

IBM DB2 Intelligent Miner for Data Interface to Siebel Analytical Adapter

Introducing the Intelligent Miner for Data Analytical Adapter feature

Siebel users can exploit the IBM(R) DB2(R) Intelligent Miner(TM) for Data, in this paper referred to as IM for Data, to develop data mining models for customer data that was extracted from a Siebel database.

Mining models implement a form of encapsulated business rules. Instead of writing the rules by hand, the data mining techniques find rules automatically. IM for Data uses these rules to write a list of customers with their respective scores.

The Siebel Marketing component incorporates a function called Analytical Adapter. This function allows to import mining results into the marketing database. The Analytical Adapter function in the Siebel Marketing component can read files that contain customer key values and the score values that were computed by a mining tool. The files must have a specific format that is defined by Siebel. IM for Data provides a feature that can write output tables in the Siebel Analytical Adapter format.

By using the Siebel Analytical Adapter function, customer scores are read into the Siebel Marketing Operational database to be available to users of the Siebel Marketing Application for Customer Segmentation and Campaign Management.

An interface program provides the integration mechanism for IM for Data and Siebel Marketing in this scenario. It is provided as a Program Temporary Fix (PTF) to IM for Data Version 6.

The following PTFs are available:

Y On AIX(R)	U482805
Y On Solaris operating environment:	U482806
Y On Windows 32-bit operating system:	U482907

Installing the PTF

To install the interface program, extract the PTF files and copy the program to the bin directory of the IM for Data installation path.

Verify the location of the bin directory on your system. For example, on Windows 32-bit operating systems, you can use the following command:

```
> echo %IDM_BIN_DIR%
```

On Windows, the above command might return the directory `c:\im\bin`.

Use the directory that is returned by the verification command in the following installation instructions.

Use the following command to copy the program file `idmsiebel` to the bin directory of IM for Data:

On AIX:

```
> cp PTF-dir/idmsiebel /usr/lpp/IMiner/bin
```

On Windows 32-bit operating system:

```
> copy PTF-dir\idmsiebel.exe %IDM_BIN_DIR%
```

On Solaris operating environment:

```
> cp PTF-dir/idmsiebel /opt/IMiner/bin
```

Using the Analytical Adapter feature

To add scoring data to the Siebel database, follow these steps:

1. Extract data from Siebel to IM for Data.
2. Add data from other sources, for example, demographic data.
3. Build a mining model and write output tables that contain the score values.
4. Export the output table to a file.
5. Use the IM Analytical Adapter in the Siebel Marketing component to import the file.

Exporting Data from Siebel to IM for Data

There is a variety of techniques how you can export data about customers, also called contacts, from the Siebel system. Several third party tools also provide connectors to the Siebel systems. Some of them are based on the Siebel Enterprise Application Interface (EAI). Further interfaces are Siebel business object interfaces for COM and CORBA, Java data beans, and Siebel Enterprise Integration Manager (EIM).

If the data set is small, it can be exported from the Siebel GUI into a file. The file can be comma-separated or tab-separated. The export feature is valuable when you query for specific data. Exporting is performed from a list, allowing you to export a single record or a list of records. This function is available in any list on the Siebel GUI. For further information, see the chapter 'Importing and Exporting' in the book 'Fundamentals'.

Note that you usually need to export key values from the applet by clicking **Menu => Export** on the Siebel menu. You might need to configure the Siebel applet in the Siebel Tools to display the Siebel row IDs and to make them available for the export to flat files.

Make sure that the values that are exported do not contain double quotes, newline characters, or tab characters.

IM for Data can read files with fixed record length and with separators. You can use files with separators to construct data objects in IM for Data automatically. Select the tab-separated format to export data from the Siebel system. This works better than the comma-separated format because field values can contain comma characters. The field names are automatically written into the first line of the file.

Use the IM for Data program `idmcsv` to convert the file from the separator format into a file with fixed-length records. When you exported data from Siebel into the file `ContactsData.csv`, use the following command:

```
> idmcsv ContactsData.csv C:\Temp\Contacts.dat  
ContactsData.mnb
```

This command creates the fixed-record file `C:\Temp\Contacts.dat` and a description file that contains the metadata for the mining base in IM for Data. Load the mining base description file into a mining base in IM for Data called, for example, `SiebelScore`, with the following command:

```
> loadmnb YourServer YourUserID YourPassword ContactsData.mnb  
SiebelScore
```

This command creates a new data object in the IM for Data mining base `SiebelScore`. This data object points to the file that you specified in the `idmcsv` command, for example, `C:\Temp\Contacts.dat`.

The program loadmnb cannot access a mining base that is used by another client program. If you have opened the mining base in IM for Data, save and close the mining base before you call loadmnb.

When you are working with a local server, you can use the default values and authentication for the server. Use empty strings as parameters as shown in the following command:

```
> loadmnb "" "" "" ContactsData.mnb SiebelScore
```

The database that you use for data mining is usually different from the database that is controlled by the Siebel applications. IM for Data does not read or modify the Siebel application database.

Creating mining models and scores in IM for Data

When the Siebel data is available in IM for Data, you might want to add further data from external sources. For example, you might want to join the Siebel data with another database table. The preprocessing functions in IM for Data support a variety of methods for further data preparation. You can use any predictive technique in IM for Data to build a model and to score the data.

Exporting the score data from IM for Data to a file

When you have a mining model and the data to be scored, follow these steps to create a file that can be read by the IM Analytical Adapter in the Siebel Marketing component:

1. Create an output table with customer keys and score values.
2. In the IM for Data, create a new Bivariate Statistics object.
3. On the Settings page, select **Show the advanced pages and controls**.
4. On the Input data page, select the table that contains the score values as input data and type the following power option in the **Power option** entry field:

```
-exec idmsiebel -file <FileName>
```

The file name must be fully qualified, for example, C:\temp\Adapter.tab. It specifies a file on the IM for Data server.

5. On the Statistics page, select **Compute statistics**.
6. Select one or more customer key fields to compute univariate statistics for these fields.
7. Select the name of the score field to compute bivariate statistics.
8. Use the default values on the following pages of the Bivariate Statistics wizard. There is no need to define an output table.
9. Run the settings. Ignore a message saying that there is no IDMLException information.
10. Import c:\temp\Adapter.tab into the Siebel Marketing component by using its Analytical Adapter function. For further information, see the documentation of the Siebel Marketing component.

The file that is written by idmsiebel, for example, c:\temp\Adapter.tab, contains the customer key values and the score value in a tab-separated format. If there are more than one customer key fields, the key values in the Analytical Adapter file are written in the same sequence as they are defined in the list of univariate fields. Furthermore, the values in the key fields must uniquely identify a record. Otherwise they do not satisfy the constraints in the Siebel Analytical Adapter data table. The Siebel Analytical Adapter limits single key values to be no longer than 30 characters.

The Statistics page of the Bivariate Statistics wizard shows an example where the first key field is 'Household ID', the second key field is 'Individual ID', and the score field is called 'MyScore'.

The screenshot shows the 'Bivariate Statistics - Settings - Untitled' dialog box with the 'Statistics' tab selected. The dialog has several tabs: Settings, Input data, Statistics, Quantiles, Sample, Output fields, Results, and Summary. The 'Statistics' tab contains the following elements:

- Statistics** section:
 - Radio buttons: ☐ Do not compute statistics, ☒ Compute statistics.
 - Text: 'If you do not want to compute statistics, click the **Next** push button.'
 - Text: 'To compute statistics:'
 - List of steps:
 - 1 Select the **Compute statistics** radio button.
 - 2 Optional: Enter a [filter fields condition](#) in the **Filter mask** entry field.
 - 3 Select the data fields for computing
- Available fields** list:
 - age of car
 - amount of claims
 - car location
 - car type
 - commute distance
 - domicile
 - FACT_1
 - gender
 - marital status
 - no of claims
 - profession category
 - salary
- Filter mask:** *
- Compute univariate statistics for these fields** list:
 - Household ID
 - Individual ID
- Compute Chi-square and bivariate statistics using this field** list:
 - MyScore
- ☒ **Compute F-tests**

Buttons at the bottom: OK, Apply, Reset, Cancel, Help.

Importing the score data

The configuration and the procedure for importing data by using the IM Analytical Adapter in the Siebel Marketing component is described in the Siebel documentation, in particular in the 'Siebel Marketing Guide'.

The Adapter data is read within a Siebel Workflow. Usually you copy a workflow from an existing template by following these steps:

1. See the Workflow Processes list
2. Select the Analytic Adapters workflow process
3. Copy the Analytic Adapter workflow process by saving it using a different name, for example, Load IMiner Scores.
4. Make sure that the workflow processes is marked as being active before you invoke it in the Siebel process simulator.

The chapter 'Loading Target Groups' in the Siebel Marketing Guide explains further steps. The following example shows the process properties of a new workflow process:

```
Analytic Tool = IMiner
NumberOfDataKeys = 2
ProcessName = Load IMiner Scores
ReportFileName = C:\temp\Adapter.tab
TableReference = Analytic Adapter Data Table
TargetGroupName = IM Score
```

- Y The ReportFileName is the full path for the file that you created by previously using IM for Data.
- Y Make sure that the TableReference is an existing table reference name for the Analytical Adapter data table in the Siebel Marketing component.
- Y The ProcessName must be the same as the name that was selected before for the new workflow process.

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