Advanced PBX Data Logger

Trust in Confidence!

PRINTED MANUAL

PBX Report

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Publisher

AGG Software

Production

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1 License, Registration and technical support

1.1 License

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1.2 Limitations

Program is distributed on shareware terms. This means limited and unavailable secondary program possibilities, which become valuable or available after program registration. To register the program read here 2.
In trial version of our program are the following limits:

- Trial period is limited by 21 days. After that time program won't work until it is registered.
- Continuous program work time is limited. After set period a message will be displayed and program stops its work;
- All data export modules can handle first 100 records only;

1.3 How to register

The program is distributed on shareware terms. This signifies limited or unavailable many features of the program, getting of full value or available after program registration.

If you'd like to be a registered user, to get information about the release of new versions, to use technical support and, at last, to get access to disabled functions of the program, register your copy. For registration, please, read license agreement 1.

If you want to buy a program through the Internet visit the registration page of our site. On this page you can get the newest information about the registration process, and also find an order link. After you've have the form of order registration. Enter your personal information and choose the most convenient payment method for you. Further, you'll get notification and follow the notes in it.

More information about services, registration documents, payment means you can get on our registration page of our site.

1.4 Support

Technical questions	support@aggsoft.com
Common questions	info@aggsoft.com
Sales questions	sales@aggsoft.com

2 Installation

2.1 System requirements

Windows 2000 Professional - Windowsa 8.1, including x64 and x86 OS, Workstation and Server OS.

2.2 Installation process

If any beta-version was installed on your computer, remove it.

Quit of the working PBX Report on installation time.

Run an installation file.

By default, PBX Report will be installed to the directory "/Programs Files/PBX Report" of your system disk, but you can change this path.

In the standard distributive of PBX Report are no additional modules files, which you can download from our site.

3 Administration and reports

3.1 First launch

The PBX Report program consists of two parts:

- **Logger** – this part of the program controls all events and adds them to the database. This part of the program runs completely automatically. It can run as a service and be completely invisible for the user;
- **Reporting program** – this part of the program is used to generate reports and perform other

service functions.

This part of help describes the administration program.

After you successfully install PBX Report, you should configure the program.

Start the administration program (hereinafter the program) from the "Start" menu.

After you start the program, you will see its main window (fig.1) whose main elements are the main menu, the toolbar, the data output area, the status bar and the navigation bar. You will see data about events from the database in the data output area. The status bar shows a hint for many interface elements, information about operations in progress, etc. You can access the preferences of the program from the main menu of the program ("Edit/Preferences...").

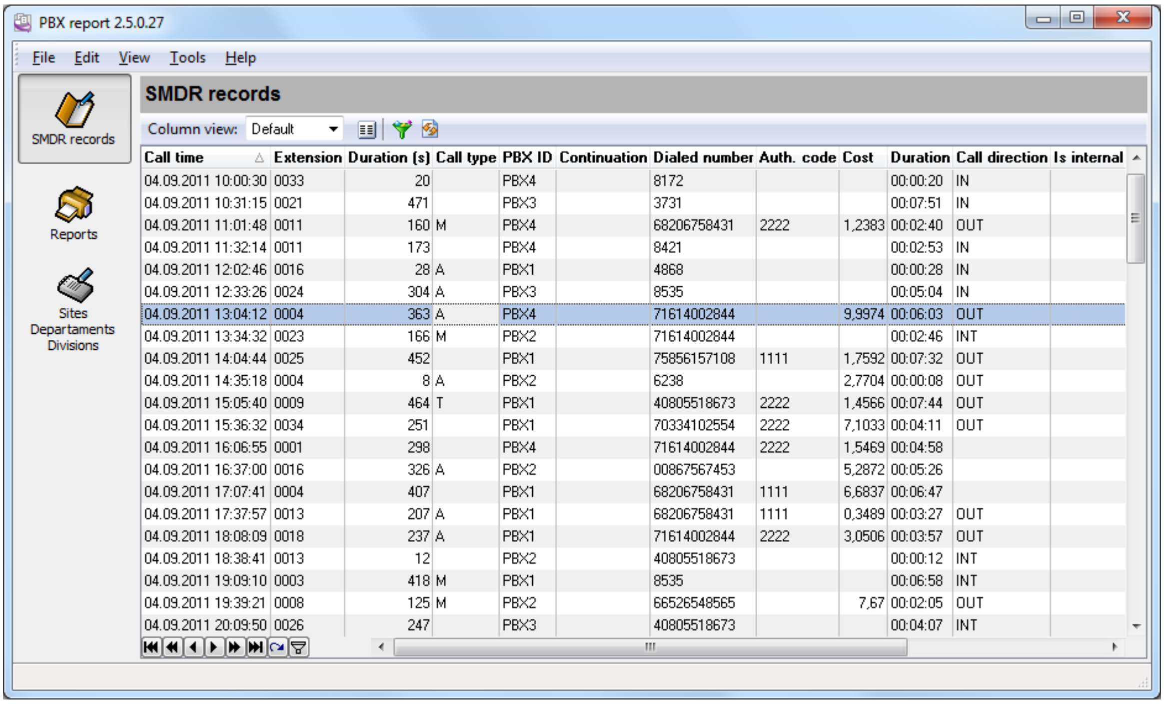


Fig.1 Main window

By default, the program is configured to be used on one computer with the logger. Microsoft Access is used as a database. If you plan to use the administration program on another computer, you should install and configure an MSSQL or MySQL database.

It is as easy to get to know the program as 1-2-3-4-5

Step 1. Configure the logger that will collect and log SMDR data to the database.

Step 2. Make the list of PBX, sites, departments and divisions 8 you will control.

Step 3. Make the list of stations (extensions) 9 your organization has.

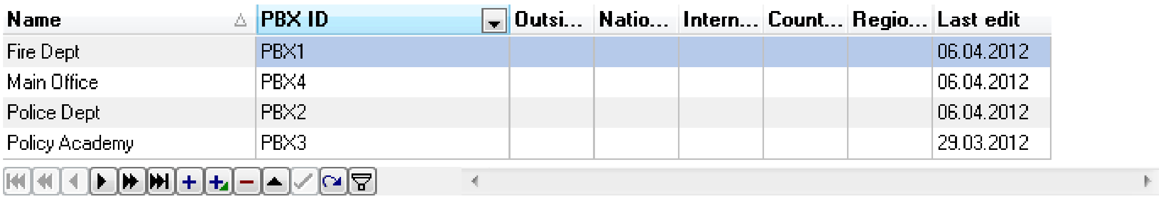
Step 4. Create the list of your favorite reports on the "Reports 12" tab.

Step 5. Customize the program options. Particularly, enable the built-in HTTP server 17 to be able to remotely view the reports or make the list of scheduled reports.

Now you can view, print and save reports about printers that are monitored by the logger to files on the "Reports 12" tab.

3.2 General information

All source data are presented as a table in the program. You can find out how to work with these tables below.



Name	PBX ID	Outsi...	Natio...	Intern...	Count...	Regio...	Last edit
Fire Dept	PBX1						06.04.2012
Main Office	PBX4						06.04.2012
Police Dept	PBX2						06.04.2012
Policy Academy	PBX3						29.03.2012

Fig.2 Table with data

Each table has navigation buttons at the bottom (fig.2).

Fig.2 Navigation bar

Navigation buttons

Buttons (left to right):

1. **First** – move to the first record in the table;
2. **Page Up** – move to the record one page up;
3. **Previous** – move to the previous record;
4. **Next** – move to the next record;
5. **Page Down** – move to the record one page down;
6. **Last** – move to the last record in the table;
7. **Insert** – insert a new record into the table next to the current one;
8. **Add** – add a new record to the end of the table. After you save the record, it will be sorted according to the sorting rules;
9. **Delete** - delete the selected records. You can also delete records by pressing the "Delete" key on the keyboard;
10. **Edit** – edit the current record. You can edit a record by clicking the current cell in the table;
11. **Save** – save the changes in the current row;
12. **Cancel** – cancel changes in the current row in the table;
13. **Refresh** – refresh the current row;
14. **Filter** – open the dialog box where you can configure filtering the data (fig.3)

Some navigation buttons can be unavailable. It depends on the data shown in the table.

New filter

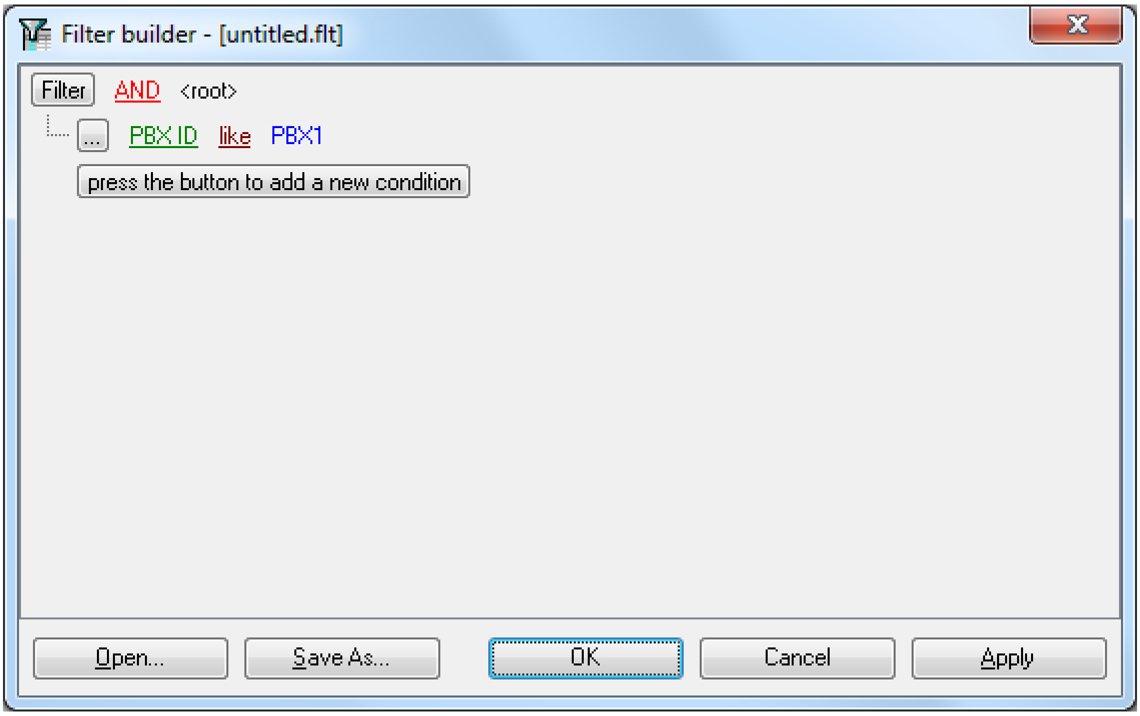


Fig.3 Filter

This dialog box allows you to configure the filter you can use to filter data in the table by the condition you specify. You can select the condition each column will be checked by. You can specify complex rules by adding several conditions.

You can save the filter to a file and load it later using the corresponding button.

Click "OK" after you finish editing the filter.

Quick filter

You can access the quick filter if you move the mouse pointer to the right edge of the column header (fig.4). If you click the button, you can open a drop-down list where you can select the value for the filter. This filter is limited in the "Events" table not to slow down the program.

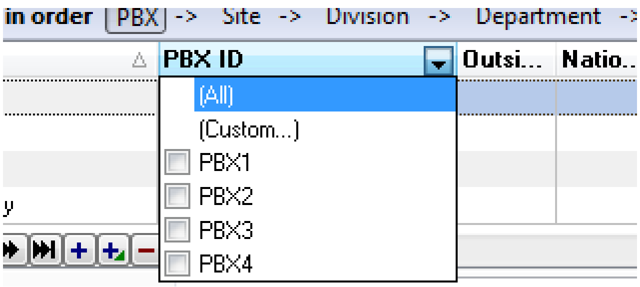


Fig.4 Quick filter

Column customization

The program allows you to flexible customize columns. You can:

Change the order of columns – just click the column header and move the column to the necessary position holding down the mouse button.

Quickly sort data in the table – click the column header. If you need to sort data by two or more columns, hold down the "Shift" key when you click the column header.

Hide columns in the table – open the "Columns editor" dialog box (fig.6) using either the toolbar (fig.5) or the popup menu.

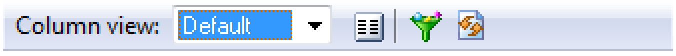


Fig.5 Toolbar

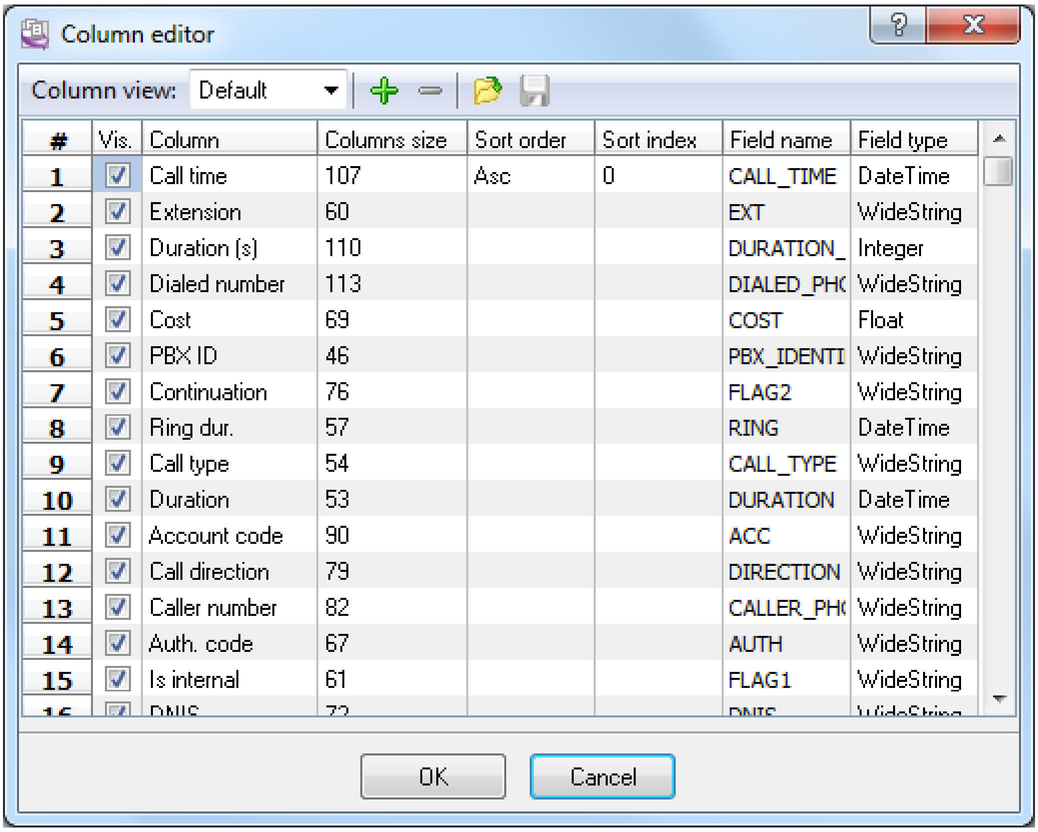


Fig.6 "Column editor" dialog box

You can customize the order and the set of columns in the table in this dialog box. The program allows you to create several **Column views**, which will allow you to filter data by the necessary condition and quickly switch between column views.

Select the checkbox of the column name for the column to be shown in the table. You can change the position of a column by dragging it to the necessary position (hold down the mouse button on the column number). After you change the settings, you should save them with a click on the toolbar.

You can create new data types and delete existing ones with clicks on the "+" and "-" buttons.

When you exit the program, the current view will be saved and restored when you start the program next time.

After you exit this dialog box, all new column views will be displayed in the drop-down list on the toolbar (fig.5).

You can use the following items on the popup menu of the table to customize the column size.

Adjust columns – the program will calculate the column width depending to the value in it. The column width will correspond to the width of the cell with the longest value.

Proportional column width – the column width will be automatically calculated depending on the table width.

3.3 Creating the PBX list

The PBX list is necessary for the program to assign logged SMDR records to a PBX, site, department and division.

To create the list of PBX, select the "Site Department Division" page on the navigation bar (fig.7) and then click necessary button on the toolbar.

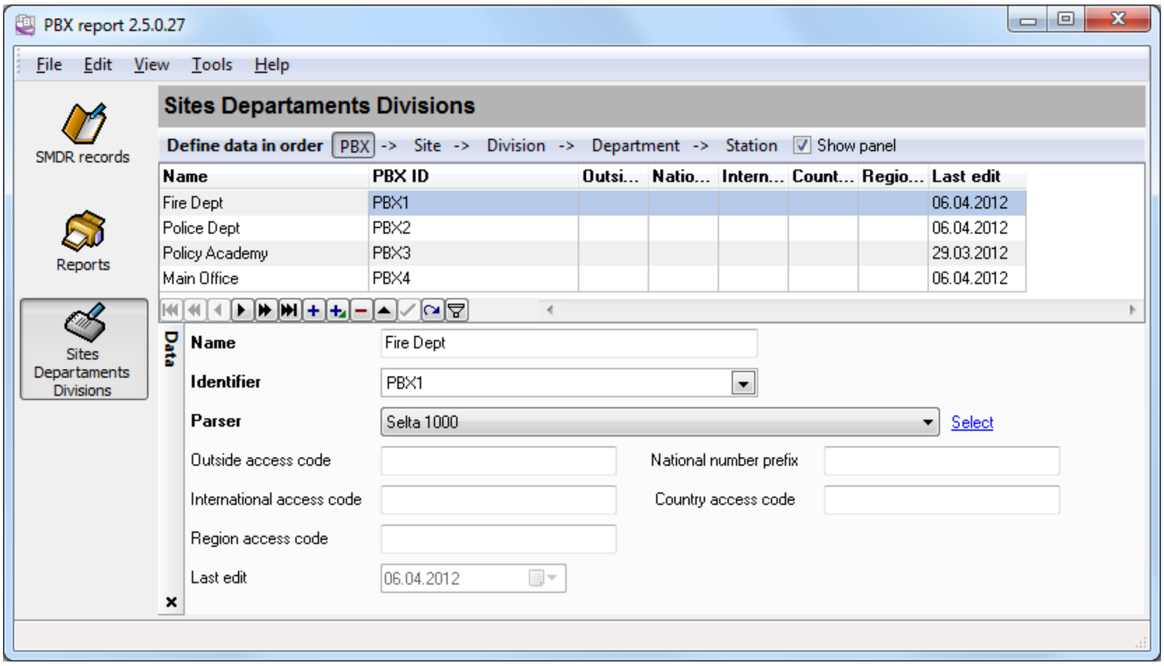


Fig.7 PBX list

You should create lists for all your PBX, sites, departments, divisions. All required fields are marked by bold labels. If your organization does not have departments and divisions then you can add only one row in these table with you company name.

PBX identifier

If you plan to use this reporting tool with several PBX then you should

1. Configure the PBX logger to write a data source ID to the "PBX_IDENTIFIER" field to the database. It can be a PBX IP address, a COM port number or user-defined data source name. It will allow to distinguish data from different PBX.
2. Specify this unique ID and the "Identifier" in the PBX list above.

Parser

The PBX logger can extract custom data for several PBX. If you'll select a parser, then it will allow to use these custom columns in reports.

Sites, Departments, Divisions

These tables are used to maintain the site, department and division information for your company. By splitting your extensions into sites, departments, divisions you are able to print specialized reports so that you can analyze site, department and division usage.

Site, department and division options are available in the station file as well as most of the reports on the "Reports" page. Using these filter options, you can easily run reports for a single site, department or division.

Specifying stations (extensions)

This table allow to link an extension from logger SMDR records to your site, department and division.

Name - name of your extension. It can be an employee name, room number or something else.
PBX ID - PBX identifier from the PBX list.
Extension - an extension number. It should be specified exactly as it appears in the SMDR log.
Active - this extensions is currently active.

Site, Department, Division - allows to link an extension to your organization.

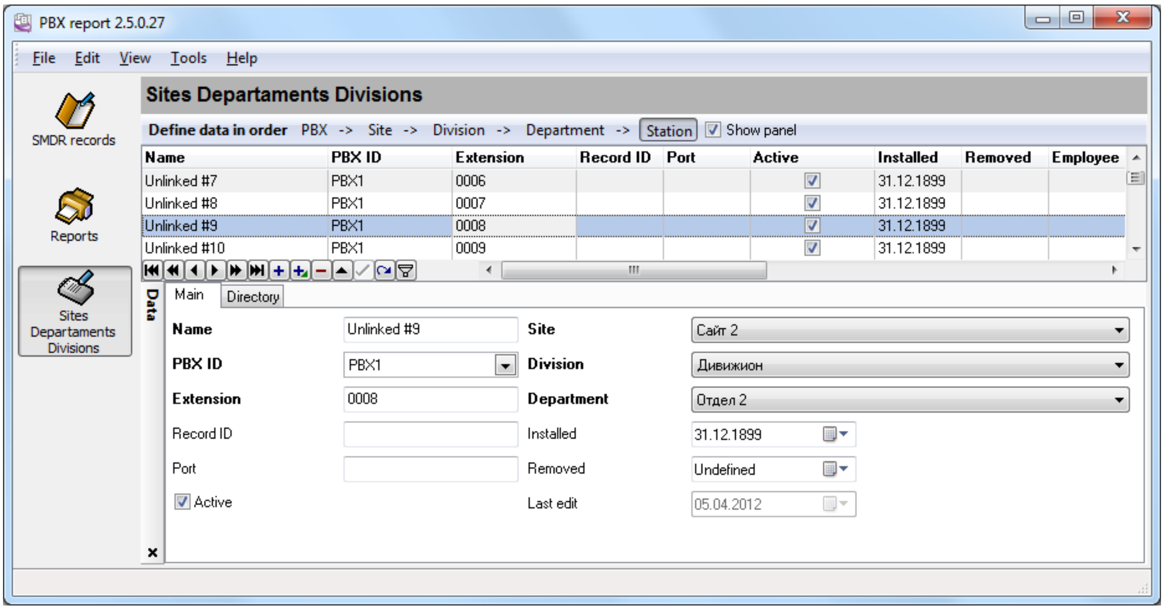


Fig.8 Station list

All other settings are optional and can be used for your information.

3.4 SMDR log

The SMDR log table contains all data the logger has saved to the database. Reports are based on this data. You can view and delete data, but you can neither edit nor add it.

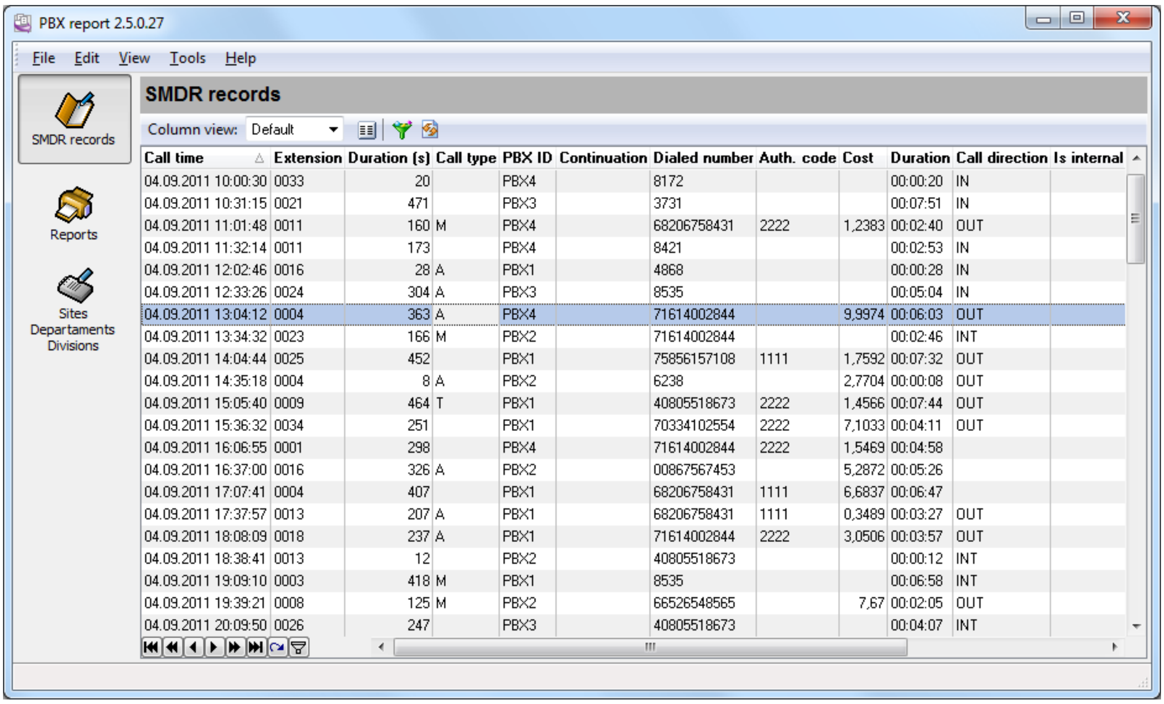


Fig.9 SMDR log

The table contains more than 20 columns with parameters characterizing this or that event. You will find it comfortable if you create several column sets 6.

The column caption is descriptive and allows to understand its purpose. The program shows columns that are defined in a parser. If you want you can move, resize, show and hide columns.

Deleting old events

The program can delete old events both automatically and on the user's request.

You can specify the deletion options in the program preferences (fig.10). Select the "Edit - Preferences..." in the main menu and switch to the "**Database**" page to open this dialog box.

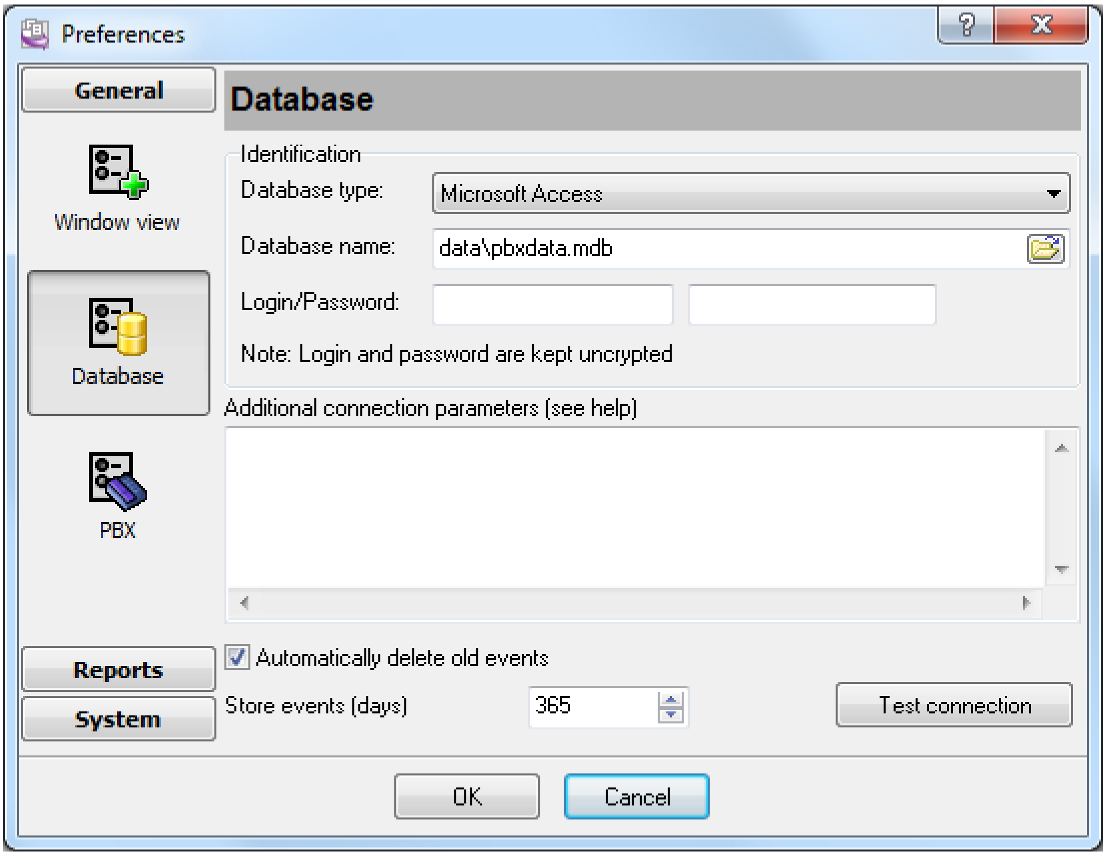


Fig.10 Database settings

You should specify the number of days to keep the event log for in the "**Store events**" field.

To delete data on the user's request, select the "**Tools - Delete old events**" menu item in the main window of the program.

For the program to delete old events automatically, enable the "**Automatically delete old events**" option. Old events will be deleted at the program startup in this case.

3.5 Reports

The program contains as a set of predefined reports as allows you to create them on your request. You can configure the report parameters and add it to your favorites, thus creating your list of reports with individual parameters.

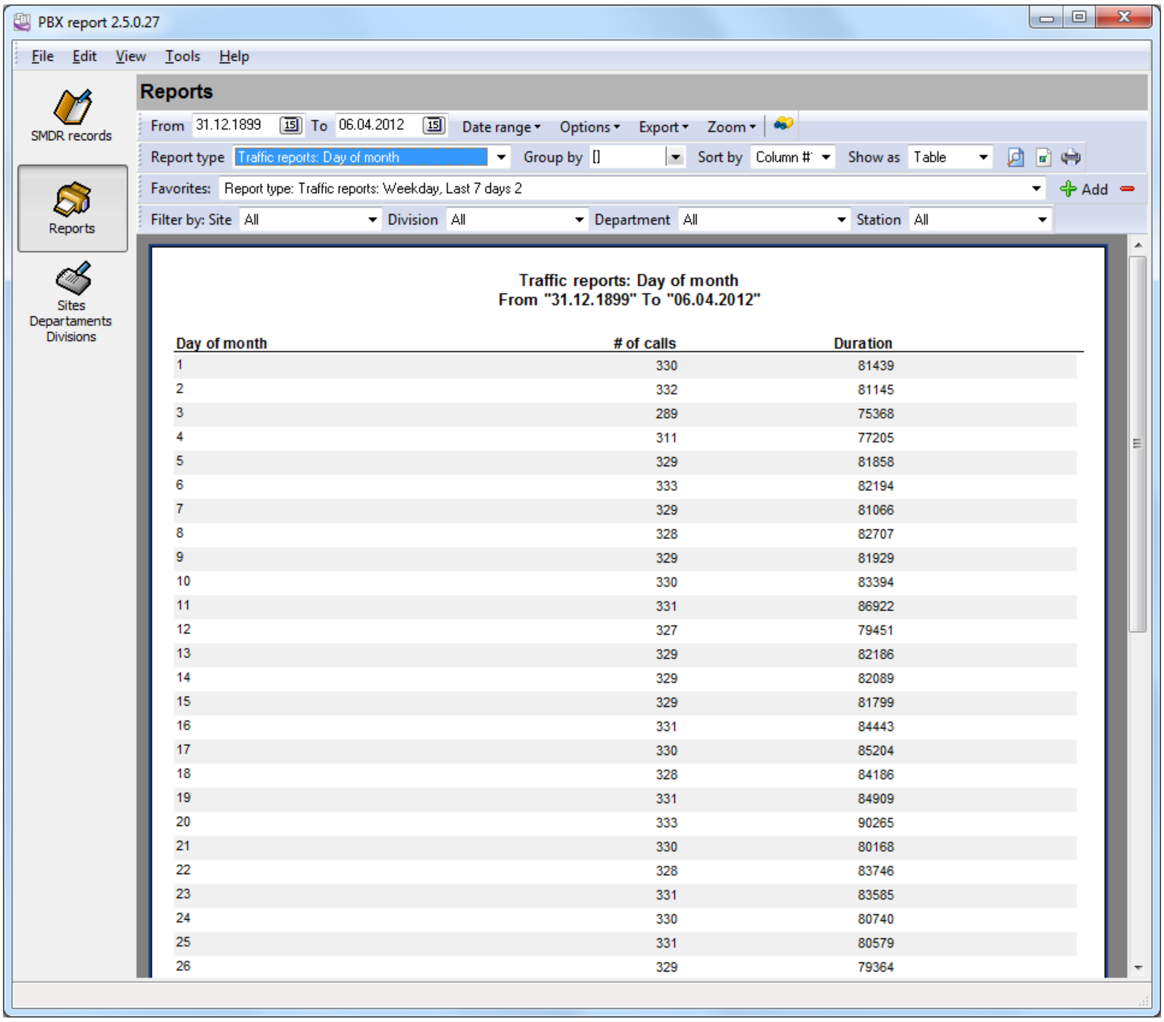


Fig.11 Report page

Date range – allows you to select a preset data range for the report. If you need to build a report for a certain interval, you should specify it in the "**From**" and "**To**" fields.

Report type - the standard report type. The content of the report depends on the report type. For the "Call history" report columns are copied from the "SMDR data" page. So, if you need customize this report type then you should change the column set on the "SMDR data" page.

Group by - here you can select one or several fields for grouping the data.

Show as - allows you to select the report view.

- Table – table view;

- Graph – graph view;
- Histogram – histogram view;
- Pie – pie chart view;
- Linear – linear graph view;
- Dot – dot graph view;
- Region – a graph by regions.

Sort by – allows you to sort data by the necessary column. Columns the data is grouped by come first in the list.

Options

- 3D view – 3D graphs;
- Colored – color graphs;
- Show legend – show the legend on graphs;
- Show axis – show the axes on graphs;
- Single – show one graph for all values;
- Top 10 only – show only the first 10 values;
- Ascendant sorting – sort in the descending or ascending order;
- Marks – enable marks for each value on the graph that can contain a value or mark.

A change in most report parameters will trigger a 10-second timer and the report will be automatically updated after that. You can also update the report with a click on the toolbar button.

You can print the generated report with a click on the toolbar button or export to a file using the "**Export**" menu.

You can get any report by combining the above parameters.

Report preferences

If the generated report does not fit on one page, you can:

1. Change the size and format of the page with a click on the toolbar button;
2. Change the font that is used in the report and its size. To do it, select "Options - Additional..." and specify the necessary parameters in the new dialog box (fig. 12).

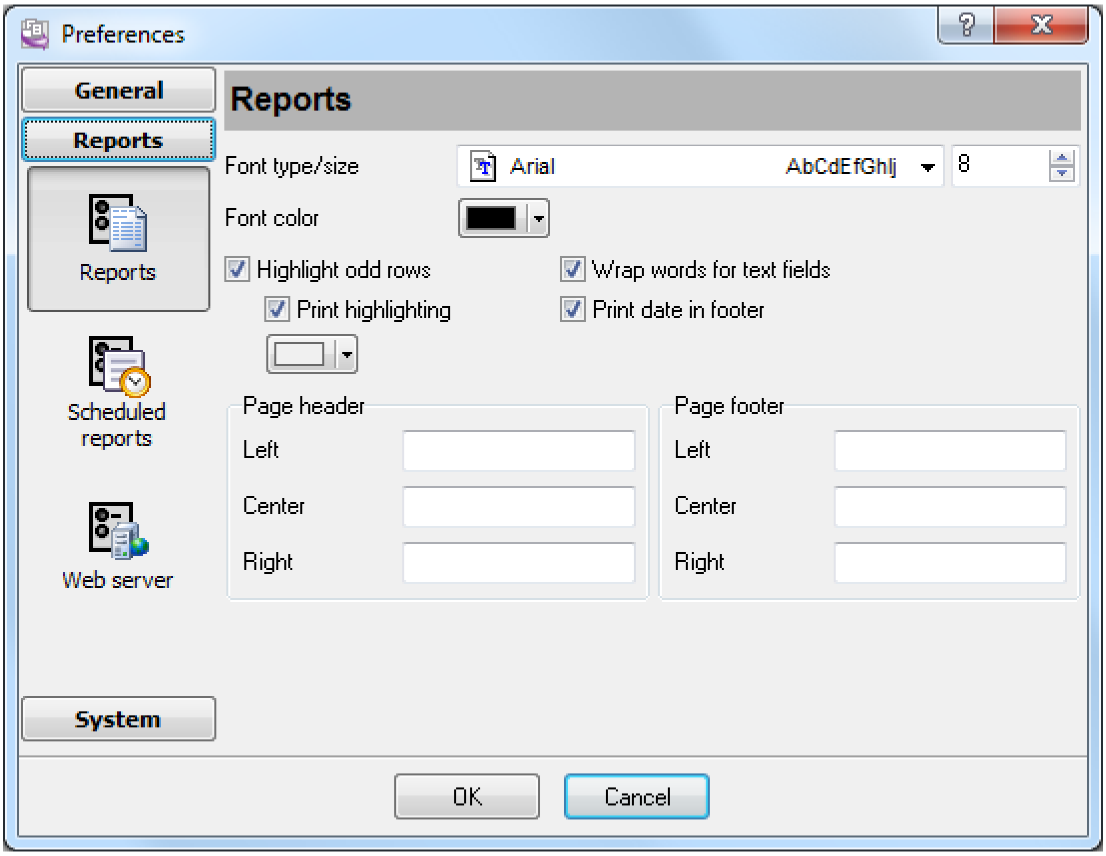


Fig.12 Report page

- **Font type** – font type to be used in the report;
- **Font size** – font size;
- **Font color** – font color;
- **Highlight odd rows** – enable/disable highlighting odd rows in the report. If it is enabled, odd rows will be shown with the background color specified below;
- **Print highlighting** – if this option is enabled, the printed report will be highlighted, otherwise only the preview will be highlighted;
- **Wrap words for text fields** – if the value of a column in the report larger than its width and this option is enabled, the height of the row will increase and part of its value will be moved to the next line. Otherwise the value will be trimmed according to the column width.
- **Print date in footer** – if this option is enabled, the program will print the page number and the current data in the footer of each page.
- **Page header**, **Page footer** - these groups of controls allows to specify an additional text that will be added to a header and footer on every page.

Creating the list of favorite reports

To add a report to your favorites:

1. Configure the report as described above;
2. Generate the report;
3. If you are satisfied with the generated report, click the button next to the list of favorite reports;
4. The program will offer you to specify the report name. You can specify any name.
5. Click OK a fter you type the report name and the report will be added to the list of favorite reports.

To remove a report from the list, you should click the button:

3.6 Scheduled reports

This feature allows you to receive reports the program will automatically generate according to the schedule by e-mail at the specified time. To activate and configure this feature, select "Edit - Preferences..." and switch to the "Scheduled reports" page (fig. 13).

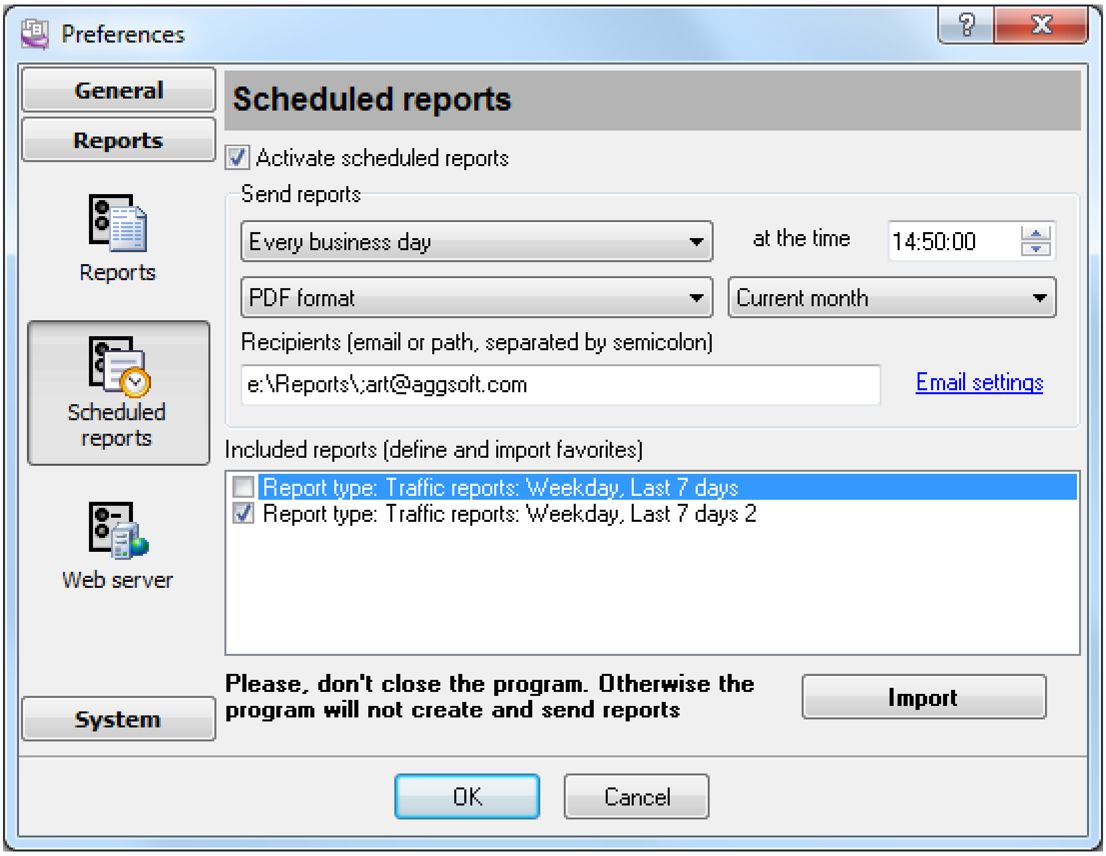


Fig.13 Scheduled reports configuration

Activate scheduled reports – enable/disable scheduled reports.

The "**Send reports**" group allows you to specify when the reports will be generated, at what time and in what format they will be sent, data for which interval they will include.

Recipients – the field contains the list of addresses the email message with attached report files will be sent to. You can specify several addresses separating them with a semicolon. Also you can specify a path, then the report will be placed to the specified folder.

The "**Included reports**" list contains the list of reports that should be generated and sent. This list is based on the list of your favorite reports. So you need to create the list of your favorite reports 14 first and then import it to the list of scheduled reports by clicking the "**Import**" button. Here you can leave only the ones you need in the list of scheduled reports. You can use the popup menu to delete a report from the list.

E-mail settings

For the report to be sent, you should specify the e-mail settings. To do it, open the "Email settings" page (fig. 14).

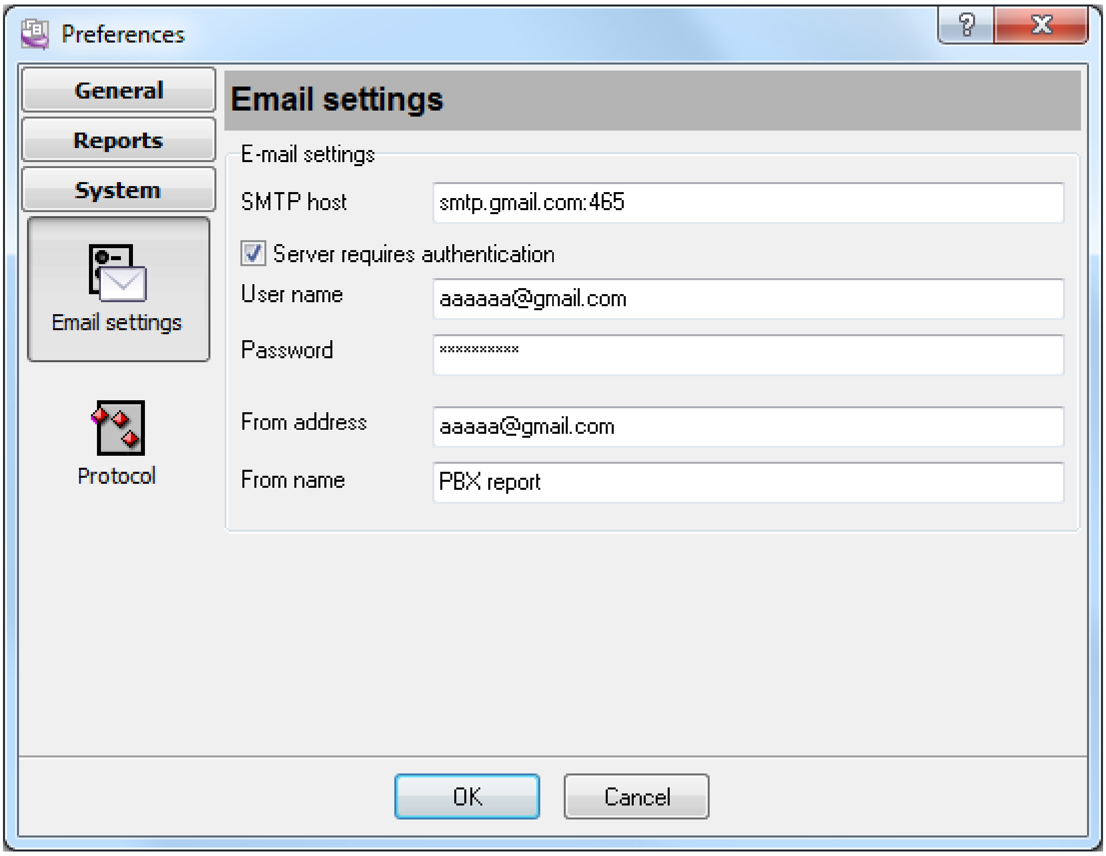


Fig.14 E-mail settings

Messages are sent via the SMTP protocol that is standard for sending e-mail. That is why you should open access for sending e-mail for the program in your firewall. The program sends all messages using the sender data that you can specify in the "**From address**" and "**From name**" fields.

Specify the mail server address in the "**SMTP host**" field. If the server uses a nonstandard port, specify it after a colon: www.aggsoft.com:2525

- **User name** – SMTP server username. Usually, it is the e-mail address of the following type: yourname@yourserver.com;
- **Password** – SMTP server password that usually coincides with the mailbox password.

If you'll specify a special port 465, then the program will establish a secure TLS connection with the SMTP server.

3.7 HTTP server

Our program has a built-in HTTP (web) server. The HTTP server allows you to view reports remotely using a regular browser. The program allows you to provide employees with access to personal reports.

To activate and configure this feature, select "Edit - Preferences..." and switch to the "**Web server**" page (fig. 15).

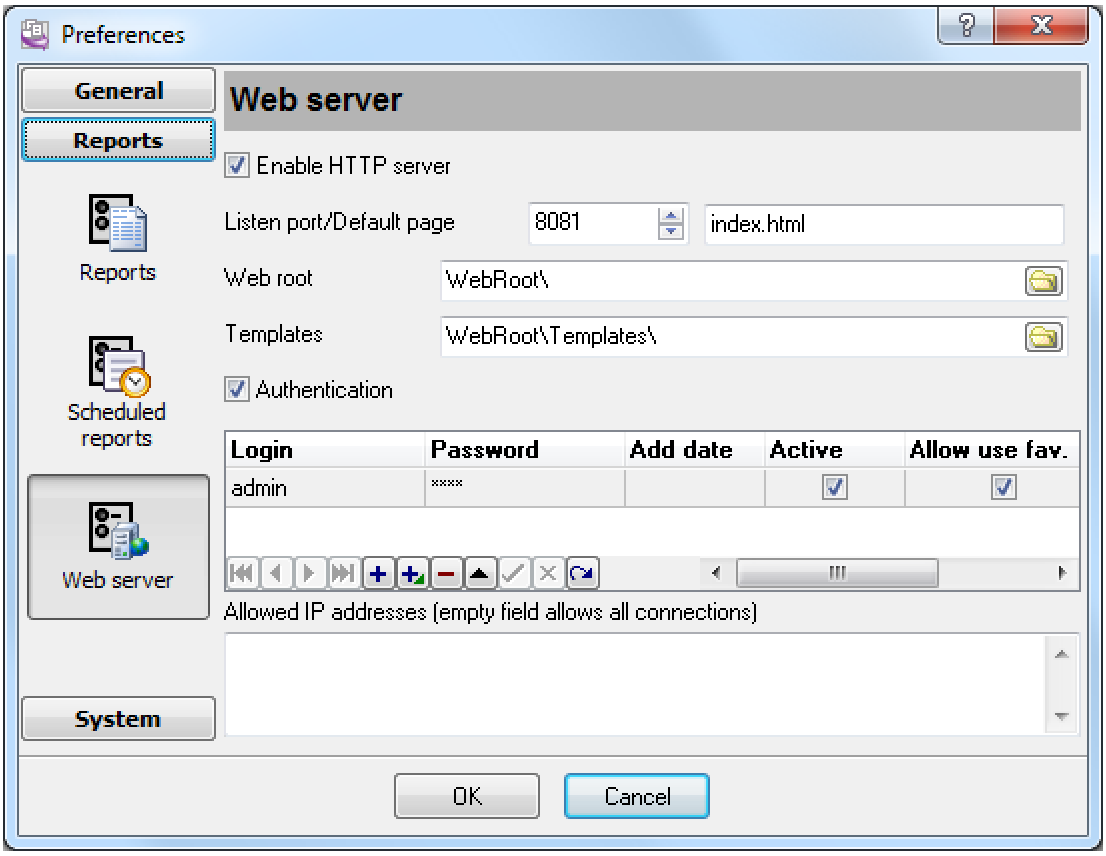


Fig.15 HTTP server settings

Listen port – the HTTP server will use this port to send data to the clients. The default value of this parameter is 80. If another server already uses this port, you can specify any suitable value.

To access the server from the same computer where the program is running, you should type the following in the browser address line: http:\\127.0.0.1. If you specify a nonstandard port, specify it after a colon. For example, in case of the above image:

http:\\127.0.0.1:8081

To access the web server:

1. Open the port specified in the settings in your firewall;
2. Instead of 127.0.0.1, specify the IP address of the computer in the network or its name if you access the server from the local area network.

Default page – this page will be opened by default when you access the address http:\\127.0.0.1:8081.

Web root – this folder will contain pages with reports the remote user will view. It must be possible to write to this folder.

You can use this folder to store your page that the web server can send to the remote client.

Templates – this folder contains page templates that the program will use to display pages in the browser. For an additional fee, the AGG Software company can develop a template in your corporate style or you can do it yourself using existing templates. You should keep the file names of templates completely changing their contents.

Authentication – enable/disable password-protected access. If this option is disabled, everyone can get access. Otherwise access parameters are specified in the table below.

You can specify several users with different rights in this table (fig.15).

There are two users shown in fig.15.

1. admin – the administrator with all rights and password-protected access to all reports and data.
2. The "*" character is specified as the second user, which means a user with any name. The user will have to enter the password once he accesses the web server. In this case, the password is empty so the user has to specify only his name. As a result, this user will be able to view only reports with event related to him.

If you are going to provide access to the web server via the Internet, it is recommended to specify the list of addresses access to the web server is permitted from in the "**Allowed IP addresses**" field. If this field is empty, access from any remote computer will be allowed.

3.8 Window view

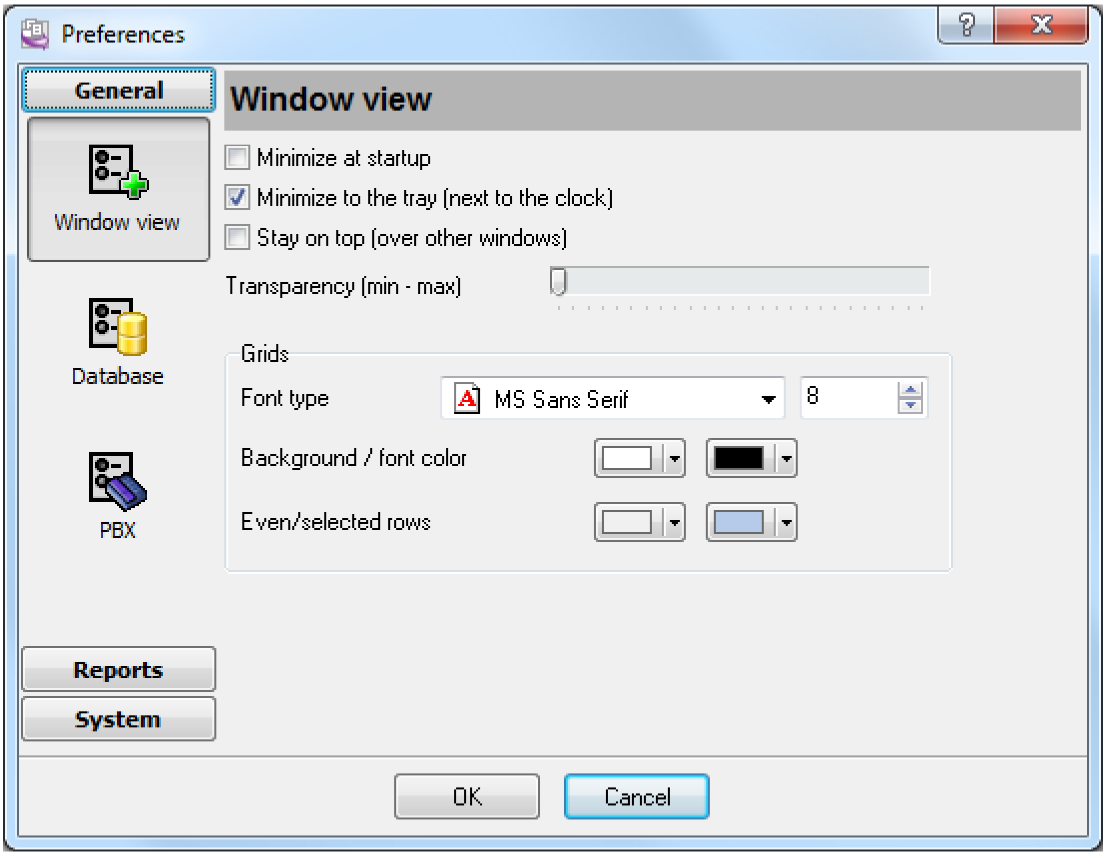


Fig.16 Window view settings

You can specify the following settings on the "Window view" tab (fig.16):

- **Minimize at startup** – once launched, the main window of PBX Report is automatically minimized into the taskbar or into the icon that is located next to the clock depending on other options;
- **Minimize to the tray (next to the clock)** – the main window of PBX Report will be automatically minimized and the icon will be automatically located next to the clock on the taskbar;
- **Stay on top** – the program will always stay on top of other windows on the desktop;
- **Grids** – this group of options allows you to customize the view of tables with data (type, background, font color);
- **Transparency** – you can customize the transparency of the main window in Windows 2000+. The leftmost position is the normal window view, the rightmost position is the maximal transparency.

3.9 Log and errors

While the program is running, errors and events that should be logged may occur. These may include database errors, web server messages and other events. You can select the types of message to include in the log on the "**Protocol**" tab (fig. 17). The log file is located in the Application Data folder, its name is the same as the program name + the .log extension.

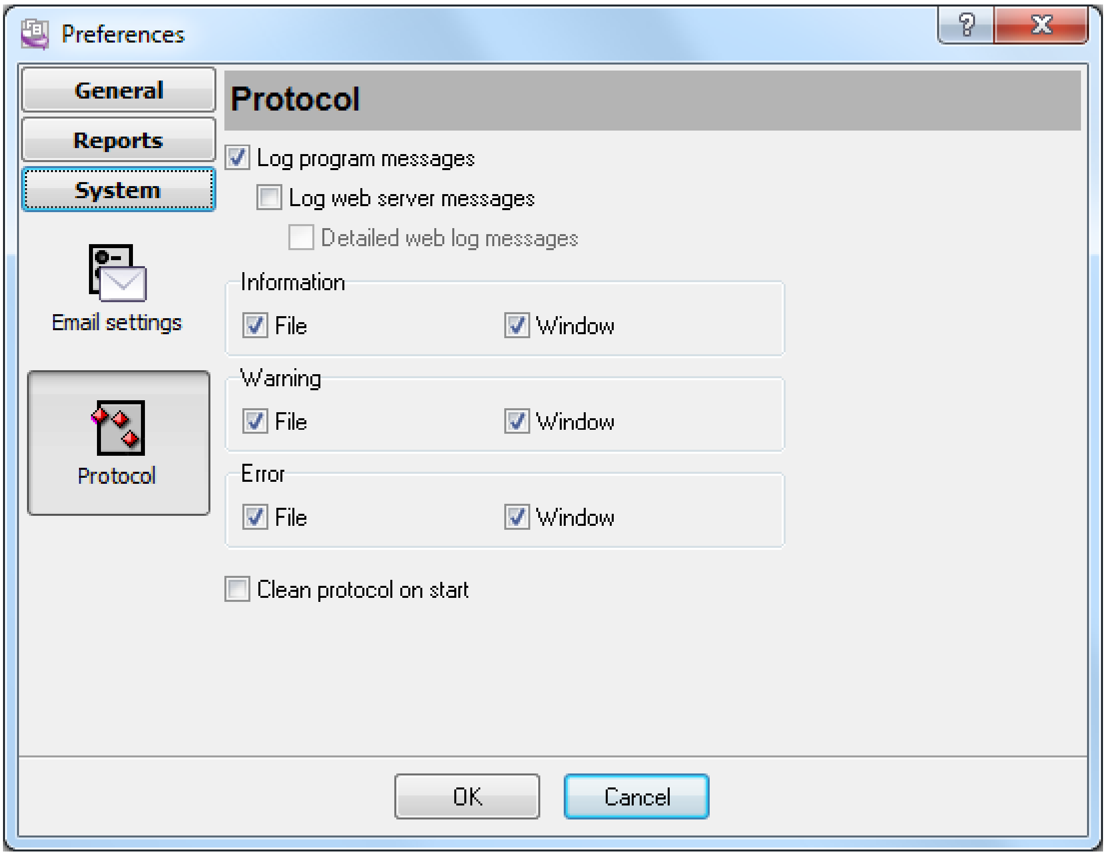


Fig.17 Protocol settings

PBX Report works with three types of messages:

- **Information** – messages of this type inform you about the operations executed at the moment;
- **Warning** – messages of this type warn you about possible failures or errors. No operations are required, but it is necessary to run a check;
- **Error** – the program has detected an error that the user will have to fix.

To prevent the log file from growing to large, you can enable the "**Clean protocol on start**" option.

You can open the current log file using the "**File - Open current log file**" menu item in the main window.

3.10 Database settings

The program can work with practically any database that has an ODBC driver. By default, the program is configured for the Microsoft Access database that comes with the program. You can change the connection type during the installation of the program or using the dialog box in the preferences of the program (fig.18). Select "Edit - Preferences..." and switch to the "**Database**" tab to configure the connection.

Note: These settings change the connection type only for the administration part. Data export to the logger is configured separately.

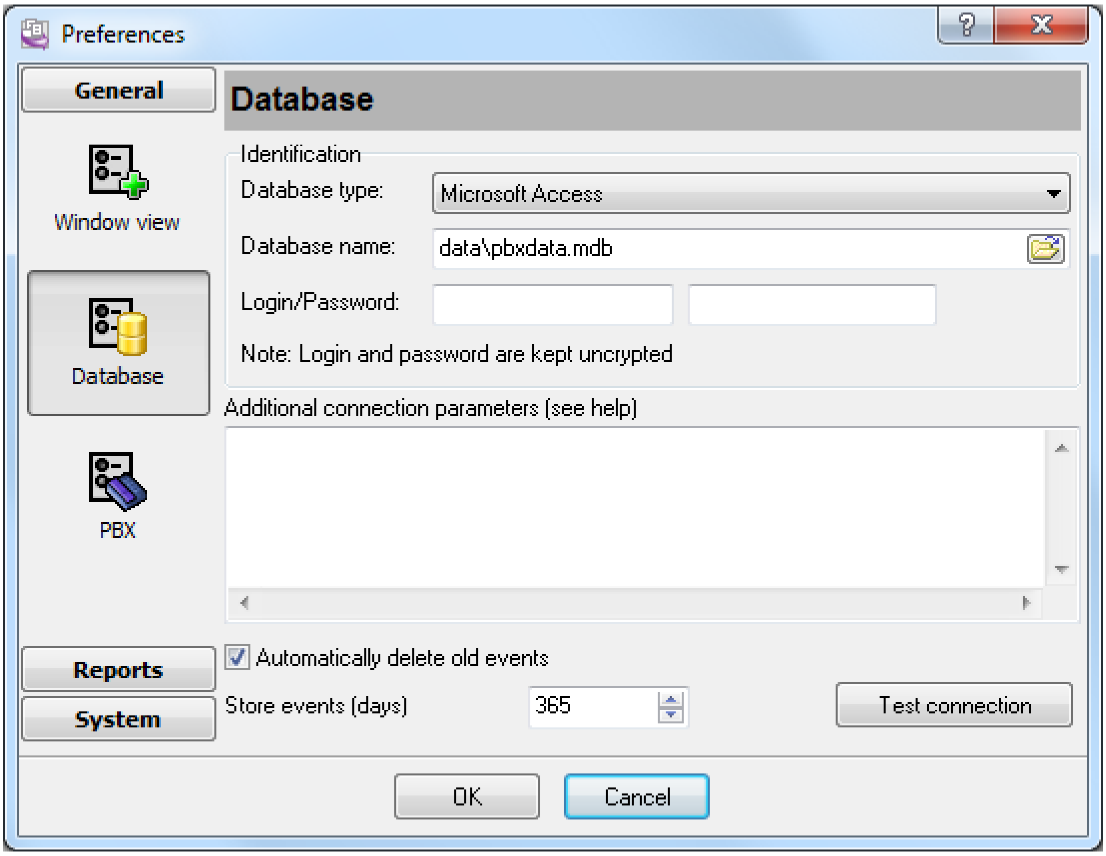


Fig.18 Database connection settings

Connection parameters are specified in the "**Identification**" group.

Depending on the database type selected in the "**Database type**" list, the following is specified in the "**Database name**" field:

- Microsoft Access – the path to the database and its file name.
- DB2, Informix и ODBC – DSN configured in the "ODBC administrator".

- Interbase – the path to the necessary database and the network protocol (see the table below).

Value	Protocol
<server_name>:<filename>	TCP
\\<server_name>\<filename>	NetBEUI
<server_name>@<filename>	SPX

- Oracle – host name/service name (for example, 127.0.0.1/xe)
- MySQL, or Sybase SQL Server – if you configure a connection to the remote server, specify the server name and the database name separated with a colon. For example, remsrv:dbname points to the DBNAME database located on the REMSRV server. You should specify local for a local database.

- MS SQL Server - host\service:database (for example, 127.0.0.1\SQLEXPRESS:demo)

Then specify the username and password for access to the database in the "**Login**" and "**Password**" fields respectively.

Specify the connection parameters specific for each server in the "**Additional connection parameters**" input field.

After you configure the database connection, you can test it immediately by clicking the "**Test connection**" button. The program will try to connect to the database. It may take quite a while (up to three minutes) depending on the database type. The test result will be shown as a message. In case of an error, the message will contain the server response that will help you determine what caused it.

Additional connection parameters

Value	Description	Note
AUTOCOMMIT	Use autocommit	
APPLICATION NAME	The name of the application that will be sent to the server	Only for MSSQL and Sybase
HOST NAME	The name of the workstation that will be send to the server	Only for MSSQL and Sybase
COMMAND TIMEOUT	The number of seconds to wait until any operation is finished	Only for MSSQL, ODBC, SQLBase, Sybase
COMPRESSED PROTOCOL	Use compression while exchanging data between the client and the server. By default, the value is TRUE	Only for MySQL
ENABLE BCD	Change the NUMERIC data type into the BCD data type before sending data to the server	Only for Oracle, Interbase
ENABLE INTEGERS	Change the NUMERIC data type into the INTEGER data type before sending data to the server	Only for Oracle, Interbase
ENABLE MONEY	Change the NUMERIC data type into the CURRENCY data type with the precision (1-4) before sending data to the server	Only for MySQL
ENCRYPTION	Use encrypted passwords when accessing the database. By default, this value is FALSE	Only for Sybase
FIELD REQUIRED	Display an error message if any field has the NULL value when a query is executed	
FORCE OCI7	Use OCI7 (SQL*Net 2.x - Oracle7 interface) to access the Oracle server	Only for Oracle
LOCAL CHARSET	Set the encoding character set	Only for Interbase
LOGIN TIMEOUT	The number of seconds to wait for user authorisation	Only for DB2, Informix, ODBC, MSSQL, MySQL,

		Sybase
MAX CURSORS	The maximum number of simultaneously opened cursors	Only for MSSQL and Sybase
MAXCHARPARAM LEN	The maximum line length. By default, it is 255	
MAXFIELDNAMEL EN	The maximum length of a field name. By default, it is 50	Only for Oracle
MAX STRING SIZE	Limit the size of strings to this value. Longer strings will be considered a blob	Only for Firebird, Interbase, ODBC
NEW PASSWORD	Use this value when the server returns the 'Password expired' message	Only for Oracle8
QUOTED IDENTIFIER	Use identifiers in quotes	Only for MSSQL and Sybase
PREFETCH ROWS	The number of rows to be prefetched in order to minimize network traffic (Oracle8: this option does not work if SELECT contains fields of the LONG type)	Only for DB2, Informix, ODBC, Oracle8
ROLE NAME	Specifies the role the server should assign to the client when it is connected	Only for Interbase and Oracle (SYSDBA/SYSOPER roles)
SERVER PORT	Specifies the server port for connecting via TCP/IP	Only for MySQL, PostgreSQL
SINGLE CONNECTION	Specified whether to use a single process/connection. By default, it is FALSE	Only for MSSQL and Sybase
SQL DIALECT	Installs SQL Dialect (1,2,3) for the client	Only for Interbase
TDS PACKET SIZE	Specifies the size for a TDS packet. If the server does not support this size, a "Login failed" error will occur in the process of connecting	Only for Sybase
TRANSACTION LOGGING	If it is FALSE, transaction logging will be disabled, so rollback will be unavailable	Only for SQLBase
RTRIM CHAR OUTPUT	Delete spaces on the right for fields of the CHAR type. By default, it is TRUE	Only for DB2, Informix, Interbase, Oracle, ODBC and Sybase
XA CONNECTION	Indicates that it is necessary to connect to the TM service with the name specified in the "Database name" field. By default, it is FALSE	Only for Oracle8i
XXX API LIBRARY	Specifies the interface library type to use for connecting, where XXX stands for server type. For example, Oracle, SQLServer, Interbase, etc.	

3.11 Billing settings

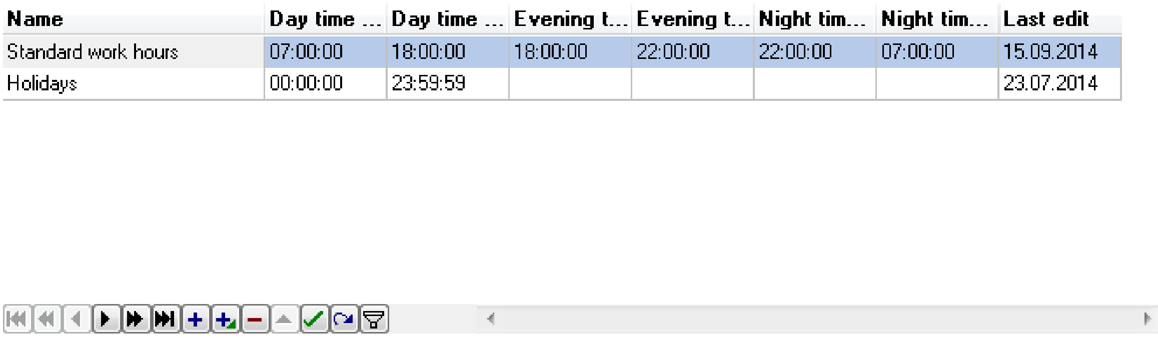
For the application to calculate call costs, you need to fill in a few additional tables:

1. **Hours**: The business hours of a company, division, or department that uses the PBX.
2. **Trunk groups**: If the PBX has several trunks (incoming lines) with the same call rates, combine these trunks into a group. For any trunk, you can also create a separate group with its own call rates. You can also combine a few trunks used for free calls only into a trunk group.
3. **Trunk**: A table that contains a description of incoming lines.
4. **Local call rates**: Use this table for defining call rates for each direction. You can also define call rates by distance or by city/region code.
5. **International call rates**: Use this table for defining call rates by country code.

Hours

You can define time intervals (day time, evening, night time) for different weekdays. Later, you can define call rates separately for each of these time intervals. If you want to, you can define only day time; if evening or night time is not defined, the call rates for the day time interval will be used.

You can define different time intervals for different trunks.



Name	Day time ...	Day time ...	Evening t...	Evening t...	Night tim...	Night tim...	Last edit
Standard work hours	07:00:00	18:00:00	18:00:00	22:00:00	22:00:00	07:00:00	15.09.2014
Holidays	00:00:00	23:59:59					23.07.2014

Figure 19: List of work hours

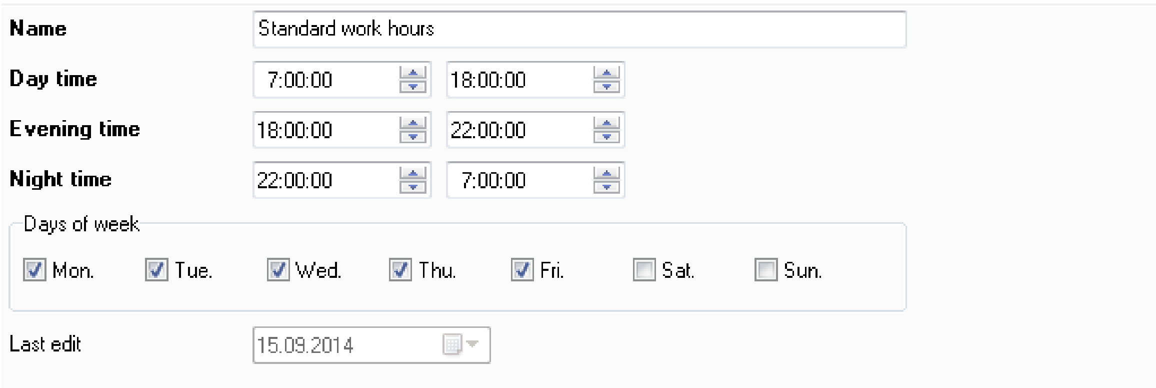


Figure 20: Work hours (parameters)

Trunk group

A trunk group combines multiple trunks with the same billing parameters (time intervals, call rates, etc.). In the group properties, use the "PBX ID" field to enter the ID of the PBX that "owns" the trunks in the group, and also bind the earlier-defined work hours.

If a trunk group is used for free calls only, uncheck the "Calculate the cost" checkbox. In this case, the application will omit these trunks when calculating the cost of calls.

Note: When defining work hours, make sure that there is only one "work hours" version for each weekday.

Name	PBX ID	Type	Vendor	Calculate cost	Last edit
Default	192.168.2.101	T1	Telecom	☑	23.07.2014

Figure 21: List of trunk groups

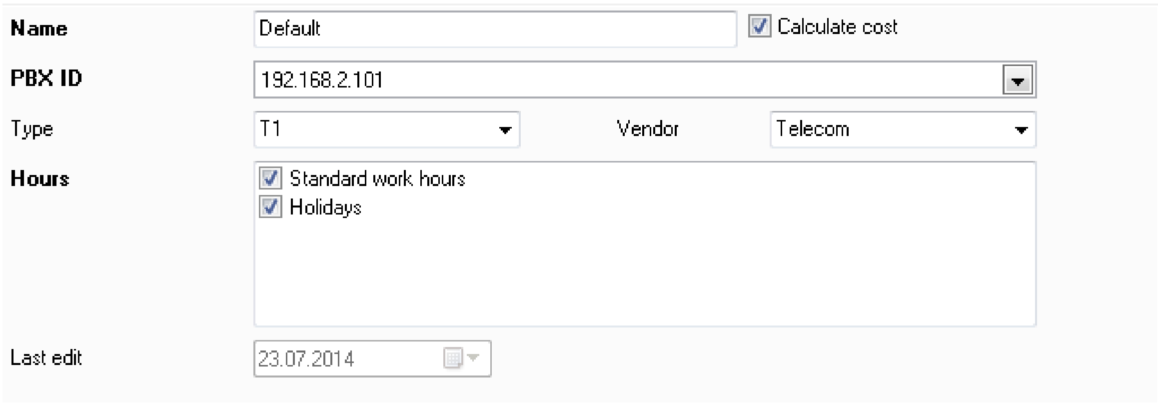


Figure 22: Trunk group parameters

Trunk

This table should list all trunks that may appear in the SMDR data. If the application, when calculating the cost of calls, stumbles upon a trunk that is not present in the list, a warning message will be displayed.

Important: If there is only one incoming line, and it doesn't have a unique number in the SMDR data, you need to add the trunk number 0000 to the list. These trunk's billing settings will be used by default when calculating the cost of calls.

Trunk name: Any trunk name.
Code: A trunk number from the SMDR data. Use a number that exactly matches the value in the "Trunk" column (см. рис. 9 10).
Group: Select an earlier-created trunk group from the list.

Name	Code	Group	Last edit
Line 1	0001	Default	15.09.2014
Line 2	9001	Default	23.07.2014

Figure 23: List of trunks

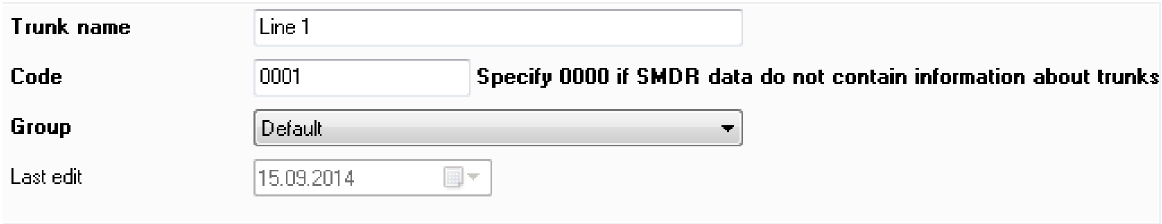


Figure 24: Trunk parameters

Local call billing

You can add billing parameters for each direction.

Calculate by: Call cost can be calculated by distance or by region/city code. Depending on the selected option, a distance (in kilometers) or a region/city code should be provided. When specifying a region/city code, you can use the following wildcard characters:

? — one digit.
* — one or more digits.

For each time of day, you can define a call rate for the first minute and a call rate for each of the following minutes.

If you don't define any call rate for the "following" minutes, the first minute's call rate will be applied.

If you don't define any call rate for evening or night time, the day time's call rate will be applied.

Calc by	Value	Name	Day (1st ...	Day (addi...	Evening (...	Evening (...	Night (1s...
Area code	8?	Mobile	15,00	15,00	15,00	15,00	15,0
Area code	1	Local calls	5,00	5,00	5,00	5,00	5,0
Area code	70	Mobile	15,00	15,00	15,00	15,00	15,0
Area code	90	Mobile	15,00	15,00	15,00	15,00	15,0

Figure 25: Local call billing

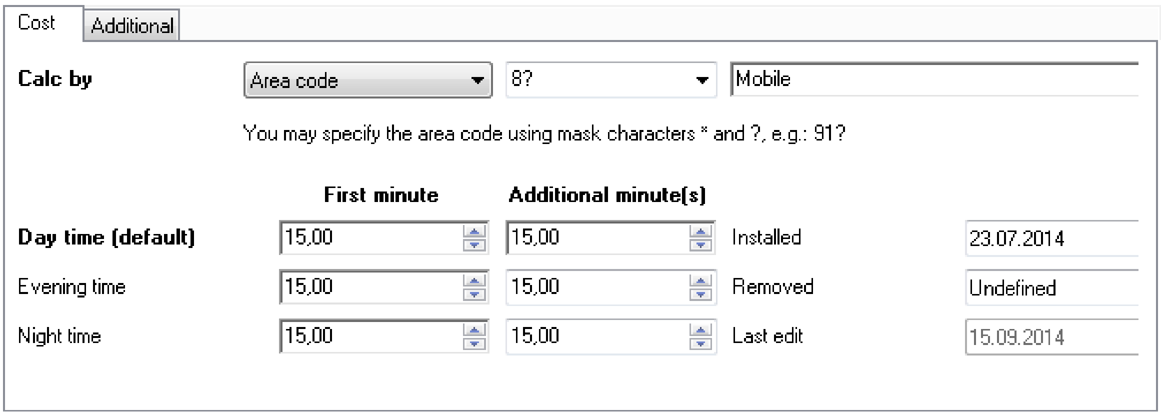


Figure 26: Billing parameters

Additional billing parameters for local calls

Billing period in seconds: The cost of the first minute and the cost of the following minutes will be calculated in multiples of the specified time intervals.

Example 1: If you have defined a time period of 60 seconds (one minute), a 10-second call will cost as much as a one-minute call.

Example 2: Suppose you have defined a time period of 5 seconds, and a call lasted for 13 seconds. In this case, the cost of one minute will be divided by 12 (because one minute contains 12 five-second intervals). The cost of the call will be 3/12 of the cost of one minute: The call duration will be counted as two full (five-second) intervals and one partial interval.

Free seconds: Billing is not applied to this time interval. The first paid minute is counted from the moment when the free seconds end.

Min. call cost: A call cannot cost less than this amount, even if it lasted less than the free seconds.

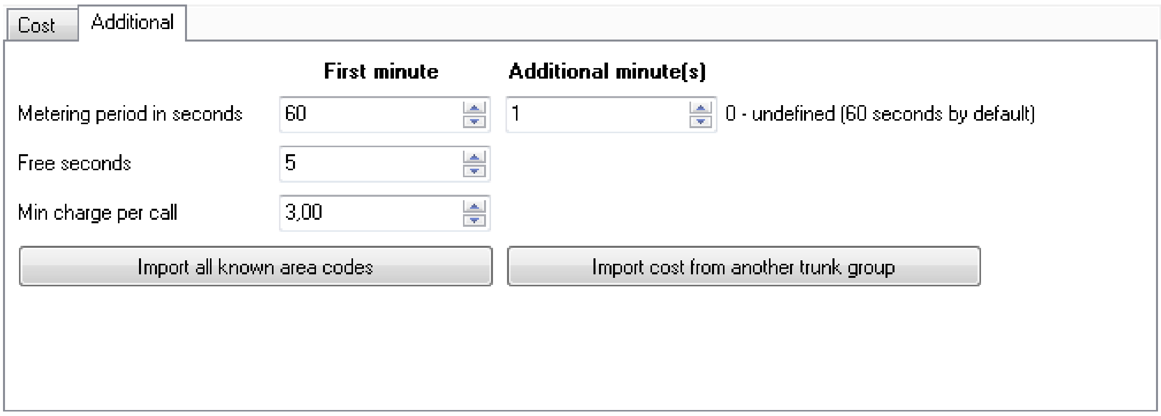


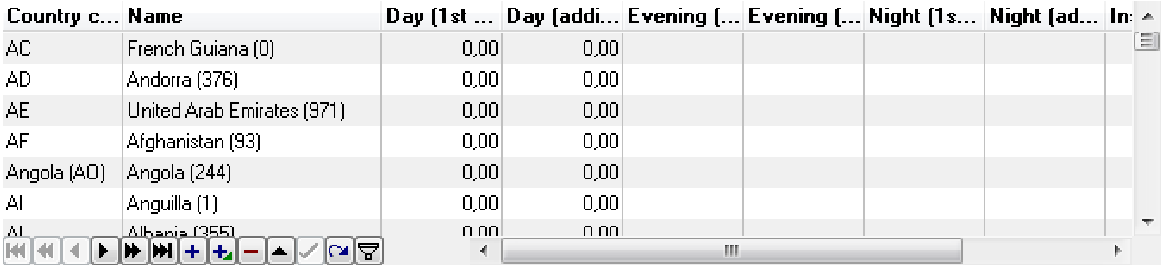
Figure 27: Additional billing parameters

Import all known city codes: The application has a built-in list of telephone codes of major cities. You can import this list when you begin setting up billing, and then just define a call rate.

Import a cost from another trunk group: If you have created several trunk groups with similar billing settings, you can import billing parameters from another trunk group and then modify call rates for some directions.

International call billing

You can configure billing for international calls just like you do it for local calls. The only difference is that a country code is used in place of a region/city code. The application will automatically find a call code by the country code.



Country c...	Name	Day (1st ...	Day (addi...	Evening (...	Evening (...	Night (1s...	Night (ad...	In:
AC	French Guiana (0)	0,00	0,00					
AD	Andorra (376)	0,00	0,00					
AE	United Arab Emirates (971)	0,00	0,00					
AF	Afghanistan (93)	0,00	0,00					
Angola (AO)	Angola (244)	0,00	0,00					
AI	Anguilla (1)	0,00	0,00					
AL	Albania (355)	0,00	0,00					

Figure 28. International call billing

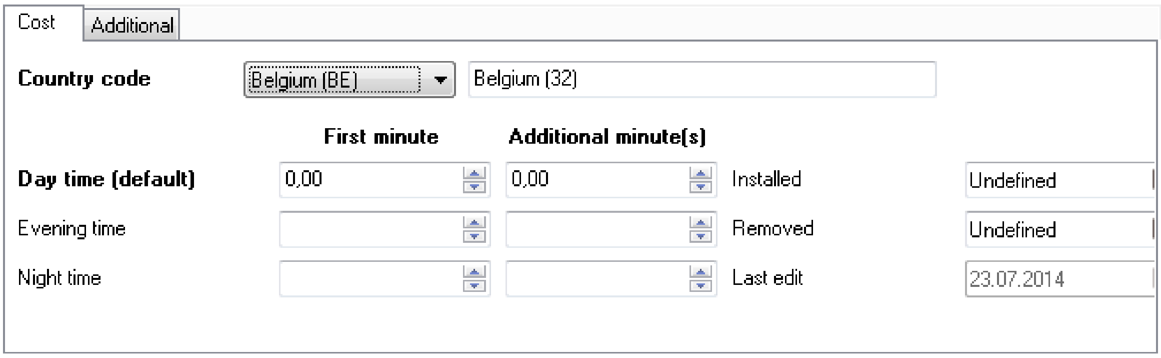


Figure 29: Billing parameters

3.12 Billing

For the application to calculate the cost of calls, you need to set up billing 24 in advance.

After configuring billing, you can force the application to calculate the cost of calls for a given time period. To run a calculation, select "Call cost — Calculate the cost for a period" in the menu and specify a time period. If any errors are detected or no billing parameters are found for some phone number, an error message will be displayed (Figure 30). In this case, you can fix the errors and run the calculation again.

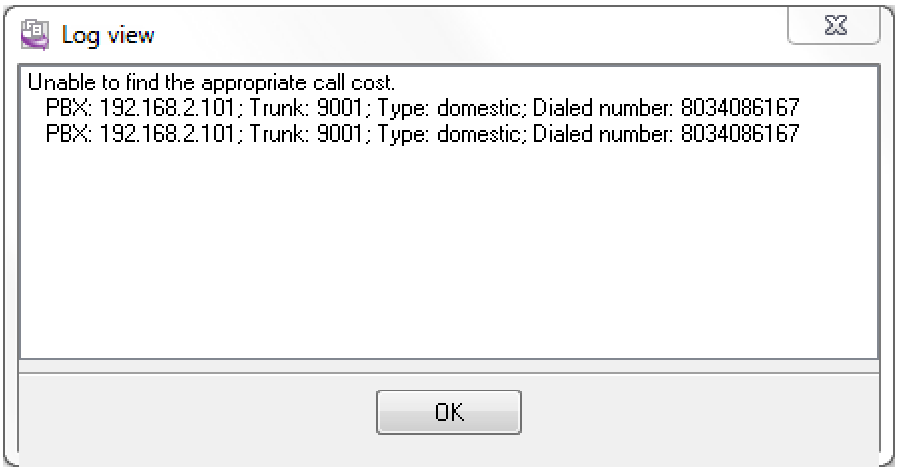


Figure 30: Error message

If you check the "Call cost — Calculate the cost automatically for applicable reports" checkbox, the application will calculate the cost before generating reports that contain a cost column. The calculation will be done only if the "Cost" field is empty or if the cost has not been calculated yet.

Note: The application does not track any changes in billing parameters, trunk settings, work hours, etc. Therefore, it will not recalculate the cost of calls automatically if any of these parameters change. If you have modified any parameters related to call billing, you need to force the application to recalculate the cost of calls for the necessary time period.

3.13 Problems and their solutions

Problem

The "SMDR data" tab doesn't show the data that are displayed in the logger's window.

Solution

Check the logger's settings:

1. On the "Modules — Parser" tab, select a parser for your PBX.
2. Make sure that the ODBC Database or SQL Database Pro data export module is enabled and configured.

We recommend to reinstall the application, selecting the "Write to a database — Microsoft Access" option in the installation wizard. If you do it, the application will configure everything automatically.

Problem

PBX Reports displays an error message saying that database settings are identical.

Solution

Check the logger's settings. Possibly it writes data to a different database. If the settings are identical, check the "Don't show again" checkbox in the error dialog box.

Problem

When generating a "Call history" report, a "small page size" message is shown.

Solution

Change the set of columns on the "SMDR data" page and remove some unnecessary columns, because the application uses this set of columns when generating the report. You can also change the page properties: select a different page orientation or a different page size.
