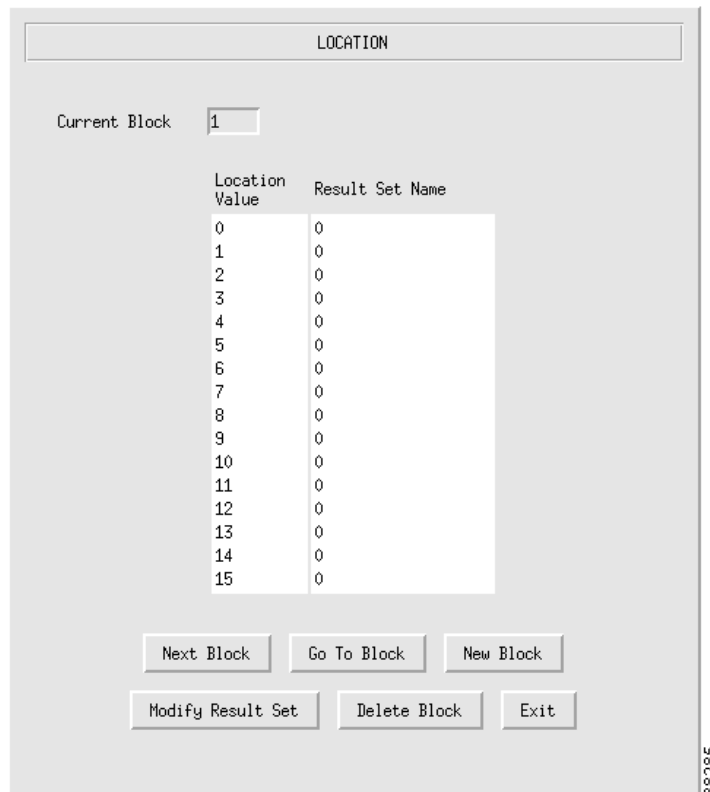
- Step 1** Choose the service name you want to delete in the Service Name window, then click **Delete**.  
A dialog box appears requesting verification.
- Step 2** Click **Yes** to delete the selected service name.  
The Service Name window is redisplayed with the selected service name deleted.
-

## Provisioning Location

To provision the Location table, complete the following steps:

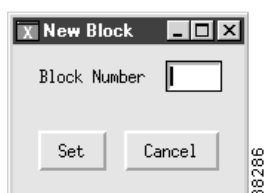
- Step 1** In the CMM Main Window (Figure 3-2 on page 3-4) click the **Number Analysis** tab.
- Step 2** Click **Number Analysis**, then select a Customer Group ID.  
The Dial Plan component appears under the Customer Group ID you select.
- Step 3** Click the plus sign (+) next to the Dial Plan component.  
The Dial Plan component section is expanded to display a list of choices.
- Step 4** Under the Dial Plan component, click **Location**.  
The Location window is displayed (Figure 3-12).

**Figure 3-12 Location Window**



- Step 5** In the Location window, click **New Block**.  
The New Block window is displayed (Figure 3-13).

**Figure 3-13 New Block Window**



- Step 6** Enter a value for the Block Number, then click **Set**. (Typically choose the next sequential number.)  
This redisplay the Location window with the Current Block showing the value entered in [Step 6](#) and 16 entries (0 through 15) in the Location Value column.
- Step 7** In the Location window, click **Modify Result Set**.  
The Add String box is displayed.
- Step 8** Enter the desired result set names and click **Set**.
- Step 9** Repeat [Step 7](#) and [Step 8](#) to add result set names for each of the location values in this block.
- Step 10** Repeat [Step 5](#) through [Step 9](#) to add the new location blocks required to support your dial plan.
- 

### Modifying a Location

To modify a Location, complete the following steps:

- Step 1** Select the Location Value you want to modify in the Location window, then click **Modify Result Set**.
- Step 2** Make the desired changes to the Location window fields and click **Set**.  
A dialog box appears requesting verification.



**Note** The Result Set Name must already exist in the Result Set table.

---

- Step 3** Click **Yes** to modify the selected Location.  
The Location window is redisplayed with the changes that you just made.
- 

### Deleting a Location

To delete a Location, complete the following steps:

- Step 1** Select the Location Block that you want to delete in the Location window, then click **Delete Block**.  
A dialog box appears requesting verification.
- Step 2** Click **Yes** to delete the selected Location.  
The Location window is redisplayed with the selected Location Block deleted.
-

## Provisioning Cause Codes

To provision Cause codes, complete the following steps:

- 
- Step 1** In the CMM Main Window (Figure 3-2 on page 3-4) click the **Number Analysis** tab.
- Step 2** Click **Number Analysis**, then select a Customer Group ID.  
The Dial Plan component appears under the Customer Group ID you select.
- Step 3** Click the plus sign (+) next to the Dial Plan component.  
The Dial Plan component section is expanded to display a list of choices.
- Step 4** Under the Dial Plan component, click **Cause**.  
The Cause window is displayed (Figure 3-14).

**Figure 3-14 Cause Window**

| Cause Number | Location Block | Result Set Name |
|--------------|----------------|-----------------|
|              |                |                 |

New Modify Delete Exit

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- Step 5** Click **New**.  
The Cause window is displayed with the Cause code number displayed in the top box.



**Note** The Location table must be provisioned before provisioning Cause codes.

- Step 6** Enter the Location Block value and the Result Set Block and click **Set**.  
The Cause window is redisplayed with the data you just entered.
-

## Modifying a Cause Code

To modify a Cause code, complete the following steps:

- 
- Step 1** Choose the Cause code number you want to modify in the Cause window, then click **Modify Result Set**.
  - Step 2** Make the desired changes to the Cause window fields and click **Set**.  
A dialog box appears requesting verification.
  - Step 3** Click **Yes** to modify the selected Cause code number.  
The Cause window is redisplayed with the selected Cause code number changed.
- 

## Deleting a Cause Code

To delete a Cause code number, complete the following steps:

- 
- Step 1** Choose the Cause code number you want to delete in the Cause window, then click **Delete**.  
A dialog box appears requesting verification.
  - Step 2** Click **Yes** to delete the selected Cause code number.  
The Cause window is redisplayed with the selected Cause code number deleted.
- 

## Processing the Number Analysis File

After you complete your dial plan, you must process the number analysis file. To process the number analysis file, complete the following steps:

- 
- Step 1** Under the Dial Plan component, click **NumAnFile**.
  - Step 2** Enter the filename in the Filename field.
  - Step 3** Enter your user ID and password.
  - Step 4** Click **Set**.  
The system opens an FTP session to the Cisco MGC host and copies the file. In addition, SNMP sets the filename in the management information base (MIB), and the file is post-processed.
- 

**Note**

Only one filename can be set in the MIB. If you set a new filename using SNMP, the old name is overwritten.

**Tip**

If you receive an error message indicating that the file cannot be processed, your SNMP session might not be running. The SNMP session times out after 30 minutes of inactivity. Exit the CMM and restart it before trying to process the file again.

## Provisioning Whitelist and Blacklist Screening

You can provision whitelists or blacklists to include or exclude calls from certain numbers. You can provision whitelists that allow calls from specified A-numbers or to specified B-numbers. Blacklists block calls from specified A-numbers or to specified B-numbers.

To provision a whitelist or blacklist, you must complete the following procedures:

- Create the list file
- Add numbers to the list file
- Process the list file

To create the list file, complete the following steps:

- 
- Step 1** In the CMM Main Window ([Figure 3-2 on page 3-4](#)) click the **Number Analysis** tab.
- If you have already entered a Customer Group ID, it appears under the Number Analysis component. Continue with [Step 2](#).
- If you have not entered a Customer Group ID, or want to enter a new one, complete the following steps:
- a. Click **Number Analysis**.
  - b. Enter the Customer Group ID.
  - c. Click **Create New**.

**Caution**

Customer Group IDs should be created during the initial installation, configuration, and provisioning of your system. Each dial plan requires a Customer Group ID. Customer Group IDs must be assigned to an SS7 sigPath and the sigPath has to be in an out of service (OOS) status when the Customer Group ID assignment is made.

We suggest that you create a sufficiently large number of Customer Group IDs during the initial provisioning of your system to accommodate your anticipated needs, then assign Customer Group IDs to your users as they are needed.

Provisioning new Customer Group IDs for an operational system means that you have to take the SS7 sigPath OOS, which will result in a loss of service for any calls associated with that SS7 sigPath.

---

- Step 2** Click the Customer Group ID component to continue.
- The Number Analysis File Types window is displayed.
- Step 3** Click **File Type** and choose one of the following:
- AWhiteList
  - BWhiteList
  - ABlackList
  - BBlackList
- Step 4** Click **Create File**.
- The file type you created appears in the directory under the Customer Group ID.
-

## Adding Numbers for Screening

After you create the whitelist or blacklist file, you must set up screening for the list.

To provision the numbers for screening, complete the following steps:

- 
- Step 1** Click the plus sign (+) next to the file type that you created.
- For example, if you are provisioning an A whitelist, click **AWhiteList**. The A WhiteList window appears on the right side of the window.
- Step 2** To add a new row to the screening table, click **New Row**.
- The Screening window is displayed.
- Step 3** Click **Action** and choose **Insert**.
- Step 4** Enter the calling party number to add to the whitelist.
- Step 5** Click **Set**.
- The number is displayed in the A WhiteList window.
- Step 6** Add more numbers using the previously described procedures.
- 

## Processing the White List or Black List File

After you complete your whitelist or blacklist file, you must process the file.

To process the whitelist or blacklist file, complete the following steps:

- 
- Step 1** Under the AWhiteList, BWhiteList, ABlackList, or BBlackList component, select the file name that reflects the type of analysis you chose.
- Step 2** Enter the filename in the Filename field.
- Step 3** Enter your user ID and password.
- Step 4** Click **Set**.
- The system opens an FTP session to the Cisco MGC host and copies the file. In addition, SNMP sets the filename in the MIB and the file is post-processed.
- 

**Note**

Only one filename can be set in the MIB. If you set a new filename using SNMP, the old name is overwritten.

---

**Tip**

If you receive an error message indicating that the file cannot be processed, your SNMP session might not be running. The SNMP session times out after 30 minutes of inactivity. Exit the CMM and restart it before trying to process the file.

---

