SuperOrca
MSI Editor

User Manual
version 1.0

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Introduction

SuperOrca from "Pantaray Research Ltd." is a direct replacement to the "Orca" utility from Microsoft. SuperOrca may be used to examine and modify an MSI database.

SuperOrca Highlights:

- Can be freely downloaded from the internet, no need to download and install the complete Microsoft SDK.
- Will allow you to scan and manipulate all MSI database table in an intuitive and user friendly manner.
- SuperOrca will not lock the MSI file, so you can test it with other tools or even install it while the file is open in SuperOrca.
- A powerful "Compare" function that will compare two MSI files.
- A "Search all" function that will search a text literal across all database tables in one operation.

Application Screen

The SuperOrca screen contains the following 4 elements:

1. **Main Menu** - Most of the operations of the application are accessible from this menu.
2. **Table List** - The left area of the screen will contain a list of all the tables contained in the current MSI file. Clicking a table name will select this table, the name of the table will appear at the top of the list and the table content will be displayed on the right area.
3. **Table content** - The right area of the screen will display the content of selected table. This display is composed of columns and rows. The header of each column will contain the name of the column. An asterisk in front of the name will indicate a Key column. Each column name include a description of the column type in parenthesis.

Type	Regular	Nullable
Integer 16 bit	`i2`	`I2`
Integer 32 bit	`i4`	`I4`
String (1..255) characters	`snn`	`Snn`
Localizable String (1..255) characters	`lnn`	`Lnn`
Binary Data	`v`	`V`

* nn - indicates number of bytes.

4. **Status Bar** - Located at the bottom of the screen, the status bar will indicate the number of tables in the current database and the number of rows in the selected table.

File Menu

Open...

Use *Open...* to open an existing MSI file. Using this option you can open a regular MSI file as well as a Merge Module file (*.MSM). The names of the files you open will be added to the history list at the bottom of the "File" menu, so you can easily reopen them in the future.

Save As...

Use *Save As...* to save the existing MSI file under a new name, thus creating a copy of the old file.

New

Use *New* to create a completely new MSI or MSM file. When you select New you will be prompted to select a starting template. The following template are available:

- Empty.Msi
- Schema.Msi
- Sequence.Msi
- UISample.Msi
- Schema.Msm

Exit

Select *Exit* to close the program.

IMPORTANT - Every operation made with SuperOrca that modify the database is immediately written to the MSI file, so when you close the program you will not be prompted to save any changes made to the database.

Edit Menu

Find...

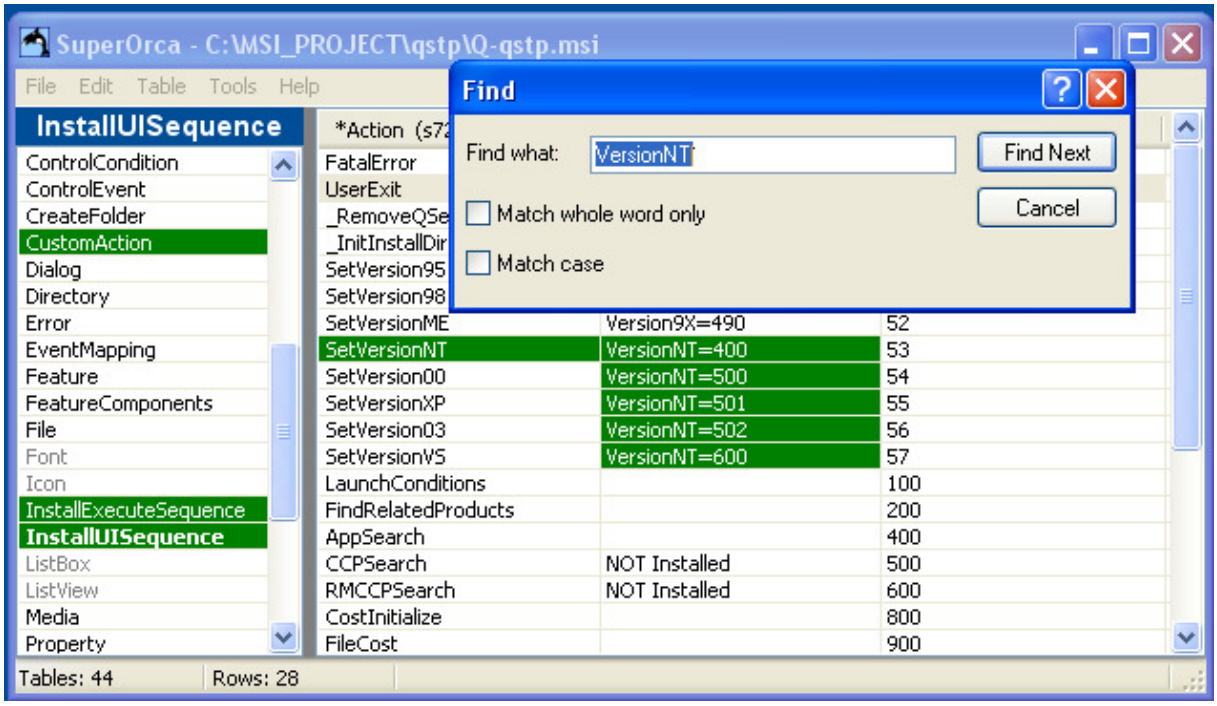
Use *Find...* to find a certain text literal inside any table fields.
After entering the text literal the program will search the current table starting from the current location. If a match is found the relevant cell will be highlighted. If a match is not found the application will search the next table. When all tables are searched the application will prompt for a search starting from the first table.

Find Next

Click *Find Next* to find the next occurrence of the text literal.

Search All Tables...

Use *Search All Tables...* to search a certain text literal inside all the tables in the MSI file. The program will scan all tables and find all the occurrences of the text literal in all the tables. The table names and cells that contain the text literal will be highlighted with green background.



Search All Clear

Use *Search All Clear* to hide the green highlight from the last *Search All Tables...* operation.

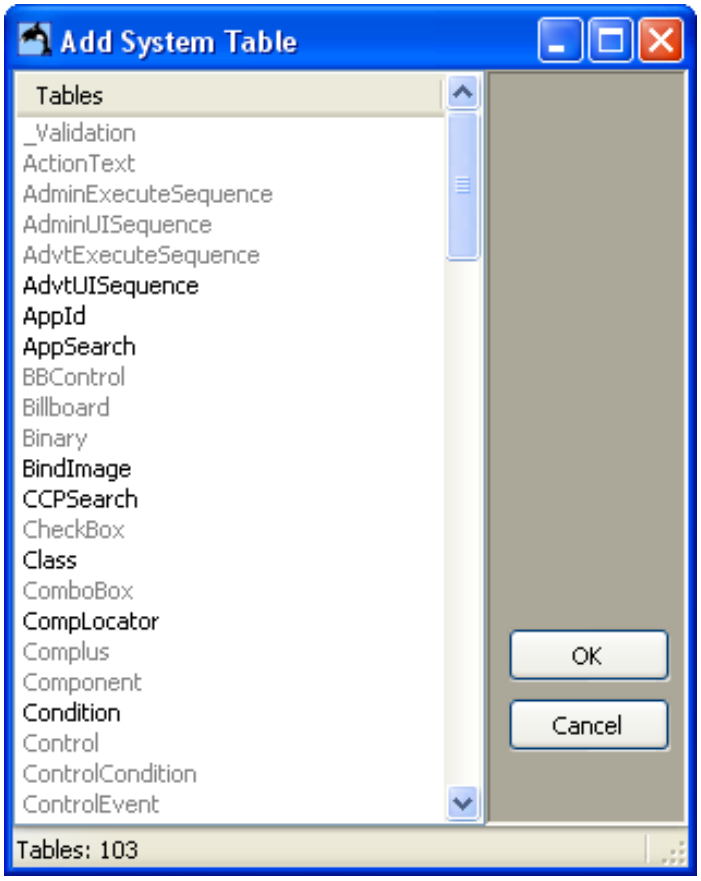
Refresh

Use *Refresh* to reload the current MSI file from the disk. This operation is useful if the MSI file is being modified by another application - while it is still opened in SuperOrca.

Table Menu

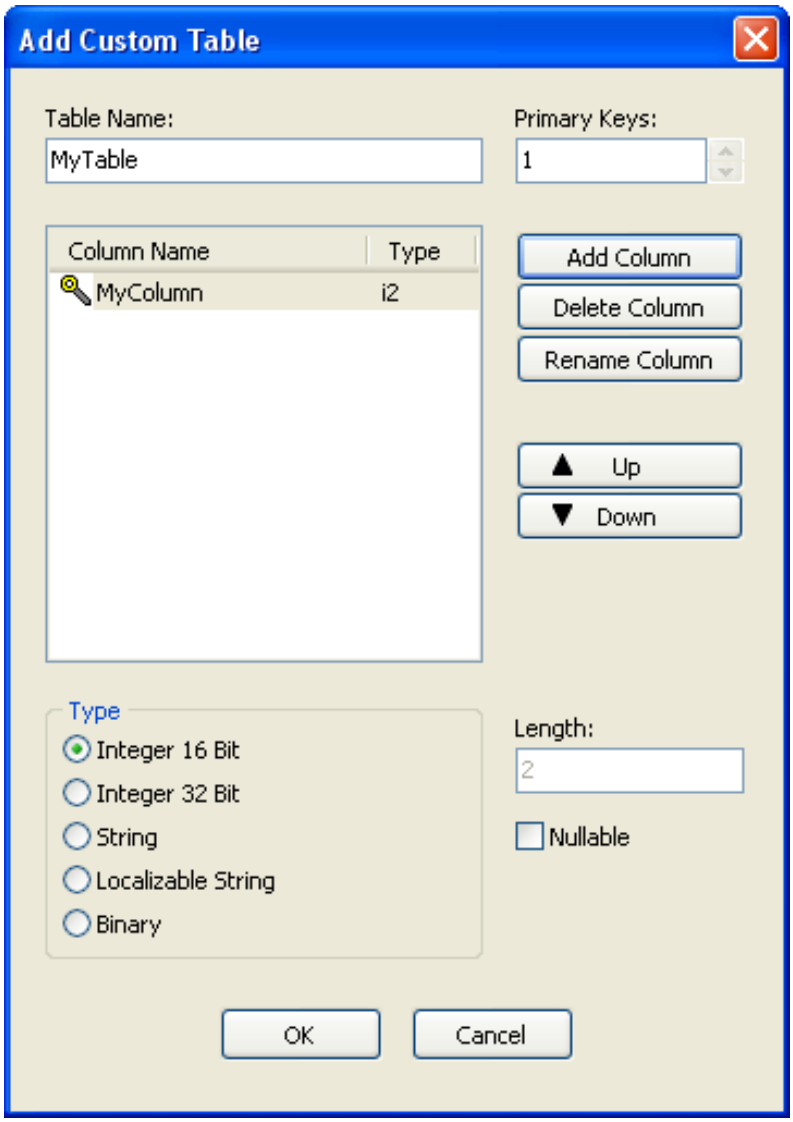
Add System Table...

Use *Add System Table...* to add one of the MSI predefined tables to the database. The program will display a list of all System Tables. The gray colored names are already present in your database, so you can only add the black colored names. You can select several tables and add them in one click.



Add Custom Table...

Use *Add Custom Table...* to add a table of your own design to the database. When you select this option the following dialog will appear:



Adding a new table involves the following sequence of operations:

1. Enter a name for the table in the field *Table Name*.
2. Click the *Add Column* button, and add as many columns as you wish.
3. In the table Click the names of the columns just added and for each column define the following:
   - *Type* of the field.
   - *Length* (in bytes) of the field.
   - *Nullable* (Yes/No).

   You can use the Up & Down button to set the order of the columns in the table.
4. Set the number of the *Primary Keys* in the table. According to the MSI standard, primary keys are always the first fields of the table.

Update Table Schema...

Use *Update Table Schema...* to modify the structure of existing table. This operation can be performed on system tables as well as custom tables.

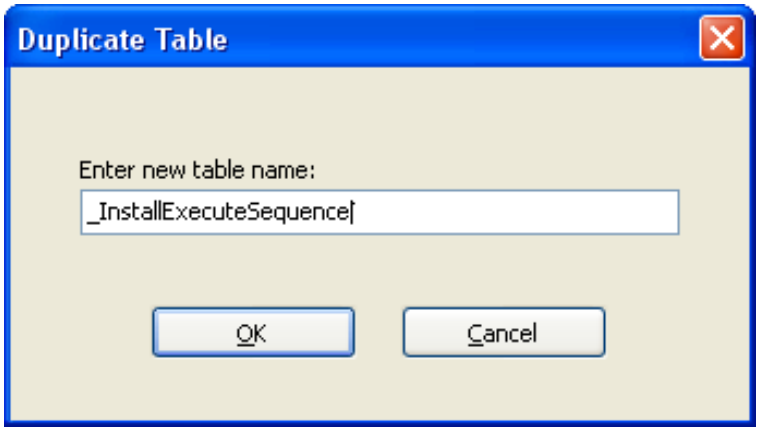
Updating a table is done using a dialog and techniques similar to the ones used for *Add Custom Table*.

Drop Table...

Use *Drop Table...* to delete the currently selected table from the database.

Duplicate Table...

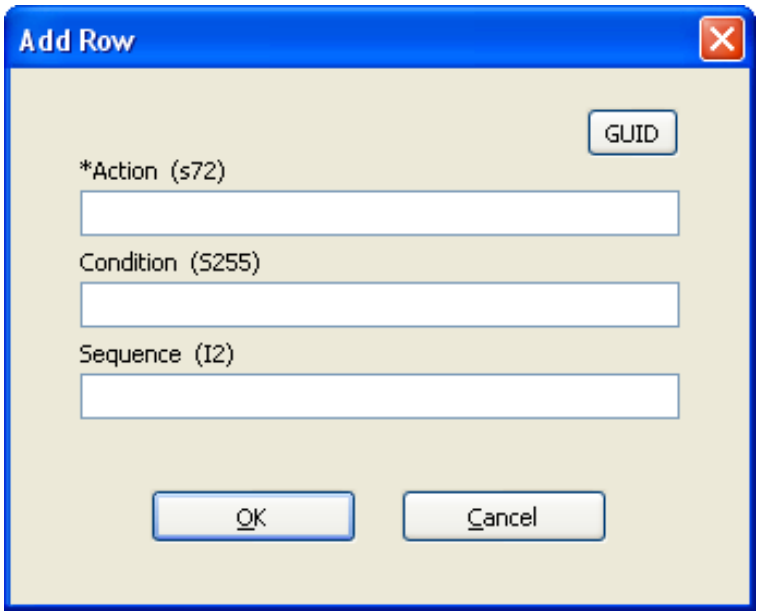
Use *Duplicate Table...* to create a new table with the exact structure and content of the currently selected table.



When you select this option the program will display an input dialog with a name similar to the name of the currently selected table. Modify this name as you wish and click OK.

Add Row...

Use *Add Row...* to add a row of data to the currently selected table.
When you select this option the program will display a dialog similar to the following:



This dialog will contain text input controls for all the columns in the currently selected table. Enter data in each input box as required and click OK.
You can click the *GUID* button to add a GUID (Global Unique ID) to the selected input box.

Export Table...

Use *Export Table...* to export the currently selected table to a stand alone text file.

Import Table...

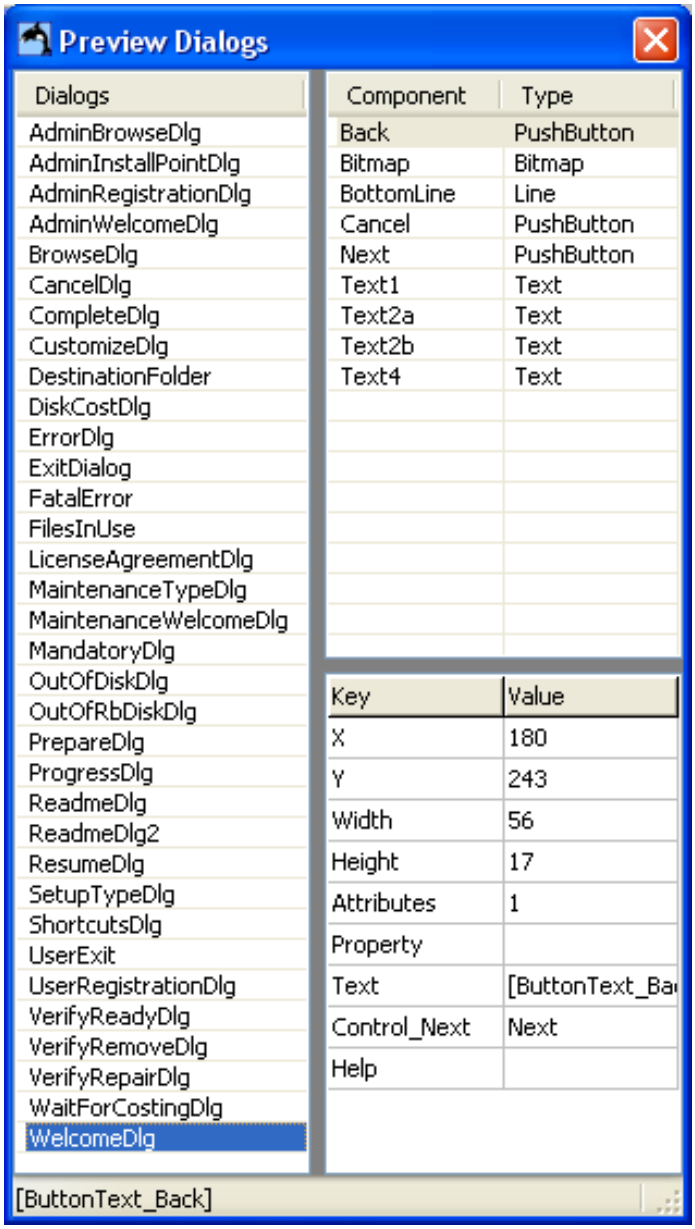
Use *Import Table...* to import a previously exported table into the current MSI database.

IMPORTANT - The format of the exported file is the same as the one used by Orca. Thus you can use the last 2 functions to exchange table files with Orca.

Tools Menu

Preview Dialogs...

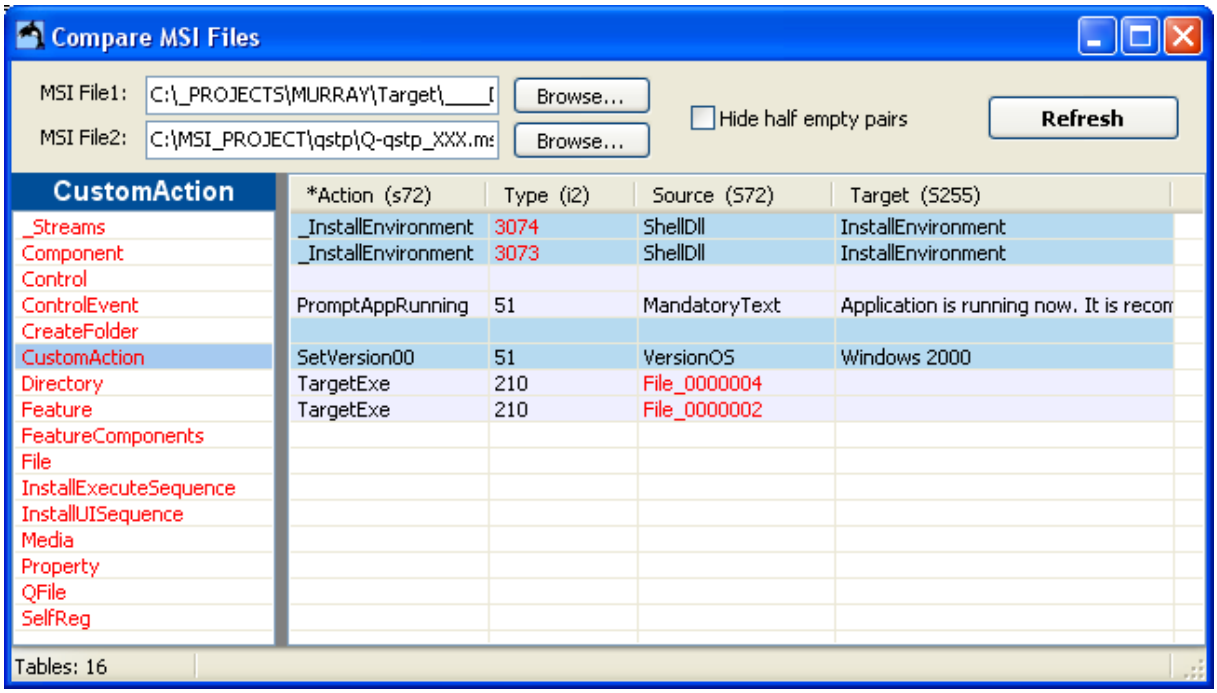
Use *Preview Dialogs...* to get a preview off all the dialogs defined in your setup. When you click *Preview Dialogs...* the following dialog will display:



When you select a certain dialog from the list on the left side, the relevant dialog image will display on the screen. Also the list of controls in this dialog will display on the Top/Right area. When you click a control in the list it's properties will display on the Bottom/Right area.

Compare MSI Files...

Use *Compare MSI Files...* to compare 2 MSI files. Normally you will compare the current file with another file located on your disk.
Click *Compare MSI Files...* and the following dialog will open:



Select "MSI File1" & "MSI File2" using the *Browse...* buttons.
The system will compare the 2 files and display the differences.
On the left side you will see a red list of all the tables that contain differences.

Click any of the tables and the right side will display a list of the actual differences.

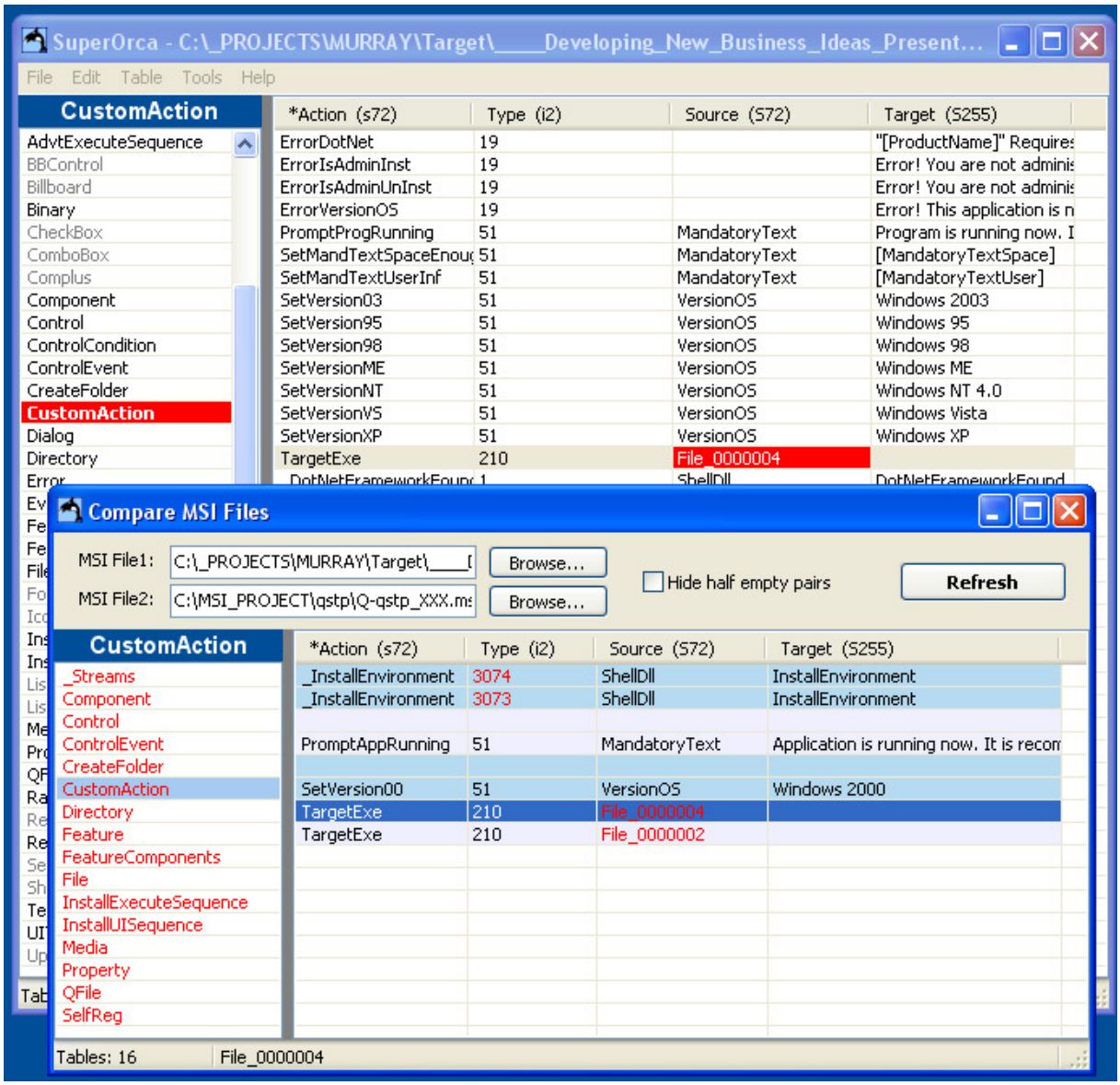
This list is built of pairs of lines. In any pair the first line reflects the content of "MSI File1" and the second line reflects the content of "MSI File2".

There are 2 types of differences:

- If a row exists in one table and absent from the other table, this row will display in black characters and the other line will be empty.
- If a row exists in both tables but only diverse in some fields the relevant fields will display in red characters.

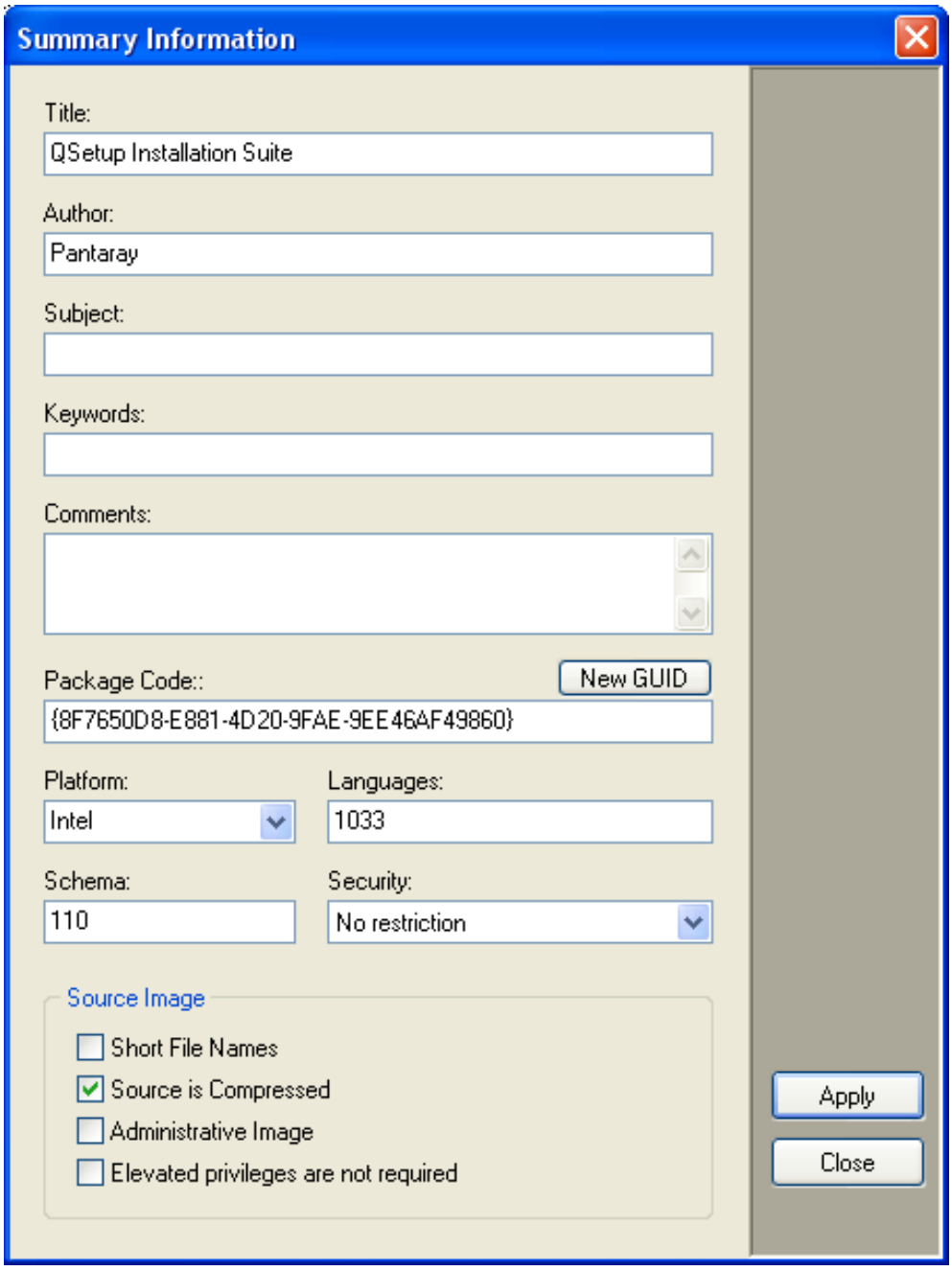
You can check the "Hide Half Empty Pairs" option to hide lines that exist only in one table.

If you click a line in the list the relevant table and location in the current MSI file will highlight with red background.



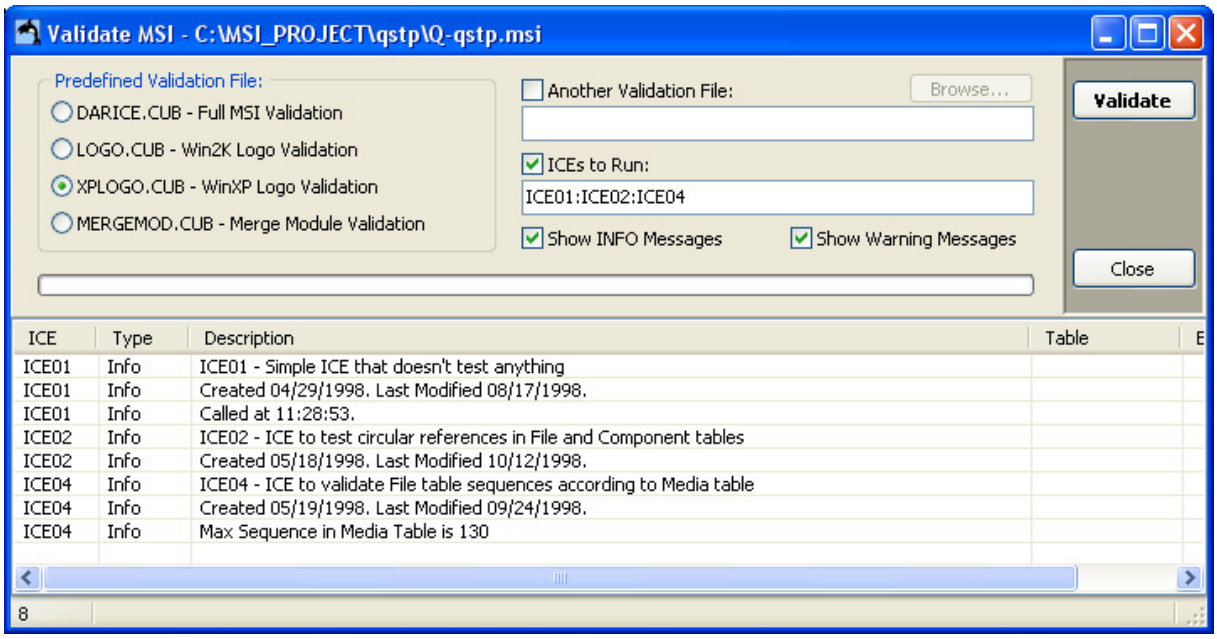
Summary Information...

Use *Summary Information...* to display and edit the "Summary Information" of the current MSI file.



Validate...

Use *Validate...* to validate the current MSI file.
Click *Validate...* and the following dialog will open:



On the "Predefined Validation File" area select the validation file you want to use, alternatively you can use another validation file by checking this option and selecting another file.

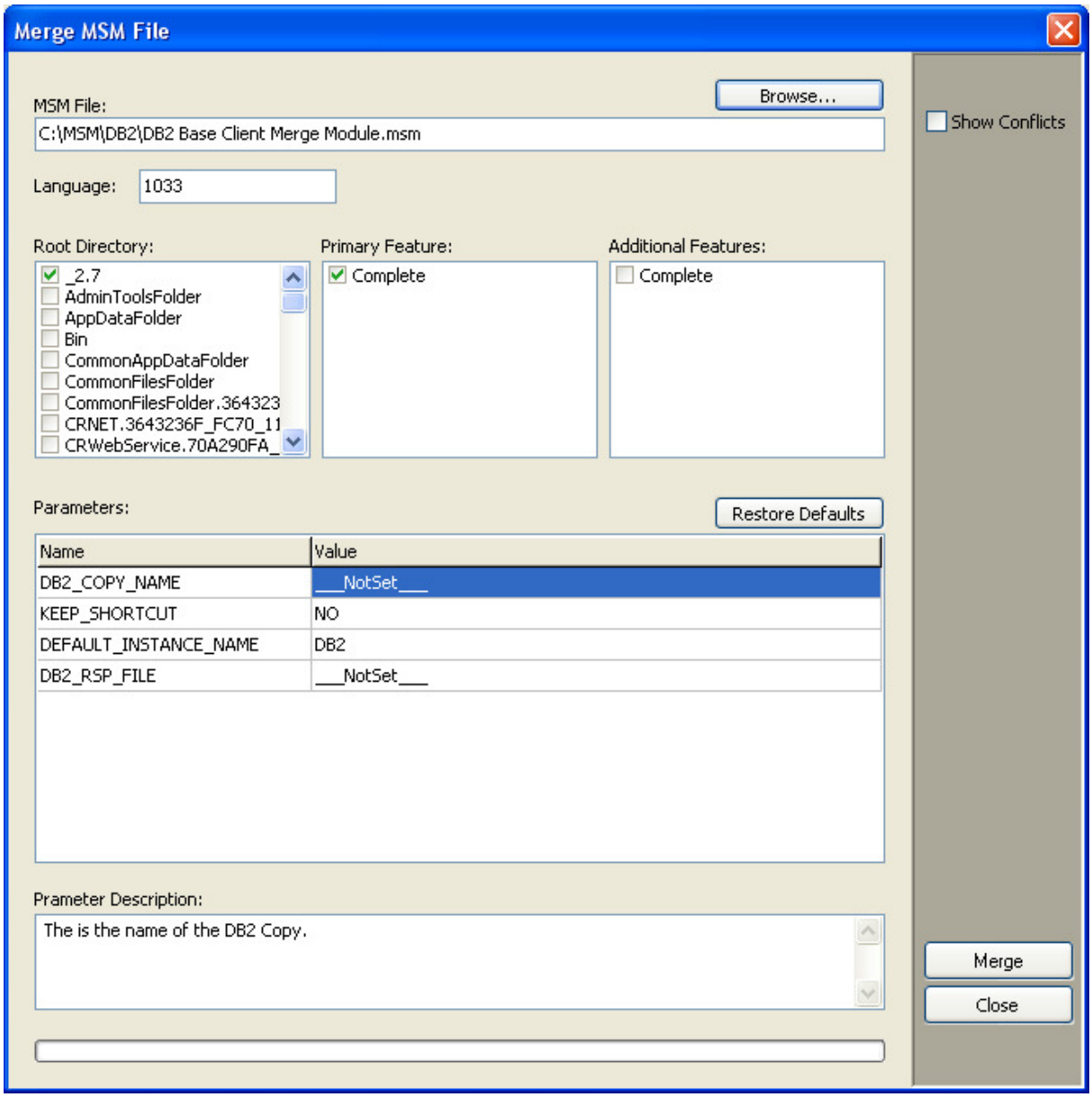
If you want to only certain ICEs, check the "ICEs to Run" check box and enter the ICEs numbers separated by colon.

You can hide Info messages by unchecking the "Show INFO Messages" option.
You can hide Warning messages by unchecking the "Show Warning Messages" option.

Finally click the *Validate* button to perform the validation.

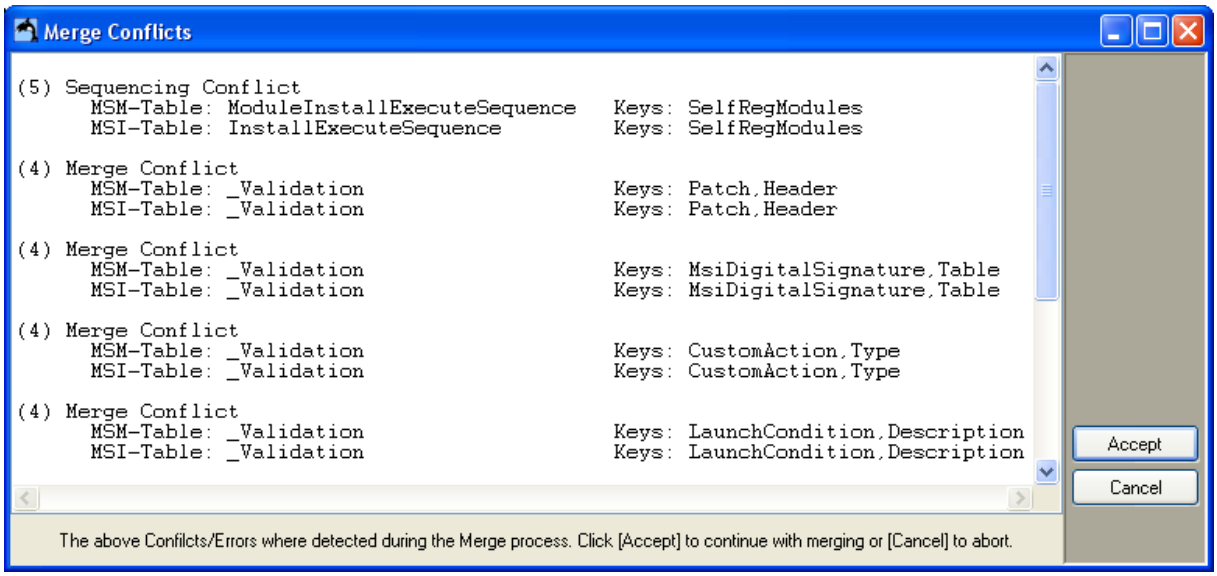
Merge MSM File...

Use *Merge MSM File...* to merge a Merge Module in to the current MSI file.
Click *Merge MSM File...* and the following dialog will open:



Click the *Browse...* button to select the MSM file you want to merge into the current MSI file. Set data as needed in the different dialog and click *Merge*.

Prior to clicking merge you can check the "Show Conflicts" option this will result a display of a screen similar to the following:



Click *Accept* to complete the merge operation or *Cancel* to abort the operation.

Run MSI

Use *Run MSI* to launch your current MSI file.
This option will have the same effect as double clicking the MSI file from windows explorer.

Install MSI (/i)

Use *Install MSI* (/i) to launch your current MSI file using the /i command line option.
This is the best option to run your MSI file for installation.

UnInstall MSI (/x)

Use *UnInstall MSI* (/x) to launch your current MSI file using the /x command line option.
This is the best option to uninstall your MSI file.

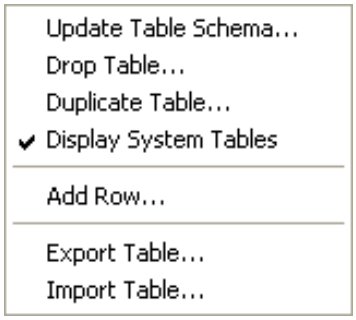
Rebuild MSI File

Use *Rebuild MSI File* to create an exact duplicate of your current MSI file.
When doing an extensive work on an MSI file the file might grow in size because of "empty holes" left in the database.
The rebuild operation will condense the MSI file so that holes are completely eliminated.

The resulting file will be placed in the current directory beside the current MSI file.
The name of the resulting file will be the same as to original with "__" added to the start of the name.

Table List - Popup Menu

When you right click the **table list** area a special menu will popup. Use this menu to perform certain table oriented operation. Most of the operations in this menu refers to the currently selected table. Some of the operations are also accessible from the Main Menu.



Update Table Schema...

See explanation to this item under *Table Menu/Update Table Schema...*

Drop Table...

Use *Drop Table...* to delete the currently selected table from the database.

Duplicate Table...

See explanation to this item under *Table Menu/Duplicate Table...*

Display System Tables

The MSI database contains the following 3 system tables:

- _Columns
- _Streams
- _Tables

Normally those tables are hidden. You may check this option to add those table to the table list. Some operations are not allowed on System tables.

Add Row...

See explanation to this item under *Table Menu/Add Row...*

Export Table...

See explanation to this item under *Table Menu/Export Table...*

Import Table...

See explanation to this item under *Table Menu/Import Table...*

Table Content - Popup Menu

When you right click the **table content** area a special menu will popup. Use this menu to perform certain Row or Cell oriented operation. Most of the operations in this menu refers to the currently selected Row or Cell. Some of the operations are also accessible from the Main Menu.

Find...

See explanation to this item under *Edit Menu/Find...*
When using this option from the popup menu the text in the currently selected cell will be copied to the Find dialog.

Search All Tables...

See explanation to this item under *Edit Menu/Search All Tables...*
When using this option from the popup menu the text in the currently selected cell will be copied to the Find dialog.

Goto

If the currently selected cell points to an existing item in another table then selecting this item will take you to the relevant table and row.

Cut Cell

Use this option the copy the content of the currently selected cell to the clipboard and then clear the cell. This option can be executed only on a nullable cell.

Copy Cell

Use this option the copy the content of the currently selected cell to the clipboard.

Paste Cell

Use this option the copy the content of the clipboard to the currently selected cell.

Alter Cell...

Use this option the change the content of the currently selected cell.

Clear Cell

Use this option to clear the currently selected cell. This option can be executed only on a nullable cell.

Paste GUID

Use this option to add a GUID (Global Unique ID) string to the currently selected cell.

Import Text File...

Use this option to read the content of a text file to the currently selected cell.

Read Binary from file...

Use this option to read the content of a binary file to the currently selected cell. This option can be executed only on a Binary cell.

Write Binary to file...

Use this option to write the content of the currently selected cell to a binary file. This option can be executed only on a Binary cell.

Copy Row

Copy the content of the currently selected row to the clipboard.

Paste Row

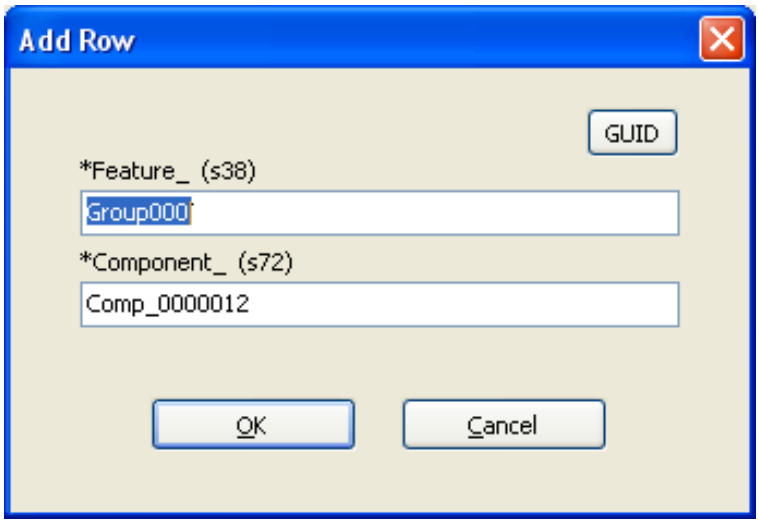
Paste the content of the clipboard to the current table. This option can be executed only if a valid row of identical structure was placed in the clipboard using the "Copy Row" operation.

Add Row...

See explanation to this item under *Table Menu/Add Row...*

Alter Row...

Use this option to alter the content of the currently selected row.
When you select this option a dialog similar to the following will display.



Drop Row...

Use this option to erase the currently selected row.

Contact Information

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