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To learn how to use Help, press F1.

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Selecting your Current Location

To select your current location

1   Open the Telephony Control Panel.

2   Select the location desired from the **Current Location** list. The settings for that location are displayed in the window.

3   Click **OK** to close the Telephony Control Panel and save the new setting.

Any time you edit a location to change its settings, or create a new location, that location is automatically selected as your current location.

Setting Up or Changing Location Information

To edit the settings for a location

1   Open the Telephony Control Panel.

2   Click **Location Setup…**. This displays the Locations dialog, which includes a list of defined locations.

3   Select from the list the location you want to edit.

4   Click **Edit**. The Edit Location dialog is displayed.

5   Enter the settings you want. You may change the location name, outside line access codes, area code (city code), country code, and preferred calling card.

6   If you want to make changes to the toll list associated with the location, click **Toll List**.

7   When you are done, click **OK** to save the updated settings. Click **Cancel** to discard the changes you made.

When you save the updated location, it is automatically selected as your current location.

Creating a New Location

To create a new location

1   Open the Telephony Control Panel.

2   Click **Location Setup…**. This displays the Locations dialog, which includes a list of defined locations.

3   Click **Add…**. The Add Location dialog is displayed.

4   Enter the settings you want. You must enter a name for the location, and if the selected country uses area codes (or city codes), you must enter the area code. You may enter outside line access codes and select a preferred calling card for the location.

5   If you want to make changes to the toll list associated with the location, click **Toll List**.

6   When you are done, click **OK** to save the updated settings. Click **Cancel** to discard the changes you made.

When you save the new location, it is automatically selected as your current location.

Removing a Location

To remove a location

1   Open the Telephony Control Panel.

2   Click **Location Setup…**. This displays the Locations dialog, which includes a list of defined locations.

3   Select the location to remove in the list box.

4   Click **Remove…**. You will be asked if you are sure you want to remove the location; click OK if you do. The list of defined locations is once again displayed, with the location removed.

5   Click **OK** to return to the main Telephony Control Panel window.

Modifying a Toll List for a Location

There are two ways to modify the toll list for a location. First, most Telephony applications (such as Dialer) include the ability for you to add or remove the prefix of the most recently dialed number from the toll list of the current location. This way, if you hear a message from the telephone network (such as "You must first dial a 1 and the area code before this number"), you can add the prefix to the toll list immediately without having to open the Telephony Control Panel. This is the most convenient way to maintain your toll list, since it doesn't require collecting information in advance about which prefixes are local and which are toll.

You may prefer to add and remove toll prefixes from the toll list directly yourself. For example, you may decide to use information provided by your local telephone company regarding which prefixes are local and which are toll, and to enter all of the toll prefixes by hand to avoid having to add them individually as calls are made to those prefixes.

To manually edit the toll list for a location
1   Open the Telephony Control Panel.

2   Click **Location Setup…**. This displays the Locations dialog, including a list of defined locations.

3   Select the location you want to edit from the list box.

4   Click **Edit**. The Edit Location dialog is displayed.

5   Click **Toll List…**. The Toll Prefix List dialog is displayed. This includes a list of the toll prefixes already in the list.

6   To remove a prefix from the list, select it and click **Remove**. To add a prefix to the list, type it in the edit field above the list and click **Add**.

7   If, in the area code for the selected location, you must dial both a "1" and the area code when dialing a toll call, check the **Insert Area Code When Dialing Toll Prefix** box. If you need to only dial a "1" before the seven-digit local number and do not need to dial the area code, uncheck the box. Note that most area codes in North America now require the dialing of the area code in addition to the "1" when dialing toll calls.

8   Click **OK** to save changes that you have made to the toll list. Click **Cancel** to discard changes made to the toll list.

9   Click **OK** to save changes made to the location, including the toll list.

When you save changes to the location, it is automatically selected as your current location.

Changing Calling Card Information

To edit the settings for a calling card

1   Open the Telephony Control Panel.

2   Click **Calling Card Setup…**. This displays the Calling Cards dialog, including a list of defined calling cards.

3   Select the calling card you want to edit from the list box.

4   Click **Edit…**. The Edit Calling Card dialog is displayed.

5   Enter the settings you want. You may change the calling card name and number. Note that if a number is already stored, it is displayed as asterisks (*); if you want to replace the number and be able to see the digits as you type, first select the entire card number and delete it, and then begin typing the new card number.

6   If you want to Customize the dialing rules associated with the calling card, click **Customize…**.

7   When you are done, click **OK** to save the updated settings. Click **Cancel** to discard the changes you made.

If you entered Calling Card Setup from the Edit Location or Add Location dialog, the calling card you edited is automatically selected as your preferred calling card for that location.

Creating a New Calling Card

To create a new calling card

1   Open the Telephony Control Panel.

2   Click **Calling Card Setup…**. This displays the Calling Cards dialog, including a list of defined calling cards.

3   Click **Add…**. The Add Calling Card dialog is displayed.

4   You must enter a calling card name. You may also enter a calling card number. Note that the digits are displayed as you type them while adding a new calling card, so be sure no one is looking over your shoulder (if you later edit the calling card, the number is displayed as asterisks).

5   Click **Customize…**. The Customize Calling Card dialog is displayed.

6   Enter the dialing rules for local, long distance, and international calls using this calling card. You may copy the dialing rules from another calling card by clicking the **Copy From…** button to display the Copy From dialog, selecting the card to copy from the list of defined calling cards, and clicking **OK**; you may then modify the copied dialing rules if you want to.

7   In some situations, you may create a calling card that you intend to use primarily to copy from to create other cards, and not actually specify a card number. If you want to keep this card from being displayed in the lists of available calling cards in Telephony applications, you may check the **Display Only When Card Number Entered** box. If you want the card to always be included regardless of whether or not a card number is entered (if, for example, the card actually defines alternative direct dialing rules), uncheck the box.

8   When finished entering the dialing rules, click **OK** to save them.

9   Click **OK** to save the new card, or **Cancel** to discard it.

If you entered Calling Card Setup from the Edit Location or Add Location dialog, the calling card you edited is automatically selected as your preferred calling card for that location.

Composing Telephone Dialing Rules

In each calling card, three dialing rules are defined: one each for local, long distance, and international calls. Each dialing rule consists of a sequence of characters used to convert the number input to Windows Telephony by the application (which must be in international number format) into a dialable number that can then be used by a Telephony driver to actually dial the call.

The process of converting a number in international number format into a dialable number consists of four basic steps (this is what Windows Telephony does, so that you don't have to):

1   Isolate the country code, area code (city code), and local number in the input number;

2   Compare the country code and area code of the number to the country code and area code of the current location to determine whether the number is local, long distance, or international;

3   Use the corresponding dialing rule associated with the selected calling card to generate the correct series of digits and other control characters to be dialed.

4   Apply the appropriate outside line access code to the beginning of the dialable number.

The dialing rule itself consists of a sequence of characters of two types: characters that are copied directly into the dialable number, and characters that cause some portion of the input number or the card number to be copied into the dialable number. No other characters are allowed to be entered into dialing rules. Here are the characters that get directly copied into the output number and their meanings:

0-9   Dialable digits
ABCD   Dialable digits (tone dialing only, used for special control on some systems)
*, #   Dialable digits (tone dialing only)
T   Following digits are to be tone dialed
P   Following digits are to be pulse dialed
,   Pause and fixed time
!   Hookflash (1/2 second on-hook, 1/2 second off-hook)
W   Wait for second dial tone
@   Wait for quiet answer (ringback followed by five seconds of silence)
$ Wait for calling card prompt ("bong") tone
?   Prompt user at this point in dialing before continuing

The following characters, when they appear in a dialing rule, result in the noted information being copied into the dialable number:

E   Country code
F   Area code (city code)
G   Local number
H   Card number

For example, to dial a long distance call using an AT&T calling card via the AT&T 800 number, you must first dial the 800 number, wait for a calling card prompt tone, tone-dial the area code and number, wait for another calling card prompt tone, and then dial the card number. This would be expressed in a dialing rule as:

18003210288TFGH

Removing a Calling Card

To remove a calling card

1   Open the Telephony Control Panel.

2   Click **Calling Card Setup…**. This displays the Calling Cards dialog, including a list of defined calling cards.

3   Select the calling card to remove in the list box.

4   Click **Remove…**. You will be asked if you are sure you want to remove the calling card; click **OK** if you are. The list of defined calling cards is once again displayed, with the calling card removed.

5   Click **OK** to return to the main Telephony Control Panel window.

Note that if the calling card you removed had been selected as the preferred calling card in any locations, those locations are automatically modified so that the Preferred Calling Card is changed to "None (Direct Dial)." If this occurs, the Telephony Control Panel displays a warning to that effect. You may then want to examine your locations and update them to a different calling card.

Adding a New Telephony Driver (Service Provider)

To add a new Telephony service provider

1   Open the Telephony Control Panel.

2   Click **Driver Setup…**. This displays the <u>Telephony Drivers</u> dialog, including a list of installed <u>drivers</u>.

3   Click **Add…**. The <u>Add Driver</u> dialog is displayed.

4   Select from the list the <u>driver</u> you want to add. If the driver you want to add is not in the list, select "Unlisted or updated driver." Click **Add**.

5   If the Telephony Control Panel can find the files associated with the selected <u>driver</u> on your disk, it immediately adds the selected driver. If it cannot find the files, it asks you to insert the disk containing the files, or to find the files on your disk or network.

6   After the <u>driver</u> is added, the driver may display additional dialogs to give you the opportunity to configure the driver parameters for initial operation. Consult the documentation or online help information for the driver for further guidance. Click **OK** or the appropriate button in the driver configuration dialog to complete the installation process and return to the list of installed drivers.

7   Click **OK** to close the list of installed <u>drivers</u> and return to the <u>main Telephony Control Panel window</u>.

Changing the Settings for a Telephony Driver

To edit the settings for a Telephony driver

1   Open the Telephony Control Panel.

2   Click **Driver Setup…**. This displays the Telephony Drivers dialog, including a list of installed drivers.

3   Select the driver for which you want to change the settings from the list box.

4   Click **Setup…**. The setup function within the selected driver is activated. Consult the documentation or online help information for the driver for further guidance. Click **OK** or the appropriate button in the driver configuration dialog to save changes you made to the driver configuration and return to the list of installed drivers.

5   Click **OK** to close the list of installed drivers and return to the main Telephony Control Panel window.

Removing a Telephony Driver

To remove a Telephony driver

1   Open the Telephony Control Panel.

2   Click **Driver Setup…**. This displays <u>Telephony Drivers</u> dialog, including a the list of installed <u>drivers</u>.

3   Select the <u>driver</u> to remove in the list box.

4   Click **Remove…**. You will be asked if you are sure you want to remove the <u>driver</u>; click **OK** if so.

5   Before the <u>driver</u> is removed, the driver may display additional dialogs to give you the opportunity to confirm the removal of other driver components and updated other settings files in your system. Consult the documentation or online help information for the driver for further guidance. Click **OK** or the appropriate button in the driver dialog to confirm the removal return to the list of installed drivers.

6   Click **OK** to close the list of installed <u>drivers</u> and return to the <u>main Telephony Control Panel window</u>.

What to do if it's supposed to dial 9 first, but it does not

This is usually caused by one of three things:

1   The current location does not specify an outside line access code for local or long distance calls (depending on the type of call you're trying to make). To correct this problem, edit the location and add the outside line access code.

2   The number you are dialing is not in proper international number format. Windows Telephony automatically applies outside line access codes and makes other conversions of telephone numbers only when they are provided in international number format and your telephony application calls the correct function in the Windows Telephony API.

3   The current location selected is not correct for the dialing procedures where you are. This often happens when you move your portable computer from your home to your office or vice-versa, and forget to change the location. Simply select the correct location from the main Telephony Control Panel window, or create or edit a location if necessary.

What to do if it's not supposed to dial 9 first, but it does

Be sure you have selected the correct location as your current location in the main Telephony Control Panel window, and that that location does not specify that an outside line access code is to be dialed.

What to do if every call is dialed as a long-distance call

Windows Telephony compares the area code (or city code) of the current location with the area code specified within parentheses in the international-format telephone number you dial to determine whether to dial the call as long distance. Calls are considered long distance if the country code of the number is that same as the current location but the area code is different. Windows Telephony has no way to ask the telephone system to tell it the area code where you are; you must tell Windows Telephony yourself in the settings for the current location. If the area code specified in the current location is missing (never entered) or incorrect, or if the wrong location is selected as the current location, Windows Telephony will not be able to properly determine which calls are long distance, and may dial as long distance some calls that ought to be local, and some as local that ought to be long distance.

What to do if every call is dialed as an international call

Windows Telephony compares the country code of the current location with the country code (following the "+") in the international-format telephone number you dial to determine whether to dial the call as an international call. Calls are considered international if the country code in the number is different from the country code specified in the settings for the current location. Windows Telephony has no way to ask the telephone system to tell it the country code where you are; you must tell Windows Telephony yourself in the settings for the current location. If the incorrect country code is selected, of if the wrong location is selected as the current location, Windows Telephone will not be able to properly determine which calls are international.

What to do if all the settings are right, but it still dials wrong!

Windows Telephony contains direct dialing information for most countries in the world, but not all. Unfortunately, with the progress of technology and the changes in national boundaries that have occurred recently, it is impossible to always have up-to-date information on how to dial from every country. If you find that the predefined direct dialing rules for the country you have selected are incorrect, you may create a calling card and specify the correct direct dialing rules, then select that calling card as the preferred calling card for the location that you use for direct dialing in that country. It would also be helpful if you sent electronic mail to "telephon@microsoft.com" or a fax to the Windows Telephony Coordinator at +1 (206) 936-7329 and gave details on the discrepancy, so that subsequent releases of Windows Telephony can include corrected direct dialing instructions.

What to do if the calling card number is dialed too soon

The usual cause of this problem is the use of the wrong "pause" character (or no pause character) in the dialing rule for the calling card you have selected. There are five different "pause" characters to choose from:

,   When this character (comma) appears in a dialable number, Windows Telephony (actually, the telephony driver handling the call, or your telephony hardware) stops dialing at that point and waits a fixed amount of time before proceeding with dialing the following digits. The amount of time can vary with each driver or hardware; the default is usually two seconds per comma. Using such fixed pauses can sometimes work when other pauses don't because it doesn't require anything to be detected by listening to the phone line, but it can be problematical if the amount of time needed varies based on network conditions.

W   When this character appears in a dialable number, Windows Telephony (actually, the telephony driver handling the call, or your telephony hardware) stops at that point and listens to the phone line until it hears a dial tone for one second. When the dial tone is heard, dialing proceeds.

@   When this character appears in a dialable number, the driver or hardware stops at that point and waits for a "quiet answer" before proceeding. "Quiet answer" is defined as having heard a "ringback tone" (the sound you hear when the number you are calling is ringing) followed by at least five seconds of silence. The reason five seconds of silence is required is that normal ringback tones (at least in North America) are separated by four seconds of silence; more than four seconds can be interpreted as the called party having answered. Many PBXes use quiet answer for direct inward system access.

$ When this character appears in a dialable number, the driver or hardware stops at that point and waits for a calling card prompt tone before proceeding. Various long distance carriers use different prompt tones; the most common is one that sounds like a "bong" and consists of a short touch-tone burst (same as the "#" key") followed by a dial-tone sound of decaying amplitude. Your telephony hardware might not be able to detect the prompt tone used by your long distance carrier.

?   When this character appears in a dialable number, the driver informs your telephony application that you should be prompted (with an alert or dialog box) before dialing proceeds. Normally, this would be used in conjunction with a speaker through which you can listen to call progress tones or messages on the phone line which cannot be detected directly by your telephony hardware.

Note that if your telephony driver or hardware doesn't support the "W", "@", or "$" operation, if they occur in a dialable number,   your application will prompt you on the screen (as with "?") to listen for the associated tone. If your application must work in the background, on a server, or otherwise without your attention, you should be careful to select a calling card which includes no "?" characters in its dialing rules and which includes "W", "@", or "$" only if your telephony driver and hardware actually support them (see the documentation for those products for guidance).

Some hardware that does not support the "$" operation will support "@" and interpret the calling card prompt tone as a ringback so that you can use "@" to wait for a prompt tone. "W" sometimes works as well. If none of them work with your driver or hardware, commas can be used for a fixed delay.

What to do if the calling card number is never dialed

The usual cause of this problem is the use of the incorrect "pause" character. See <u>What to do if your calling card number gets dialed too soon</u> for details on the use and selection of dialing pause characters in <u>dialing rules</u> and <u>dialable numbers</u>.

What to do if you get a recording saying "You must first dial a 1 and the area code..."

Most likely, the prefix of the number you are calling is not in the toll prefix list for the current location. Use the Telephony Control Panel or the facility provided in your Telephony application to add the prefix to the toll list and then try the call again.

What to do if you have a telephone calling card from a company for which there isn't a predefined calling card in the system

First, contact the long distance telephone company associated with the calling card, and get detailed dialing procedures from them for using the card. These procedures are often printed on the back of the card itself.

Next, convert these dialing procedures into dialing rules.

Then, create a new calling card, and use the Customize… function to enter those dialing rules.

Finally, you may want to select that calling card as the preferred calling card for the locations from which you normally dial calls using a calling card.

What to do if your application tells you that the TELEPHON.INI file is corrupt

If you use the Telephony Control Panel to maintain the setup of your Telephony equipment, this error should never occur. Normally, this error happens only if the TELEPHON.INI file is directly edited using a text editor such as Notepad -- and you are strongly discouraged from doing that, because it is difficult to maintain the internal consistency of the file when making changes manually.

There are various causes for Windows Telephony to consider the TELEPHON.INI files as corrupt. TELEPHON.INI contains all of the information about your installed telephony drivers, locations, calling cards, as well as priorities for applications to handle incoming calls and the predefined direct dialing rules for countries.

When the Telephony Control Panel is opened, it scans the entire TELEPHON.INI file for internal consistency. If it finds problems in a particular section, it asks you if you want to replace that section with the default entries for that section. The defaults are:

Drivers
> No drivers installed. If you replace your drivers section, it is necessary to reinstall all of your telephony drivers.

Locations
> All of the locations you previously defined will be removed, and only the default location will remain. You will need to manually edit the default location, or add other locations you had previously defined, or both.

Calling Cards
> All of the calling cards you previously defined will be removed, and only the "None (Direct Dial)" entry and the other predefined calling card entries included with Windows Telephony will remain (and any card numbers you had set in them will be deleted). You will need to manually edit the cards or re-add cards you need.

Countries
> The original list of countries and their direct dialing rules will be restored. You cannot change this information, so restoring it should not cause the loss of any information you previously entered.

Handoff Priorities
> The original list of application priorities included with Windows Telephony will be restored. This includes no applications in any of the lists for the various media modes, so you need to access each of your applications and have them reset themselves into the priority lists. The default list specified Dialer as the highest-priority application for handling dialing requests from non-Telephony applications such as Microsoft Word or Excel; if you have another call manager application that you want to handle such calls, you need to activate that application and tell it to set itself as the highest-priority application to handle such call requests.

Help for the Main Telephony Control Panel Window

This window is the main window for the Telephony Control Panel. It allows you to select your current location, and to access other functions of the control panel.

- **Current Location** lists all of the locations defined in the system. The selected location is the current location.

- Click **Close/Cancel** to close the Telephony Control Panel and return to the Windows control panel. The button is "Close" if changes in settings have already been made which cannot be undone by canceling, and is "Cancel" if clicking the button would result in no changes to your Telephony setup (for example, if you had only looked at location, calling card, or driver information but had made no changes).

- Click **Location Setup…** to display the Locations dialog, where you can add, remove, and edit locations.

- Click **Calling Card Setup…** to display the Callings Cards dialog, where you can add, remove, and edit calling cards.

- Click **Driver Setup…** to display the Telephony Drivers dialog, where you can add, remove, and configure Telephony drivers.

Click Contents to see additional topics.

Help for Locations

This dialog shows you the list of defined locations, to create new locations, remove locations, and modify location settings.

The **Defined Locations** list includes all of the locations defined in the system.

- Click **Cancel** or **Close** to close the Locations dialog and return to the main Telephony Control Panel window.

- Click **Add…** to display the Add Location dialog to allow you to create a new location.

- Click **Edit…** to display the Edit Location dialog to allow you to modify the settings for the selected location. It is enabled only when a location is selected in the list.

- Click **Remove** to remove a location that you no longer need. It is enabled only when a location other than the "Default Location " is selected in the list.

Click Contents to see additional topics.

Help for Add Location and Edit Location

This dialog allows you to modify the settings of a location either when you are creating a new location or when editing an existing location.

- Type the name of the location in the **Location Name** field. You cannot duplicate another name already in use.

- If you are on a PBX or Centrex system, or any other system which requires you to enter a particular digit or digits before the phone number when placing an outgoing local call, enter the digit or digits in the **Outside line access code field for local calls**.

- If you are on a PBX or Centrex system, or any other system which requires you to enter a particular digit or digits before the phone number when placing an outgoing long distance or international call, enter it in the **Outside line access code field for long distance calls**. Even if the long distance access code is the same as the local access code, it must also be entered in this field. You should not enter long distance prefix codes such as "1" in this field; those digits are defined as part of the dialing rules for the country you select (if the calling card selected is "None (Direct Dial)") or for the calling card you select.

- Enter the area code or city code in the **Area Code** field, if such codes are used in your country. You should enter the digits that someone would use to reach your city if they were calling you from outside your country. For example, the city code for London, England, is often expressed as "071" or "081", but the "0" is not dialed when London is being called from outside the United Kingdom; in that case, you would place only "71" or "81" in this field, as you would in the city code portion of a number in international number format.

- Select the country associated with the location from the **Country Code** list. If you select "None (Direct Dial)" as the calling card when this location is selected, the predefined direct dialing rules for the country you specify will be used.

- The **Preferred calling card** list includes all of the calling cards that have been defined. The selected card is the "preferred" calling card for this location, and is used for dialing when this location is selected unless you temporarily select another card from a list within your Telephony application.

- Click **Calling Card Setup…** to display the Calling Cards dialog, where you can add and remove calling cards and modify calling card settings. It is the same as the Calling Card Setup… button on the main Telephony Control Panel window, with the exception that if you add or edit a calling card, it becomes selected as the preferred calling card for the location you are adding or editing.

- Click **Toll List…** to display the Toll Prefix List dialog, which allows you to add and remove prefixes from the toll list associated with this location.

- Click **OK** to close the dialog, save any changes you have made, and return to the Locations dialog. The location you just modified or added is selected as the current location.

- Click **Cancel** to close the dialog, discarding any changes you have made. If you were creating a new location, the location is not added to the location list.

Click Contents to see additional topics.

Help for the Toll Prefix List

This dialog displays the toll prefix list for the current location, and allows you to add and remove prefixes from the list.

- To search the list for a particular prefix, or to add a new prefix, type it in the entry field. If a match is found, the match is highlighted in the list underneath the field. You can scroll the list to see the prefixes already defined, and select prefixes from the list in preparation for removing them.

- Click **Add** to add a new prefix to the list. This button is enabled when you have entered a prefix in the field which is not already in the list.

- Click **Remove** to remove the selected prefix from the list. This button is enabled only when a prefix is selected in the list, either by clicking it or typing it in the field.

- Check the **Insert Area Code When Dialing Toll Prefix** box if, in the area code for the selected location, you must dial both a "1" and the area code when dialing a toll call. If you need to only dial a "1" before the seven-digit local number and do not need to dial the area code, uncheck the box.

- Click **OK** to close this dialog and temporarily save any changes you made to the toll list. The changes do not become permanent until you click **OK** in the Add Location or Edit Location dialog.

- Click **Cancel** to close this dialog and discard any changes you made to the toll list during this time that it was open.

Click Contents to see additional topics.

Help for Calling Cards

This dialog displays the list of calling cards defined in the system, and allows you to modify calling card settings, add new calling cards, and remove calling cards you no longer need.

The **Defined Calling Cards** list includes all of the calling cards defined in the system, including those which would otherwise not be displayed in applications because they do not have a calling card number set.

- Click **Cancel** or **Close** to close the dialog and return to the main Telephony Control Panel window. The button is labeled "Cancel" if no changes had been made to calling cards, and "Close" if any changes have been made, or cards added or removed, which cannot be undone.

- Click **Add…** to create a new calling card.

- Click **Edit…** to modify the settings of the selected card. The button is enabled if a card is selected in the list other than "None (Direct Dial)" (which cannot be edited).

- Click **Remove** to remove the selected card. The button is enabled if a card is selected in the list other than "None (Direct Dial)" (which cannot be removed).

Click Contents to see additional topics.

Help for Add Calling Card and Edit Calling Card

This dialog allows you to modify the name and number of a calling card that you are creating and editing, and to choose to customize the dialing rules associated with the card.

- Enter the name for the card in the **Name** field. You cannot duplicate a name that is already in use.

- Enter the card number in the **Card Number** field, if one is applicable. If the field is blank (either because you have not yet entered a number, or because you selected and deleted the entire previous number), the digits of the number are displayed as you type. If, however, you are editing a calling card that already exists and contains a calling card number, the number is displayed as asterisks (for security reasons), as are any additional digits you enter, unless you first delete the entire previous number.

- Click **Customize…** to display the Customize Calling Card dialog, where you can modify the dialing rules associated with the calling card you are adding or editing.

- Click **OK** to close the Add or Edit Calling Card dialog and save any changes you have made.

- Click **Cancel** to close the Add or Edit Calling Card dialog, and discard any changes you made including changes to the dialing rules in the Customize Calling Card dialog.

Click Contents to see additional topics.

Help for Customize Calling Card

This dialog allows you to create or modify the dialing rules associated with the calling card you are adding or editing, and also to specify whether or not this calling card should be included in lists of calling cards displayed in applications if no calling card number has been entered.

- Enter the dialing rule to be used when both the country code and the area code (or city code) of the input canonical number and the current location are the same, in the **Calls Within the Same Area Code** field. Note that the outside line access code for local calls defined in the current location, if any, is added before the digits defined in the rule, so it is not necessary to include the access code (such as "9") as part of the rule.

- Enter the dialing rule to be used when the country code of the input canonical number and the current location are the same, but the area codes (or city codes) are different. Also enter the rule used for countries in which toll prefix lists are used, if the call would otherwise be a local call but is being treated as a long distance call because the exchange prefix portion of the input canonical number is found in the **Long Distance Calls** field. Note that the outside line access code for long distance calls defined in the current location, if any, is added before the digits defined in the rule, so it is not necessary to include the access code (such as "9") as part of the rule.

- Enter the dialing rule to be used when the country code of the input canonical number and the current location are different, in the **International Calls** field. Note that the outside line access code for long distance calls defined in the current location, if any, is added before the digits defined in the rule, so it is not necessary to include the access code (such as "9") as part of the rule.

- Check the **Display Only If Card Number Is Entered** box if you want this calling card to be displayed in calling card lists in Telephony applications only if a card number is actually entered. Uncheck the box if you want this calling card to always be displayed in such lists even if no card number is entered, such as if you are defining an alternative procedure for direct dialing calls.

- Click **Copy From…** to display the Copy From dialog, which allows you to copy the dialing rules from any other calling card already defined in the system. This is useful if you are creating another card of the same type, such as a business AT&T calling card in addition to your personal AT&T calling card.

- Click **OK** to close the Customize dialog and temporarily save changes made to the dialing rules. The changes are permanently saved which you click OK in the Add or Edit Calling Card dialog.

- Click **Cancel** to close the Customize dialog and discard any changes you have made while the dialog was open.

Click Contents to see additional topics.

Help for Copy From

This dialog shows a list of the calling cards defined in the system, and allows you to select one from which the dialing rules are copied and displayed in the fields in the Customize dialog. This is useful if you are creating another card of the same type, such as a business AT&T calling card in addition to your personal AT&T calling card.

- Select the calling card which specifies the dialing rules you want to copy in the **Copy Dialing Rules From** list.

- Click **OK** to copy the dialing rules from the calling card selected in the list into the corresponding fields in the Customize dialog, close this dialog, and return to the Customize dialog. Note that the copied rules are not permanently saved until the **OK** button is clicked in both the Customize dialog and the Add or Edit Calling Card dialog.

- Click **Cancel** to close this dialog without copying any rules, leaving the dialing rules in the Customize dialog unmodified.

Click Contents to see additional topics.

Help for Telephony Drivers

This dialog displays a list of the Windows Telephony Service Providers (drivers) currently installed in your system. It allows you to install new drivers, remove drivers you no longer need, and access the driver setup function to set driver parameters.

The **Installed Drivers** list includes all drivers installed in the system, identified by a name assigned by the creator of the driver.

- Click **Add…** to display the Add Driver dialog, which allows you to install a new or updated Telephony driver.

- Click **Setup…** to use the setup function of the Telephony driver selected in the list. Consult the documentation or online help information for the driver for further information. Click the **OK** button or other appropriate control in the driver's setup dialog to return to this dialog.

- Click **Remove** to remove the selected driver. You are first asked if you are sure you want to remove the selected driver. If you confirm the removal, a removal function in the driver itself is activated, which may ask you further questions about the removal of specific components of the driver, updating of system configuration files, and so on. When you confirm to the driver that you want it removed, it is removed and the display returns to this dialog.

- Click **Cancel** or **Close** to close this dialog and return to the main Telephony Control Panel window. The button is labeled "Cancel" if no changes have been made such as adding or removing a driver or accessing a driver setup function; it is labeled "Close" if a driver was added or removed or if a driver setup function was accessed.

Click Contents to see additional topics.

Help for Add Driver

This dialog lists known Telephony drivers, and allows you to choose among them to be added to your system. You can also install an unlisted or updated driver from a disk provided by the manufacturer of the driver.

- The **Telephony Drivers** list includes the known Telephony drivers, and an entry for unlisted or updated drivers. Select the driver you want to add, or, if it is not displayed, select "unlisted or updated driver."

- Click **Add** to install the selected driver. If you selected a known driver, that driver is added. You may be asked to insert a system distribution disk containing the driver or to identify the directory or network server where the driver can be found. If you selected "unlisted or updated driver," you will be asked to identify the directory or network server where the driver can be found. After the driver is added, it automatically invokes its setup function to let you make any initial configuration settings necessary for the driver to function properly.

- Click **Cancel** to close the Add Driver dialog without adding a driver.

Click Contents to see additional topics.

Help for Insert Disk

This dialog prompts you for the disk or the drive and directory where driver information or a driver file for your Telephony driver is located.

- Type the appropriate drive letter and directory path in the text box. If the driver file or information is located on a floppy disk, insert the disk in a floppy disk drive, make sure that the correct drive letter is indicated, and then click **OK**.

- If you are not sure where the driver file or information is located (for example, if you want to use a driver that is located on a network drive and you are not sure which directory it is in), click **Browse** to locate and select the drive and directory (using the Browse dialog).

- Click **Cancel** to close this dialog.

Click Contents to see additional topics.

Help for Browse

Use this dialog to find and select the drive and directory where the Telephony driver file is located.

- You may use the **Drives** list to select the drive that contains the driver file. The **Directories** list displays the directories on the selected drive.

- Use the **Directories** list to select the directory that contains the driver file.

- Click **Network…** to display the **Connect Network Drive** dialog. Use this dialog box to connect to a server or shared directory that contains the driver file.

- Click **OK** when you have selected the directory containing the driver file.

- Click **Cancel** to close this dialog without selecting the directory.

Click Contents to see additional topics.

Help for Add Unlisted or Updated Driver

This dialog lists additional Telephony drivers that are found on the disk you inserted or on the drive and directory you specified in the Insert Disk dialog.

- Select the driver you want to install from the list and click **OK**. The driver is installed, and its setup dialog displayed so that you can make initial settings. Refer to the help or documentation provided with the driver for further information.

- Click **Cancel** to close the dialog without adding a driver.

Click Contents to see additional topics.

Location

A "location" in Windows Telephony is a set of information that Windows Telephony uses to analyze telephone numbers in international number format that you dial, and to determine the correct sequence of numbers to be dialed. It need not correspond to a particular geographic location, but it usually does. For example, a location could specify the procedures needed to dial calls from your office, or from a room in a particular hotel. You can name locations anything you choose to help you remember and select them later. The information included in a location includes the location name, the country code, area code (or city code), outside line access codes for local and long distance calls, and the preferred calling card for the location. For locations in North America, the location also includes a list of toll prefixes and settings for how toll calls should be dialed.

The Telephony Control Panel allows you to add new locations, edit existing locations, and remove locations you no longer need.

Calling Card

A "calling card" in Windows Telephony is a set of information that Windows Telephony uses to create the sequence of numbers to be dialed on a particular call. The definition of the calling card may include a calling card number which can be dialed at a specified time during call placement, but it does not have to specify a card number (in other words, calling cards can also be used to define alternative procedures for direct dialing without a calling card number). If a card number is specified, it is kept in a scrambled form and not displayed in its unscrambled form in order to protect you from having your card number copied by anyone and misused. You can name calling cards anything you choose to help you remember and select them later. The information included in a calling card includes the name, card number, and the dialing rules for local, long distance, and international calls.

Windows Telephony includes predefined settings for several popular calling cards used in the United States, which you can modify and use directly or copy to create your own calling cards.

The Telephony Control Panel allows you to add new calling cards, edit existing calling cards, and remove calling cards you no longer need.

Telephony Driver

A Windows Telephony "driver," also known as a "Telephony Service Provider," is software that controls your telephony hardware (for example, a modem, voicemail card, phone, or other equipment) as directed by your Telephony application programs (such as Dialer) through the Windows Telephony Applications Programming Interface. Usually, the driver is included with your hardware and automatically installed as part of the setup procedure for the hardware.

The Telephony Control Panel allows you to install (add) new drivers, set the configuration of installed drivers, and remove drivers you no longer need.

Canonical number

A special format for numbers that allows Windows Telephony to apply the Location and Calling Card settings from the Telephony Control Panel and automatically determine the proper digits to dial for you. This format is:

> **+**cc (ac) number

where cc is the country code, ac is the area code (or city code), and number is the local number. If ac is specified, it must be preceded by exactly one space and a left parenthesis, and followed by a right parenthesis and exactly one space. Only the digits 0 through 9 should appear in cc and ac; number may, if you wish, contain dashes, periods, spaces, and other formatting characters.

This format is also known as the "international number format".

International number format

A special format for numbers that allows Windows Telephony to apply the Location and Calling Card settings from the Telephony Control Panel and automatically determine the proper digits to dial for you. This format is:

> **+**cc (ac) number

where cc is the country code, ac is the area code (or city code), and number is the local number. If ac is specified, it must be preceded by exactly one space and a left parenthesis, and followed by a right parenthesis and exactly one space. Only the digits 0 through 9 should appear in cc and ac; number may, if you choose, contain dashes, periods, spaces, and other formatting characters.

This format is also known as the "canonical number format."

Dialable number format

Contains exactly the digits you want to dial. This is often used when calling internal extensions, or special numbers such as for reaching an operator, emergency services, or directory assistance. A dialable number may also contain special dialing control characters; see dialing rule for further information.

Toll List

The list of toll prefixes for the current location. Windows Telephony maintains a Toll List for each location which specifies that it is in North America (country code "1"). When a number would otherwise be treated as a local call (meaning it is in the same area code), Windows Telephony checks this list to see if the prefix of the number to be dialed is in the list. If it is, the number is dialed as though it were a long distance call.

Toll Call

In some <u>area codes</u> in North America, calls to certain numbers within the same area code must be dialed as though they were <u>long distance</u> calls. In most area codes, this means that you are required to dial a "1" plus the area code before the seven-digit <u>local number</u>.

Toll Prefix

A prefix, calls to which from the current location are toll calls.

Prefix

In North America, the first three digits of the seven-digit [local number](#).

City Code

In most countries, geographic regions are assigned "city codes." When placing a call from one number to another within the same city code, only the local number needs to be dialed. When a call is placed to a number within a different city code, a special code (often "0" or "1") plus the city code must be dialed before the local number in the other city. This system of city codes and dialing prefixes allows local numbers to be assigned in different cities without requiring them to be unique throughout the entire country, thus allowing local numbers to be shorter (so you don't have to dial so many digits when placing local calls, which is the most frequent case).

Area Code

In North America, the term "area code" is used instead of "city code," because the regions covered are usually much larger than a single city. Many cover entire states of the United States or provinces in Canada, and the area code 809 covers all of the Caribbean island nations.

Country Code

The country code is a one-, two-, or three-digit number assigned by the International Telecommunications Union, an organization under the United Nations. It is used by the telephone system to properly route calls between countries. The country code for North America, including the United States, Canada, and all of the countries in the Caribbean, is "1." Some other countries share country codes as well, but most countries have unique country codes.

Local Number

The local number is the digits that would be dialed to place a call if you were in the same city or area. For example, in North America, this would be the seven-digit number. It does not include the area code or city code, and does not include any outside line access code or other special digits.

Outside Line Access Code

When you are calling on a line that is connected to a private branch exchange (PBX) or on a Centrex® system, you can call other extensions on the same system using a short number (often four or five digits). But if you want to place a call to a number not on the same PBX or Centrex group, you must first dial an access code so that you are connected to a trunk line to the local telephone company. This access code is often "9" in North America, and "0" in other areas of the world. Some PBXes, particularly in hotels, require separate access codes for local calls (for example, "9") than for long distance calls (for example, "8" or "6"). Windows Telephony allows you to specify outside line access codes for local and long distance calls, which can both be set to the same value, or left empty if no access code is required. International calls are assumed to require the same prefix as long distance calls. Note that Windows Telephony applies the access code to numbers you dial only when the number is specified in international number format, because Windows Telephony is unable to determine whether the number is local or long distance if it is specified in the dialable number format.

International Call

When the country code specified in the number to be dialed is different from the country code specified for the current location, Windows Telephony treats it as an international call, and uses the international dialing rule associated with the selected calling card when it formulates the actual number to be dialed.

Windows Telephony can determine whether a number is international, long distance, or local only when it is specified in international number format; numbers in dialable number format are dialed "as is" without reference to the location or dialing rules.

Long Distance Call

When the country code specified in the number to be dialed is the same as the country code specified for the current location, but the area codes (or city codes) of the two numbers are different, Windows Telephony treats it as a long distance call, and uses the long distance dialing rule associated with the selected calling card when it formulates the actual number to be dialed. In North America, some calls to local numbers may also be treated as long distance if the prefix of the number to be dialed is in the toll list of the current location.

Windows Telephony can determine whether a number is international, long distance, or local only when it is specified in international number format; numbers in dialable number format are dialed "as is" without reference to the location or dialing rules.

Local Call

When both the country code and the area code (or city code) specified in the number to be dialed are the same as the country code and area code specified for the current location, Windows Telephony treats it as a local call, and uses the local (same area) dialing rule associated with the selected calling card when it formulates the actual number to be dialed. In North America, some calls to local numbers may also be treated as long distance if the prefix of the number to be dialed is in the toll list of the current location.

Windows Telephony can determine whether a number is international, long distance, or local only when it is specified in international number format; numbers in dialable number format are dialed "as is" without reference to the location or dialing rules.

Current Location

The current location is the location selected in the drop-down list on the main Telephony Control Panel window. Whenever a Windows Telephony application asks for a number in international number format to be converted (translated) into the proper sequence of digits to be dialed, the settings associated with the current location are used to analyze the number and determine the correct digits.

Preferred Calling Card

Each location identifies a calling card which is to be used by default from that location. You might, for example, always direct dial calls from your office, but always use your company's telephone calling card when in a hotel. Specifying the usual way you dial calls as the preferred calling card for a location saves you from having to select that calling card in each application that dials a call. Most applications (such as Dialer) provide a way for you to temporarily use a different calling card, but default to the preferred calling card for a given location any time you change locations.

Default Location

When Windows Telephony is first installed on your computer, it creates the first Telephony location for you. It is initially named "Default Location," but you can change the name if you want. This location cannot be removed, which insures that at least one location is always defined. You may want to set this location as necessary for dialing from the location from which you most often use your computer for dialing, such as your office. Of course, if your computer is not portable, you may not need to ever create another location, and can just use Default Location as the single place where you specify how to dial from the fixed location of your system.

Direct Dial

Direct dialing refers to dialing a call so that the charges for the call are billed to the number from which you are calling. Windows Telephony has built-in knowledge of how local, long distance, and international calls are direct dialed in most countries around the world. When you select the calling card named "None (Direct Dial)," you are instructing Windows Telephony to use the direct dialing procedures associated with the country you have selected for the current location.

Predefined Calling Card

Windows Telephony includes predefined calling card dialing rules for the three major long distance carriers in the United States. These predefined calling cards are set so that they are not included in the drop-down list of available calling cards in applications (such as Dialer) until you actually enter a calling card number for them. This keeps calling cards that you do not use from cluttering your calling card list.

You may choose to directly enter calling card numbers into one or more of the predefined calling cards, thereby causing them to be included in the list of available calling cards for dialing. Or, you may choose to copy the dialing rules from the predefined cards into other cards that you define, preserving the predefined cards in their original state.

Card Name

The Name of a calling card is what is displayed in drop-down lists in applications (such as Dialer) that allow you to select the calling card to use for dialing. It is also used in the Preferred Calling Card drop-down list associated with each location.

The card name can be anything you choose that is meaningful to you. It does not have to match the long distance telephone company name, or even include it for that matter. If you have two AT&T calling cards, for example, one issued to you personally and the other through your employer John Smith & Company, you might name the first card "Personal AT&T Card" and the other "J. Smith AT&T Card." This would make it easy to remember which is which when selecting from lists. The Windows Telephony Control Panel does not allow you to have two cards defined with the same name, in order to avoid confusion.

Card Number

Each calling card can have a card number associated with it. This usually consists of a series of about 14 digits. Only the digits themselves, not other characters such as spaces or dashes, need to be entered into the calling card definition. The card number is dialed at the point during dialing specified in the dialing rule for the type of call being made (local, long distance, or international).

Calling card numbers are considered confidential; if someone obtains your card number, they can use it to fraudulently bill calls to your or your company. Windows Telephony allows you to see the digits of your card number when it is initially being entered, but once stored the number cannot be viewed again through the Telephony Control Panel (it is replaced with asterisk characters instead). If you are editing a calling card number and completely erase the previous number, the Telephony Control Panel displays the actual digits of the new number to you. Also, when applications display to you the actual digits being dialed, they display the Name of the card in square brackets (for example, "[MCI Card]") instead of the actual card number. All of these measures are meant to make it difficult for someone looking over your shoulder at a pay phone in an airport, train station, or hotel lobby to steal you card number. You should take care when first entering new card numbers so that nobody sees the number being entered.

Customize

The Customize function of the Telephony Control Panel is accessed through the "Customize…" button that appears on the Add and Edit Calling Card dialogs. It allows you to set the dialing rules for the three types of calls (local, long distance, and international) associated with that calling card, and also to select whether or not the card is included in the lists of available calling cards when no card number has been entered. Allowing cards to be included in the list when no card number is entered means that you can create a "calling card" that is actually an alternative set of dialing rules for direct dialing from a location; this may be used, for example, if your PBX or other phone system requires you to enter special digits after the phone number.

Windows Telephony Control Panel

If you double-click or open this icon, you will enter the control panel for **Windows Telephony**. Windows Telephony is the part of Windows that allows your applications to control telephone equipment (such as dialing and answering calls).

Click [Contents](#) for more information.