



## **CDR Evaluation Help File**

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# 1 CDR Evaluation help

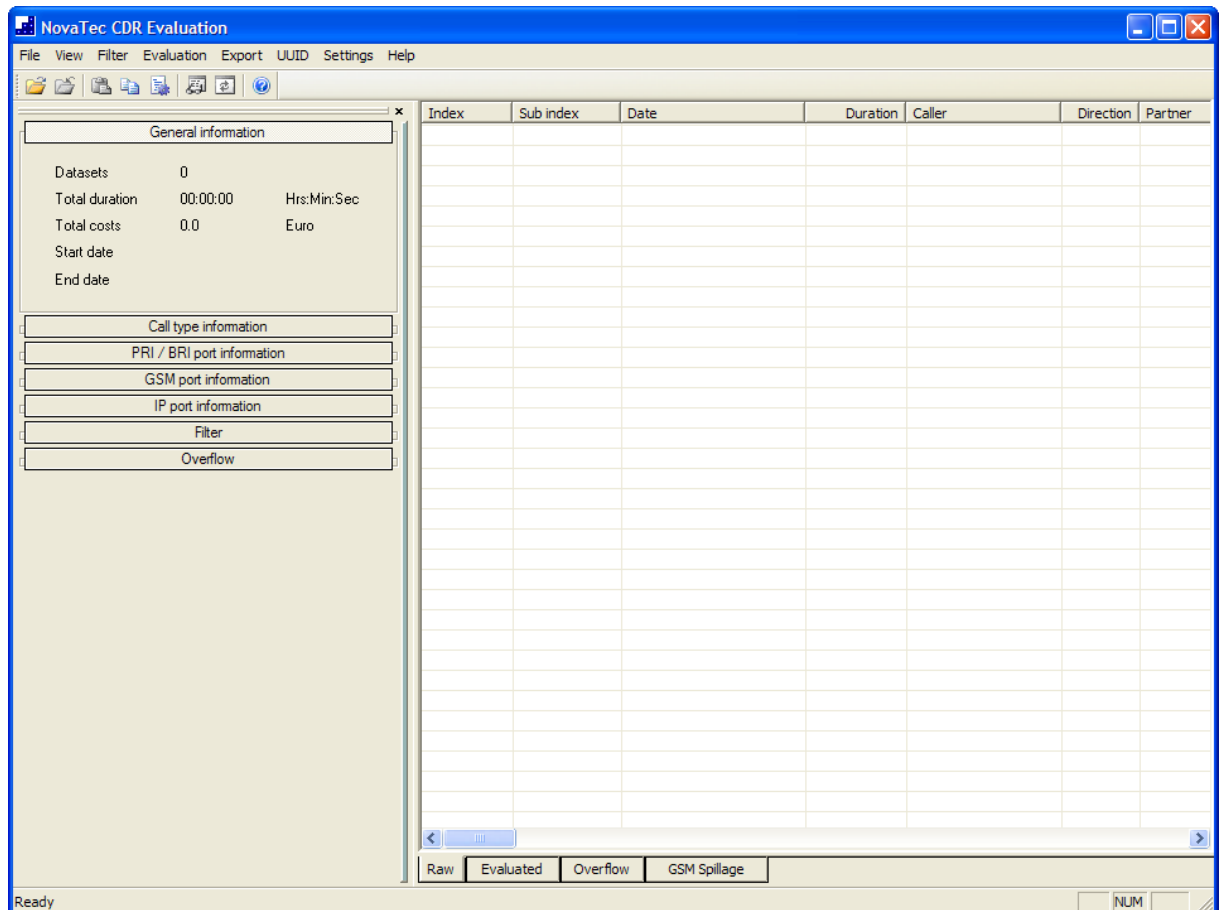
## CDR Evaluation help

The NovaTec CDR Evaluation application allows you to analyse the CDR's of a NMG system in more depth than the Call Server. This help file will guide you through the usage of the various functions the CDR Evaluation software provided's. This application is supplied as part of the NMS software package.

## 1.1 Introduction

### Introduction

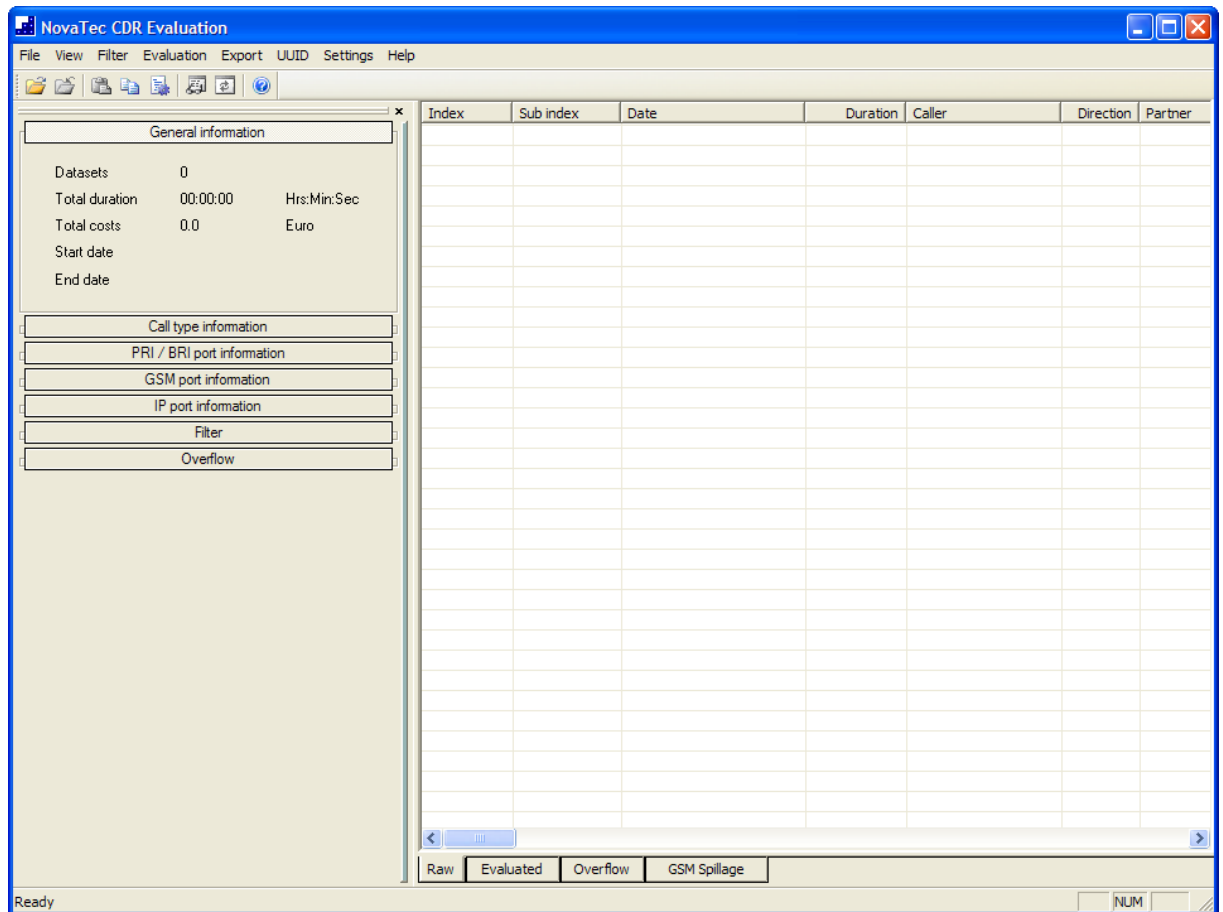
The application consists of a main window, in which the various functions available will be explained in detail. Upon starting the application, the following appears:



The main window is divided into three main areas, [menu / toolbar](#), [Infobar](#) and the [CDR views](#). Each area is explained in more detail in the corresponding sections.

## 1.2 Menu / Toolbar

### Menu / Toolbar



## The menu has the following items and sub items

### File

#### Open

Opens a CDR database for evaluation / viewing. This item is only available if no CDR database is currently open.

#### Close

Closes a CDR database. This item is only available if a CDR database is currently open.

#### Import

Imports the various types of RAW (unprocessed data sent from a NMG) into the currently opened database.

##### Import GDSX

This format is the actual RAW (unprocessed data) that is sent from the NMG. This type of data is saved in a directory defined in the Job management settings for a specific NMG system. The **GDSX** format is the type currently used by the NMS with the version number 5.6.3 or higher. This item is only available when a CDR database is loaded.

##### Import GDS

This format is the old type RAW (unprocessed data) that is sent from the NMG. This type of data is saved in a directory defined in the Job management settings for a specific NMG system. The **GDS** format is the older type of RAW data used by the NMS version number 5.62 or lower. This item is only available when a CDR database is loaded.

##### Import ERRRAW

This is the RAW type of file created by the NMS when (for whatever reason may be) an error has occurred whilst receiving CDR information from a NMG, or saving the received information into a CDR database. This file will be saved in the backup directory that has been defined in the Job Management for a specific NMG, or if no directory has been defined, in the NMS directory.

#### Exit

Closes the currently opened CDR database (if applicable) and exits the application

### View

#### Toolbar

Toggles the Toolbar on / off.

#### Status bar

Toggles the Statusbar on /off.

#### Infobar

Toggles the Infobar on / off.

## Filter

### Load filter

Loads a previously created evaluation filter from file. This item is only available when a CDR database is currently open.

### Create filter

Create a CDR evaluation filter, to be used for evaluating CDR data contained in a CDR database. This item is only available when no filter is currently loaded.

### Edit filter

Edits the properties of a previously created CDR evaluation filter. This item is only available when no filter is currently loaded.

## Evaluation

### Evaluate

Evaluates the currently opened CDR database, using the properties supplied from the currently loaded filter. This item is only available if a CDR database is opened, a filter has been loaded, and the evaluation process has not already been carried out.

### Execute user defined query

Executes a user defined SQL query directly on the currently opened CDR database. This item is not available if a CDR database is not loaded.

### Load user defined query

Loads and executes a user defined SQL query directly from a file on the currently opened CDR database. This item is not available if a CDR database is not loaded.

### Reset

Resets the Evaluated, Overflow and GSM Spillage views to the same state that they had **before** any processing had taken place (i.e. empty). This item is only available if a CDR database is currently open, a filter is loaded and evaluation has already been carried out.

## Export

NovaTec CDR Evaluation application, allows you to export CDR information to various file formats, from the two CDR views within the application.

### Evaluated

Exports the CDR information shown in the Evaluated View into the formats shown below.

#### **As Excel**

As a Microsoft Excel spreadsheet.

#### **As CSV**

As a Comma Separated Values file.

#### **As HTML**

As a HTML file (with very basic table formatting).

#### **As mdb (Access)**

As a Microsoft Access database. This file has **exactly** the same structure as the currently opened CDR database, with the exception that it will contain **only** the files shown in the Evaluated View.

### Overflow

Exports the CDR information shown in the Overflow View into the formats shown below.

#### **As Excel**

As a Microsoft Excel spreadsheet.

#### **As CSV**

As a Comma Separated Values file.

#### **As HTML**

As a HTML file (with very basic table formatting).



## UUID

**Import UUID file...**  
Not supported.

## Settings

### CDR Viewing options

Adjusts the various settings for the various CDR views.

### Export options

Adjusts the various options available for exporting CDR information.

## Help

**About...**  
Displays information about this application.

**Open help file**  
Opens this help file.

### Toolbar icons and there respective functions

As well as the normal menu items, certain functions that are used more often than others are available for selection from the toolbar. The toolbar contains icons that represent these functions. Starting from left to right the icons correspond to the following functions:



#### Open

Opens a CDR database for evaluation / viewing. This item is only available if no CDR database is currently open.

#### Close

Closes a CDR database. This item is only available if a CDR database is currently open.

#### Load filter

Loads a previously created evaluation filter from file. This item is only available when a CDR database is currently open.

#### Create filter

Create a CDR evaluation filter, to be used for evaluating CDR data contained in a CDR database. This item is only available when no filter is currently loaded.

#### Edit filter

Edits the properties of a previously created CDR evaluation filter. This item is only available when no filter is currently loaded.

#### Evaluate

Evaluates the currently opened CDR database, using the properties supplied from the currently loaded filter. This item is only available if a CDR database is opened, a filter has been loaded, and the evaluation process has not already been carried out.

#### Reset

Resets the Evaluated, Overflow and GSM Spillage views to the same state that they had **before** any processing had taken place (i.e. empty). This item is only available if a CDR database is currently open, a filter is loaded and evaluation has already been carried out.

#### About..

Displays information about this application.

## 1.2.1 Filter

### Filter

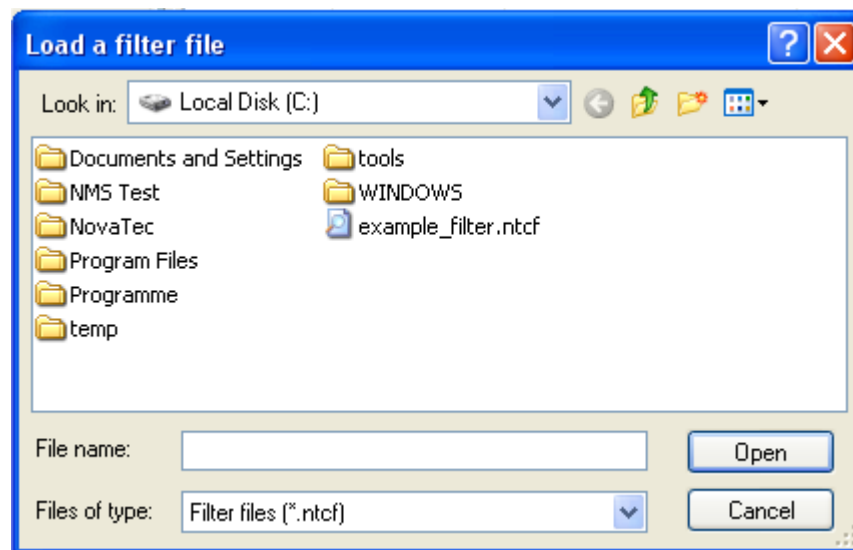
The CDR evaluation application, requires parameters so that the CDR information contained within a CDR database, can be evaluated. These parameters are stored in "Filter" files, so that they may be reused, and therefore simplify the evaluation process. Here the various filter menu items ([Load filter](#), [Create filter](#) and [Edit filter](#)) are described in more detail.

### 1.2.1.1 Load filter

## Load filter

Once a CDR database has been opened, the **Load filter** item is available for selection, and a filter can be loaded. If you have not already created a filter, please go to the section [Create filter](#) to see how a filter is created.

After clicking the **Load filter** menu item, a dialog will appear as shown below

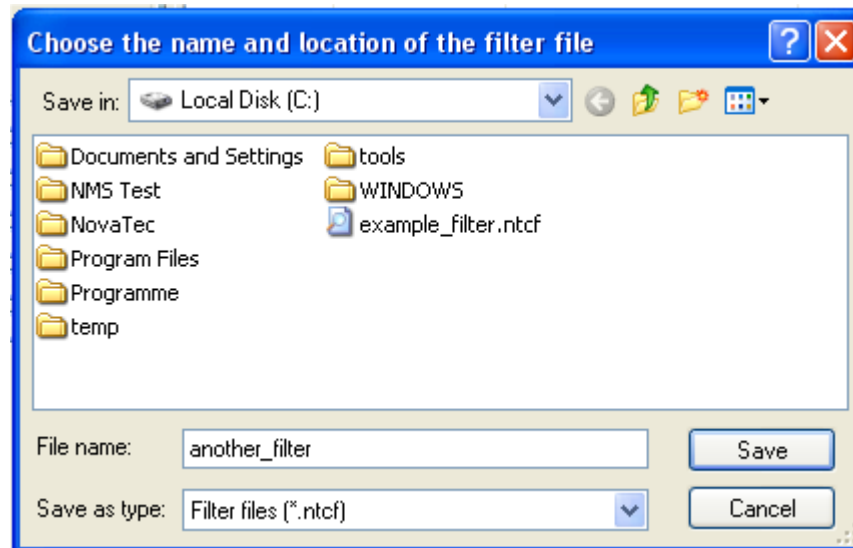


Select the filter that is to be loaded, and choose **Open**. If the filter file is valid, it will be loaded by the application, and the Evaluate item will be active in the Menu.

### 1.2.1.2 Create filter

## Create filter

Before the CDR database can be evaluated, a filter must be created. The filter stores the properties and settings that are to be applied to the CDR database to extract / evaluate the CDR information contained within the CDR database. To create a filter, choose **Create filter** from the Menu **Filter** and the following dialog will appear



Enter a name to be used for the filter. If you choose the same name as an existing filter, the original filter **will be overwritten**. Once you have entered a name click the **Save** button, and the filter file will be created. Next the filter wizard will appear as shown below

**Filter name and date settings**

**Filter name and date settings**

**Filter properties**

Name

Location C:\

**Start date and End date (with times)**

Start End

01.01.2006 00:00 31.12.2006 23:59

< Back Next > Cancel

On this page, the start and end dates **with times** are entered. Any CDR data sets that fall between these dates/times are included in the evaluated data.

## Interface options

**Interface options**

Which interfaces should be used in the filter?

☒ All interfaces

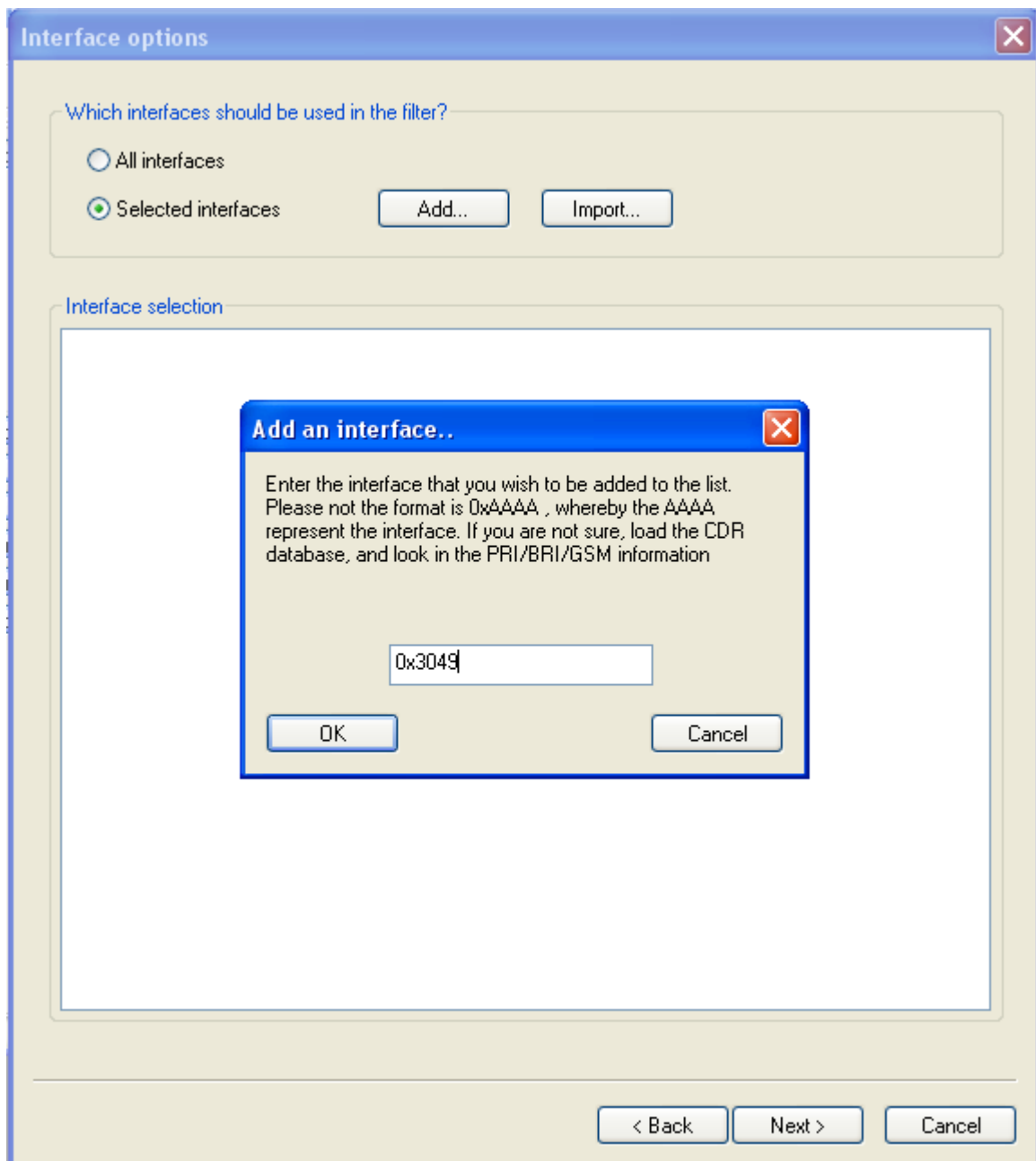
☐ Selected interfaces

Interface selection

< Back   Next >   Cancel

On this page, the interfaces that are to be included in the evaluated data are set. The standard is that all interfaces are included. To refine the filter with specific interfaces, click the radio button **Selected interfaces** and the page changes to that as shown below. Using specific interfaces in a filter can be used for example to filter only GSM calls (entering the GSM interfaces here) or only SIP / NLP calls. To see which interfaces have been used for calls, and are contained in the CDR database, please read the information about the [Infobar](#).

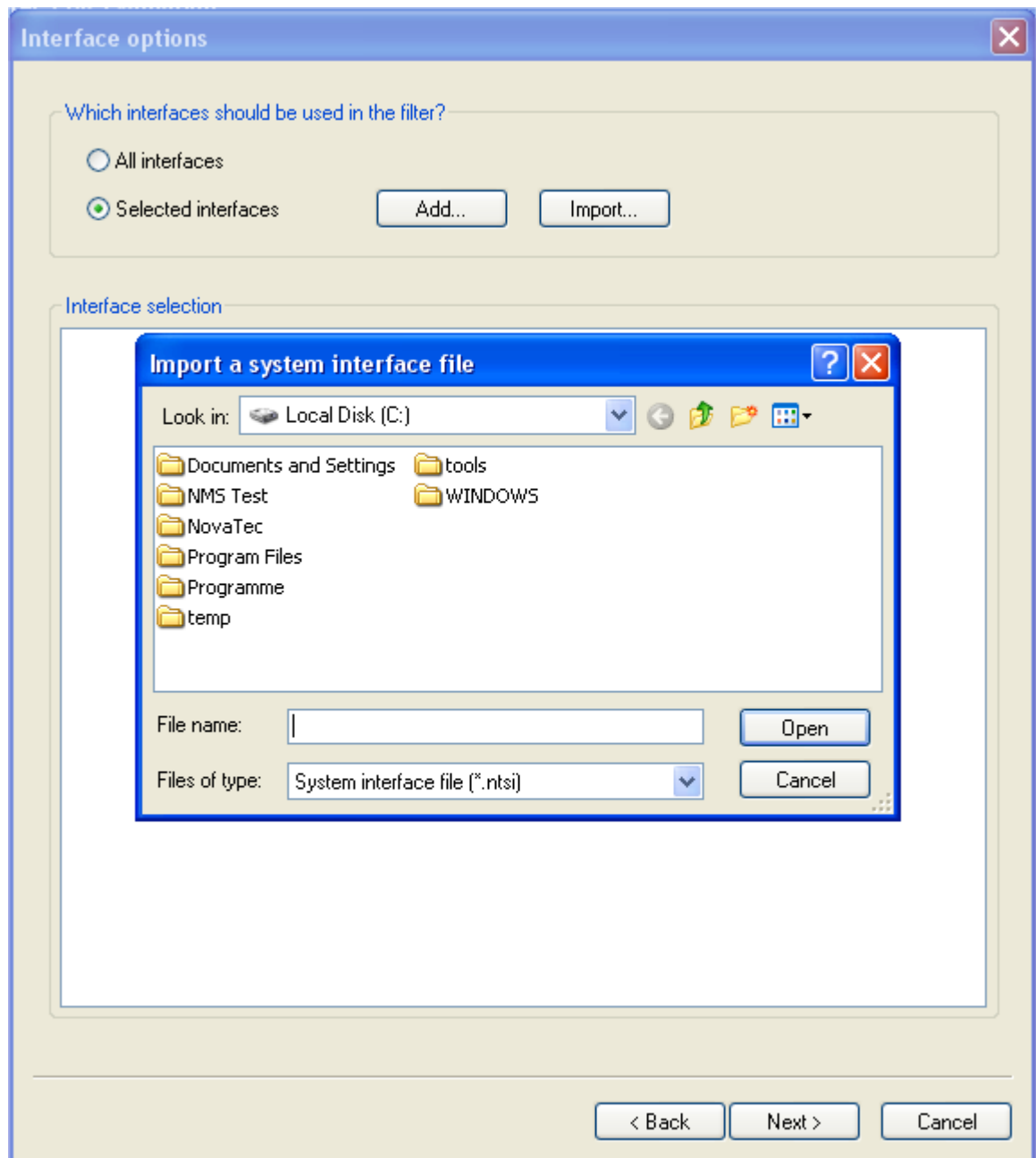
Once the radio button **Selected interfaces** has been chosen, you can click the **Add...** button, and a dialog will appear in which the hardware interface may be entered.



Once the interface has been entered into the edit box, click **OK** to add it to the list of interfaces to be used in the filter. If the interface you have entered is invalid, you will receive an error message.



Alternatively, you can import a list of interfaces, that has been previously exported from a configuration file of a NMG. If the file is a valid interface file, the contents of the file will be inserted into the list and used in the filter for the evaluation process.



### Backplane ID options

As of version 5.6.3 software packages, the Backplane ID of the system is also saved as part of the CDR dataset. This allows the storage of multiple system's CDR information in one CDR database.

The screenshot shows a window titled "BackplaneID options". It contains three radio button options:   
- ☒ All Backplane ID's   
- ☐ Include only the listed Backplane ID's   
- ☐ Exclude the listed Backplane ID's   
Below the options is a large empty rectangular box for listing IDs. To the right of this box are two buttons: "Add/Edit" and "Delete". At the bottom right of the window are three buttons: "< Back", "Next >", and "Cancel".

To allow the filtering of single NMG systems, the Backplane ID can be used as part of the filter criterion. To use Backplane IDs in the filter, uncheck the **All Backplane ID's** check box, and the page will change as shown below

The Backplane ID's entered into the list, can be used in the filter in the following ways:

**Include only the listed Backplane ID's**

Only datasets in the CDR database whose Backplane ID matches those in the list will be included in the evaluated data.

**Exclude the listed Backplane ID's**

Only datasets in the CDR database whose Backplane ID **does not** match those entered into the list will be included in the evaluated data.

**BackplaneID options**

☐ All Backplane ID's

☒ Include only the listed Backplane ID's

☐ Exclude the listed Backplane ID's

000001234567

Add/Edit

Delete

< Back   Next >   Cancel

### Call direction, Call type and Call state options

Here the various options for the direction, type of call and call state can be made.

**Call direction, Call type and Call state options**

**Direction**

☒ Both (incoming and outgoing)

☐ Only 1 (incoming)

☐ Only 2 (outgoing)

**Call types**

☒ All types

- ☒ Unknown (0)
- ☒ Subscriber (1)
- ☒ Cross connection (2)
- ☒ Trunkline (3)
- ☒ SMS (4)
- ☒ Callback Call Initiator (CCI 5)
- ☒ Callback Call Activation (CCA 6)
- ☒ Server Callback Activation (SCA 7)
- ☒ Callback Target (CT 8)
- ☒ Server Callback Call (SCC 9)
- ☒ Client Callback Call (CCC 10)
- ☒ GSM Callback Activation (GCR& 11)

**Call states**

☒ All states

- ☒ IDLE (0)
- ☒ CALL SETUP (1)
- ☒ ALERTING (2)
- ☒ CONNECTED (3)
- ☒ HOLD (4)

< Back    Next >    Cancel

#### Direction

The Call direction can be specified for inclusion in the evaluated data.

#### Both

Both incoming **and** outgoing calls will be included in the evaluated data.

#### Only 1 (incoming)

Only incoming calls will be included in the evaluated data.

#### Only 2 (outgoing)

Only outgoing calls will be included in the evaluated data.

**Call types**

Here the call types can be specified, which are to be included in the evaluated data. The default setting is **All types**. To change the default setting, uncheck the button **All types**, and select the call types that are to be included in the evaluated data.

**Call states**

Here the call states can be specified, which are to be included in the evaluated data. The default setting is **All states**. To change the default setting, uncheck the button **All states**, and select the call states that are to be included in the evaluated data.

### AOC, Duration and Cause value options

Here the various options for the AOC, Duration and Cause value can be made.

**AOC, Duration and Cause value options**

**AOC (Advice of Charge) options**

- ☒ Include all CDR's regardless of AOC value
- ☐ Only include CDR's whose AOC is greater than 0
- ☐ Only include CDR's whose AOC is greater than  units

**Duration options**

- ☒ Include all CDR's regardless of duration
- ☐ Only include CDR's whose duration is greater than 0
- ☐ Only include CDR's whose duration is greater than  units

**Cause Value options**

- ☒ Include all CDR's regardless of Cause Value
- ☐ Include CDR's whose Cause Values are....

- ☐ 1 Unallocated (unassigned) number
- ☐ 2 No route to specified transit network
- ☐ 3 No route to destination
- ☐ 6 Channel unacceptable
- ☐ 7 Call awarded and being delivered in an established channel
- ☐ 16 Normal call clearing
- ☐ 17 User busy
- ☐ 18 No user responding
- ☐ 19 No answer from user (user alerted)

#### AOC (Advice of Charge) options

##### Include all CDR's regardless of AOC value

All CDR datasets will be included in the evaluated data, regardless of the AOC value. This is the standard setting.

##### Only Include CDR's whose AOC is greater then 0

Only CDR datasets whose AOC is greater than 0 will be included in the evaluated data. **Note**, dependant on the NMG settings, the AOC is not always present in the CDR dataset. If the AOC is required, please make sure that the corresponding options are correctly set in the configuration.

### Duration options

**Include all CDR´s regardless of duration**

All CDR datasets will be included in the evaluated data, regardless of the duration. This is the standard setting.

**Only include CDR´s whose duration is greater than 0**

Only include CDR datasets in the evaluated data whose duration is greater than 0. This (in conjunction with the [Call type options](#)) ensures that only calls that are connected and incur costs (AOC option) are included.

### Cause Value options

**Include all CDR´s regardless of Cause Value**

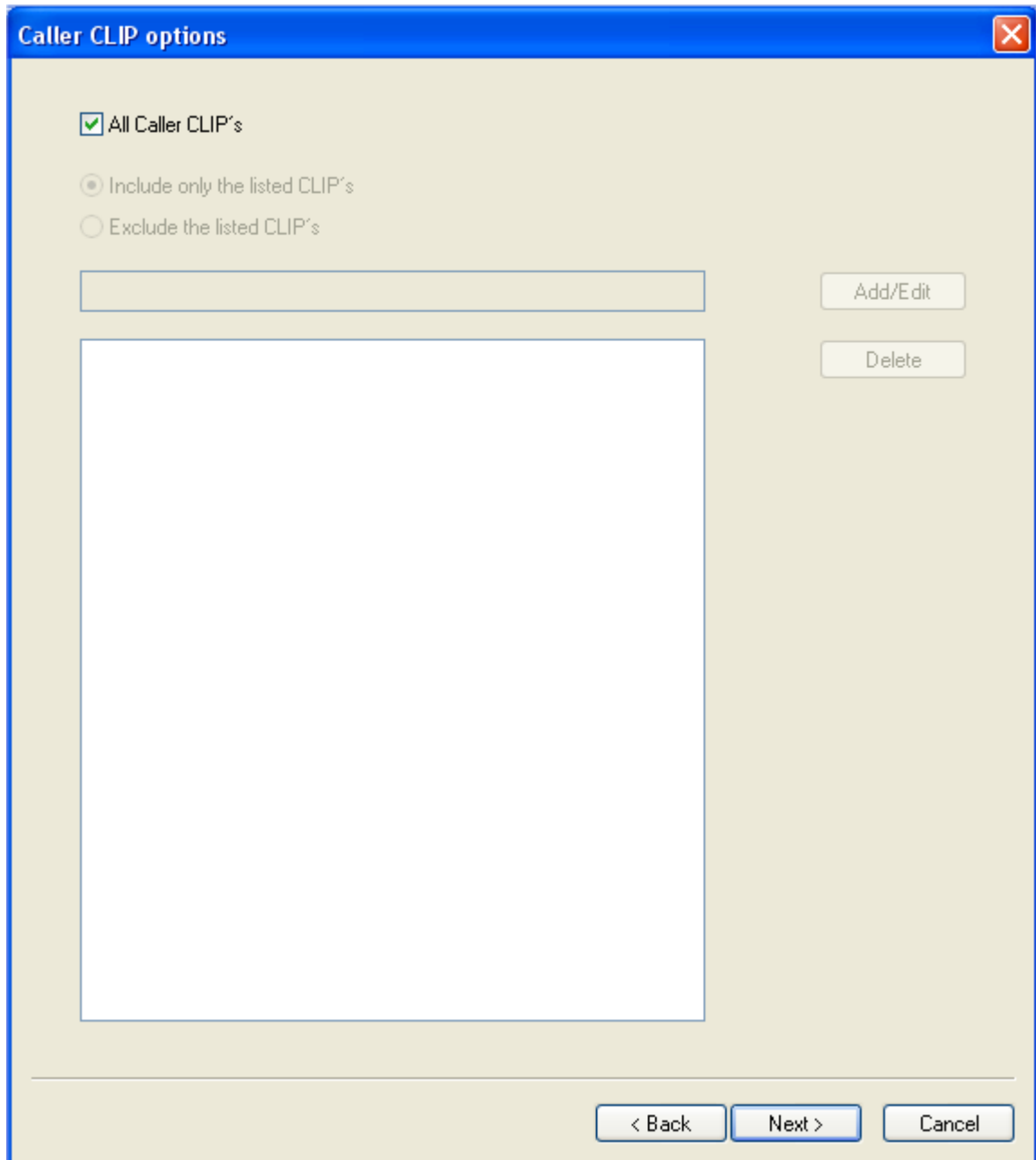
All CDR datasets will be included in the evaluated data, regardless of the Cause Value. This is the standard setting.

**Include CDR´s whose Cause Values are...**

When this option is chosen, the list becomes active, and the Cause Values that are to be used for the filter may be set.

### Caller CLIP options

Here the various options for the (initiator) Caller CLIP are made. The settings here allow the filter to include only certain caller CLIPs to be evaluated.



The screenshot shows a dialog box titled "Caller CLIP options" with a blue title bar and a red close button in the top right corner. The main area has a light beige background. At the top, there are three radio button options: "All Caller CLIP's" (which is checked with a green checkmark), "Include only the listed CLIP's", and "Exclude the listed CLIP's". Below these options is a large empty rectangular box for listing CLIPs. To the right of this box are two buttons: "Add/Edit" and "Delete". At the bottom of the dialog, there are three buttons: "< Back", "Next >", and "Cancel".

To enter CLIP's that are to be filtered, uncheck the button **All Caller CLIP's** and the page will change to that as shown below.

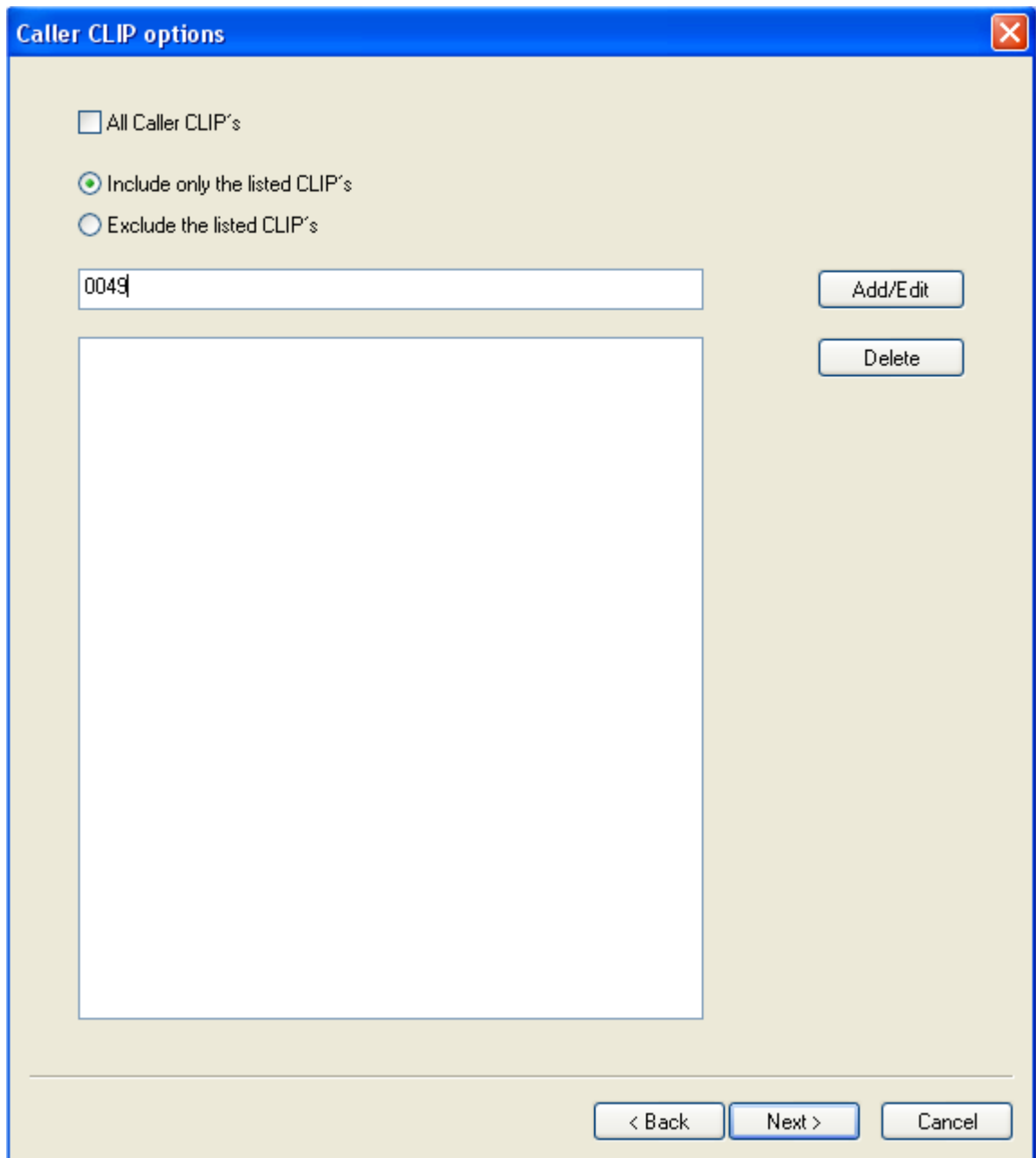


**Include only the listed CLIP's**

Only the CDR datasets whose Caller CLIP **is in the list** will be included in the evaluated data.

**Exclude the listed CLIP's**

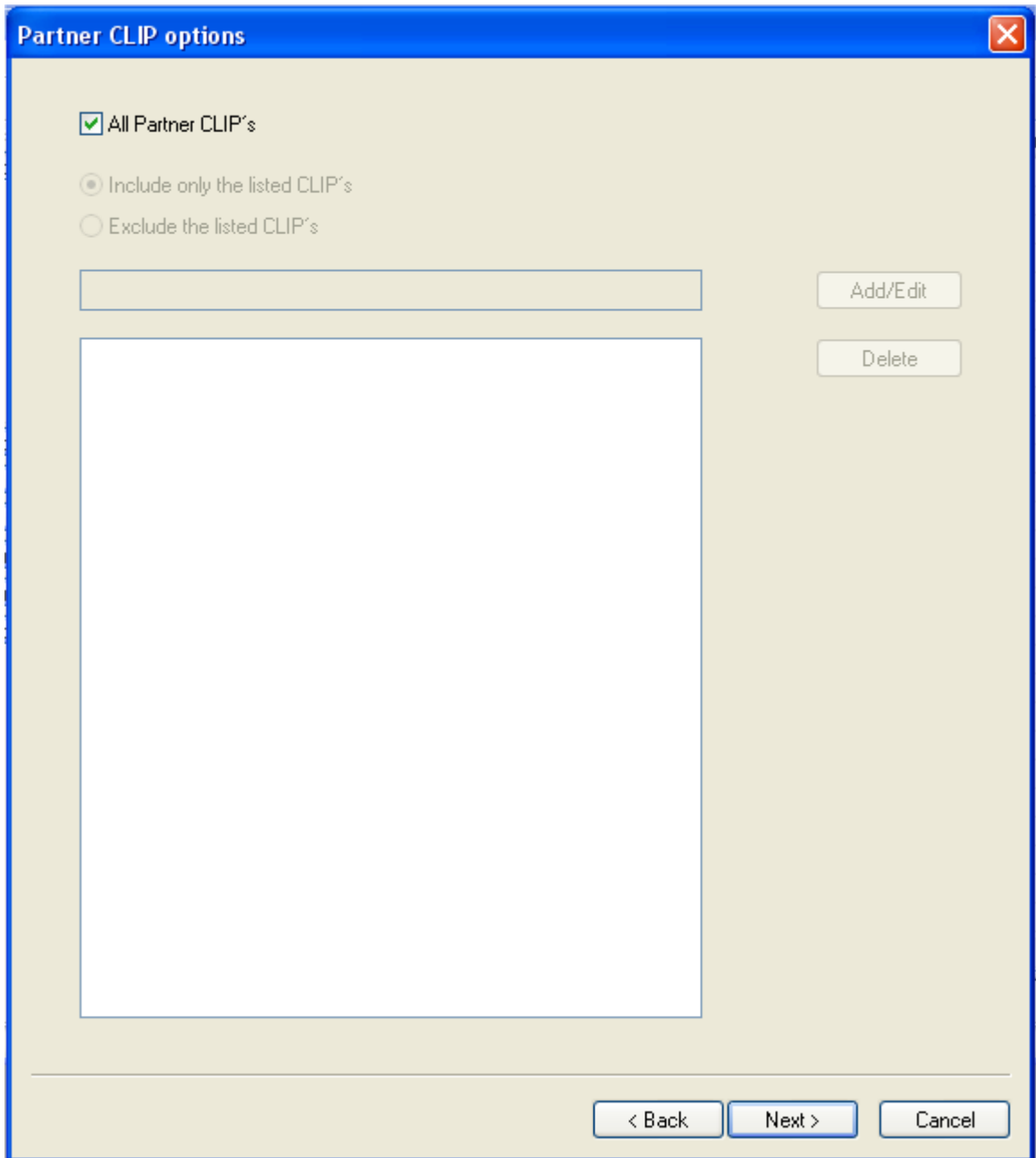
Any CDR datasets whose Caller CLIP is in the list, will **not be** included in the evaluated data.



The dialog box titled "Caller CLIP options" has a blue title bar with a close button (X) in the top right corner. The main area is light beige. It contains three radio button options: "All Caller CLIP's" (unchecked), "Include only the listed CLIP's" (checked), and "Exclude the listed CLIP's" (unchecked). Below these is a text input field containing "0049". To the right of the input field are two buttons: "Add/Edit" and "Delete". Below the input field is a large empty rectangular box. At the bottom of the dialog are three buttons: "< Back", "Next >", and "Cancel".

### Partner CLIP options

Here the various options for the (called partner) Partner CLIP are made. The settings here allow the filter to include only certain caller CLIPs to be evaluated.



Partner CLIP options

☒ All Partner CLIP's

☐ Include only the listed CLIP's

☐ Exclude the listed CLIP's

Add/Edit

Delete

< Back   Next >   Cancel

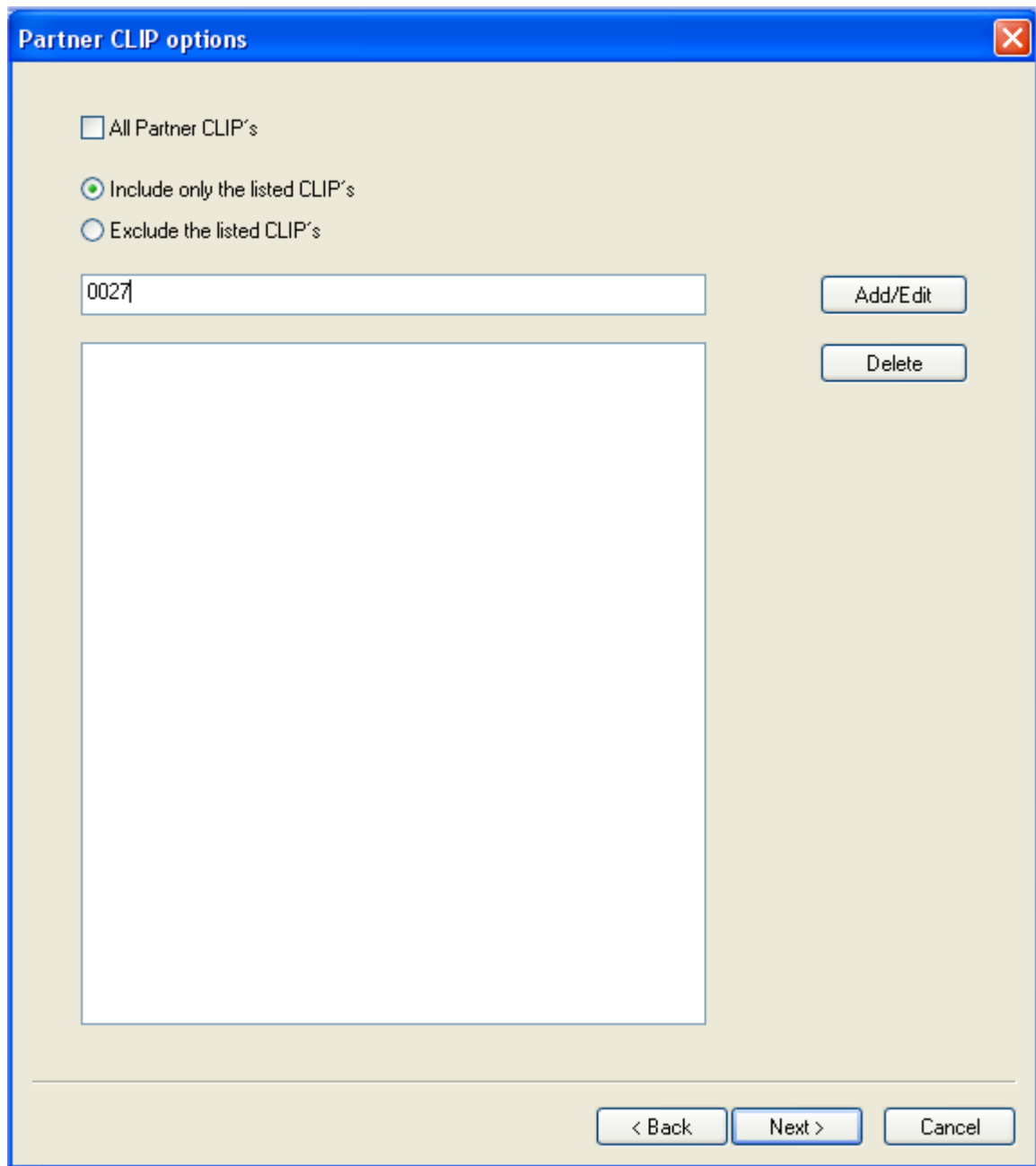
To enter CLIP's that are to be filtered, uncheck the button **All Partner CLIP's** and the page will change to that as shown below.

**Include only the listed CLIP's**

Only the CDR datasets whose Partner CLIP **is in the list** will be included in the evaluated data.

**Exclude the listed CLIP's**

Any CDR datasets whose Partner CLIP is in the list, will **not be** included in the evaluated data.



The dialog box titled "Partner CLIP options" features a blue title bar with a close button. It contains three radio button options: "All Partner CLIP's" (unchecked), "Include only the listed CLIP's" (checked), and "Exclude the listed CLIP's" (unchecked). Below these is a text input field containing "0027". To the right of the input field are two buttons: "Add/Edit" and "Delete". A large empty rectangular area is positioned below the input field. At the bottom of the dialog are three buttons: "< Back", "Next >", and "Cancel".

### Data binding, billing and merging options

Here the various options for Data binding, billing and data merging are made. Please note the CDR data binding and CDR data merging are not implemented.

**Data binding, billing and merging options**

**CDR data binding**

☐ Bind Callback Calls [CT <--> SCC]

**CDR Billing**

☐ Use billing factor      ☐ Use time delta

AoC x:       + Delta seconds:

**CDR data merging**

☐ Merge CDR calls

The creation of the filter is now complete. You may choose "Back" to review the options you have chosen, or choose "Finish" to save the options.

Once the filter has been successfully saved, to use the filter it must first be loaded.

< Back    Finish    Cancel

#### CDR data binding

This function is not implemented.

#### CDR Billing

##### Use billing factor

The evaluated CDR dataset's AOC will be multiplied by the factor provided here. For example, the AOC is 1.25 in the RAW (unevaluated state), and the **AoC x** value is 1.25, then **after** evaluation, the AOC will be 1.5625, i.e. + 25%. **Note** This option only affects the **evaluated** data. The original CDR datasets are not affected.

**Use time delta**

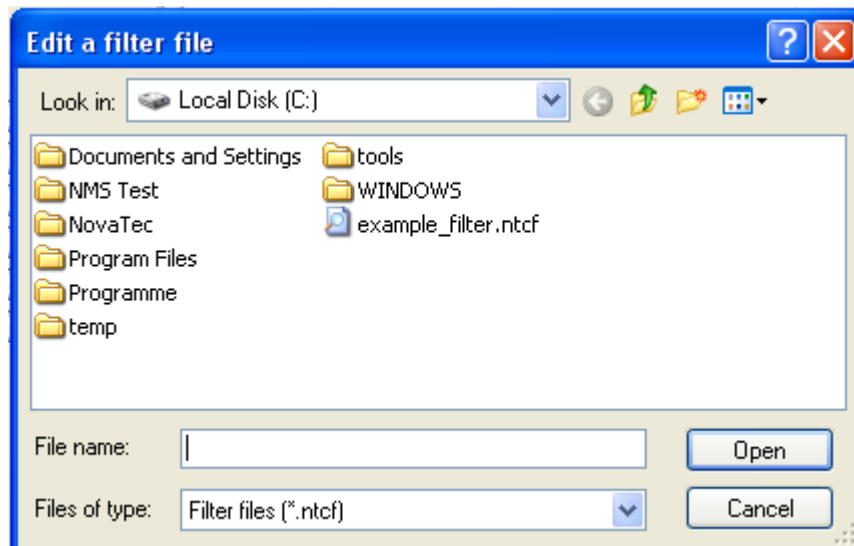
This function is not implemented.

Once you are satisfied with the settings made for the filter, click **Finish**, and the filter will be saved. It is now ready to be [loaded](#), and used to [evaluate](#) CDR data.

### 1.2.1.3 Edit filter

## Edit filter

Once filters have been created, usually the only property that needs to be changed on a regular basis is the date. To this end, the filters that have previously been created can be edited. To accomplish this, select **Load filter** from the **Evaluation** menu and the following dialog will appear.



Navigate to the directory where the filter files are stored, and select the filter that is to be edited. If the file is a valid filter, then the following dialog will appear

**Edit filter properties**

Call direction, Call type and Call state options    ADC, Duration and Cause value options

Caller CLIP options    Partner CLIP options    Data binding, billing and merging options

Filter name and date settings    Interface options    BackplaneID options

**Filter properties**

Name    example\_filter.ntcf

Location    C:\

**Start date and End date (with times)**

Start    End

01.01.2006 00:00    31.12.2006 23:59

OK    Cancel    Apply

Each tab represents the different property groups of the filter that may be changed. These properties correspond to the attributes already set during the creation of the filter, explained in depth [here](#). Once the required changes have been made, click **OK** and any changes (provided that they are valid) will be saved in the filter file. To abort making any changes, click **Cancel**.

## 1.2.2 Evaluation

### Evaluation

Here, the evaluation of the CDR database is started. Please note that some items may not be selectable, dependant on wether a CDR database is open, a filter is loaded, or evaluation has already been completed.



### 1.2.2.1 Evaluate

## Evaluate

Here, the evaluation of the CDR database is started. Please note that some items may not be selectable, dependant on whether a CDR database is open, a filter is loaded, or evaluation has already been completed.

On clicking the item evaluate, the information contained within the CDR database is processed using the options and criteria contained within the filter. During this processing, various status messages are shown in the status bar showing the current progress.

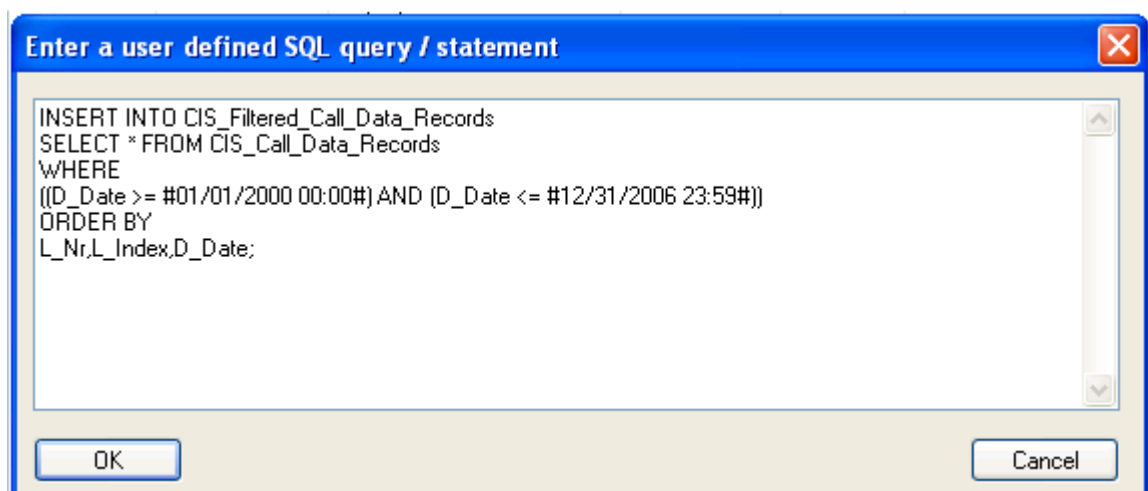
Dependant on the complexity of the filter, and the number of datasets contained in the CDR database, this may take some time.

### 1.2.2.2 Execute user defined query

## Execute user defined query

**Warning, this is a direct interface to the underlying CDR database. You are responsible for the correct usage and SQL syntax entered here. Unknowledgeable use of this function can cause data loss of important CDR data! For information about the fields and tables that are accessible from this interface, please read the corresponding section. If you are not familiar with SQL then you are advised to LEAVE THIS FUNCTION ALONE!**

This item is only available if a CDR database is open. Once you have clicked on the item **Execute user defined query** a dialog box will be shown, into which you can enter a **valid** SQL query that will be executed on the currently opened CDR database.



Once you are sure that the SQL query that you have entered is correct, click the **OK** button. If the SQL query contains syntax errors an error message will be shown stating what the syntax error is. Please be aware that the syntax checking is very basic, and **will not** stop you from damaging the CDR database if the query is syntactically correct!

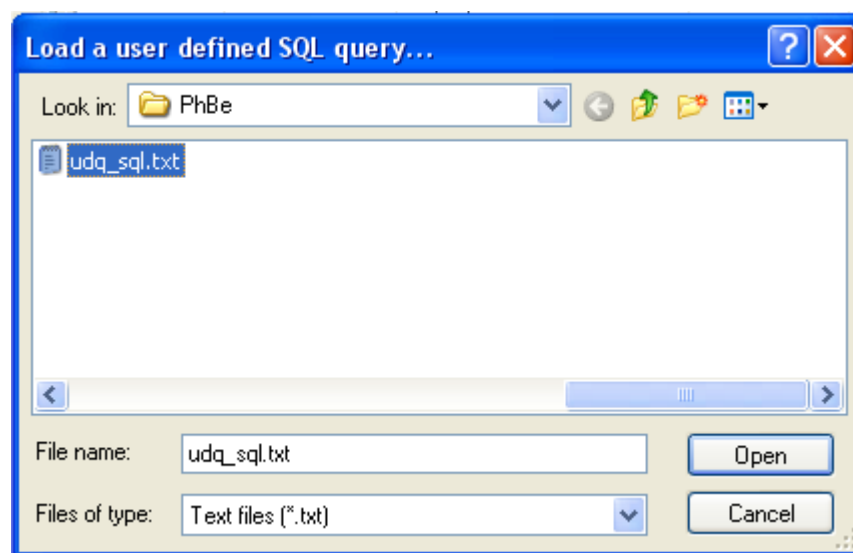
If the query has no syntax errors, the query will be carried out, (which may take some time, dependant on the complexity of the query and the number of records contained in the CDR database) once it has been carried out, the query will be **irreversibly** committed to the CDR database.

### 1.2.2.3 Load user defined query

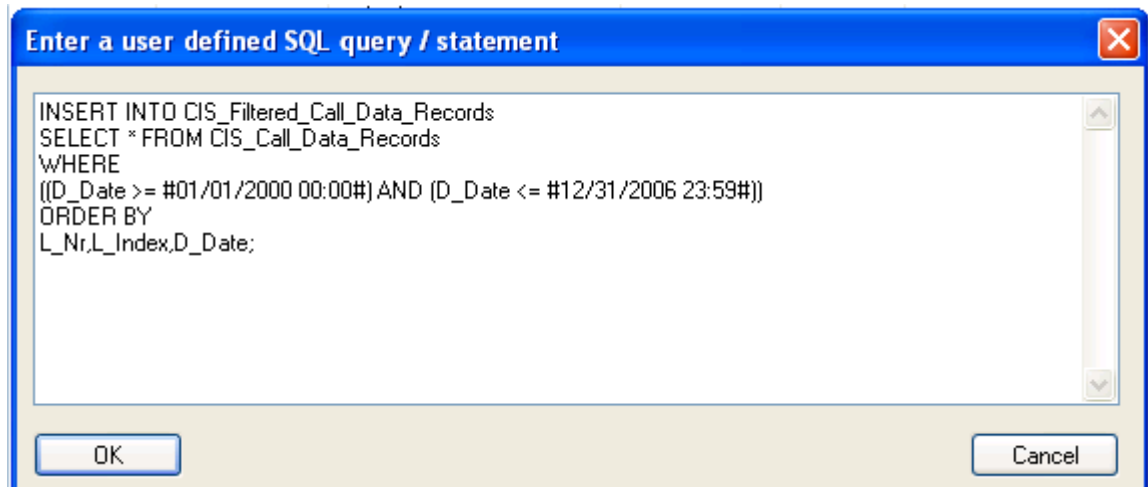
## Load user defined query

**Warning, this is a direct interface to the underlying CDR database. You are responsible for the correct usage and SQL syntax entered here. Unknowledgeable use of this function can cause data loss of important CDR data! For information about the fields and tables that are accessible from this interface, please read the corresponding section. If you are not familiar with SQL then you are advised to LEAVE THIS FUNCTION ALONE!**

This item is only available if a CDR database is open. A user defined query, is nothing more than a text file, that contains a **valid SQL** statement. Once you have clicked on the item the following dialog box will be shown allowing you to load a text file containing the SQL statement



The contents of the text file will be copied verbatim into the **Execute user defined query** dialog, and shown as below (please note, obviously the contents of your file will be shown, not that shown here)



Once you are sure that the SQL query that you have entered is correct, click the **OK** button. If the SQL query contains syntax errors an error message will be shown stating what the syntax error is. Please be aware that the syntax checking is very basic, and **will not** stop you from damaging the CDR database if the query is syntactically correct!

If the query has no syntax errors, the query will be carried out, (which may take some time, dependant on the complexity of the query and the number of records contained in the CDR database) once it has been carried out, the query will be **irreversibly** committed to the CDR database.

#### 1.2.2.4 Reset

### Reset

This item is only selectable if evaluation has been carried out, or a user defined query has been executed and or loaded previously. This function resets the Evaluated, Overflow and GSM Spillage view to there original (empty) states.

### 1.2.3 Export

## Export

Here, the [evaluated](#) or [overflow](#) data can be exported to various file formats for further processing and or evaluation.

### 1.2.3.1 Evaluated

## Evaluated

Here, the [evaluated](#) data can be exported to various file formats for further processing and or evaluation. The file formats for the target exported data are:

**Excel (Microsoft Excel file)**

**CSV (Comma Separated Values)**

**HTML (Hyper Text Markup Language)**

**mdb (Microsoft Access Database)**

Dependant on the options chosen in the [settings](#), the various (exported) file formats contain the data that is currently available in the [evaluated view](#). Also, that are file specific options available for certain file types. Please read the corresponding section [here](#) for more information.

#### 1.2.3.2 Overflow

### Overflow

Here, the [overflow](#) data can be exported to various file formats for further processing and or evaluation. At this moment, the export of overflow data is not supported.



## 1.2.4 UUID

### UUID

Here, UUID (Unique User Identification) files may be imported, and merged with [evaluated data](#) to create Excel files sorted into UUID and or Numbers. This functionality is only used internally by NovaTec. This has not yet been released for public use.

## 1.2.5 Settings

### Settings

Here the various settings ( [CDR Viewing options](#) and the [Export options](#) ) that influence the CDR Evaluation application are carried out.

### 1.2.5.1 CDR Viewing options

## CDR Viewing options

Here the various CDR Viewing options are carried out. At this moment in time, there are no options that can be set by the user.

### 1.2.5.2 Export options

## Export options

Here the various Export options are set. There are three main settings that can be made / adjusted here.

### Export fields and order

**Edit export options**

Export fields and order | CSV export specific options | Excel specific export options

Choose the fields, and the order of the files in which they are to be exported. The CDR's will be ordered by the first field chosen. Use the arrow buttons the change the order.

- ☒ Index
- ☒ Sub index
- ☒ Date
- ☒ Duration
- ☒ Caller
- ☒ Direction
- ☒ Partner
- ☒ Last state
- ☒ AOC
- ☒ Call type
- ☒ Service type
- ☒ Cause value
- ☒ Trunk group
- ☒ Caller redirection
- ☒ Partner redirection
- ☒ Provider
- ☒ Port ID
- ☒ B-Channel
- ☒ SIM ID
- ☐ Backplane ID
- ☐ UUID
- ☒ UTC offset
- ☒ DLS active
- ☒ IMEI
- ☐ Signal Rx
- ☐ Payload Rx
- ☐ Signal Tx

↑

↓

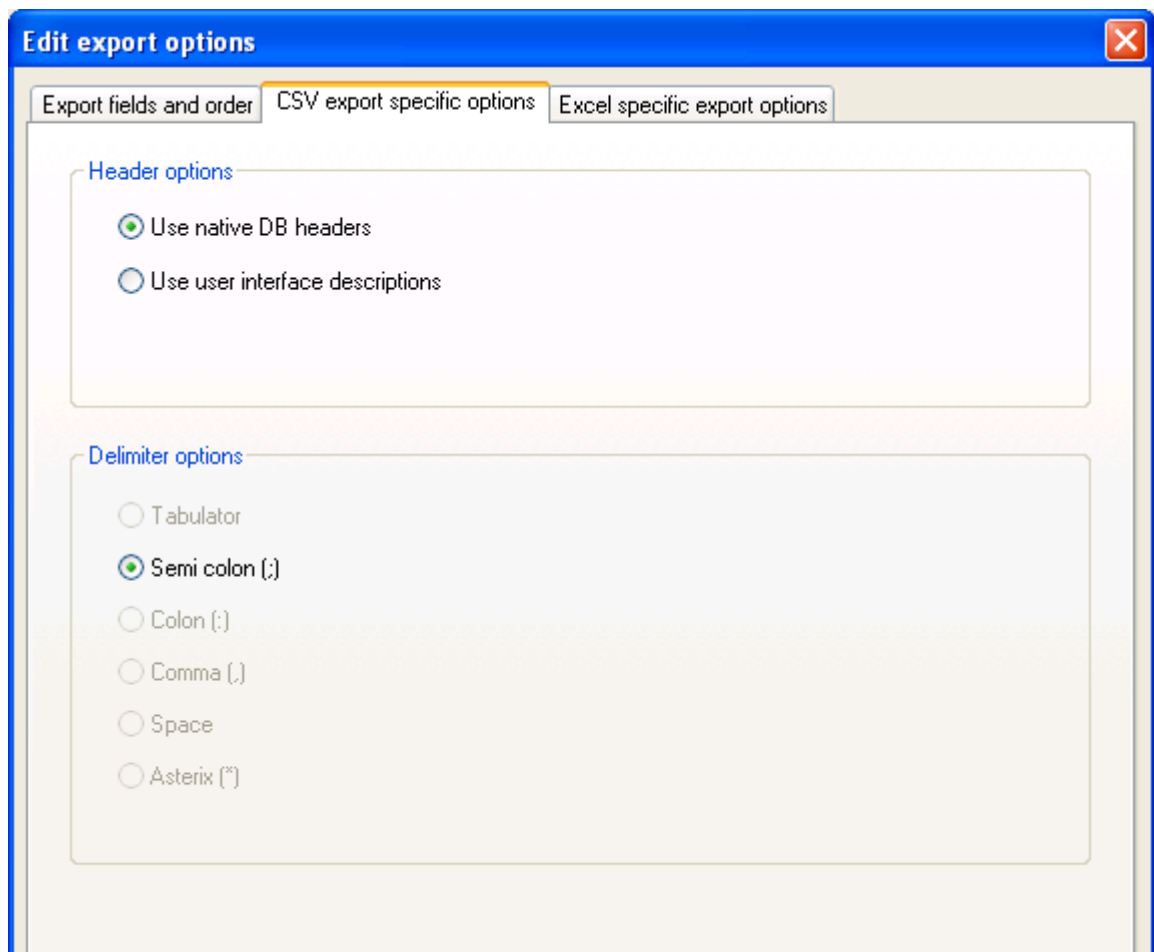
Check all | Uncheck all

This window is self explanatory. Here the order of the fields that are to be exported are set. Entries that have a tick in the box to the left of the item, will be exported. Those without a tick in the box **will not** be exported. There are two buttons, **Check all** which will tick every entry in the list, and **Uncheck all** which will remove the tick from every entry in the list. The order in which the individual fields are

exported, is that shown in the list. To change the order of a field, select in the list, and using the two buttons with the arrows (the arrow pointing up, will move the selected entry **up** the list, the arrow pointing down will move the selected field **down** the list) move the selected field to the desired position within the list. For example, the field **AOC** should be the first entry in any exported file, select the entry **AOC**, and click the button with the arrow pointing **up** until the **AOC** field is the first entry in the list.

To save any changes, click the button **OK**, and the changes will be saved. To make further changes in other categories ([CSV specific options](#), or [Excel specific options](#)) click the corresponding tab.

## CSV export specific options



Here, export settings that are **specific** to exporting CDR information to an **CSV** file are made.

### Header options

Sets the naming convention of the columns of the **CSV** file to be exported to.

#### Use native DB headers

Uses the column names that are present in the CDR database

#### Use user interface descriptions

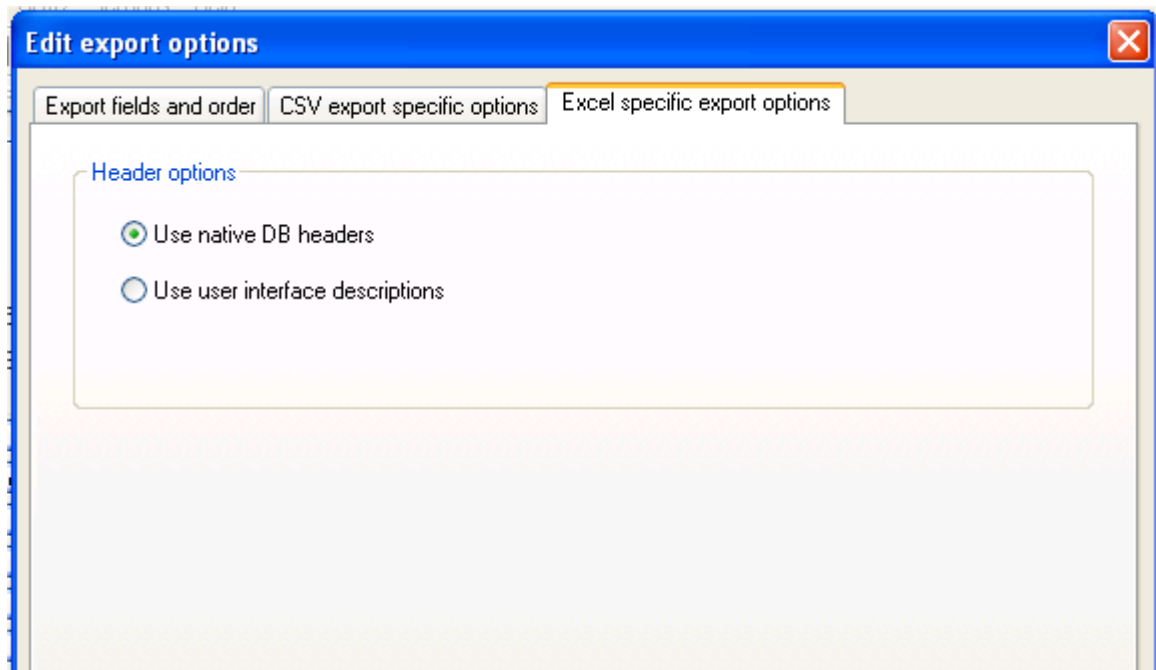
Uses the same names shown in the various [CDR views](#) as the column names.

### Delimiter options

At present, only the Semi colon (;) is available as the delimiter for **CSV** files.

To save any changes, click the button **OK**, and the changes will be saved. To make further changes in other categories ([Export fields and order](#), or [Excel specific options](#)) click the corresponding tab.

## Excel specific export options



Here, export settings that are **specific** to exporting CDR information to an **Excel** file are made.

### Header options

Sets the naming convention of the columns of the **Excel** file to be exported to.

#### Use native DB headers

Uses the column names that are present in the CDR database

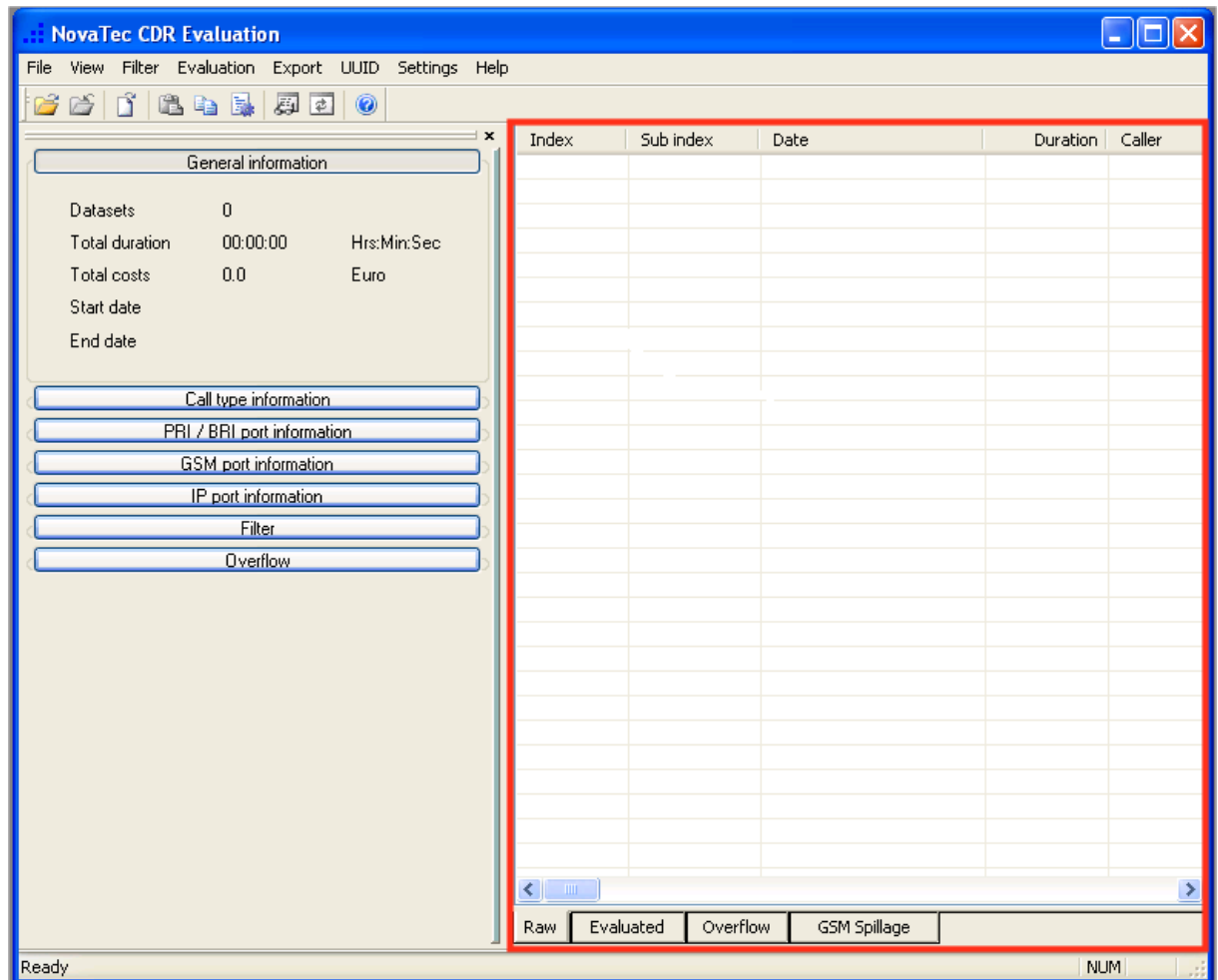
#### Use user interface descriptions

Uses the same names shown in the various [CDR views](#) as the column names.

To save any changes, click the button **OK**, and the changes will be saved. To make further changes in other categories ([Export fields and order](#), or [CSV export specific options](#)) click the corresponding tab.

## 1.3 CDR Views

### CDR Views



The CDR Views contains 4 separate sections, [Raw](#), [Evaluated](#), [Overflow](#) and [GSM Spillage](#). Each view shows the corresponding information that has been obtained / evaluated for the CDR database, user a filter or a user defined query. For more information, please read the corresponding section.



### 1.3.1 Raw view

## Raw view

In this view, the "RAW" CDR data is shown, that is **all** the CDR datasets contained within the CDR database are shown here.

Index	Sub index	Date	Duration	Caller	Direction	Par
1500	1	12/31/99 23:01:29	00:00:03	681	OUT	682
1500	2	05/16/06 17:56:33	00:00:00	681	OUT	868;
1500	0	05/16/06 17:56:33	00:00:00	681	IN	682
1501	0	05/17/06 09:08:15	00:01:47	640	IN	681
1501	1	05/17/06 09:08:15	00:01:47	640	OUT	681
1501	2	05/17/06 09:08:15	00:00:00	640	OUT	868
1502	2	05/17/06 09:17:30	00:00:05	641	OUT	868;
1502	0	05/17/06 09:17:35	00:00:13	641	IN	682
1502	1	05/17/06 09:17:35	00:00:13	641	OUT	682
1503	0	05/17/06 09:17:50	00:00:00	682	IN	
1504	1	05/17/06 09:34:23	00:00:27	676	OUT	620

This is the standard layout of the fields contained within the CDR database. If at any time a particular column is not visible, or you wish to revert back to the default column layout, move the mouse cursor into the view, click the **right** mouse button and the context menu will appear as shown below. Choose **Default view** and the default column layout will be restored.

Index	Sub index	Date	Duration	Caller	Direction	Par
1500	1	12/31/99 23:01:29	00:00:03	681	OUT	682
1500	2	05/16/06 17:56:33	00:00:00	681	OUT	868;
1500	0	05/16/06 17:56:33	00:00:00	681	IN	682
1501	0	05/17/06 09:08:15	00:01:47	640	IN	681
1501	1	05/17/06 09:08:15	00:01:47	640	OUT	681
1501	2	05/17/06 09:08:15	00:00:00	640	OUT	868
1502	2	05/17/06 09:17:30	00:00:05	641	OUT	868;
1502	0	05/17/06 09:17:35	00:00:13	641	IN	682
1502	1	05/17/06 09:17:35	00:00:13	641	OUT	682

To "disable" any unneeded columns, or to adjust the width, position the mouse cursor in the header to the **right** of the column where the vertical marking is, click the **left** mouse button, and **keeping it depressed**, move the mouse cursor to the **left** until the desired width is reached and then release the **left** mouse button. If the column is to be "disabled", keep moving the mouse cursor to the **left**, whilst keeping the **left** mouse button depressed, until the column is no longer visible. Using the "disable" method allows you to only show the data that is relevant to your needs.

Index	Sub index	Date	Duration	Caller		Direction	Part
1500	1	12/31/99 23:01:29	00:00:03	681		OUT	682
1500	2	05/16/06 17:56:33	00:00:00	681		OUT	8682
1500	0	05/16/06 17:56:33	00:00:00	681		IN	682
1501	0	05/17/06 09:08:15	00:01:47	640		IN	681
1501	1	05/17/06 09:08:15	00:01:47	640		OUT	681
1501	2	05/17/06 09:08:15	00:00:00	640		OUT	8681
1502	2	05/17/06 09:17:30	00:00:05	641		OUT	8682
1502	0	05/17/06 09:17:35	00:00:13	641		IN	682
1502	1	05/17/06 09:17:35	00:00:13	641		OUT	682

Index	Sub index	Date	Duration	Direction	Partner	State	
1500	1	12/31/99 23:01:29	00:00:03	OUT	682	♪	C
1500	2	05/16/06 17:56:33	00:00:00	OUT	8682	••	C
1500	0	05/16/06 17:56:33	00:00:00	IN	682	••	C
1501	0	05/17/06 09:08:15	00:01:47	IN	681	••	C
1501	1	05/17/06 09:08:15	00:01:47	OUT	681	••	C
1501	2	05/17/06 09:08:15	00:00:00	OUT	8681	♪	C
1502	2	05/17/06 09:17:30	00:00:05	OUT	8682	☐	C
1502	0	05/17/06 09:17:35	00:00:13	IN	682	••	C
1502	1	05/17/06 09:17:35	00:00:13	OUT	682	••	C
1503	0	05/17/06 09:17:50	00:00:00	IN		☐	C

To change the order of the columns, choose the column that you wish to re-order by moving the mouse cursor to the column header, click the **left** mouse button, **and keeping it depressed**, move the column to the position that you would like the data to appear. Release the **left** mouse button

Index	Sub index	Date	Direction	Duration	Caller	Direction	Partner
1500	1	12/31/99 23:01:29		00:00:03	681	OUT	682
1500	2	05/16/06 17:56:33		00:00:00	681	OUT	8682
1500	0	05/16/06 17:56:33		00:00:00	681	IN	682
1501	0	05/17/06 09:08:15		00:01:47	640	IN	681
1501	1	05/17/06 09:08:15		00:01:47	640	OUT	681
1501	2	05/17/06 09:08:15		00:00:00	640	OUT	8681
1502	2	05/17/06 09:17:30		00:00:05	641	OUT	8682
1502	0	05/17/06 09:17:35		00:00:13	641	IN	682

Once you have released the **left** mouse button, the column will have moved to the position that you have chosen.

Index	Sub index	Direction	Date	Duration	Caller	Partner
1500	1	OUT	12/31/99 23:01:29	00:00:03	681	682
1500	2	OUT	05/16/06 17:56:33	00:00:00	681	8682
1500	0	IN	05/16/06 17:56:33	00:00:00	681	682
1501	0	IN	05/17/06 09:08:15	00:01:47	640	681
1501	1	OUT	05/17/06 09:08:15	00:01:47	640	681
1501	2	OUT	05/17/06 09:08:15	00:00:00	640	8681
1502	2	OUT	05/17/06 09:17:30	00:00:05	641	8682
1502	0	IN	05/17/06 09:17:35	00:00:13	641	682
1502	1	OUT	05/17/06 09:17:35	00:00:13	641	682
1503	0	IN	05/17/06 09:17:50	00:00:00	682	
1504	1	OUT	05/17/06 09:34:23	00:00:27	676	620

### 1.3.2 Evaluated view

## Evaluated view

In this view, the "Evaluated" CDR data is shown, that is all the CDR datasets contained within the CDR that match the criterion that have been met within the filter or after carrying out a [user defined query](#). If there are no CDR datasets that meet the criteria either in the filter, or using the [user defined query](#), then of course this view **will show no data**.

Index	Sub index	Date	Duration	Caller	Direction	Par
1500	1	12/31/99 23:01:29	00:00:03	681	OUT	682
1500	2	05/16/06 17:56:33	00:00:00	681	OUT	868:
1500	0	05/16/06 17:56:33	00:00:00	681	IN	682
1501	0	05/17/06 09:08:15	00:01:47	640	IN	681
1501	1	05/17/06 09:08:15	00:01:47	640	OUT	681
1501	2	05/17/06 09:08:15	00:00:00	640	OUT	868
1502	2	05/17/06 09:17:30	00:00:05	641	OUT	868:
1502	0	05/17/06 09:17:35	00:00:13	641	IN	682
1502	1	05/17/06 09:17:35	00:00:13	641	OUT	682
1503	0	05/17/06 09:17:50	00:00:00	682	IN	
1504	1	05/17/06 09:34:23	00:00:27	676	OUT	620

This is the standard layout of the fields contained within the CDR database. If at any time a particular column is not visible, or you wish to revert back to the default column layout, move the mouse cursor into the view, click the **right** mouse button and the context menu will appear as shown below. Choose **Default view** and the default column layout will be restored.

Index	Sub index	Date	Duration	Caller	Direction	Partner
1500	2	05/16/06 17:56:33	00:00:00	681	OUT	8682
1500	0	05/16/06 17:56:33	00:00:00	681	IN	682
1501	0	05/17/06 09:08:15	00:01:47	640	IN	681
1501	1	05/17/06 09:08:15	00:01:47	640	OUT	681
1501	2	05/17/06 09:08:15	00:00:00	640	OUT	8681
1502	2	05/17/06 09:17:30	00:00:05	641	OUT	8682
1502	0	05/17/06 09:17:35	00:00:13	641	IN	682
1502	1	05/17/06 09:17:35	00:00:13	641	OUT	682
1503	0	05/17/06 09:17:50	00:00:00	682	IN	

The evaluated view also provides printing capabilities, to output the CDR datasets shown in the view to a printer **Print...(All datasets )>**, and previewing the output before printing **Print...(All datasets )>**. However, only certain items are printable. An example of the printed output is show below.

<i>Evaluated CDR data</i>				
Date	Duration	Caller	Partner	Cost
16.05.2006 17:56:33	00:00:00	681	8682	0.0000
16.05.2006 17:56:33	00:00:00	681	682	0.0000
17.05.2006 09:08:15	00:01:47	640	681	0.0000
17.05.2006 09:08:15	00:01:47	640	681	0.0000
17.05.2006 09:08:15	00:00:00	640	8681	0.0000
17.05.2006 09:17:30	00:00:05	641	8682	0.0000
17.05.2006 09:17:35	00:00:13	641	682	0.0000
17.05.2006 16:44:04	00:03:41	650	680	0.0000
17.05.2006 16:44:04	00:03:41	650	8680	0.0000
17.05.2006 16:55:41	00:00:00	640	8682	0.0000
17.05.2006 16:55:41	00:00:00	640	682	0.0000
17.05.2006 16:55:41	00:00:00	640	682	0.0000
18.05.2006 09:26:53	00:00:02	641	8681	0.0000
<i>Current page 1</i>				

As you can see from the example, only the **date**, **duration**, **caller** (initiator's number) **partner** (called number) and **cost** are printed. The header and footer graphics are loaded from the same directory as the CDR Evaluation application (header.bmp and footer.bmp). You could replace these two files **but only if they have the exact same properties regarding colour depth and dimensions!**

The text displayed in the header ( **Evaluated CDR data** ) and in the footer ( **Current page x** ) are hard coded in the application, but could be made variable in later versions of this application.

Also, a summarized printable version of the evaluated data is available **Print...(Summary)>** . This lists all interfaces that have made calls, with the SIM ID, number of calls, cost, and duration. An example is shown below.

Summarized CDR data				
Interface	SIM ID	Calls	Duration	Cost
Slot 01: CCU3 : Interface 05		14439	472:14:58	0.0000
Slot 01: CCU3 : Interface 06		59483	1667:15:58	0.0000
Slot 06: WAU : Interface 03	8 [REDACTED] 36	1561	25:58:28	0.0000
Slot 06: WAU : Interface 04	8 [REDACTED] 44	1581	25:10:35	0.0000
Slot 06: WAU : Interface 01	8 [REDACTED] 51	1576	25:08:00	0.0000
Slot 06: WAU : Interface 02	8 [REDACTED] 69	1570	23:40:58	0.0000
Slot 07: WAU : Interface 01	8 [REDACTED] 79	1572	25:58:41	0.0000
Slot 02: EWU : Interface 01	2 [REDACTED] 46	659	20:27:29	0.0000
Slot 02: EWU : Interface 01	2 [REDACTED] 47	697	23:49:40	0.0000
Slot 02: EWU : Interface 01	2 [REDACTED] 49	683	19:06:10	0.0000
Slot 02: EWU : Interface 01	2 [REDACTED] 48	838	22:11:51	0.0000

The exact SIM IDs have been blotted for privacy reasons. You may notice that some interfaces are included more than once (**Slot 02 EWU : Interface 01** ). This is because this interface has used more than one SIM card to carry out calls, therefore it appears with each SIM card that it has used (SIM Multiplexing). Also the last page of the summarized data shows the total calls, duration and costs for all interfaces listed.

Summarized CDR data		
Total calls	Total Duration	Total costs
119583	3335:26:33	0.0000

To "disable" any unneeded columns, or to adjust the width, position the mouse cursor in the header to the **right** of the column where the vertical marking is, click the **left** mouse button, and **keeping it depressed**, move the mouse cursor to the **left** until the desired width is reached and then release the **left** mouse button. If the column is to be "disabled", keep moving the mouse cursor to the **left**, whilst keeping the **left** mouse button depressed, until the column is no longer visible. Using the "disable" method allows you to only show the data that is relevant to your needs.

Index	Sub index	Date	Duration	Caller		Direction	Part
1500	1	12/31/99 23:01:29	00:00:03	681		OUT	682
1500	2	05/16/06 17:56:33	00:00:00	681		OUT	8682
1500	0	05/16/06 17:56:33	00:00:00	681		IN	682
1501	0	05/17/06 09:08:15	00:01:47	640		IN	681
1501	1	05/17/06 09:08:15	00:01:47	640		OUT	681
1501	2	05/17/06 09:08:15	00:00:00	640		OUT	8681
1502	2	05/17/06 09:17:30	00:00:05	641		OUT	8682
1502	0	05/17/06 09:17:35	00:00:13	641		IN	682
1502	1	05/17/06 09:17:35	00:00:13	641		OUT	682

Index	Sub index	Date	Duration	Direction	Partner	State	
1500	1	12/31/99 23:01:29	00:00:03	OUT	682	♪	C
1500	2	05/16/06 17:56:33	00:00:00	OUT	8682	●●	C
1500	0	05/16/06 17:56:33	00:00:00	IN	682	●●	C
1501	0	05/17/06 09:08:15	00:01:47	IN	681	●●	C
1501	1	05/17/06 09:08:15	00:01:47	OUT	681	●●	C
1501	2	05/17/06 09:08:15	00:00:00	OUT	8681	♪	C
1502	2	05/17/06 09:17:30	00:00:05	OUT	8682	📅	C
1502	0	05/17/06 09:17:35	00:00:13	IN	682	●●	C
1502	1	05/17/06 09:17:35	00:00:13	OUT	682	●●	C
1503	0	05/17/06 09:17:50	00:00:00	IN		📅	C

To change the order of the columns, choose the column that you wish to re-order by moving the mouse cursor to the column header, click the **left** mouse button, **and keeping it depressed**, move the column to the position that you would like the data to appear. Release the **left** mouse button

Index	Sub index	Date	Direction	Duration	Caller	Direction	Partner
1500	1	12/31/99 23:01:29		00:00:03	681	OUT	682
1500	2	05/16/06 17:56:33		00:00:00	681	OUT	8682
1500	0	05/16/06 17:56:33		00:00:00	681	IN	682
1501	0	05/17/06 09:08:15		00:01:47	640	IN	681
1501	1	05/17/06 09:08:15		00:01:47	640	OUT	681
1501	2	05/17/06 09:08:15		00:00:00	640	OUT	8681
1502	2	05/17/06 09:17:30		00:00:05	641	OUT	8682
1502	0	05/17/06 09:17:35		00:00:13	641	IN	682

Once you have released the **left** mouse button, the column will have moved to the position that you have chosen.

Index	Sub index	Direction	Date	Duration	Caller	Partner
1500	1	OUT	12/31/99 23:01:29	00:00:03	681	682
1500	2	OUT	05/16/06 17:56:33	00:00:00	681	8682
1500	0	IN	05/16/06 17:56:33	00:00:00	681	682
1501	0	IN	05/17/06 09:08:15	00:01:47	640	681
1501	1	OUT	05/17/06 09:08:15	00:01:47	640	681
1501	2	OUT	05/17/06 09:08:15	00:00:00	640	8681
1502	2	OUT	05/17/06 09:17:30	00:00:05	641	8682
1502	0	IN	05/17/06 09:17:35	00:00:13	641	682
1502	1	OUT	05/17/06 09:17:35	00:00:13	641	682
1503	0	IN	05/17/06 09:17:50	00:00:00	682	
1504	1	OUT	05/17/06 09:34:23	00:00:27	676	620



### 1.3.3 Overflow view

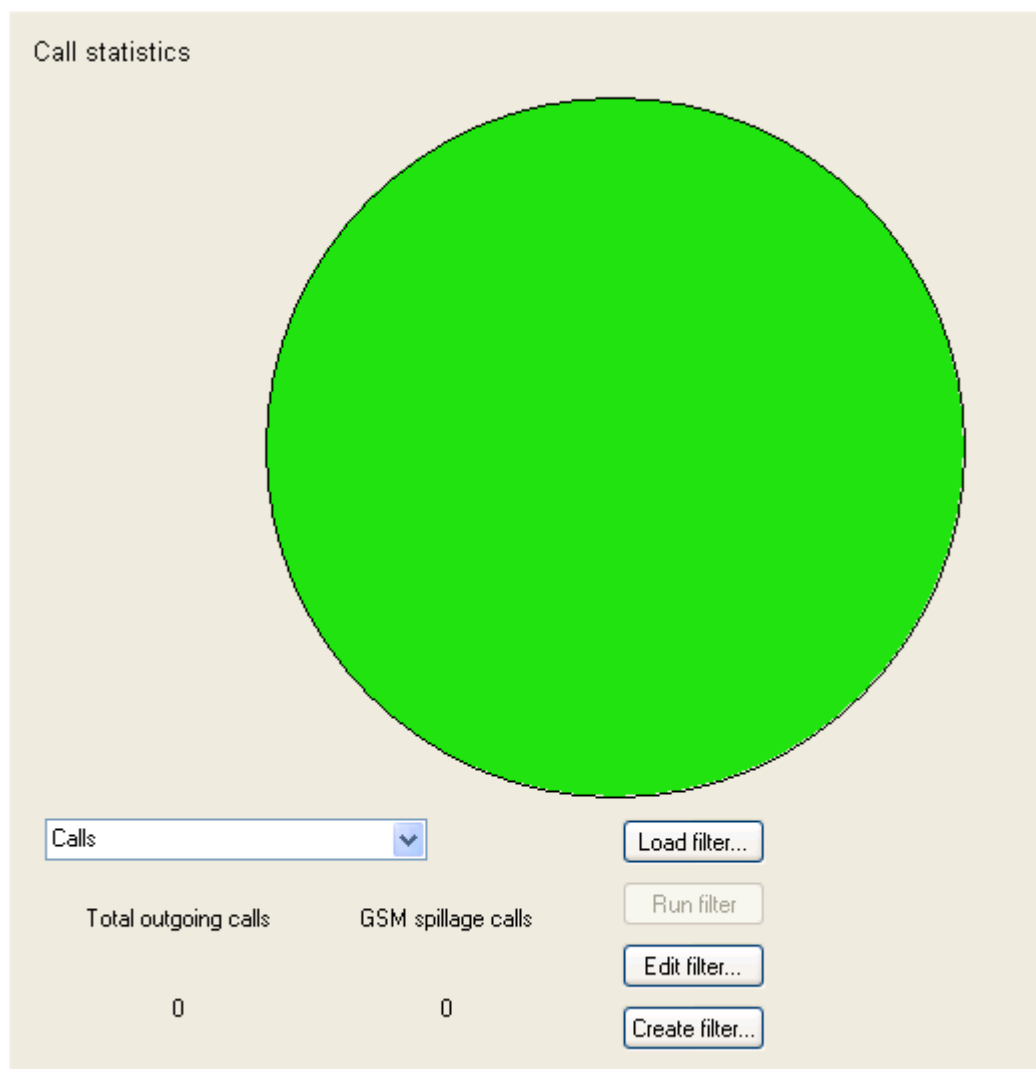
#### Overflow view

Currently this view will show no data. It is reserved for future use.

### 1.3.4 GSM Spillage

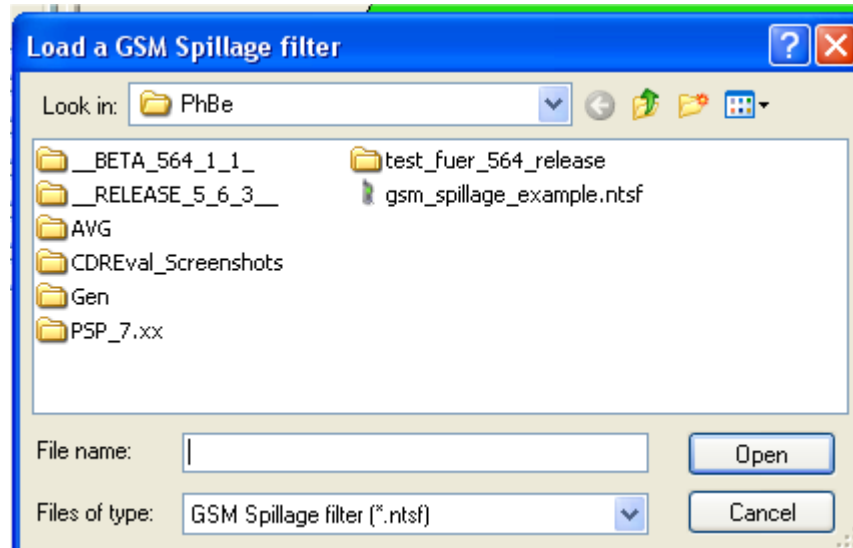
## GSM Spillage

The layout and appearance of this view is "slightly" different than those previously seen. This view allows you to filter the data shown in the [evaluated view](#) specifically for calls that should have been routed to the GSM network but where routed via a PRI or BRI interface (eventually also via VIP). The "spillage" of GSM calls to other interfaces, other than GSM interfaces can be graphically displayed using this view. This view is only available for use, if the CDR database has been successfully evaluated, or a user defined query has been successfully carried out, as the GSM Spillage uses the information shown in the [evaluated view](#) as the base ("RAW") data. The "spillage" is filter using the properties of a GSM Spillage filter, plus the SIM ID of the CDR dataset (which will be empty if the call was made using a non GSM interface)

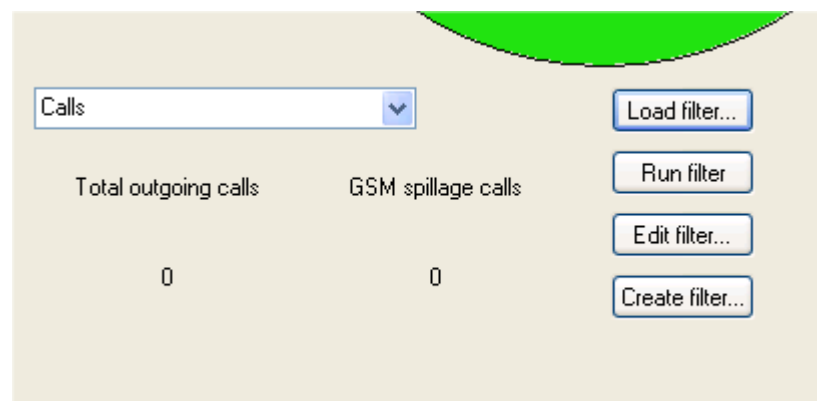


### Loading a GSM Spillage filter

To load a GSM Spillage filter (click the **Load filter** button) and a dialog will be shown, allowing you to choose the GSM Spillage filter that is to be loaded. Before loading a GSM Spillage filter, you must of course already have [created](#) one. GSM Spillage filters have the file extension ntsf. If you do not have the settings in the explorer set to show file extensions, ntsf files have a small GSM mobile phone as the icon to identify the file type.



Once you have chosen the filter that is to be loaded, click the Open button and the GSM Spillage view will change to that as shown below



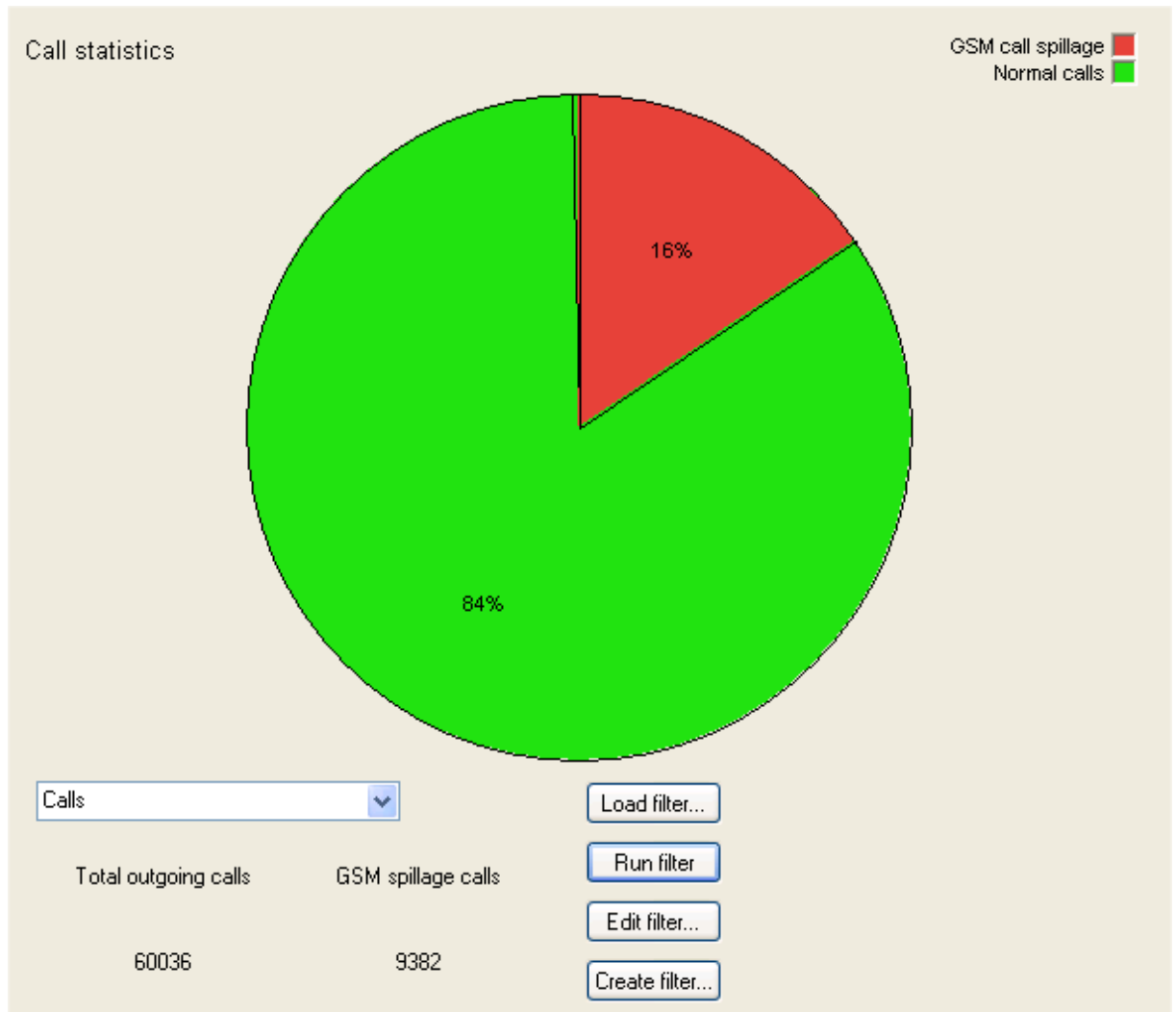
As you can see, once a **valid** GSM Spillage filter is loaded, the **Run filter** button is available for selection.

**Executing a GSM Spillage filter**

Once a GSM Spillage filter has been loaded, the **Run filter** button is available for selection. Clicking this button starts the processing of the [evaluated CDR data](#) using the [properties](#) contained within the GSM Spillage filter. Once the process is complete (which may take some time dependant on the complexity of the GSM Spillage filter, and the number of CDR datasets contained within the [evaluated data](#)) the GSM Spillage will allow the combo box selection (in the above screenshot showing the text calls) to be changed to show the various spillage information available. This information is divided into three sections, [Calls](#), [Duration](#) and [Costs](#). To change between the three sections, choose the corresponding section from the combo box.

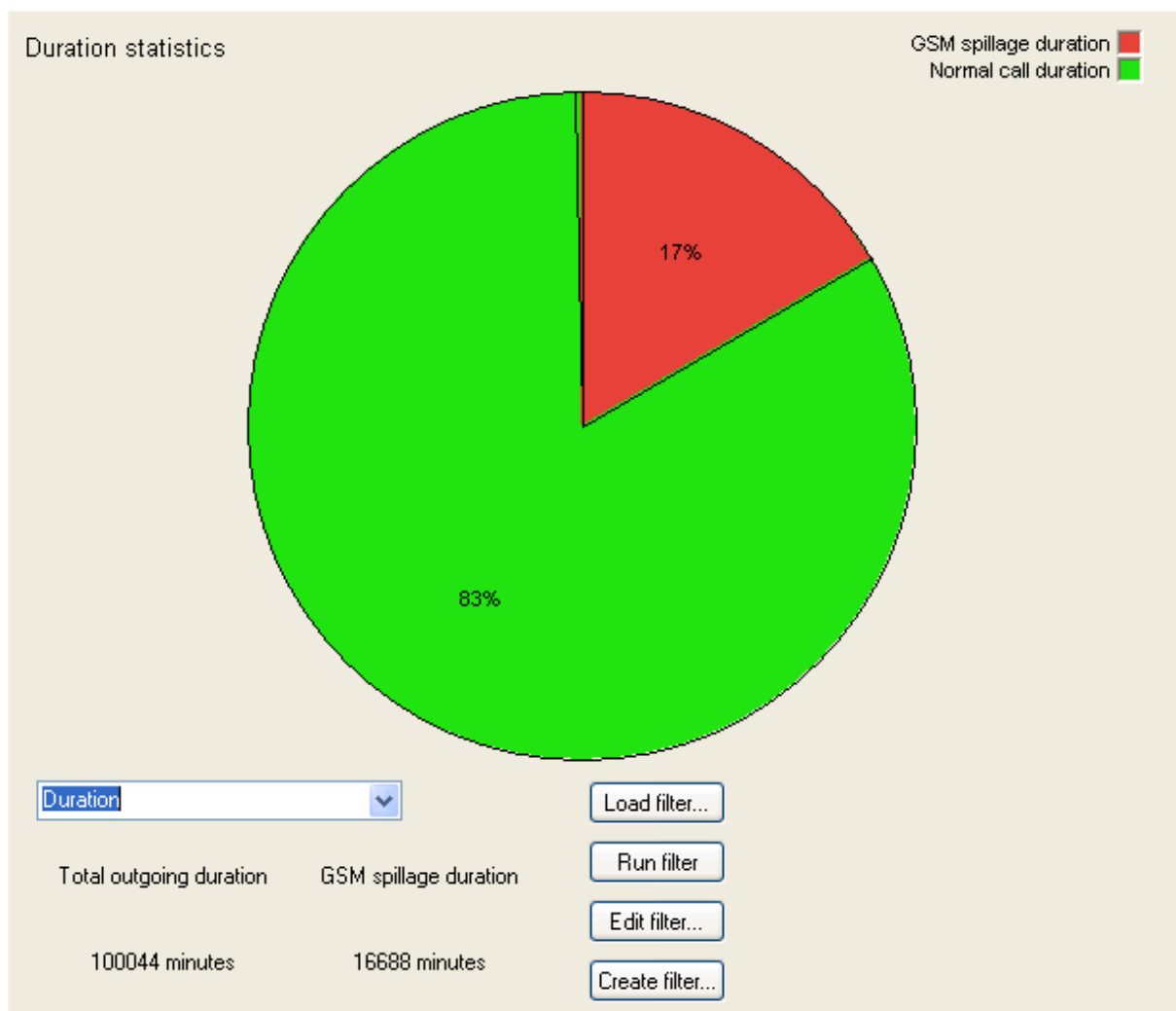
**Call statistics**

The Call statistics is the first active information shown after the GSM Spillage filter is run.



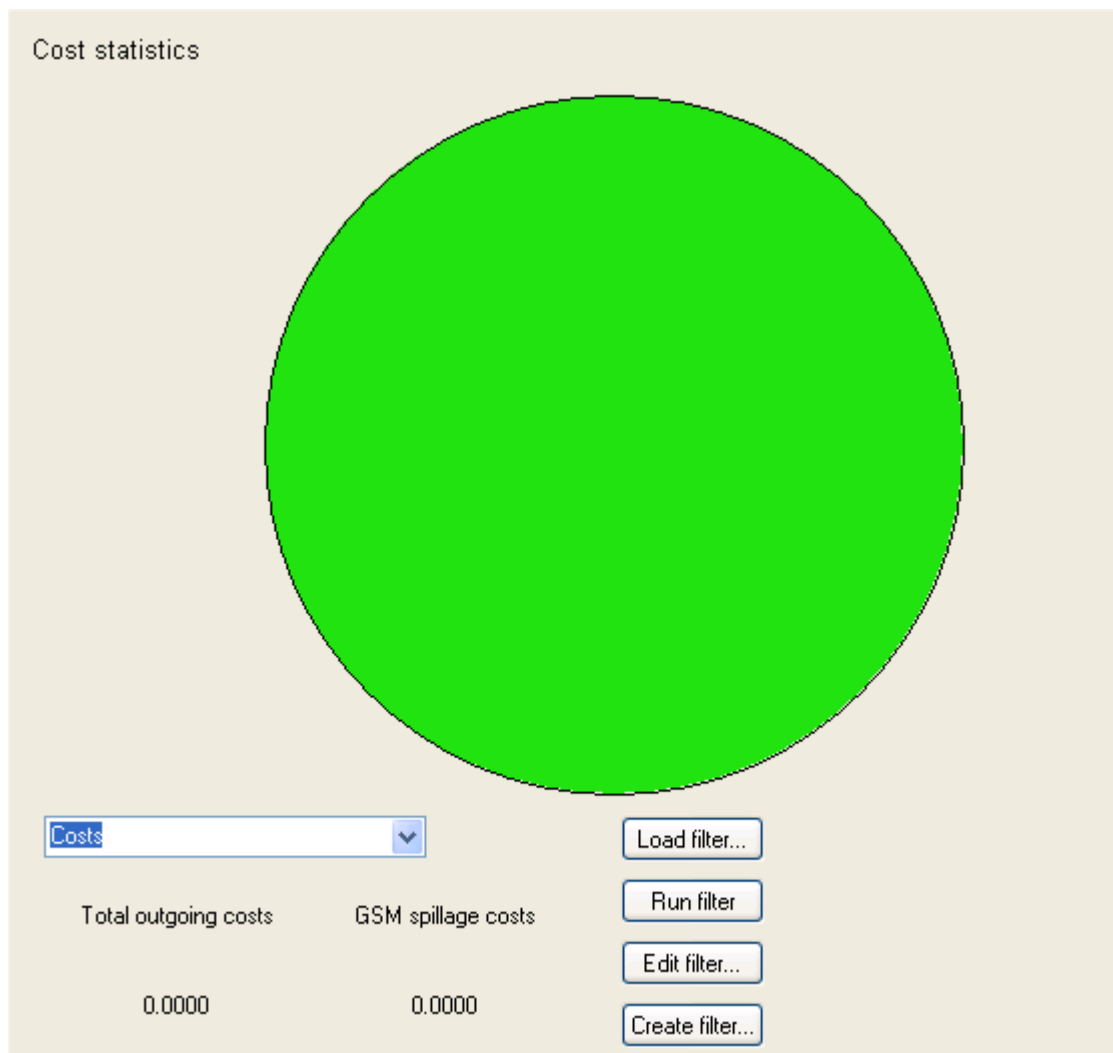
The relationship between the total (outgoing) calls contained in the evaluated view, and the number of outgoing calls that **should** have been made using a GSM interface is shown both graphically (the PIE chart) and numerically, as a percentage, and absolute value.

## Duration statistics



The relationship between the total (outgoing) duration (in minutes) contained in the evaluated view, and the duration of outgoing calls that **should** have been made using a GSM interface is shown both graphically (the PIE chart) and numerically, as a percentage, and absolute value.

## Cost statistics



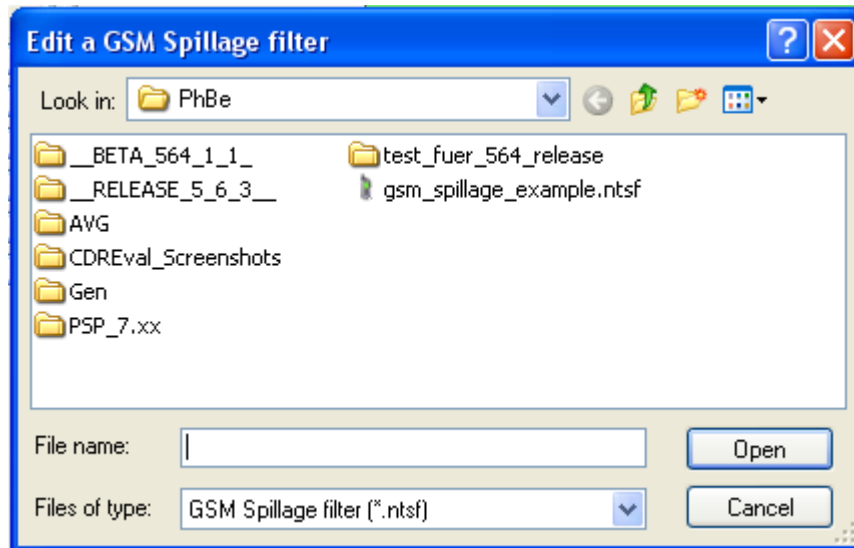
The relationship between the total (outgoing) costs contained in the evaluated view, and the costs of outgoing calls that **should** have been made using a GSM interface is shown both graphically (the PIE chart) and numerically, as a percentage, and absolute value.

### Note

If (as shown in the example above) the NMG has been **set not to generate** AOC information, then no AOC (costs) information is contained in the CDR datasets, and therefore cannot be shown in the above section.

### Editing a GSM Spillage filter

To edit the properties of a **previously created** GSM Spillage filter, click the button **Edit filter...** and a dialog box will be shown, allowing you to choose a GSM Spillage filter that is to be edited.

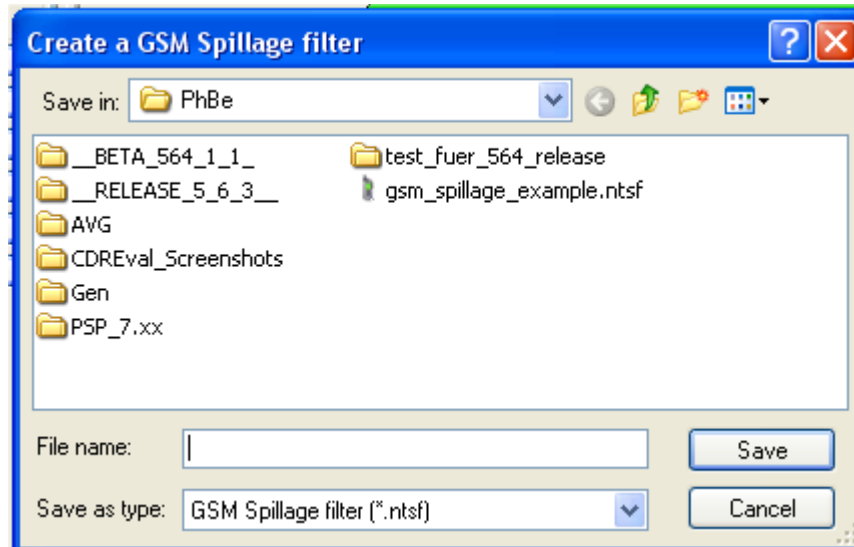


Once you have chosen the GSM Spillage filter that is to be edited, click the **Open** button, and you will be able to edit the properties of the filter as described in the [Creating a GSM Spillage filter](#) section

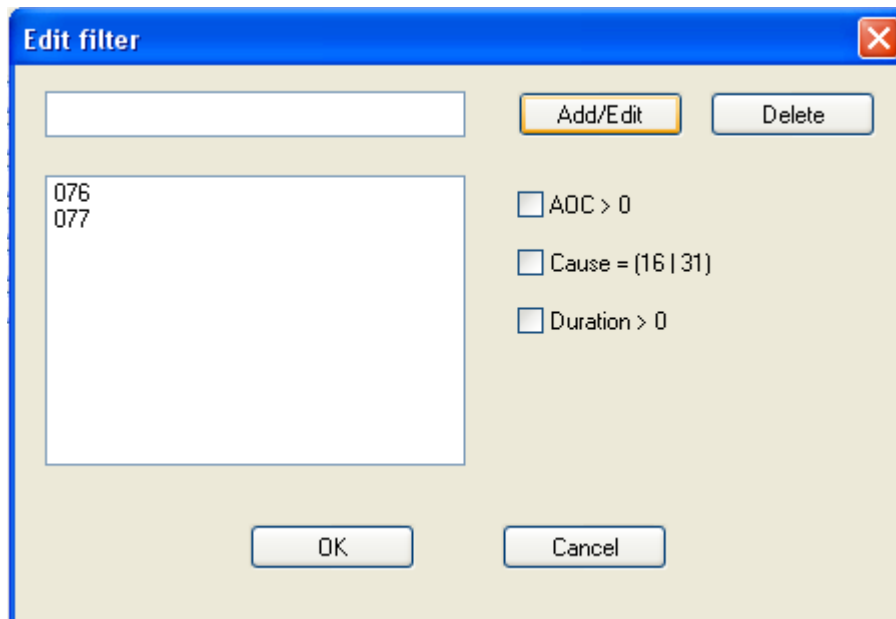


### Creating a GSM Spillage filter

Before any [evaluated data](#) can be filtered using a GSM Spillage filter, one must first be created. To do this, click the button **Create filter...** and a dialog will be shown, allowing you to enter the name and location in which the filter is to be saved to.



Once you have entered a valid name and location, the filter will be created, and a dialog box will be shown allowing you to edit the filter properties.



The edit box in the top left of the dialog is where mobile / GSM **Partner** numbers are entered. In the example, the mobile numbers of UK GSM network providers have been entered. The numbers 078 and 079 have not yet been added. 076 is the same as 076\*, meaning any **Partner** numbers beginning with 076 are included in the GSM Spillage evaluation.

#### **AOC > 0**

If this check box is active, only CDR datasets whose AOC is greater than 0 will be included in the spillage evaluation.

#### **Cause = (16 | 31)**

If this check box is active, only CDR datasets whose cause value is 16 **OR** 31 will be included in the spillage evaluation.

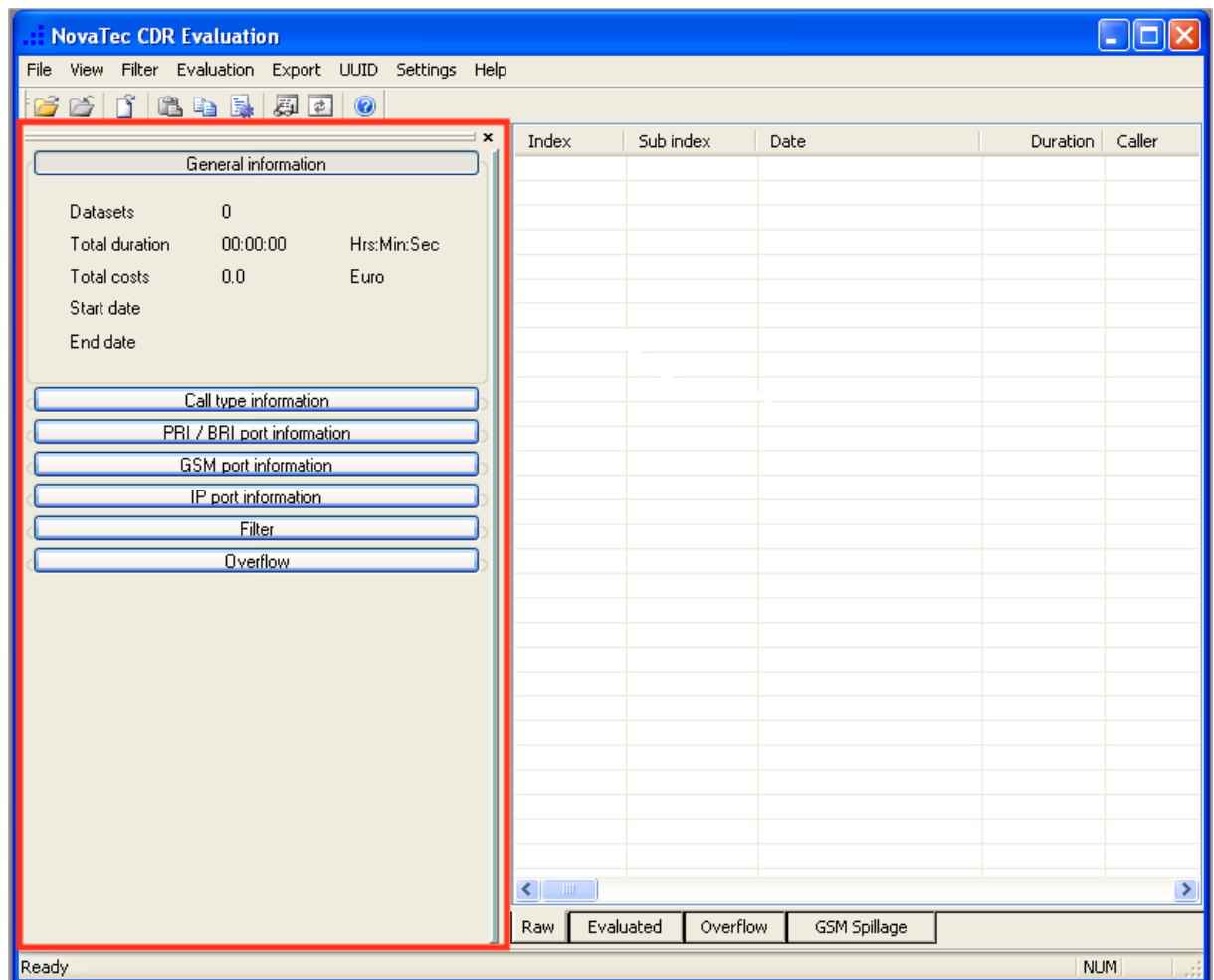
**Duration > 0**

If this check box is active, only CDR datasets whose **duration** is greater than 0 will be included in the spillage evaluation.

To save the properties of the filter, click the **OK** button, and they will be saved in the GSM Spillage filter.

## 1.4 Infobar

### Infobar

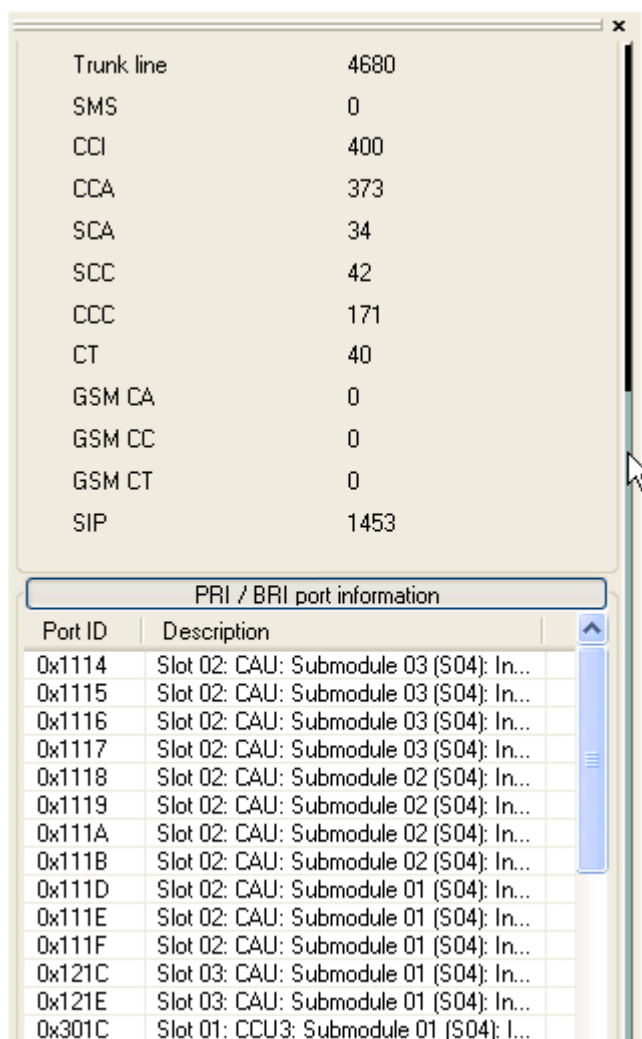


The Infobar provides information about the **currently active** [CDR View](#). The Infobar is split into separate categories which includes the following:

- [General information](#)
- [Call type information](#)
- [PRI / BRI port information](#)
- [GSM port information](#)
- [IP port information](#)
- [Filter](#)
- [Overflow](#)

To open the individual categories, click on the button header.

### Navigating in the Infobar



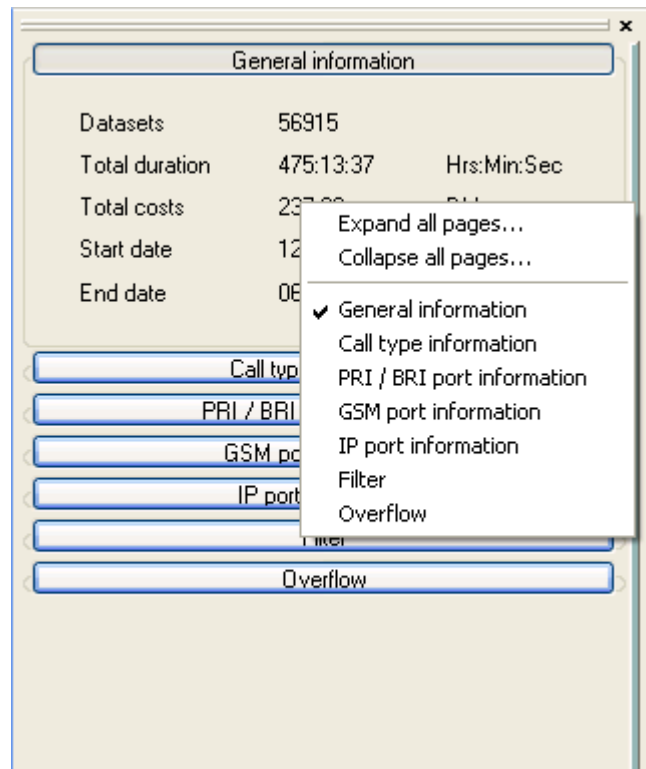
Trunk line	4680
SMS	0
CCI	400
CCA	373
SCA	34
SCC	42
CCC	171
CT	40
GSM CA	0
GSM CC	0
GSM CT	0
SIP	1453

PRI / BRI port information	
Port ID	Description
0x1114	Slot 02: CAU: Submodule 03 (S04): In...
0x1115	Slot 02: CAU: Submodule 03 (S04): In...
0x1116	Slot 02: CAU: Submodule 03 (S04): In...
0x1117	Slot 02: CAU: Submodule 03 (S04): In...
0x1118	Slot 02: CAU: Submodule 02 (S04): In...
0x1119	Slot 02: CAU: Submodule 02 (S04): In...
0x111A	Slot 02: CAU: Submodule 02 (S04): In...
0x111B	Slot 02: CAU: Submodule 02 (S04): In...
0x111D	Slot 02: CAU: Submodule 01 (S04): In...
0x111E	Slot 02: CAU: Submodule 01 (S04): In...
0x111F	Slot 02: CAU: Submodule 01 (S04): In...
0x121C	Slot 03: CAU: Submodule 01 (S04): In...
0x121E	Slot 03: CAU: Submodule 01 (S04): In...
0x301C	Slot 01: CCU3: Submodule 01 (S04): I...

If you have two or more pages opened in the Infobar, then not all information will be visible, as shown in the picture above, the scroll bar for scrolling the pages up and down within the Infobar is to the **right**, as indicated by the mouse cursor in the picture.

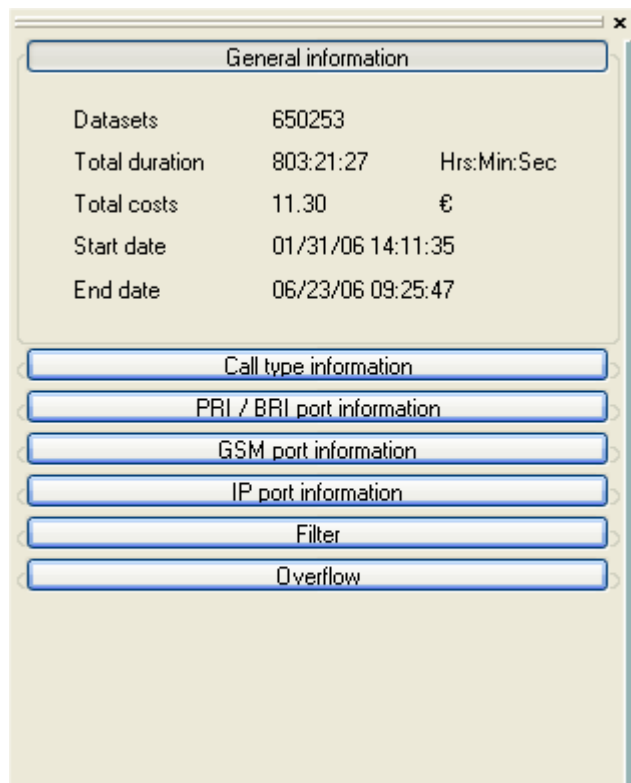
Clicking within the Infobar with the **right** mouse button, creates the context menu as shown below. This allows you to expand and or collapse all of the pages within the Infobar. Also by checking / un-checking the individual names of the pages, expands / collapses the selected page.



### 1.4.1 General information

## General information

### General information



General information		
Datasets	650253	
Total duration	803:21:27	Hrs:Min:Sec
Total costs	11.30	€
Start date	01/31/06 14:11:35	
End date	06/23/06 09:25:47	

- Call type information
- PRI / BRI port information
- GSM port information
- IP port information
- Filter
- Overflow

This page of the Infobar, shows the general information of the **currently active** [view](#).

#### Datasets

The number of CDR datasets

#### Total duration

The total duration of all datasets in hours, minutes and seconds.

#### Total costs

The total costs (AOC) of all datasets. The currency is retrieved from the CDR database. This of course must be set correctly using the Call Server.

#### Start date

The earliest date in the of the dataset. (ordered by date, this is the first entry).

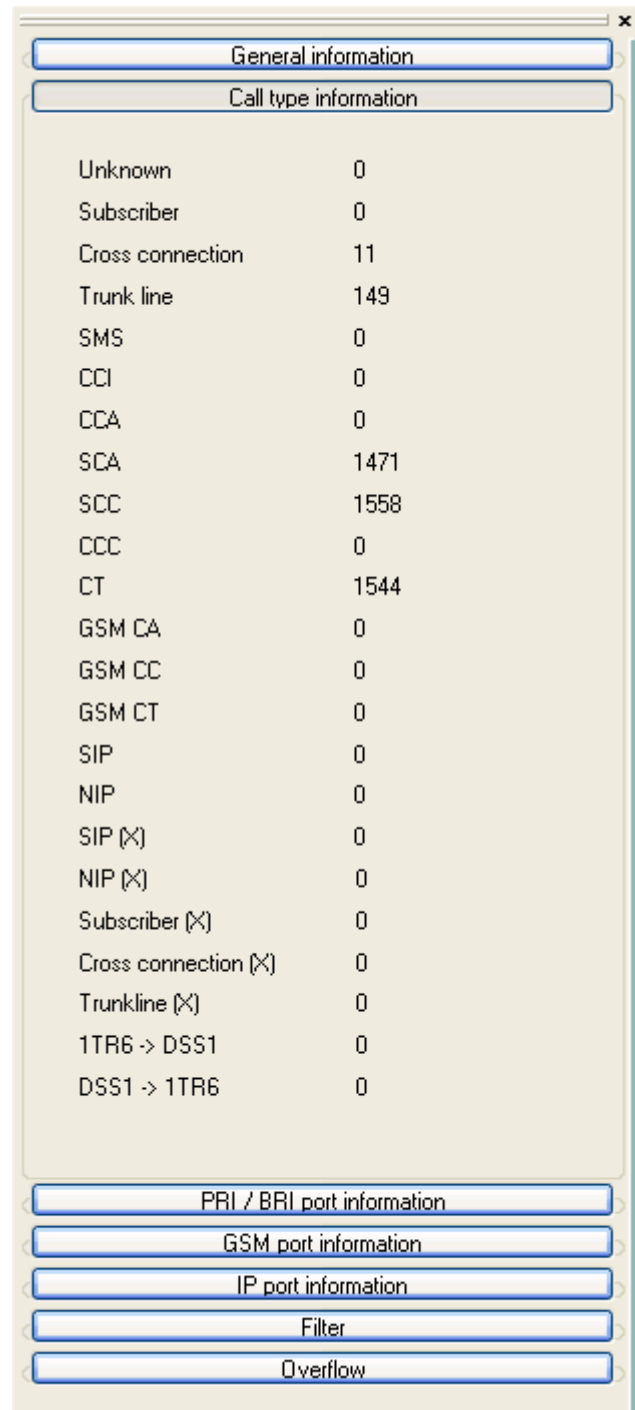
#### End date

The latest date in the of the dataset. (ordered by date, this is the last entry).

## 1.4.2 Call type information

### Call type information

#### Call type information



Call type information	
Unknown	0
Subscriber	0
Cross connection	11
Trunk line	149
SMS	0
CCI	0
CCA	0
SCA	1471
SCC	1558
CCC	0
CT	1544
GSM CA	0
GSM CC	0
GSM CT	0
SIP	0
NIP	0
SIP (X)	0
NIP (X)	0
Subscriber (X)	0
Cross connection (X)	0
Trunkline (X)	0
1TR6 -> DSS1	0
DSS1 -> 1TR6	0

PRI / BRI port information

GSM port information

IP port information

Filter

Overflow

This page of the Infobar, shows the call types information of the **currently active** [view](#).

### 1.4.3 PRI / BRI port information

## PRI / BRI port information

### PRI / BRI port information

Port ID	Description
0x111B	Slot 02: CAU: Submodule 02 (S04): Interface
0x111D	Slot 02: CAU: Submodule 01 (S04): Interface
0x111E	Slot 02: CAU: Submodule 01 (S04): Interface
0x111F	Slot 02: CAU: Submodule 01 (S04): Interface
0x121C	Slot 03: CAU: Submodule 01 (S04): Interface
0x121E	Slot 03: CAU: Submodule 01 (S04): Interface
0x3018	Slot 01: CCU3: Submodule 02 (S04): Interface
0x301C	Slot 01: CCU3: Submodule 01 (S04): Interface
0x301D	Slot 01: CCU3: Submodule 01 (S04): Interface
0x301E	Slot 01: CCU3: Submodule 01 (S04): Interface
0x301F	Slot 01: CCU3: Submodule 01 (S04): Interface
0x3048	Slot 01: CCU3: Submodule 02 (S2M2): Interface
0x3049	Slot 01: CCU3: Submodule 02 (S2M2): Interface
0x3148	Slot 01: SOS: Submodule 02 (S2M2): Interface
0x3149	Slot 01: SOS: Submodule 02 (S2M2): Interface

This page of the Infobar, shows the PRI / BRI interfaces which have been used in the datasets of the **currently active** [view](#).

#### Port ID

The hardware interface code.

#### Description

Plain text description of the interface.

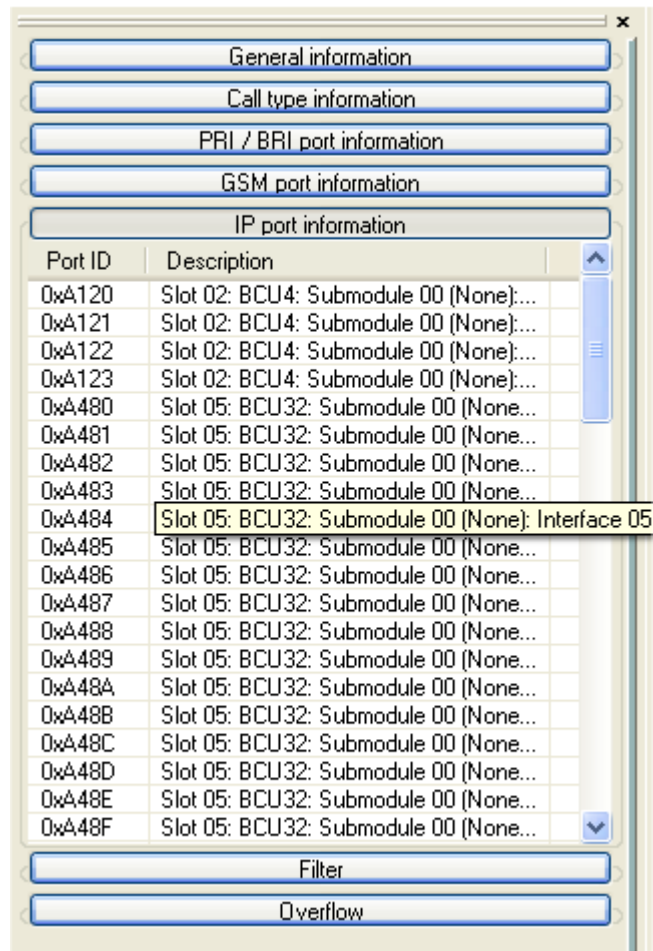




## 1.4.5 IP port information

### IP port information

#### IP port information



Port ID	Description
0xA120	Slot 02: BCU4: Submodule 00 (None):...
0xA121	Slot 02: BCU4: Submodule 00 (None):...
0xA122	Slot 02: BCU4: Submodule 00 (None):...
0xA123	Slot 02: BCU4: Submodule 00 (None):...
0xA480	Slot 05: BCU32: Submodule 00 (None):...
0xA481	Slot 05: BCU32: Submodule 00 (None):...
0xA482	Slot 05: BCU32: Submodule 00 (None):...
0xA483	Slot 05: BCU32: Submodule 00 (None):...
0xA484	Slot 05: BCU32: Submodule 00 (None): Interface 05
0xA485	Slot 05: BCU32: Submodule 00 (None):...
0xA486	Slot 05: BCU32: Submodule 00 (None):...
0xA487	Slot 05: BCU32: Submodule 00 (None):...
0xA488	Slot 05: BCU32: Submodule 00 (None):...
0xA489	Slot 05: BCU32: Submodule 00 (None):...
0xA48A	Slot 05: BCU32: Submodule 00 (None):...
0xA48B	Slot 05: BCU32: Submodule 00 (None):...
0xA48C	Slot 05: BCU32: Submodule 00 (None):...
0xA48D	Slot 05: BCU32: Submodule 00 (None):...
0xA48E	Slot 05: BCU32: Submodule 00 (None):...
0xA48F	Slot 05: BCU32: Submodule 00 (None):...

This page of the Infobar, shows the VIP interfaces which have been used in the datasets of the **currently active** [view](#).

#### Port ID

The hardware interface code.

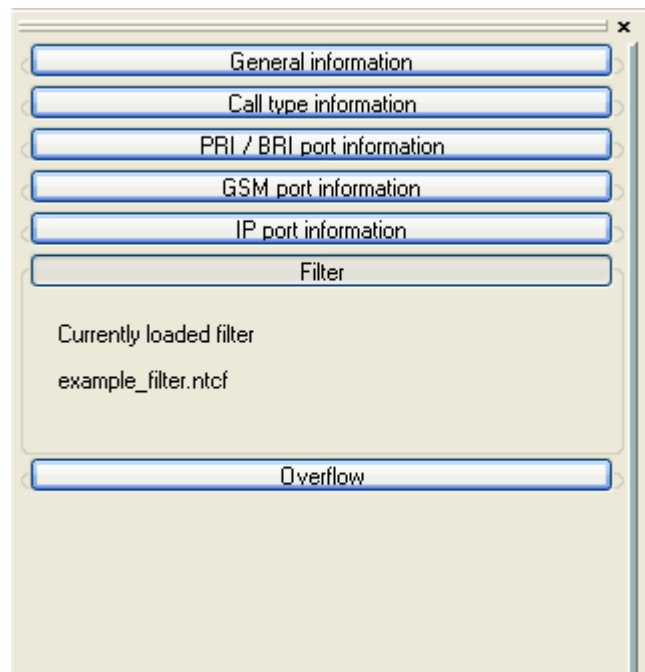
#### Description

Plain text description of the interface.

## 1.4.6 Filter

### Filter

#### Filter



This page of the Infobar, shows filter information. This is the same **regardless** of which [view](#) is currently active.

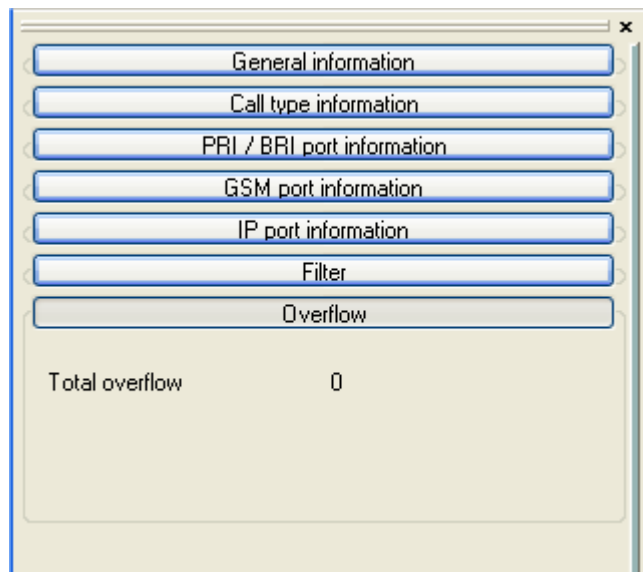
#### Currently loaded filter

The name of the currently loaded filter.

### 1.4.7 Overflow

## Overflow

### Overflow



This page of the Infobar, shows overflow information. This is the same **regardless** of which [view](#) is currently active.

## 2 Evaluating CDR's

### Evaluating CDR's

Once you are confident that you are familiar with all the functions and menus of this application, we can now go through a few examples step by step. The corresponding filter files can be found in the installation directory of the CDR Evaluation application.

#### Example 1

##### **(example\_1.ntcf)**

A basic monthly evaluation, filtering successful outgoing calls, with AOC values greater than 0 and all interfaces types included. This assumes that the NMG is generating AOC information.

#### Example 2

##### **(example\_2.ntcf)**

An advanced example, filtering calls made by specific DDI numbers, including all call attempts (regardless of the actual call state) and regardless of the AOC value. Use this method for showing results for individual departments / DDIs.

#### Example 3

##### **(example\_3.nts)**

Filtering the GSM Spillage from a previously evaluated CDR database.

#### Example 4

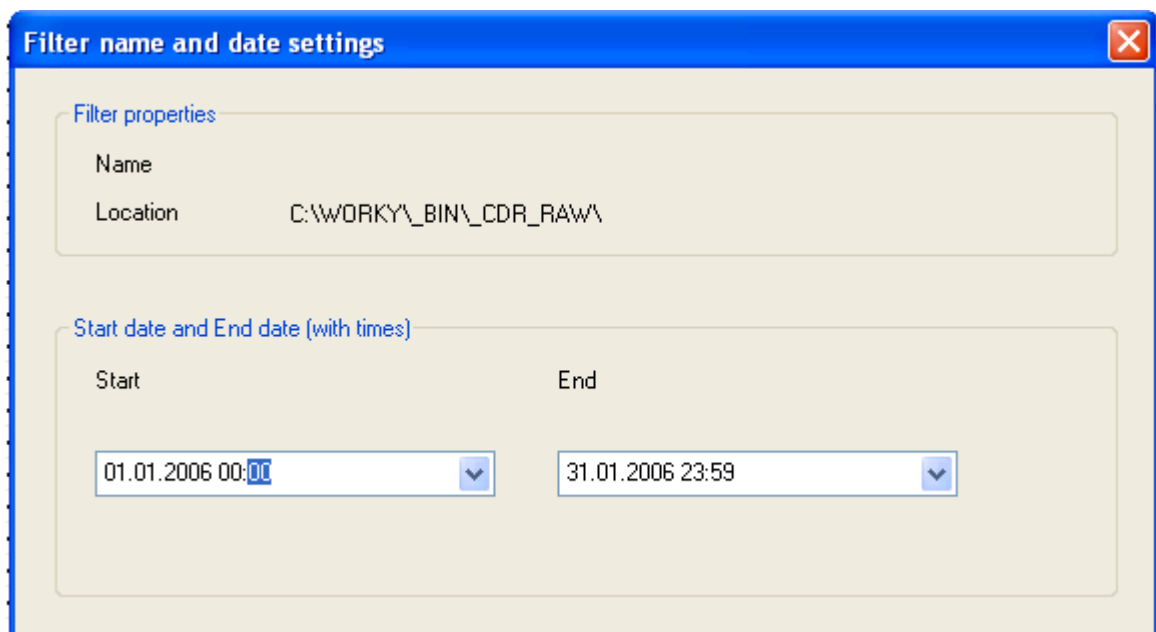
##### **(example\_4.ntcf)**

GSM spillage using the standard evaluation filter. Use this method for printable GSM spillage information instead of the graphical [GSM Spillage](#) view.

## 2.1 Example 1

### Example 1

A basic monthly evaluation, filtering successful outgoing calls, with AOC values greater than 0 and all interfaces types included. This assumes that the NMG is generating AOC information. For the example we will assume that the dates that are to be included in the evaluated data are 01.01.2006 to 31.01.2006. Creating a filter is describe in detail [here](#).



**Filter name and date settings**

**Filter properties**

Name

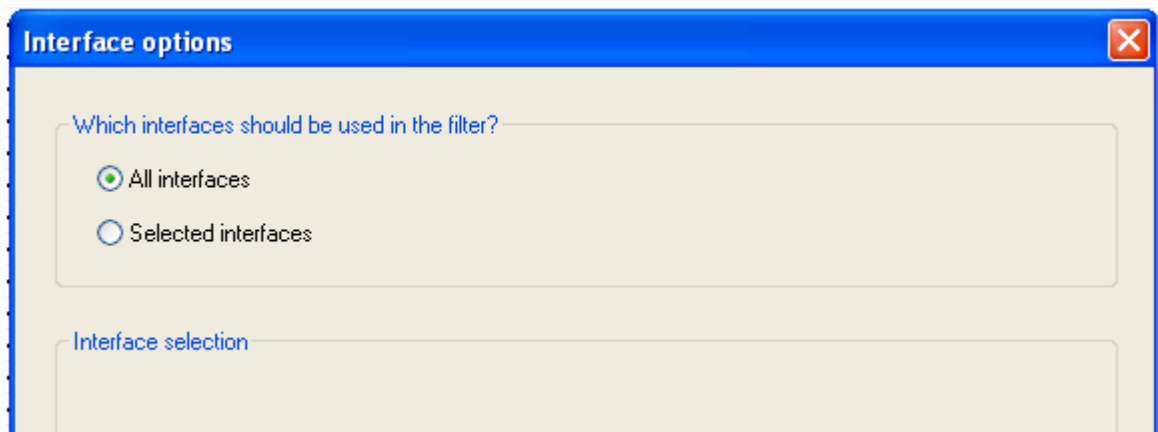
Location C:\WORKY\BIN\CDR\_RAW\

**Start date and End date (with times)**

Start End

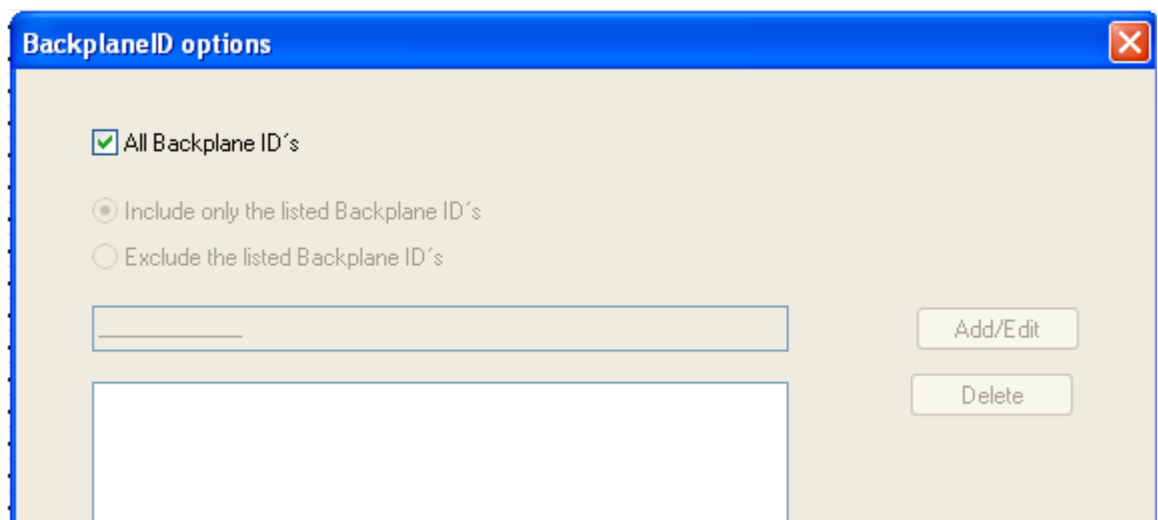
01.01.2006 00:00 31.01.2006 23:59

Notice that to include the complete month, we start a midnight on the first day of the month, and include everything up until **23:59** on the last day of the month. Once the correct dates have been entered, click **Next** to continue.



The 'Interface options' dialog box has a blue title bar with a close button. The main area is light beige. It contains a section titled 'Which interfaces should be used in the filter?' with two radio buttons: 'All interfaces' (selected) and 'Selected interfaces'. Below this is a section titled 'Interface selection' which is currently empty.

As we wish to include all interfaces in the filter, we leave everything as it is and click **Next** to carry onto the next page.



The 'BackplaneID options' dialog box has a blue title bar with a close button. The main area is light beige. It contains three radio buttons: 'All Backplane ID's' (checked), 'Include only the listed Backplane ID's', and 'Exclude the listed Backplane ID's'. Below the radio buttons is a text input field. To the right of the input field are two buttons: 'Add/Edit' and 'Delete'.

The same applies to the Backplane ID options, click **Next** to continue.

**Call direction, Call type and Call state options**

**Direction**

☐ Both (incoming and outgoing)

☐ Only 1 (incoming)

☒ Only 2 (outgoing)

**Call types**

☒ All types

- ☒ Unknown (0)
- ☒ Subscriber (1)
- ☒ Cross connection (2)
- ☒ Trunkline (3)
- ☒ SMS (4)
- ☒ Callback Call Initiator (CCI 5)
- ☒ Callback Call Activation (CCA 6)
- ☒ Server Callback Activation (SCA 7)
- ☒ Callback Target (CT 8)
- ☒ Server Callback Call (SCC 9)
- ☒ Client Callback Call (CCC 10)
- ☒ GSM Callback Activation (GCR& 11)

**Call states**

☐ All states

- ☐ IDLE (0)
- ☐ CALL SETUP (1)
- ☐ ALERTING (2)
- ☒ CONNECTED (3)
- ☐ HOLD (4)

As we only want outgoing successful calls, we choose **Only 2 (outgoing)** from the **Direction** options, un check the box **All states** in the **Call states** options, and select **CONNECTED** from the list. All other call states should **not** be selected. Click **Next** to continue to the next page.



**AOC, Duration and Cause value options**

**AOC (Advice of Charge) options**

- ☐ Include all CDR's regardless of AOC value
- ☒ Only include CDR's whose AOC is greater than 0
- ☐ Only include CDR's whose AOC is greater than  units

**Duration options**

- ☒ Include all CDR's regardless of duration
- ☐ Only include CDR's whose duration is greater than 0
- ☐ Only include CDR's whose duration is greater than  units

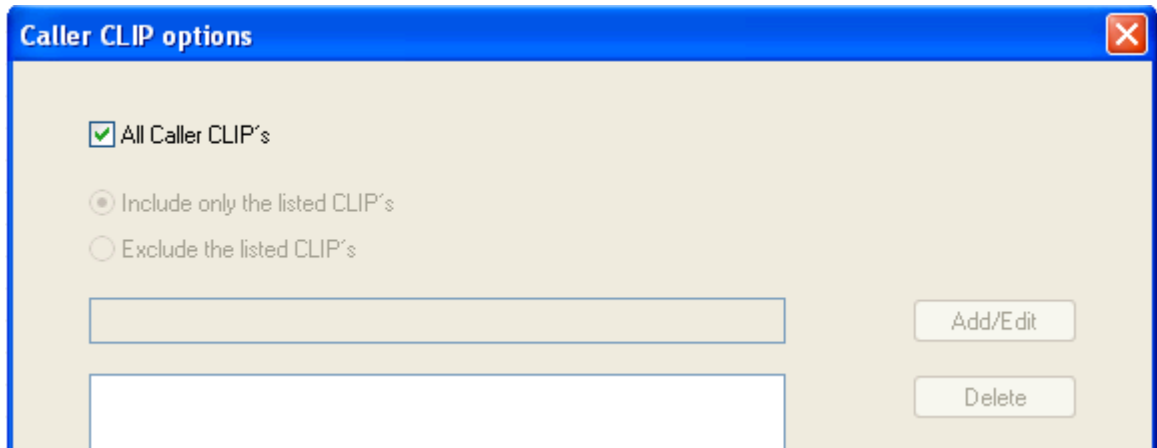
**Cause Value options**

- ☐ Include all CDR's regardless of Cause Value
- ☒ Include CDR's whose Cause Values are...

- ☐ 1 Unallocated (unassigned) number
- ☐ 2 No route to specified transit network
- ☐ 3 No route to destination
- ☐ 6 Channel unacceptable
- ☐ 7 Call awarded and being delivered in an established channel
- ☒ 16 Normal call clearing
- ☐ 17 User busy
- ☐ 18 No user responding
- ☐ 19 No answer from user (user alerted)
- ☐ 31 Normal, unspecified

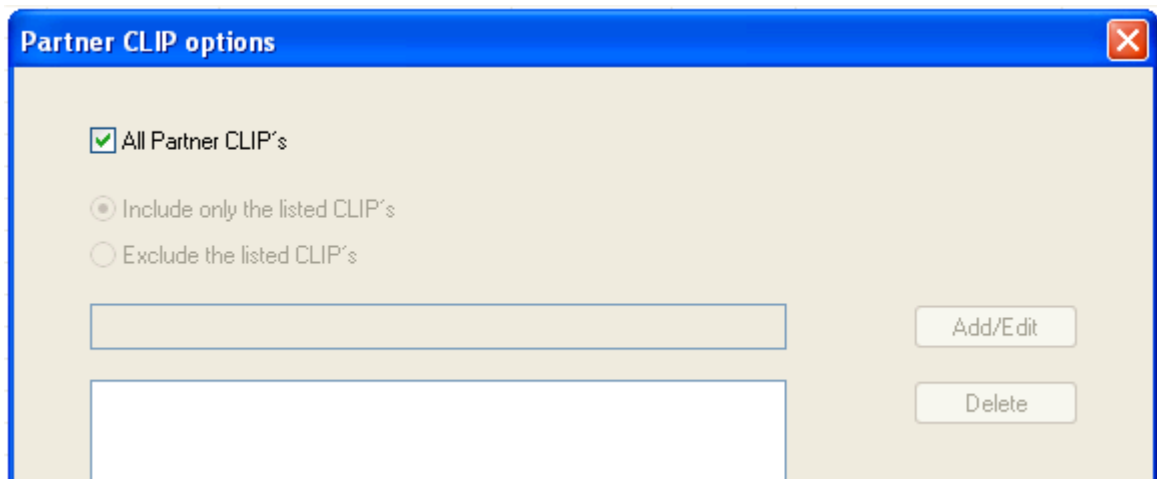
As we only want calls that have incurred costs in the evaluated data, check the button **Only include CDR's whose AOC is greater than 0** in the **AOC (Advice of Charge) options**, leave the **Duration options** as shown.

Also we only wish to include calls that have normal call clearing, so click the button **Include CDR's whose Cause Values are...** in the **Cause Value options** and select **16 Normal call clearing** and **31 Normal, unspecified**. You will have to use the scroll bar to the right of the list of cause values to select cause 31. Click **Next** to continue.



A dialog box titled "Caller CLIP options" with a blue header bar and a red close button in the top right corner. The main area has a light beige background. It contains three radio button options: "All Caller CLIP's" (which is checked), "Include only the listed CLIP's", and "Exclude the listed CLIP's". Below these options are two empty rectangular input fields. To the right of the input fields are two buttons: "Add/Edit" and "Delete".

As we are not interested in the Caller CLIPs we can click **Next** to continue.



A dialog box titled "Partner CLIP options" with a blue header bar and a red close button in the top right corner. The main area has a light beige background. It contains three radio button options: "All Partner CLIP's" (which is checked), "Include only the listed CLIP's", and "Exclude the listed CLIP's". Below these options are two empty rectangular input fields. To the right of the input fields are two buttons: "Add/Edit" and "Delete".

The same applies to the Partner CLIPs. Click **Next** to continue.

**Data binding, billing and merging options**

**CDR data binding**

☐ Bind Callback Calls [CT <--> SCC]

**CDR Billing**

☐ Use billing factor ☐ Use time delta

AoC %  + Delta seconds

**CDR data merging**

☐ Merge CDR calls

No other changes / settings are required. Click **Finish** to save the filter. It can now be [loaded](#) as used to create [evaluated data](#). This filter can be used as a template for the monthly evaluation, only the date needs to be edited.

If we were to write the properties of the filter we have just created as a question, it would look something like this:

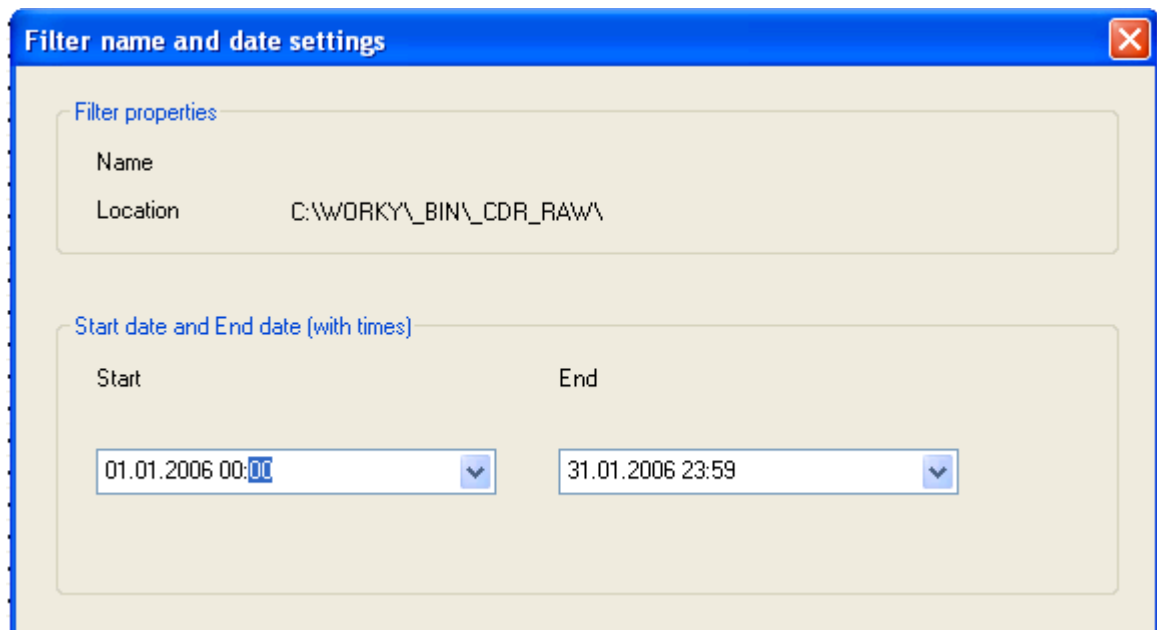
Give me all the data from the Raw view, where the following is true:

The date of a CDR data set is later then 01.01.2006 at 00:00 but earlier than 01.01.2006 at 23:59 **AND**  
The CDR dataset represents an **outgoing** call **AND**  
The CDR datasets has a Cause value of 16 **OR** 31

## 2.2 Example 2

### Example 2

An advanced example, filtering ( outgoing ) calls made by specific DDI numbers, including all call attempts (regardless of the actual call state) and regardless of the AOC value. Use this method for showing results for individual departments / DDIs.



**Filter name and date settings**

**Filter properties**

Name

Location C:\WORKY\BIN\CDR\_RAW\

**Start date and End date (with times)**

Start End

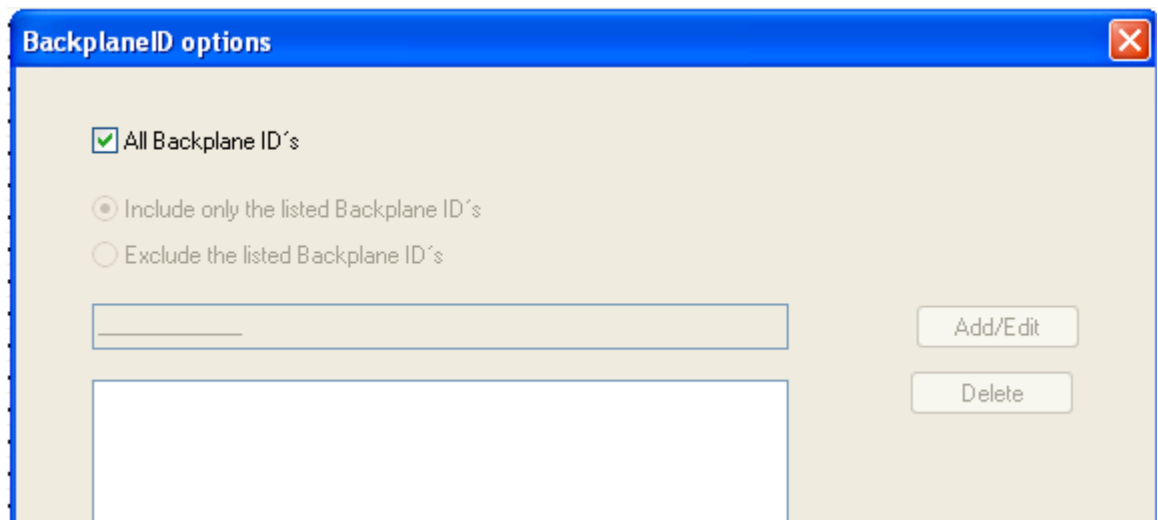
01.01.2006 00:00 31.01.2006 23:59

Notice that to include the complete month, we start at midnight on the first day of the month, and include everything up until **23:59** on the last day of the month. Once the correct dates have been entered, click **Next** to continue.



The 'Interface options' dialog box has a blue title bar with a close button. The main area is light beige. It contains a section titled 'Which interfaces should be used in the filter?' with two radio buttons: 'All interfaces' (selected) and 'Selected interfaces'. Below this is a section titled 'Interface selection' which is currently empty.

As we wish to include all interfaces in the filter, we leave everything as it is and click **Next** to carry onto the next page.



The 'BackplaneID options' dialog box has a blue title bar with a close button. The main area is light beige. It contains three radio buttons: 'All Backplane ID's' (checked), 'Include only the listed Backplane ID's', and 'Exclude the listed Backplane ID's'. Below the radio buttons is a text input field. To the right of the input field are two buttons: 'Add/Edit' and 'Delete'.

The same applies to the Backplane ID options, click **Next** to continue.

**Call direction, Call type and Call state options**

**Direction**

☐ Both (incoming and outgoing)

☐ Only 1 (incoming)

☒ Only 2 (outgoing)

**Call types**

☒ All types

☒ Unknown (0)

☒ Subscriber (1)

☒ Cross connection (2)

☒ Trunkline (3)

☒ SMS (4)

☒ Callback Call Initiator (CCI 5)

☒ Callback Call Activation (CCA 6)

☒ Server Callback Activation (SCA 7)

☒ Callback Target (CT 8)

☒ Server Callback Call (SCC 9)

☒ Client Callback Call (CCC 10)

☒ GSM Callback Activation (GCR& 11)

**Call states**

☒ All states

☒ IDLE (0)

☒ CALL SETUP (1)

☒ ALERTING (2)

☒ CONNECTED (3)

☒ HOLD (4)

As we only need outgoing calls, regardless of type or state, only the **Direction** options needs to be changed to **Only 2 (outgoing)**. Click **Next** to continue.

**AOC, Duration and Cause value options**

**AOC (Advice of Charge) options**

- ☐ Include all CDR's regardless of AOC value
- ☒ Only include CDR's whose AOC is greater than 0
- ☐ Only include CDR's whose AOC is greater than  units

**Duration options**

- ☒ Include all CDR's regardless of duration
- ☐ Only include CDR's whose duration is greater than 0
- ☐ Only include CDR's whose duration is greater than  units

**Cause Value options**

- ☐ Include all CDR's regardless of Cause Value
- ☒ Include CDR's whose Cause Values are...

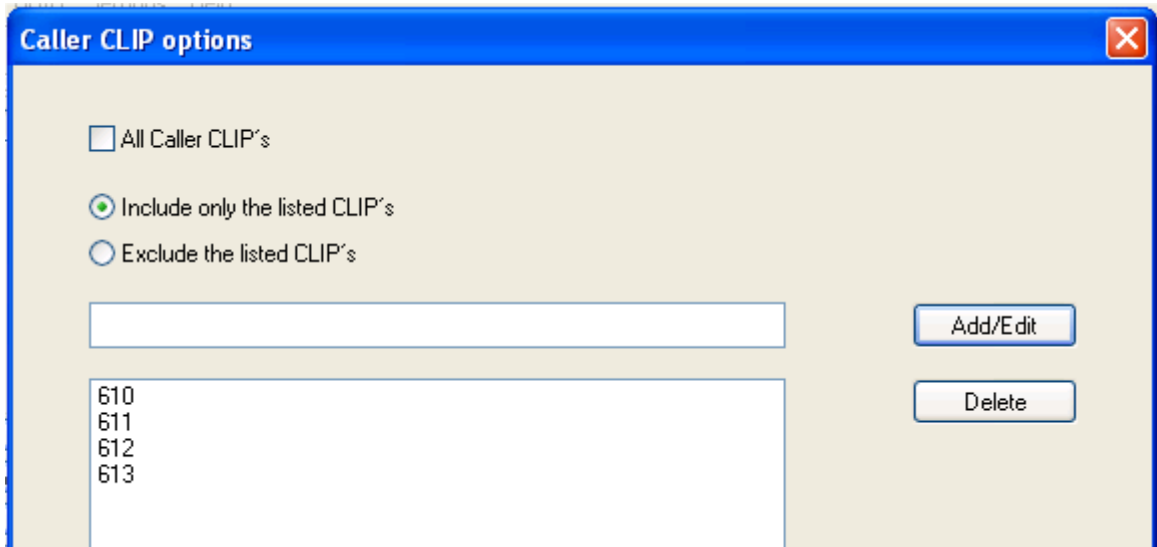
- ☐ 1 Unallocated (unassigned) number
- ☐ 2 No route to specified transit network
- ☐ 3 No route to destination
- ☐ 6 Channel unacceptable
- ☐ 7 Call awarded and being delivered in an established channel
- ☒ 16 Normal call clearing
- ☐ 17 User busy
- ☐ 18 No user responding
- ☐ 19 No answer from user (user alerted)
- ☐ 31 Normal, unspecified

As we only want calls that have incurred costs in the evaluated data, check the button **Only include CDR's whose AOC is greater than 0** in the **AOC (Advice of Charge) options**, leave the **Duration options** as shown.

Also we only wish to include calls that have normal call clearing, so click the button **Include CDR's whose Cause Values are...** in the **Cause Value options** and select **16 Normal call clearing** and **31 Normal, unspecified**. You will have to use the scroll bar to the right of the list of cause values to select cause 31. Click **Next** to continue.

As we would like to include only certain DDI numbers in the filter, this is where we would enter the DDI numbers into the filter. For this example, the DDI numbers 610, 611, 612, 613. This will include also the numbers 6101, 6115 etc. as the filter matches the first three digits to the Caller CLIP contained in the CDR dataset.

( Like 610\*, Like 611\*)



Caller CLIP options

☐ All Caller CLIP's

☒ Include only the listed CLIP's

☐ Exclude the listed CLIP's

610  
611  
612  
613

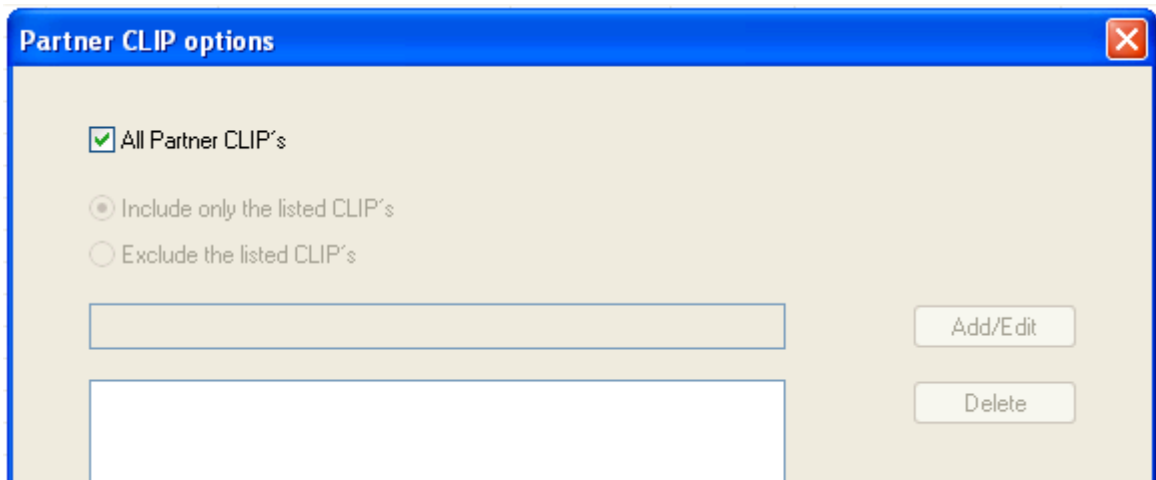
Add/Edit

Delete

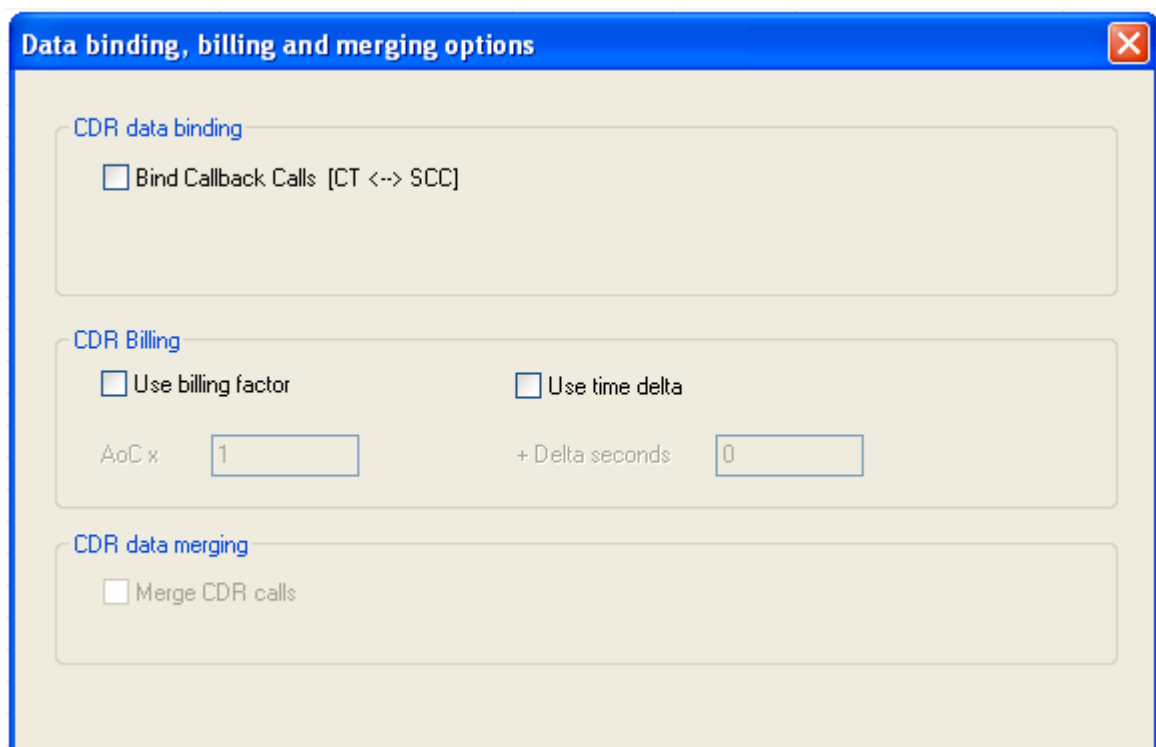
Once you have entered all the required DDI numbers, click **Next** to continue.



As we do not need to filter the Partner ( target ) CLIPs, we leave this page as it is and click **Next**.



The 'Partner CLIP options' dialog box has a blue title bar with a close button. It contains three radio button options: 'All Partner CLIP's' (checked), 'Include only the listed CLIP's', and 'Exclude the listed CLIP's'. Below these is a text input field. To the right of the input field are two buttons: 'Add/Edit' and 'Delete'.



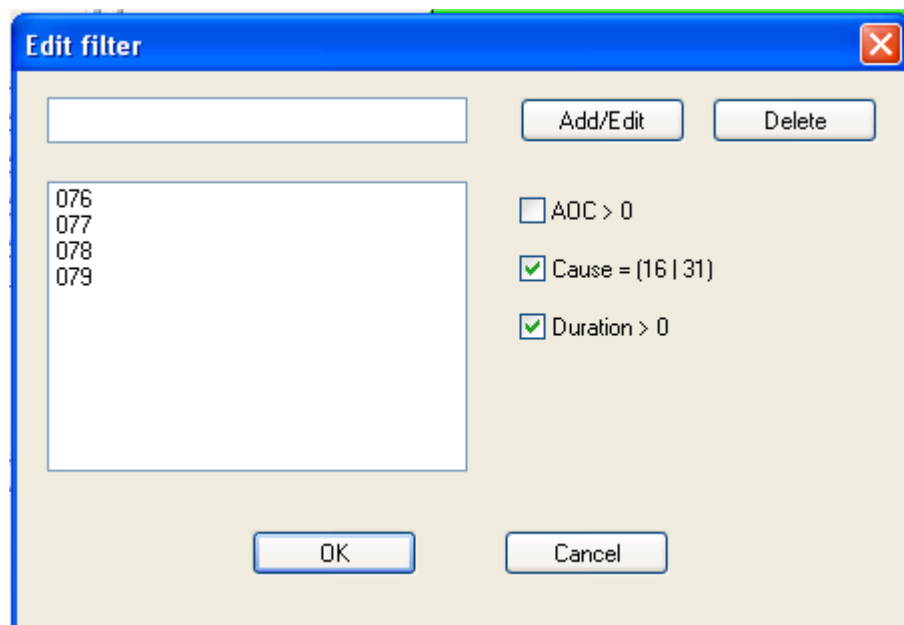
The 'Data binding, billing and merging options' dialog box has a blue title bar with a close button. It is divided into three sections: 'CDR data binding' with a checkbox 'Bind Callback Calls [CT <--> SCC]'; 'CDR Billing' with checkboxes 'Use billing factor' and 'Use time delta', and input fields for 'AoC x' (value 1) and '+ Delta seconds' (value 0); and 'CDR data merging' with a checkbox 'Merge CDR calls'.

No other changes / settings are required. Click **Finish** to save the filter. It can now be loaded as used to create evaluated data. This filter can be used as a template for the monthly evaluation, only the date needs to be edited.

## 2.3 Example 3

### Example 3

This example shows how to create a [GSM Spillage](#) filter, for use on data that is present in the [evaluated view](#). It will filter out the "GSM Spillage" of the evaluated data, where the duration is greater than 0 and the release cause is 16 or 31 (normal call clearing), using the number 076, 077, 078, 079 as the mobile numbers to filter.

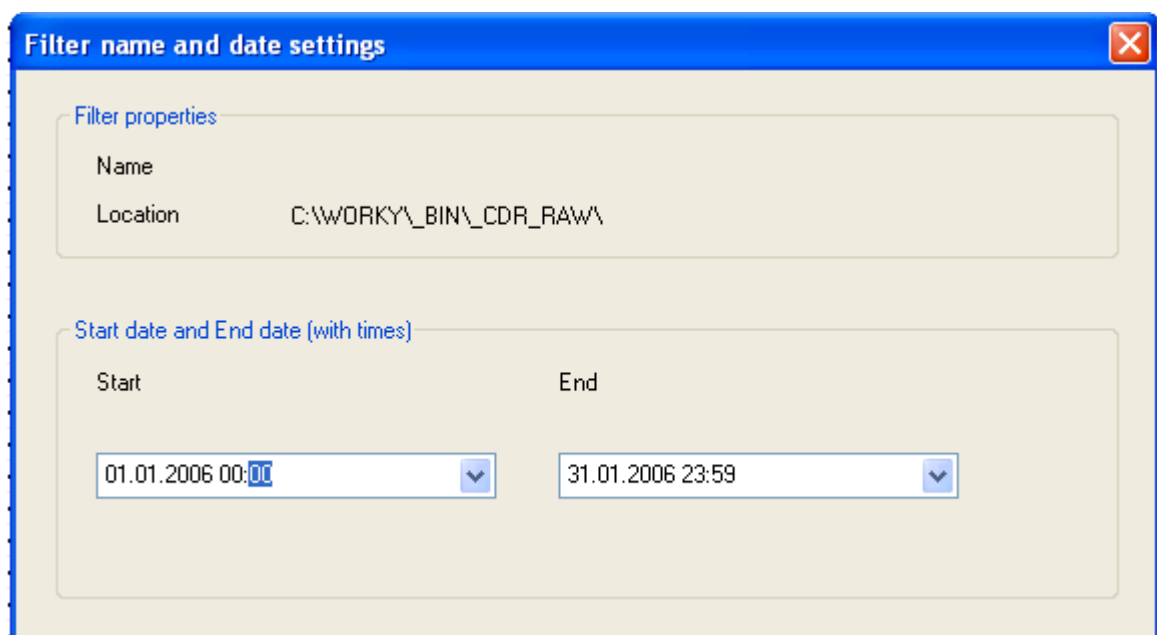


The filter automatically adds the restriction, that the SIM ID of the CDR dataset **must be empty** to be included as "GSM Spillage".

## 2.4 Example 4

### Example 4

This example shows how a normal filter can be used to create evaluated data that creates evaluated data that shows the GSM spillage. This is useful for printing GSM spillage data instead of the standard [GSM Spillage](#) output.



**Filter name and date settings**

**Filter properties**

Name

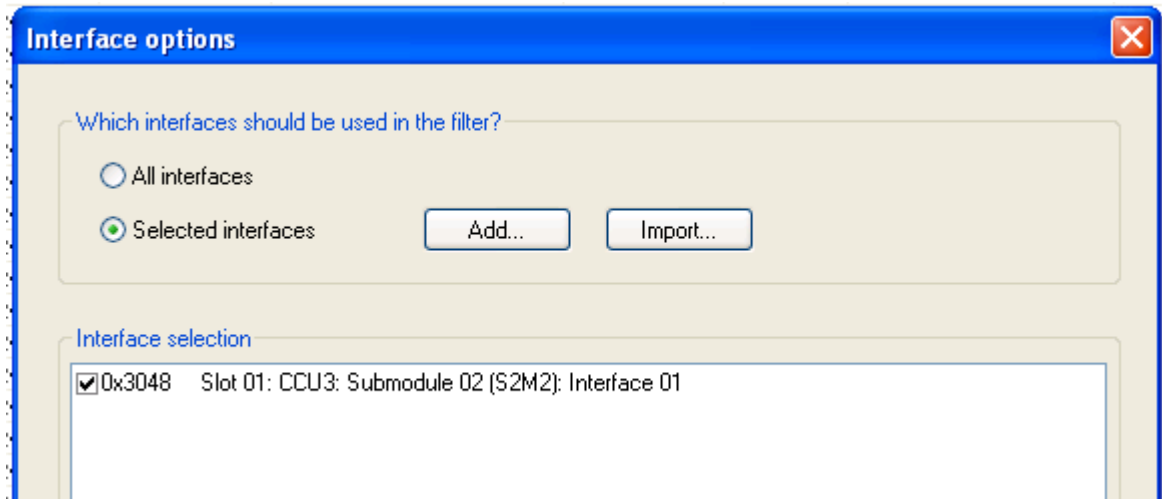
Location C:\WORKY\BIN\CDR\_RAW\

**Start date and End date (with times)**

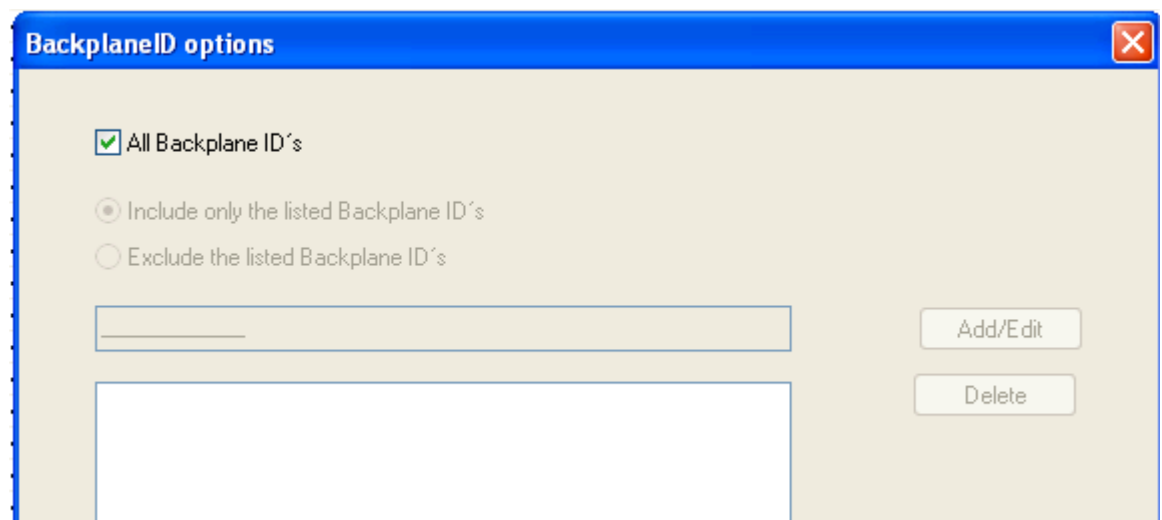
Start End

01.01.2006 00:00 31.01.2006 23:59

Notice that to include the complete month, we start at midnight on the first day of the month, and include everything up until **23:59** on the last day of the month. Once the correct dates have been entered, click **Next** to continue.



In this example, the first S2M2 (PRI) interface on the CCU3 is connected to the PSTN. Your NMG may be configured differently. You should enter the interface (s) that are connected to the PSTN for inclusion in the filter. Adding interfaces in the filter is describe in depth [here](#). Once the ISDN interfaces that are connected to the PSTN have been entered here, click **Next** to continue.



All Backplane should be included, therefore leave this page as shown and click **Next** to continue.

The screenshot shows a software window titled "Call direction, Call type and Call state options" with a close button in the top right corner. The window is divided into three sections: "Direction", "Call types", and "Call states".

- Direction:** Contains three radio button options: "Both (incoming and outgoing)", "Only 1 (incoming)", and "Only 2 (outgoing)". The "Only 2 (outgoing)" option is selected.
- Call types:** Contains a checked checkbox for "All types" and a list box with the following items, all of which are checked:
  - Unknown (0)
  - Subscriber (1)
  - Cross connection (2)
  - Trunkline (3)
  - SMS (4)
  - Callback Call Initiator (CCI 5)
  - Callback Call Activation (CCA 6)
  - Server Callback Activation (SCA 7)
  - Callback Target (CT 8)
  - Server Callback Call (SCC 9)
  - Client Callback Call (CCC 10)
  - GSM Callback Activation (GCR& 11)
- Call states:** Contains an unchecked checkbox for "All states" and a list box with the following items:
  - IDLE (0)
  - CALL SETUP (1)
  - ALERTING (2)
  - CONNECTED (3) - This item is checked and highlighted with a blue background.
  - HOLD (4)

As we only want outgoing successful calls, we choose **Only 2 (outgoing)** from the **Direction** options, un check the box **All states** in the **Call states** options, and select **CONNECTED** from the list. All other call states should **not** be selected. Click **Next** to continue to the next page.

**AOC, Duration and Cause value options**

**AOC (Advice of Charge) options**

- ☐ Include all CDR's regardless of AOC value
- ☒ Only include CDR's whose AOC is greater than 0
- ☐ Only include CDR's whose AOC is greater than  units

**Duration options**

- ☒ Include all CDR's regardless of duration
- ☐ Only include CDR's whose duration is greater than 0
- ☐ Only include CDR's whose duration is greater than  units

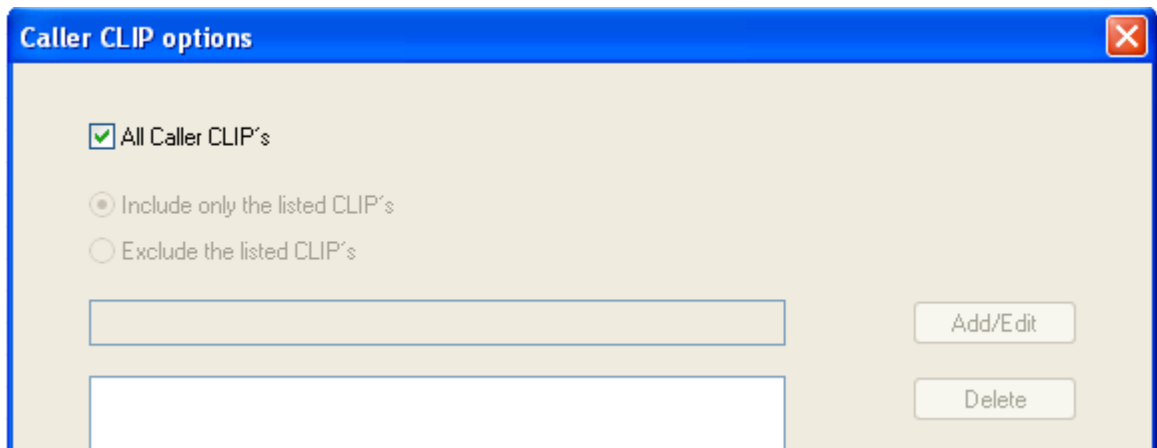
**Cause Value options**

- ☐ Include all CDR's regardless of Cause Value
- ☒ Include CDR's whose Cause Values are...

- ☐ 1 Unallocated (unassigned) number
- ☐ 2 No route to specified transit network
- ☐ 3 No route to destination
- ☐ 6 Channel unacceptable
- ☐ 7 Call awarded and being delivered in an established channel
- ☒ 16 Normal call clearing
- ☐ 17 User busy
- ☐ 18 No user responding
- ☐ 19 No answer from user (user alerted)
- ☐ 31 Normal, unspecified

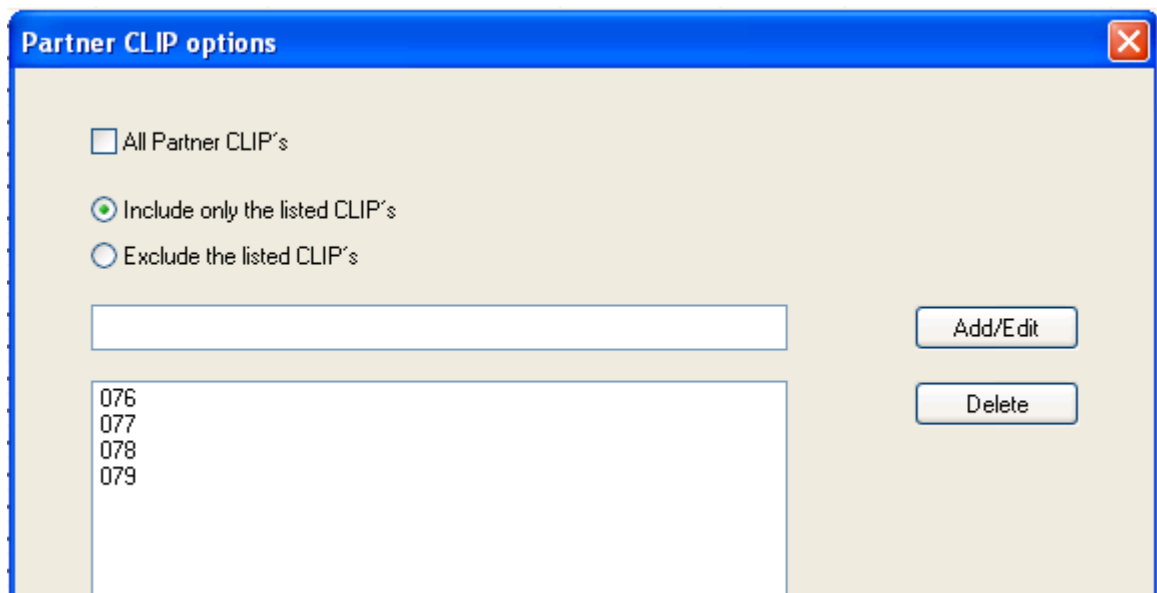
As we only want calls that have incurred costs in the evaluated data, check the button **Only include CDR's whose AOC is greater than 0** in the **AOC (Advice of Charge) options**, leave the **Duration options** as shown.

Also we only wish to include calls that have normal call clearing, so click the button **Include CDR's whose Cause Values are...** in the **Cause Value options** and select **16 Normal call clearing** and **31 Normal, unspecified**. You will have to use the scroll bar to the right of the list of cause values to select cause 31. Click **Next** to continue.



As we are not interested in the Caller CLIPs we can click **Next** to continue.

However, the Partner CLIP options **is** interesting, because here we can enter the GSM network prefixes, to get the CDR datasets whose Partner ( target ) number corresponds to a mobile number, but because we have only chosen the ISDN interfaces connected to the PSTN, we will achieve the same results as the [GSM Spillage view](#). Un check the box **All Partner CLIP's**, make sure that the button **Include only the listed CLIP's** is selected and enter the mobile prefixes. This is explained in more detail [here](#).



For this example, the UK mobile prefixes have been used.

**Data binding, billing and merging options**

**CDR data binding**

☐ Bind Callback Calls [CT <--> SCC]

**CDR Billing**

☐ Use billing factor      ☐ Use time delta

AoC x:       + Delta seconds:

**CDR data merging**

☐ Merge CDR calls

No other changes / settings are required. Click **Finish** to save the filter. It can now be [loaded](#) as used to create [evaluated data](#). This filter can be used as a template for the monthly GSM spillage evaluation, only the date needs to be edited.

**Note**

If the NMG is configured to use the ISDN interfaces as "Fall back" routes, then of course the evaluated information will include this data also.