



SMDRMUX – software for SMDR (CDR) data multiplexing

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1. Intro

SMDRMUX is the software which allows you to collect SMDR information from various number of PBXs and pass it to various number of Call Accounting Applications("PBX Call Tarifficator", "WinTarif", etc.).

The main idea of SMDRMUX is usage of one (but this is not the limitation) Call Accounting application for processing of data from multiply PBXs.

Also software allows to convert Panasonic SMDR format used by PBX to the required Call Accounting Application Panasonic SMDR format.

You can convert Asterisk CDR data to Panasonic SMDR type C too. There are some requirements to the contexts of Asterisk.

The software consists of Windows-service Smdrmux which connects to PBXs as telnet clients and, from other side, works as telnet server, and waiting connections from Call Accounting applications. Software can operate with PBXs only via Ethernet, RS-232 connection is not available.

The web-interface should be used for configuration of PBX connections and Call Accounting applications, as well as user's configuration and other actions.

Numbers of simultaneously connected PBXs and Call Accounting applications are defined by purchased license. Not licensed software can work with only one PBX and only one Call Accounting application.

SMDRMUX can work with the following models of PBX now:

- Panasonic series: KX-TDE, KX-NCP, KX-NS, KX-NSX
- Panasonic series: KX-HTS
- Asterisk v.11+

We develop this software and add other models constantly.

This document related to SMDRMUX version 3.0.1.1.

Minimum PC Requirements for the PC or server, where Smdrmux service should be installed:

Operation System: Windows 7, Windows 8.x, Windows 10 /Windows Server 2008 and higher, 64-bit OSs are preferable

RAM: 4 Gb and more

Hard Drive: 500 GB and more

Network Interface Card: 100Mbit

CPU: 1500 MHz or higher.

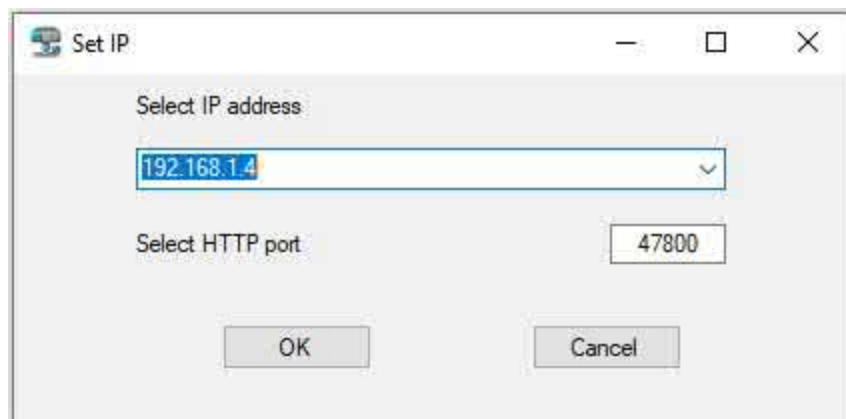
2. Installation

To start the installation, run Smdrmux-x64.exe for 64-bit OS or Smdrmux-x86.exe for 32-bit OS.

Follow the prompts of the installer.



After you selected the folder of installation, you will be prompted to set IP address, which the software will use and port on which the software will wait for the connection from web browser (web-interface HTTP port).



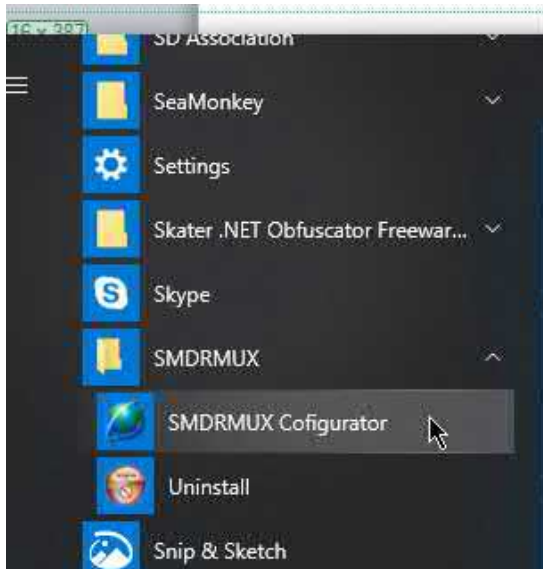
Select IP address from list (there can be more than one IP address on the machine where SMDRMUX is installing now) and set the port number.

Then continue installation. Agree with the service installation and service start prompts.

3. Configuration

3.1. Start to configure

To start configure the system use “SMDRMUX Configurator” item in the Programs Menu:



or run internet browser:



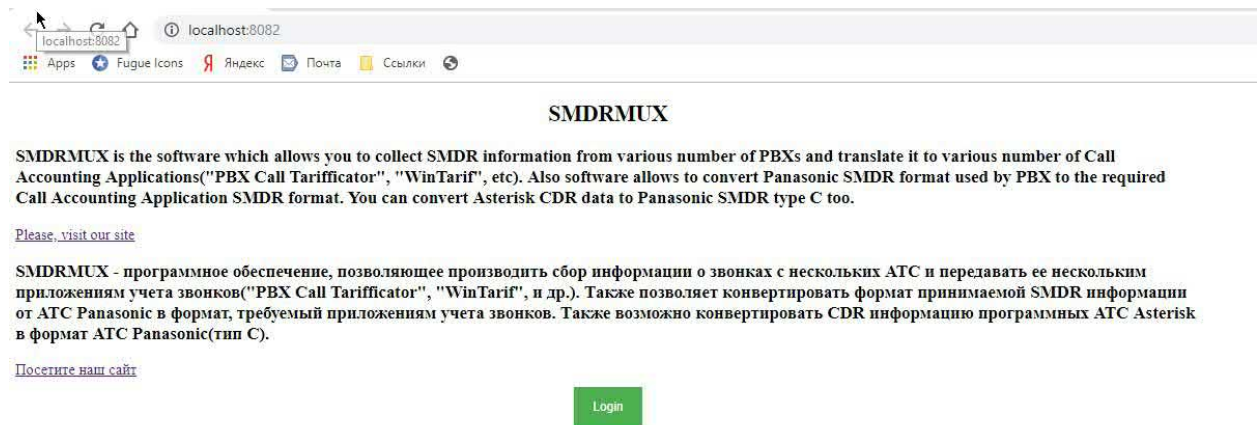
Where 8082 is the port number you have set at installation stage.

or run internet browser on another PC:



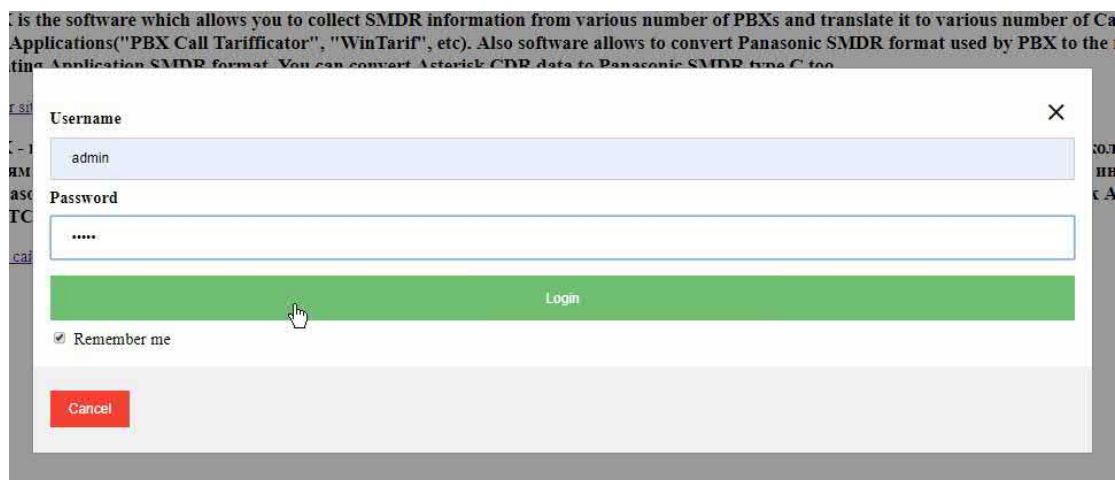
Where 192.168.1.4” is the IP address you have set at installation stage and 8082 is the port number you have set at installation stage.

The greetings page will open:



Now you can go to Authorizing window, pressing [Login] button.

You will be prompted to authorize in the system:



Use username:

admin

and password:

admin

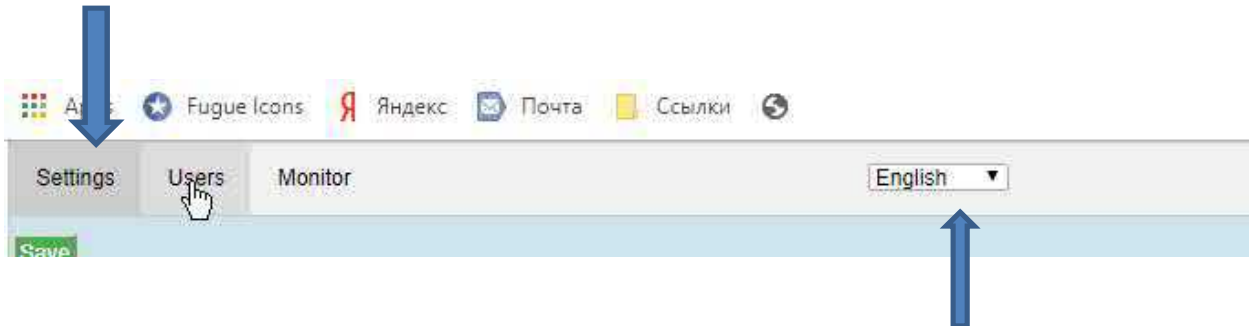
for first time.

Now you are ready to start configure the parameters of SMDRMUX.

Configuration of SMDRMUX consists of:

- Configuration of general parameters.
- Configuration of connection parameters for PBXs and Call Accounting applications.
- Configuration of profiles for SMDRMUX users.

Select Settings tab for configuration of general parameters and connection parameters, select Users tab for configuration of user profiles:



Select language for parameters hints.

Each parameter has icon . The hint for parameter is shown when you navigate cursor on this icon:

or popup is open when you click on this icon:

3.2. Configure general parameters

The following general parameters have to be configured.

SMDRMUX IP

SMDRMUX PORT

DATABASE TYPE

BUFFERS PATH

The screenshot shows a window titled "SETTINGS" with four configuration fields arranged in a 2x2 grid. Each field has a blue question mark icon to its right. The fields are: "SMDRMUX IP:" with a text input containing "192.168.1.4"; "DATABASE TYPE:" with a dropdown menu showing "File"; "SMDRMUX PORT:" with a text input containing "23300"; and "BUFFERS PATH:" with a text input containing "Q:\Temp\SMDR BUFFERS\".

SMDRMUX IP - IP address of SMDRMUX machine. Usually is the same you have set at installation stage.

SMDRMUX PORT – port number on which SMDRMUX will wait connections of Call Accounting applications. Use this port number in Call Accounting application settings.

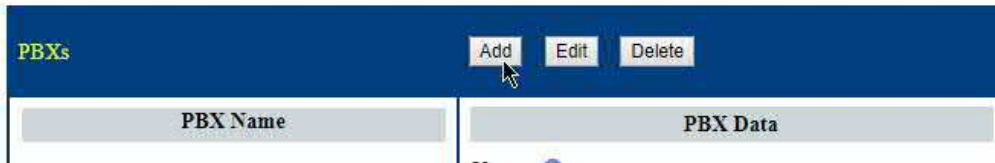
DATABASE TYPE - database type you prefer for records storage (*File* type only available for now, other types are reserved for future usage).

BUFFERS PATH - folder where collected SMDR data will be stored until Call Accounting application is not connected. **THIS IS THE FOLDER ON THE MACHINE WHERE SMDRMUX INSTALLED!!!**

When Call Accounting application will connect to SMDRMUX next time, all data will be sinked from the buffer to application.

3.3. Configure parameters of PBX

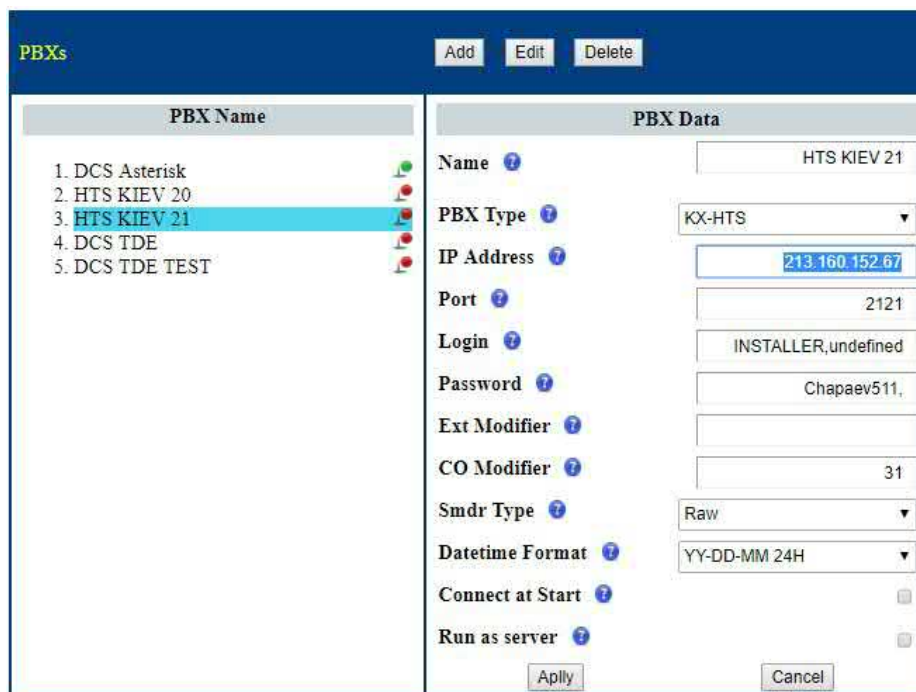
You can add, edit or delete PBX parameters using correspondent buttons on PBXs panel:



To start edit PBX parameters select PBX in list:



then press [Edit] button. After this button has pressed, all PBX parameters will become able for edit:



PBX Parameters description.

PBX Name. This name will be displayed in Call Accounting application settings panel as an item of application PBX List.

PBX Type – select the required PBX series from list. If your PBX is Panasonic KX-TDE/NCP/NS/NSX or KX-HTS, you will need to enter only one login and password in the corresponding fields. If you select Asterisk (11, 13,14,15 versions) you will need to enter two logins and two passwords separated by comma. The first pair is for AMI, and the second pair is for server root.

PBX IP – this is the IP address on which SMDRMUX will try to connect in order to start receiving SMDR data.

PBX Port - this is the port on which SMDRMUX will try to connect in order to start receiving SMDR data. For Panasonic PBXs, except KH-HTS series, use port number defined in Maintenance Console. For Asterisk servers use AMI port. For KX-HTS use port 80.

Login – the login which PBX uses for connection. For Panasonic KX-TDE/NCP/NS/NSX it is always 'SMDR'. If your PBX type is Asterisk (11, 13,14,15 versions) you will need to enter two logins separated by comma. The first login-password pair is for AMI, and the second pair is for server root.

Password – the password which PBX uses for connection. If your PBX type is Asterisk (11, 13, 14, 15 versions) you will need to enter two passwords separated by comma. The first login-password pair is for AMI, and the second pair is for server root.

Extension Modifier. You can use 3, 2 or 1 digit modifier depending of your PBX's extension digits length. For example if your PBX extension digits length is 3, the record for Extension 101 modified with modifier 22 will be shown as 22101 in Call Accounting application.

CO Line Modifier. You can use 2 or 1 digit modifier depending of your PBX CO Lines number length. For example if your PBX's CO Line maximum number is 99 (2 digits), the record for CO line number 21 modified with modifier 48 will be shown as 4821 in Call Accounting Application. The modification is only relevant if the call accounting application uses the SMDR C type.

Smdr Type – select SMDR type in accordance with type used in PBX. For KX-HTS, Asterisk (11, 13, 14, 15 versions) set 'Raw'. Try to do not use SMDR types higher than the required SMDR type set for the Call Accounting application, since in this case, as a result of converting the SMDR type, some of the data will be lost.

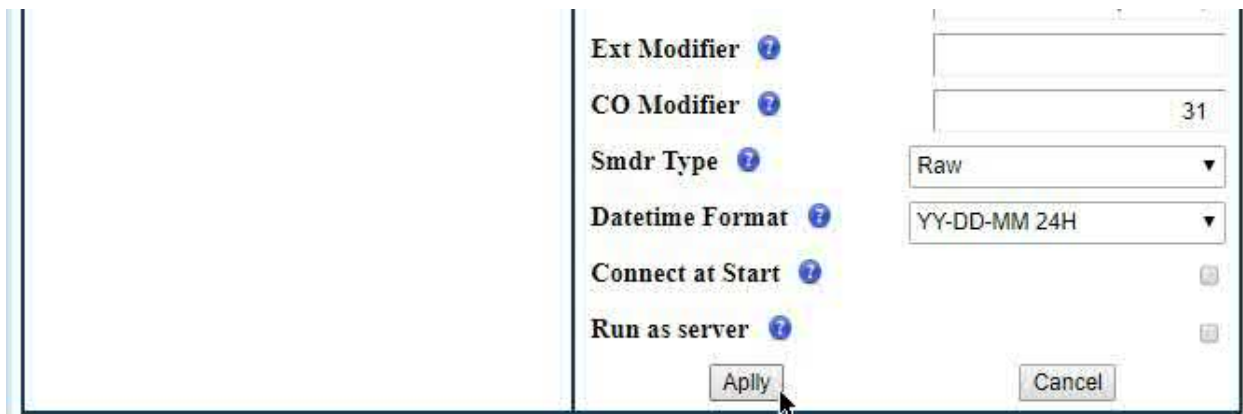
Datetime Format - set date time format in accordance with date time format used in PBX.

Connect at Start - check if you want to connect to PBX when SMDRMUX starts. **If this PBX is not present in any list of PBX call accounting applications, then SMDRMUX will not be connected to the PBX, keeping its call buffer untouched.**

Run as server - check if PBX works as server (Avaya IP Office, for example).

After you made all required changes, press [Apply] button in the lower part of panel.

Press [Cancel] button to roll back.



Please note that changes are applied locally, but not on server. For changes come in force you MUST press [Save] button in the upper left corner of browser.



After [Save] button has pressed, SMDRMUX will reconnect all PBXs and Call Accounting applications, using new settings. Then you have to connect your browser to SMDRMUX, as it is described in 3.1, if it is required. Browser [go back] button doesn't work in this case.

3.4. Configure parameters of Call Accounting applications

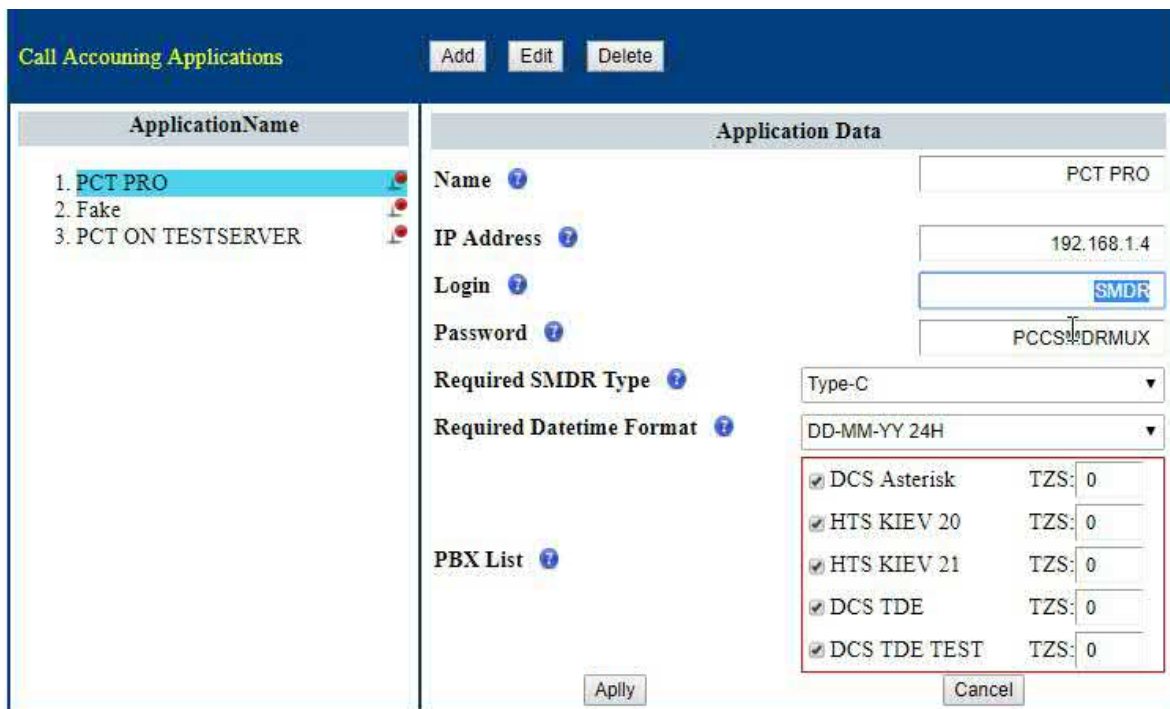
You can add, edit or delete Call Accounting application parameters using correspondent buttons on Call Accounting applications panel:



To start edit Call Accounting application parameters select Call Accounting application in list:



then press **[Edit]** button. After this button has pressed, all Call Accounting application parameters will become able for edit:



Call Accounting application Parameters description.

Name - Call Accounting Application Name.

IP Address – the IP address of Call Accounting application machine (informative only).

Login – the login that Call Accounting Application uses to connect to PBX. For “PBX Call Tarifficator Pro” it is always 'SMDR'.

Password – the password that Call Accounting application uses to connect to PBX.

Required Smdr Type – the SMDR type that Call Accounting application uses. Try to do not use the SMDR types lower than the SMDR type used by the PBX, since in this case, as a result of converting the SMDR type, some of the data will be lost.

Required Datetime Format - date time format that Call Accounting Application uses.

PBX List - select available PBXs you want to get SMDR data from. If PBX is located in the region with different of your time zone, you can adjust time zone shift for this PBX.

Be careful with Datetime format. It should be the same in the PBX (hardware) settings, in the SMDRMUX PBX parameters, in the SMDR Call Accounting application parameters and in the Call Accounting application settings. Otherwise Call Accounting application can't parse SMDR data.

After you made all required changes, press [Apply] button in the lower part of panel.

Press [Cancel] button to roll back.

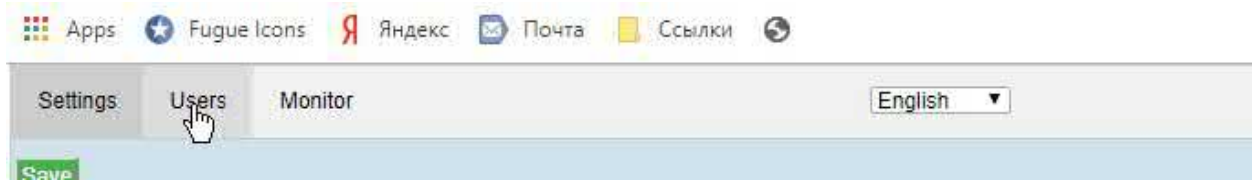
Please note that changes are applied locally, but not on server. For changes come in force you MUST press [Save] button in the upper left corner of browser.



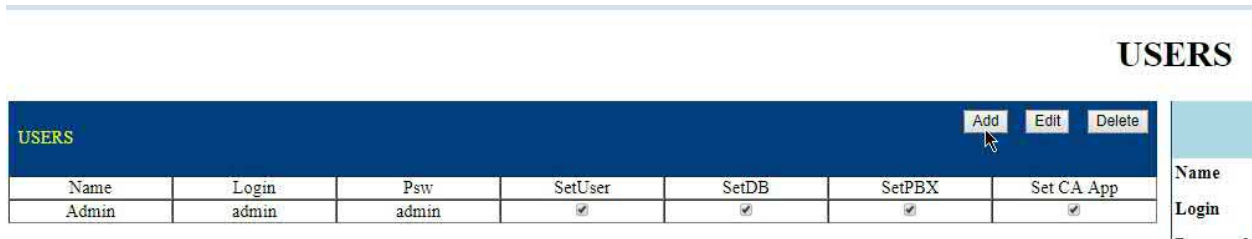
After [Save] button has pressed, SMDRMUX will reconnect all PBXs and Call Accounting applications, using new settings. Then you have to connect your browser to SMDRMUX, as it is described in 3.1, if it is required. Browser [go back] button doesn't work in this case.

3.5. Configure User profiles

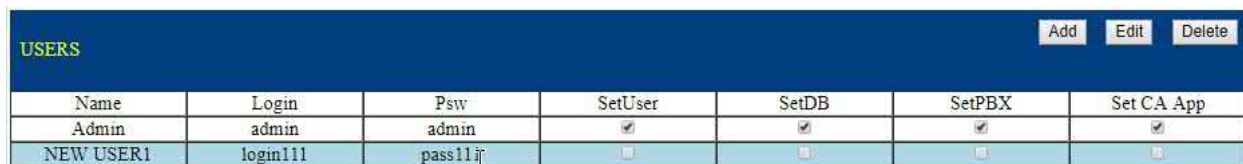
To start configure user profiles select Users tab:



You can add, edit or delete user profiles using correspondent buttons on Users panel:



To start edit user profile parameters select user profile in list:



then press **[Edit]** button. After this button has pressed, all user profile parameters will become able for edit:



Edit user permissions:

Set Users – set this item if user should have permission to add, edit or delete user profiles.

Set DB - set this item if user should have permission to edit Database parameters.

Set PBX - set this item if user should have permission to add, edit or delete PBX parameters.

Set CA Apps - set this item if user should have permission to add, edit or delete Call Accounting application parameters.

After you made all required changes, press [Apply] button in the lower part of panel.

Press [Cancel] button to roll back.

Selected User Info	
Name	USER 111
Login	login111
Password	pass111
Permissions:	
Set Users	<input checked="" type="checkbox"/>
Set DB	<input type="checkbox"/>
Set PBX	<input type="checkbox"/>
Set CA Apps	<input checked="" type="checkbox"/>
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

Please note that changes are applied locally, but not on server. For changes come in force you MUST press [Save] button in the upper left corner of browser.

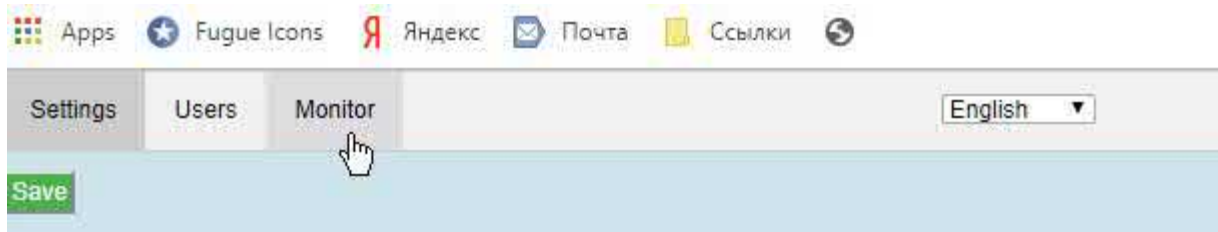


After [Save] button has pressed, SMDRMUX will save updated user profiles.

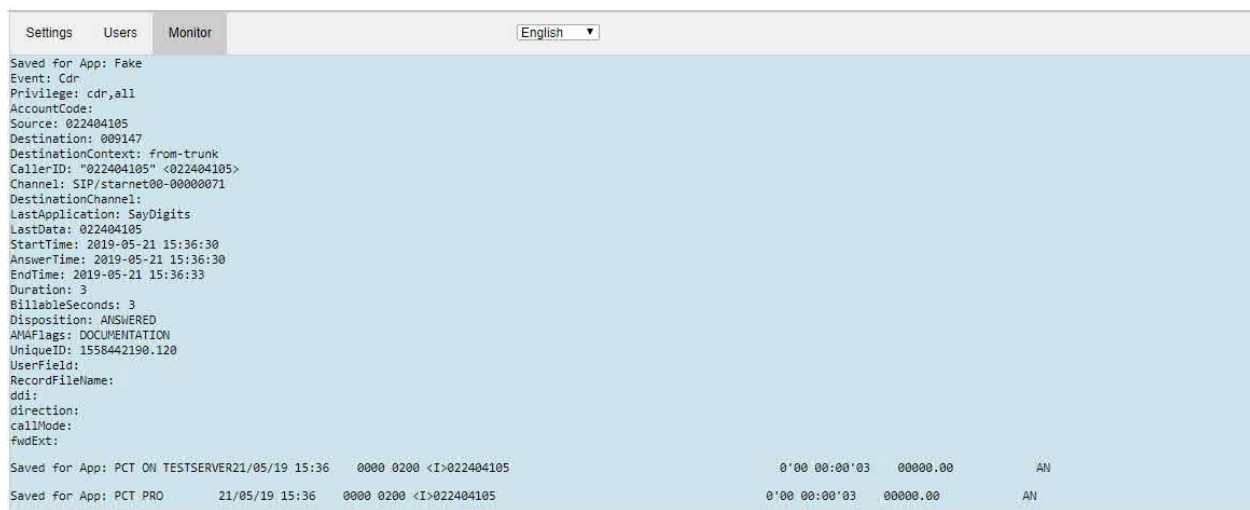
You have to restart Smdrmux service in order to make in force the updated user profiles.

4. Monitor

Select Monitor tab to start monitor of the SMDR messages and run some commands.

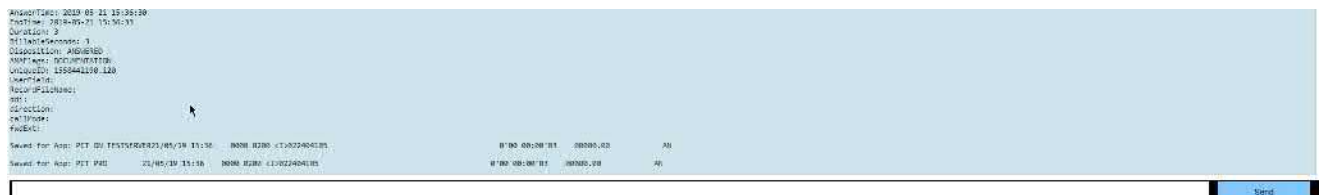


Here you can see the flow of SMDR messages.



Last message is always in the top.

In the lower part is command box, when you can type the commands.



The available commands:

check license – show the state of software license.

show pbxs – shows the connected PBXs

show apps – shows the connected Call Accounting applications

activate [key] – provide license activation

5. License activation

To activate license do the following:

Get activation key from vendor.

Ensure that machine where SMDRMUX is installed has internet access.

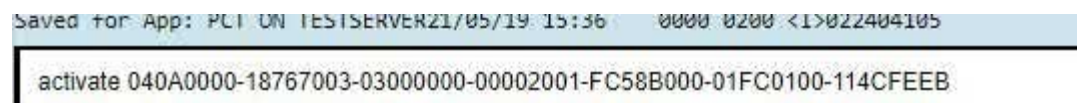
Select Monitor tab.

Type in the command line:

activate [key]

where [key] is the key you received from vendor.

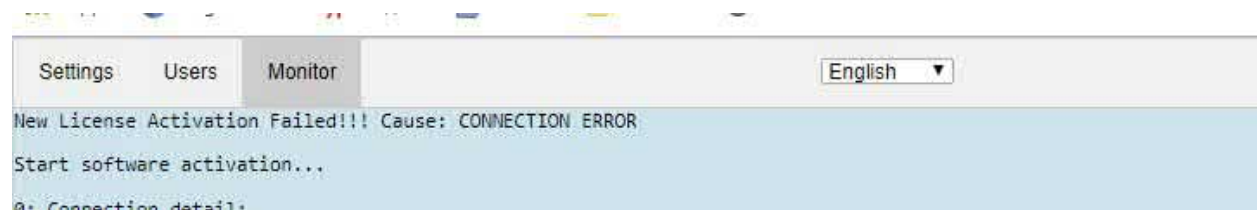
It looks like this:



Saved for App: PC1 ON TESTSERVER21/05/19 15:36 0000 0200 <1>022404105
 activate 040A0000-18767003-03000000-00002001-FC58B000-01FC0100-114CFEEB

Then press Enter or Send button.

You will get the message with the result of activation in the upper rows of Monitor panel.



Settings Users Monitor English
 New License Activation Failed!!! Cause: CONNECTION ERROR
 Start software activation...
 @: Connection detail:

After you successfully activated the license, you can add the purchased numbers of PBXs and Call Accounting applications parameters sets.