

Quick Reference Guide: VoIP and the Trunks Database

The Infortel Select Trunks database, using Cisco's CallManager Voice over IP (VoIP) technology, lets you assign your Gateways to Facilities based on common billing features. For example, if several Trunks use a specific carrier, create a Facility and designate a rating method just for them.

In a VoIP system, each Gateway can be thought of as a Trunk, a group of Gateways that share a common rating method is analogous to a Facility, and an entire IP network is equivalent to a data source. Calls within an IP network are internal calls. Once Infortel Select collects call record data from CallManager, it will convert them to standard CDR format, and rate and process them for reporting. Once they are in Infortel Select, you have the ability to use all standard Infortel Select features.

When planning your database with VoIP, it is recommended that each Gateway be in its own Facility.

DISPLAYING DATA SOURCES

The **Select Data Sources to Display** text box and **Word Search** button appear when the number of data sources exceeds the maximum number defined at the **Misc. System Options 1** screen during installation.

Enter your search string in the **Select Data Sources to Display** text box, click the adjoining **Word Search** button, and all data sources that meet the search criteria will display in the **Trunks Database** screen.

To re-display the first data sources, clear the **Select Data Sources to Display** text box, and click the **Word Search** button.

ADDING TO THE TRUNKS DATABASE IN A VOIP SYSTEM

Adding to the Trunks Database in a VoIP system involves the following:

- Adding a Facility to a Data Source
- Adding a Trunk (Gateway)



Adding a Facility to a Data Source in a VoIP System

The data sources specified during the installation process will be displayed in the left pane of the **Trunks Database** screen, and are the highest levels in the Trunks database hierarchy. These cannot be edited. Below data source, is facility. A facility is a group of trunks that share a common rating method.

Since countries have their own unique rate tables, billing descriptions, and call types, when creating a facility, you are able to select the country where that facility is located.

Usually, trunk members that use the same carrier are in the same facility; however, you may need to define more than one facility for each carrier if there are different types of lines, storage options, billing descriptions, etc., associated with some of the trunk members. Data for the line ID types and for the billing classes is loaded at the time your Infortel Select system is installed.

The first step in creating the Trunks database is adding a facility. To add one, follow these steps:

1. In the left pane of the **Trunks Database** screen, highlight the data source symbol  to which you want to add a facility.
2. Click the  button, and the **Add Facility** dialog box will appear.

3. In the **Facility Name** text box, type the name of the new facility. You can use up to 25 alphanumeric characters. This is a required field and within each data source, must be a unique name. If you have Infortel WirelessNOW, suggested facility names (depending on the type of call), are listed below:

- Home Voice
- Roam Voice
- Home SMS
- Roam SMS

Note: For billing purposes, it is highly recommended that you set up a separate facility for each type of call.

4. From the **Country** list box, select the country where the trunk is located.

Note: You can modify the country ONLY for a default facility AND if the **Auto Add Trunks and Gateways** check box is selected at the **Define Data Source Name** dialog box in System Configuration Options. If the above do not apply, the country field cannot be modified and you must delete that facility and create a new one with the correct country. For more information please refer to the **Changing a Country for a Default Facility** section [on page 4](#).

5. From the **Line ID** list box, select the type of line to associate with the facility. Select one the following line IDs:

- C/O - Standard Line
- COA - Standard Line with Ans. Sup. (Answer Supervision)
- DID - Incoming Line
- Tie - Tie Line
- SDN - Software Defined Network
- SDA - Software Defined Network with Ans. Sup. (Answer Supervision)

Tip: You are able to define as many facilities for a data source as needed to logically sort line IDs for billing purposes.

Note: If you are setting up a facility to track internal calls, use Tie as the Line ID.

GENERAL TAB

At the **General** tab perform the following:

6. The **Billing Class** column contains the billing classes that were selected during the installation of the product. From the adjoining list boxes, select the billing description for the base cost and each of the billing classes for the facility.

Note: If you purchased the optional Hospitality module, you can only pick a billing description for your base cost. Billed cost is based on the billing description tied to the extension in the Directory database.

- The base cost is the actual cost of the call.
- Depending on the billing class selected, Infortel Select will, based upon the extension or extension range specified in the Directory database, or Account code specified in the Accounts database, calculate the billed price of the call using a different billing description.

Note: You must at least select a billing description for the Base Cost and Default Billing class names.

7. Click the **Check here if all long distance calls...** check box if your PBX requires you to dial "1" before a ten-digit call outside the home area code. If you check this box, then you must dial "1" before making calls outside your home area code in order for the system to rate them correctly.
8. In the **Home Area Code** text box, the area code for the selected data source is displayed.
9. In the **Area Codes** text boxes, enter other area codes that can be dialed with a seven-digit call. These text boxes hold all the area codes that you use to make local calls within a particular facility.
10. In the **GMT Offset** drop-down list box, select the time zone of the facility's location.
11. From the **Matching Arena** list box, select the matching arena the facility will belong to. The default selection is **None**. An arena is a group of trunks that are used to route calls from one PBX to another. Examples include an MPLS cloud or tie lines. The following are rules for tandem call matching as they apply to trunks:
 - The first call has to be either station-to-station or trunk-to-trunk. The outbound trunk must belong to one of the facilities in the matching arena.
 - The second call has to be either trunk-to-station or trunk-to-trunk. The inbound trunk must belong to one of the facilities in the matching arena.
 - The first and second calls must be from different data sources.

Note: This list box appears only if the Matching Arena option was installed on the product key.

12. Click the **Facility uses Daylight Savings Time** check box if the time zone of the facility uses daylight savings time.
13. Enter the desired grade of service in the text box in the following format: N.NNNN. What is entered will help calculate the number of trunks required for this facility.

Note: Entering a desired grade of service is optional. If a desired grade of service is not entered, the default desired grade of service that was specified during the installation process will be used.

ADJUSTMENTS TAB

Specifying grace and adjustment periods eliminates any charges to customers for the amount of time required for telephone systems to access a trunk and until they hang up when they receive busy signals. Setting grace and adjustment periods help eliminate price differences between ring and connectivity time.

While the carrier can detect when the destination party for an outbound call has actually answered a phone call, your own telephone equipment use an internal timer to assign duration to a telephone connection. Most standard telephone equipment times calls beginning at the second that someone picks up the receiver to make a call.

A **grace period** specifies the minimum period of time in seconds that it takes to place a call. The software will ignore the call if its duration is less than the amount specified as the grace period. The software subtracts the **adjustment period** (in seconds) from the call's duration when the call lasts longer than the grace period.

For example, suppose that you specify the grace period as 30 seconds and the adjustment period as 15 seconds. If a call lasts only 10 seconds, the call will cost nothing because its duration was less than the grace period. However, if the call lasts one minute, Infortel for Windows subtracts the 15-second adjustment period from the call's duration of one minute, and the call cost is based on a 45-second duration.

Note: If you have a telephone system with answer supervision, the **Grace Period** and **Adjustment Period** text boxes are left as zero.

To set the grace and adjustment periods, follow these steps:

1. At the **Add Facility** (or **Edit Facility**) dialog box, click the **Adjustments** tab.
2. For each Jurisdiction, type the grace and adjustment times in seconds in the appropriate columns. The adjustment period must be equal to or less than the grace period.

Note: Calls that are of zero duration after the adjustment period is subtracted or calls that are less than the grace period are not priced or stored.

3. When you finish entering information, click the **OK** button. When you do this, the new facility is added to the Trunks tree.

-or-


4. If you clicked the **Continuous Add** check box, click the **OK** button and the **Add Facility** dialog box will remain displayed.

CHANGING A COUNTRY FOR A DEFAULT FACILITY

You can modify the country ONLY for a default facility AND if the **Auto Add Trunks and Gateways** check box is selected at the **Define Data Source Name** dialog box in System Configuration Options. If these do not apply, the country field cannot be modified and you must delete that facility and create a new one with the correct country.

Default Facility with Auto Add Turned On

If you need to change a country for a default facility AND the Auto Add Trunks and Gateways check box is selected at the Define Data Source Name dialog box in System Configuration Options, perform the following:

1. Highlight the Facility in the Trunks Database tree.
2. Click the **Recreate** button , or from the **Edit** menu, or by right clicking in the screen to display the pop-up menu, select **Recreate**. A **Recreate Default Facility** dialog box for the chosen facility will appear.

3. At the **Recreate Default Facility** dialog box, select a new country from the **Choose a different country** list box.
4. After you select a country, select a billing description from the list box.

Note: you must select a billing description to activate the **OK** button.

5. Click **OK** and the new country and billing description will appear for the facility.


Default Facility with Auto Add Turned Off

If you need to change a country for a default facility and the **Auto Add Trunks and Gateways** check box is NOT selected at the **Define Data Source Name** dialog box in System Configuration Options, the first thing to do is access System Configuration Options to select the checkbox:

1. At the Infortel Select **Control Center**, select **Administration → System Configuration options**, and the **System Configuration** screen will appear.
2. From the list, select **Define Data Source Name**.
3. From the **Data Source** list box, select the data source that the facility you want to change the country for belongs.
4. Click the **Run** button and **Define Data Source Name** dialog box will appear.
5. There, click the **Auto Add Trunks and Gateways** check box and click **OK**.
6. Back at the **System Configuration** screen, click **Exit**.
7. Follow steps 1 – 5 from above.

Adding a Trunk (Gateway)

To add a Trunk (Gateway), follow these steps:

1. In the **Trunks** database screen, highlight the Facility to which you want to add a Gateway.
2. Click the  button to display the pop-up menu, and select **Add**.
3. Next, choose **Add Gateway**, and the **Add ID** dialog box will appear.
4. At this dialog box, enter the name of the Gateway in the **Name** text box. (This is required.)
5. In the **Gateway IP** text box, enter the IP address for this Gateway. (This is a required field.)
6. Enter the Access Code(s), if necessary in the appropriate text boxes. (This is optional.)
7. In the **GMT Offset** box, select the time zone of the Gateway's location.
8. Select the check box if the Gateway uses daylight savings time.
9. Click the **OK** button, or click the **Continuous Add** check box if you are adding more than one Trunk, and the dialog box will remain on the screen. When finished, remove the check mark and click **OK** to close.

EDITING THE TRUNKS DATABASE

1. Highlight the level you wish to edit in the Trunks Database tree.
2. Click the **Edit** button, or by right clicking in the screen to display the pop-up menu, select **Edit**.

A dialog box for the chosen level will appear allowing you edit that level.

Note: once a facility is created, the country field cannot be modified. If you need to change the country, you must delete that facility and create a new one with the correct country.

DELETING FROM THE TRUNKS DATABASE

When deleting a level from the Trunks Database tree, be aware that all levels below the chosen level will be deleted as well.

Deleting a Single Level

To delete a single level from a database tree, follow these steps:

1. Select the level to be deleted, and click the **Delete** button.
2. A Confirm Delete message appears. Click **Yes** to delete or **No** to cancel.

Note: All levels subordinate to a deleted level will be deleted!

Deleting Multiple Levels

It is possible to delete more than one level at a time from a database tree.

➤ If you wish to delete sequential levels, follow these steps:

1. In the database tree, highlight the levels in the right window by clicking the first level, and while holding down the *SHIFT* key, click the last level.
2. Click the **Delete** button, and a Confirm Delete message appears. Click **Yes To All** to delete all of the selected levels at once, **Yes** to delete each individually, or **No** to cancel.

➤ If you wish to delete levels that are not sequential, follow these steps:

1. In the database tree, highlight each level in the right window by clicking on it while holding down the *CTRL* key.
2. Click the **Delete** button, and a Confirm Delete message appears. Click **Yes To All** to delete all of the selected levels at once, **Yes** to delete each individually, or **No** to cancel.

Note: All levels subordinate to a deleted level will be deleted!

THE TRUNKS DATABASE AND INTERNAL CALLS IN A VOIP SYSTEM

With a VoIP system, a dummy Gateway and Facility must be set up to handle only internal calls.

To do this, perform the following:

- In the Trunks database, create a "dummy" Facility and assign this Facility a Line ID of TIE. It is important to note that any digit pattern less than 7 digits and not going out on this TIE line will not be stored in the CDR.

UNDEFINED GATEWAYS

Incoming or outgoing calls that don't have a corresponding and/or an invalid IP address in the CDR stream and in the Trunks database are considered undefined. How the system processes these undefined calls depends if the Auto Add Trunks and Gateways feature is turned on or off at the **Define Data Source** screen. This screen appears during the installation process and it is also accessible from the System Configuration utility.

To access the **Define Data Source** screen in the System Configuration utility:

1. At the **Control Center**, click **Administration → System Configuration options**, and the **System Configuration** screen will appear.
2. There, scroll through the list and click **Data Source**.
3. Since you can turn the Auto Add feature on or off for individual data sources, select the desired data source from the **Data Source** drop-down list box.
4. Click the **Run** button and the **Define Data Source** screen will appear with the selected data source.
5. At the **Define Data Source** screen, click the **Auto Add Trunks and Gateways** check box to turn the feature on or off.

Note: the Auto Add feature is turned off by default when the system is being installed.

Auto Add Trunks and Gateways Disabled

If the Auto Add Trunks and Gateways feature is turned off at the **Define Data Sources** screen (the default setting), then undefined calls will not be stored or priced. To view these undefined Trunk Route/Member combinations, follow these steps:

1. In the **Trunks** database screen, click the **Help** menu.
2. Next, select the **Undefined Gateways** menu item.
3. The **Undefined Gateways** dialog box will appear.

In this dialog box, you will see the Data Source the call came in on as well as the IP address. In addition, the date the undefined gateway was discovered is displayed.

If you want to define the displayed IDs, follow these steps:

1. Add the gateway and IP address to the Trunks database.
2. Reprocess the raw data in Background Services (Please refer to the **Reprocess Data** section [on page 9](#) for more information.).
3. Rerun the Undefined Trunks utility.
 - If you click the **Purge List** button, you will delete the undefined gateways information. Usually, this is done after the calls have been reprocessed, or if you decide not to reprocess the calls at all.
 - If you want to print the displayed information, click the **Print** button.

Auto Add Trunks and Gateways Enabled

If the Auto Add Trunks and Gateways feature is turned on at the **Define Data Sources** screen, then undefined calls will be added automatically to the Trunks database.

For each data source, a special facility will be created for undefined trunks. This facility will have the following characteristics:

- Facility name – "Default"
- Line ID – Tie
- Billing description – The installed tariff with its default pricing.

Note: the Default facility cannot be deleted nor can its name be changed.

REPROCESSING DATA

Raw call records are call records in the original format received from the PBX. The call accounting software stores raw call records for a period defined by the user at the **Define Purge Schedule** dialog box during installation.

Note: The reprocessing of rejected files can be automated by configuring the **[ReProcess]** section in the DataManager.ini file. Please refer to the **Collection and Processing PC Post-Installation Notes** section of the Self-Installation Guide for more information.

In certain cases, you may wish to reprocess the raw call records. In this case, the Reprocess Data function performs the following:

- Call records for the dates specified are purged from the call storage database
- Calls for the specified dates are processed and priced
- Calls for the specified dates are stored in the call storage database
- The reprocessing of rejected files can be done manually or in an automated fashion

Reprocessing Data Manually

To reprocess files manually, follow these steps:

1. At the **Call Acct. Service Mgr.** screen, click the isvProcess item in the list.
2. Next, click the **Custom** button and a dialog box will appear containing a series of buttons.
3. There select **ReProcess**, and a **Select one or more files** dialog box will appear.
4. From the **Data Source** list box, select the data source for the raw file or files you want to reprocess. If the number of data sources exceeds the maximum number defined at the **Misc. System Options 1** screen during installation, then a **Find Word(s)** text box and **Word Search** button will appear. There, perform a search for the data source, and the results will appear in the **Data Source** list box. Enter your search string in the **Find Word(s)** text box. You don't have to enter an entire word, just a fragment. After entering a search string, Click the **Word Search** button, and the search results will include all values containing your search string.

For example, if you enter a search string of "at", your results will include the following:
cathode, flat screen, gateway.

Note: The **Find Word(s)** text box and **Word Search** button will appear only if the number of data sources exceeds the maximum number defined at the **Misc. System Options 1** screen during installation.

5. Select the desired file(s).
 - To select more than one sequential file, highlight the first file in the series by clicking on it, and while holding down the **SHIFT** key, click the last file in the series.
 - If the files are not sequential, select each file while holding down the **CTRL** key.
6. Click the **OK** button.

Reprocessing Rejected Files Automatically

To configure the automated reprocessing of rejected files, perform the following:

1. Locate the DataManager7.ini template file and DataManager.ini file in the InfortelSelect\Programs directory.
2. Open the DataManager7.ini template file and copy the following two lines from the **[Reprocess]** section into your DataManager.ini file's **[Reprocess]** section. If **[Reprocess]** section does not exist in your DataManager.ini file, then create one:
 - DaysOfWeek=0111110
 - Time=0200
3. In the DataManager.ini file, replace the DaysOfWeek value 0111110 with the desired days of the week that the automated reprocessing should apply to. Each number in the value represents a day of the week starting with Sunday and ending with Saturday. A "0" indicates that automated reprocessing of rejected files should not occur on a day of the week and a "1" indicates that it should.

Note: To turn off automated reprocessing of rejected files, simply set the DayOfWeek value to all zeroes.
4. In the DataManager.ini file, replace the Time value 0200 with the desired time that automated reprocessing should start. This time should be given in military format and in hours and minutes. For example, a value of 2345 would represent 11:45 PM.
5. Save and close the DataManager.ini file.



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