OTRS Asterisk PBX Integration Module PIM v1.0.10b

Administrator's Guide

Contents

Introduction

Add-ons PIMv1.0.10b (PBX Integration Module) is intended for helpdesk and call centers that use the OTRS system.

With the new Add-ons module, you can immediately notify customers of the ticket number without filling fields on form.

Functions of the module:

- Informing agents about the call and the customer by CallerID

- Create a ticket with one click in the agent notification window

Features

Database type: MySQL

The PIM module uses the client-server architecture

The service is running on the OTRS server, it uses TCP port 11010 for client applications connections.

Preparing Asterisk for integration with OTRS

The AMI (Asterisk Manager Interface) interface is used to interact with Asterisk.
Connect to Asterisk server with full rights (sudo).
On the Asterisk server, create a user to connect to the AMI interface:

for general Asterisk versions:
Open the manager.conf file for editing
nano /etc/asterisk/manager.conf
Add the lines by replacing the value of "IP_address_OTRS" with the IP address of your OTRS server:
[otrs]
secret = SomePassword
deny=0.0.0.0/0.0.0.0
permit=IP_address_OTRS/255.255.255.255
read = system,call

for some versions of Asterisk (13.1.x):
Create the otrs.conf file in the /etc/asterisk/manager.d/ directory:
nano /etc/asterisk/manager.d/otrs.conf
Add the lines by replacing the value of "IP_address_OTRS" with the IP address of your OTRS server:
[otrs]
secret = SomePassword
deny=0.0.0.0/0.0.0.0
permit= IP_address_OTRS /255.255.255.255
read = system,call

After making the changes, restart Asterisk using the CLI:
asterisk -r
by executing the command:
core restart gracefully
After restarting, Asterisk server is ready to work with PIM module for OTRS.

Install the PIM package on the OTRS server

The PIM v1.0.10b package uses additional perl-libraries which are required to be installed:

AnyEvent

IO::Socket::Timeout

To install required perl-libraries on Ubuntu execute the command:

sudo apt-get install -y libplack-test-anyevent-perl libio-socket-timeout-perl

To install required perl-libraries on CentOS execute the command:

yum install perl-AnyEvent

yum install perl-IO-Socket-Timeout

To install required perl-libraries on FreeBSD execute the command

cpan AnyEvent

cpan IO::Socket::Timeout

The specified modules will be installed.

Next Install the v1.0.10b package through the OTRS Web interface on the "**Administration-> Package Manager**" page.

For OTRS version 5.0.X, the package pim_v1.0.10b_ otrs5.opm is installed.

After installing the package, restart the CRON service by running:

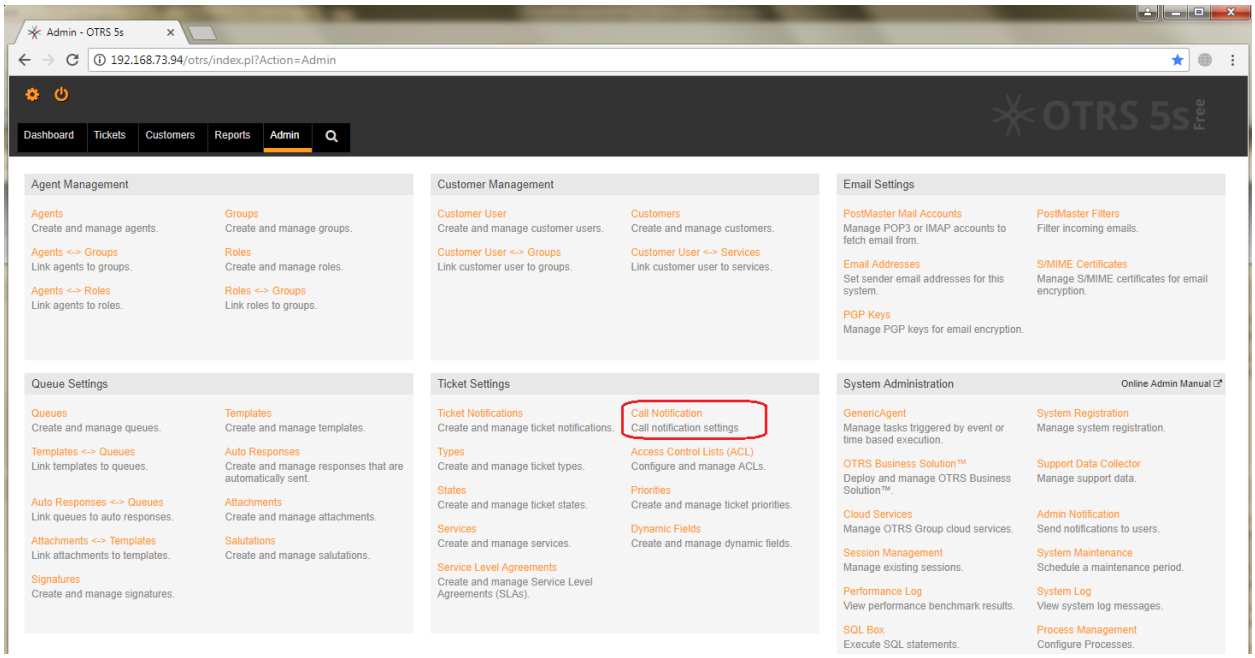
/opt/otrs/bin/Cron.sh restart otrs

The PIMv1.0.10 module is ready for use.

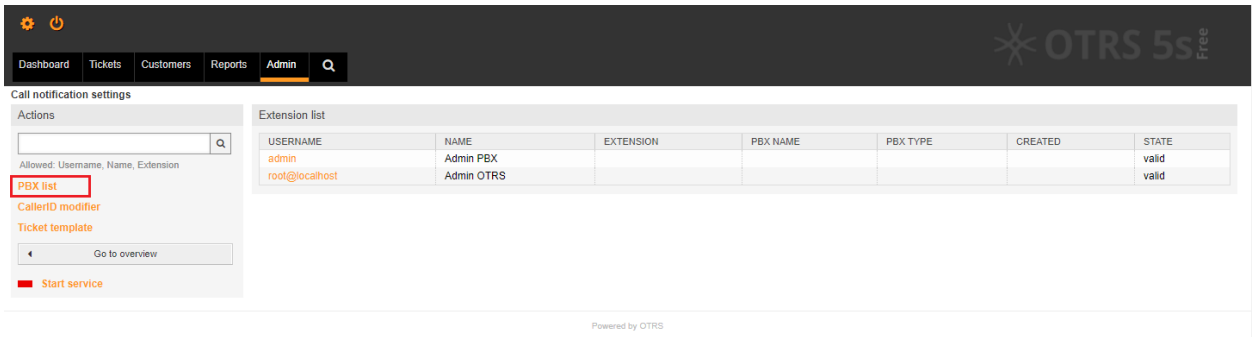
Configuring the PIMv1.0.10b module

The module is configured via the OTRS Web interface.

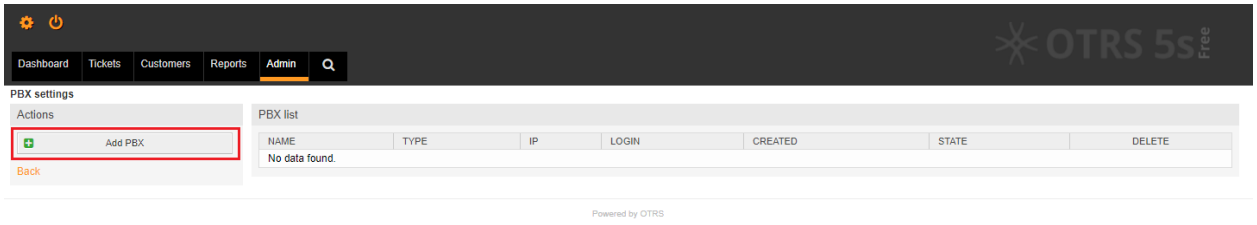
On the "Administration" page, in the "Ticket Settings" block, click on the "Call Notification" link:



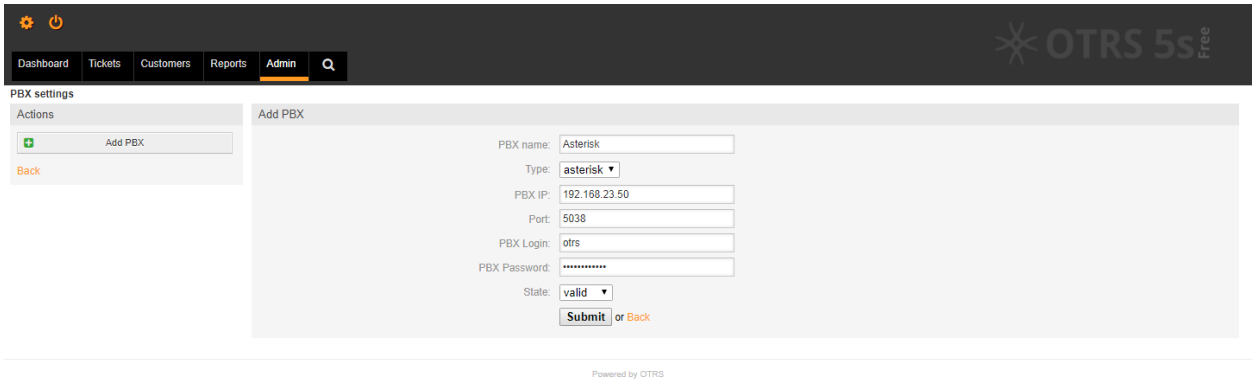
Go to the "Call notification settings" page, to add a new PBX, click the "PBX list":



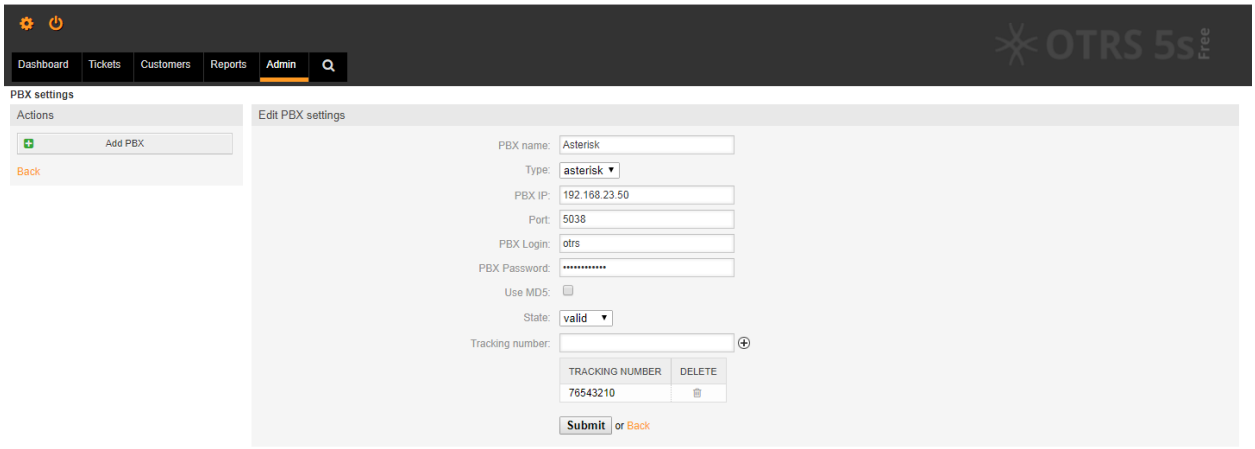
On the PBX settings page, click the "Add PBX" button:



Fill in the settings for the connection to the PBX "Asterisk", confirm the changes with the "Submit" button:



In this editing section, add your “Tracking number”:



Note: " Tracking number " is the external DID of the support service number, which receives calls from customers.

The PIM module as the "Tracking number" uses the value of the Exten field received from the Asterisk server.

The "Use MD5" option is used for MD5 authentication with password encryption for the case where the connection to the Asterisk server is not via a trusted network.

Definition of "Tracking number"

If you do not know the Exten DID number, to start, assign the "Tracking Number" - the symbol *****

In this case, all numbers from the Exten field will be tracked.

In the PIM module, each processed call is output to the CDR file named:

pim_cdr_YYYYMM.log

File output path: /opt/otrs/var/log

From this file you can determine which external Exten to track.

The file pim_cdr_YYYYMM.log contains 14 fields, the fields are separated by the symbol "|" (pipe) and have the following structure:

PBX_ID|Uniqueid|UnixTimeRing|UnixTimeAnswer|UnixTimeHangUp|CallStartTime|AnsweredExtension|Exten|CID|RingTime, sec|CallDuration, sec|Cause|CustomerUserLogin|TicketNumber

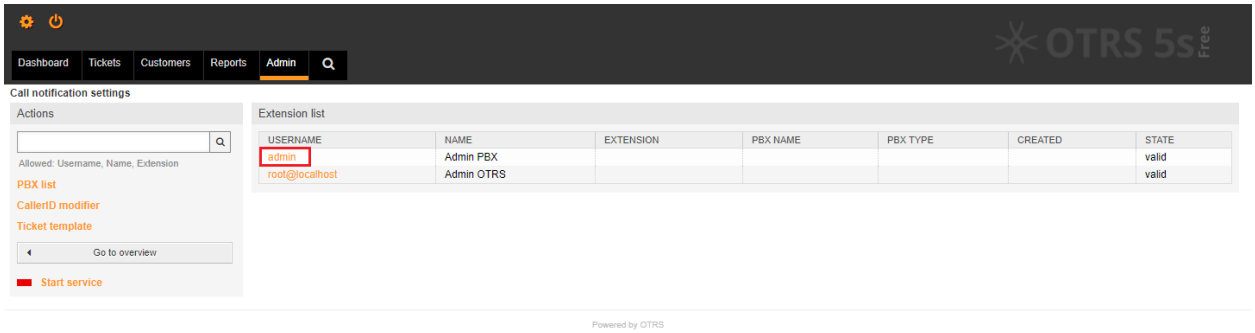
Description of fields:

#	Field Value		Description
1	PBX ID	-	PBX ID
2	Uniqueid	-	Unique Call ID
3	UnixTimeRing	-	Call ring, unixtime
4	UnixTimeAnswer	-	Call answer, unixtime
5	UnixTimeHangUp	-	Call end, unixtime
6	CallStartTime	-	Call Start time
7	AnsweredExtension	-	Answered subscriber (agent extension number)
8	Exten	-	Exten field (DID number)
9	CID	-	CallerID
10	RingTime, sec	-	Waiting time before answer, sec.
11	CallDuration, sec	-	Duration of conversation, sec.
12	Cause	-	Cause for hanging Q.931
13	CustomerUserLogin	-	CustomerUser login (if defined)
14	TicketNumber	-	Ticket number (if created)

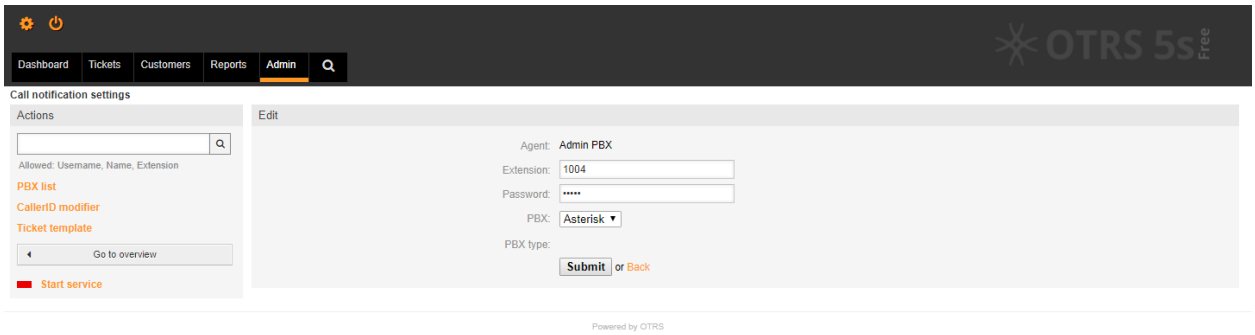
The file pim_cdr_YYYYMM.log is output with rotation by month.

Setting agent extensions

On the "Call notification settings" page, specify the agent extensions and specify a password for connecting client application:



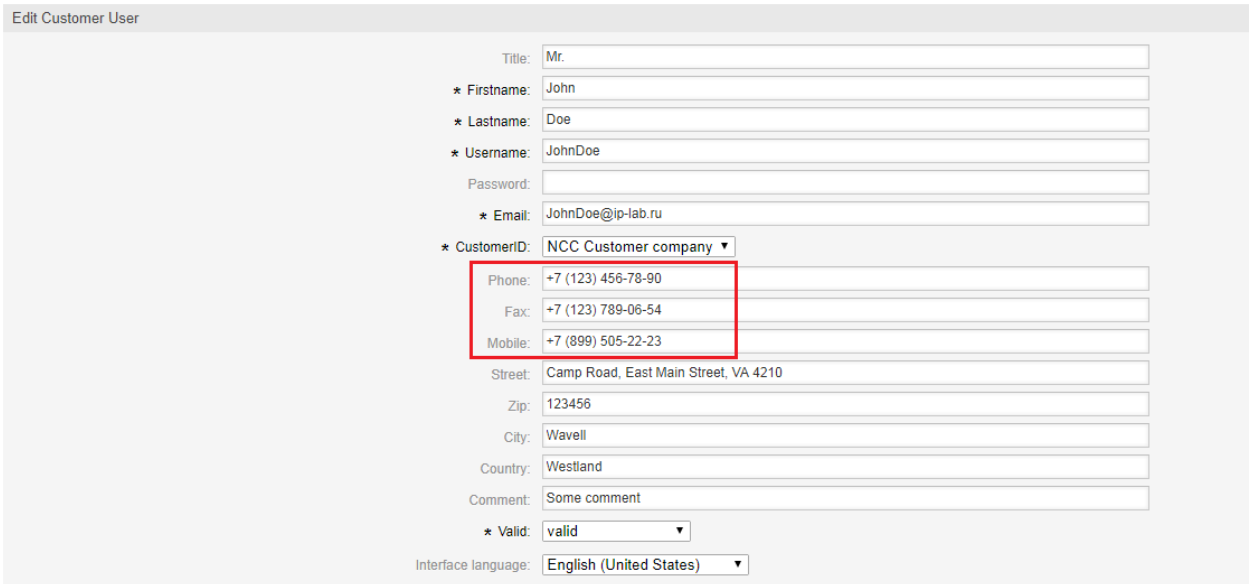
On the edit page, add data for each agent:



Customer User identification

The customer identification is based on the received CallerID.

When an incoming call arrives, searches by CallerID in the customer database for the "Phone", "Mobile", "Fax" fields set on the "Customer User Management" page:



You can specify several numbers separated by commas in each phone number field.

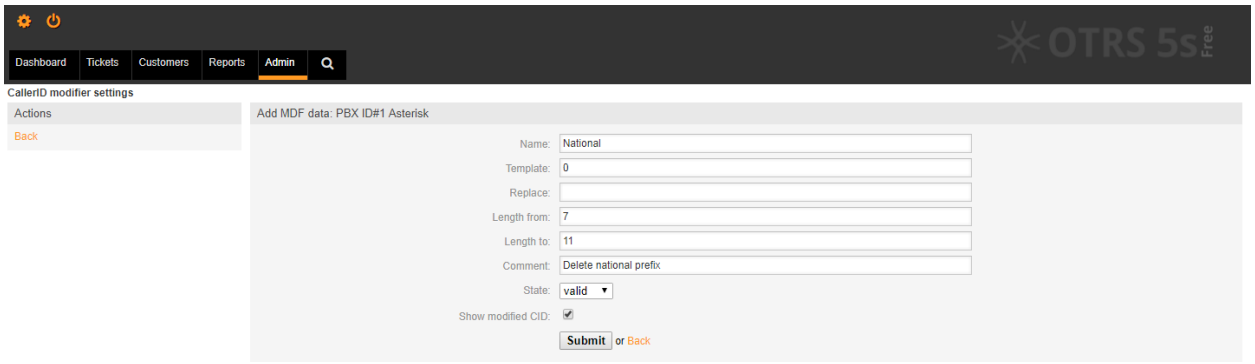
CallerID modification

If your ISP does not transmit CallerID in E.164 format (international number format), identification may be difficult or impossible.

This happens, for example, when the provider adds a national or international prefix to CallerID.

To solve this problem, use the CallerID modification mode on the "CallerID modifier" page.

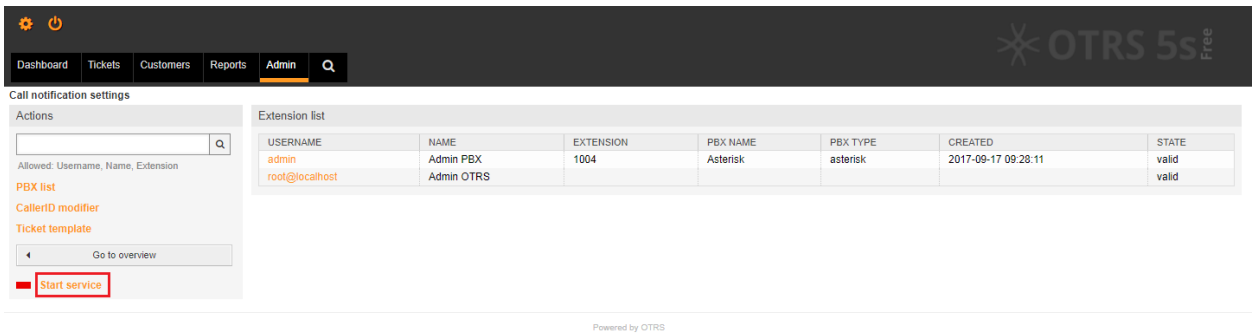
In this example, the prefix "0" is deleted from CallerID. The modifier rule will be applied for CallerID starting with the prefix "0" and the length from 7 to 11 characters:



The "**Show modified CID**" option sets the modified CallerID for displaying the current rule in the client application.

Starting the service

Start the PIM service by clicking on the "Call notification settings" link "**Start service**":



The indicator on the left shows 3 states:

- Service is stopped
- Service starts, waiting
- Service started

Note:

The services are started by the CRON and starts up to 1 minute.

After a successful start, the service will go into the "running" state.

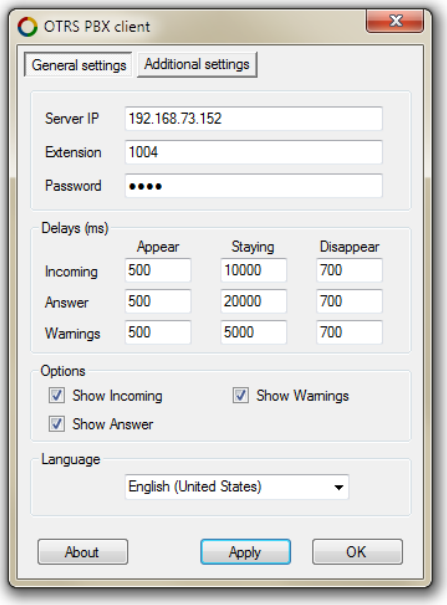
To update the status of the indicator, click on the indicator icon.

Configuring the client application

Client applications are installed on workstations with Windows.

The minimum requirements are the installed package of Microsoft. NET Framework 4 and higher.

In the application settings window, fill in the settings fields as shown in the example:



Description of fields:

Server IP – IP address of the OTRS server

Extension – Agent extension

Password – Password of the agent on the OTRS page "Call notification settings"

Delays (ms) block

You can change the time of appearance, display and disappearance of the notification window for events:

Incoming – notification of an incoming call

Answer – notification of answering a call

Warnings – warning notices

Delays time is set in milliseconds.

Options block

In this block, you can turn off notifications in message classes by removing the desired flag.

Language – Select the language for the client application interface.

On the **Additional settings** tab, specify the address of the OTRS server in the **Web path** field.

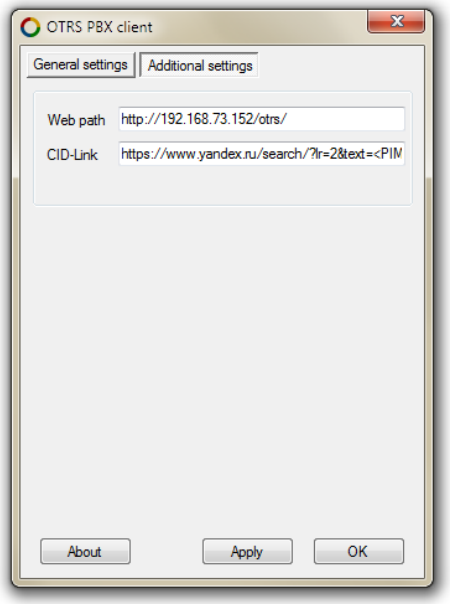
In the **CID-Link** field, specify the preferred Search Engine.

The CallerID info in the **CID-Link** field sets via the <PIM_CID> tag.

For Google Search Engine, use CID-Link:

https://www.google.com/search?q=<PIM_CID>

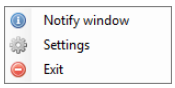
Example of the **Additional settings** tab:



Exiting the client application

When you click the OK button OK or close the window , he application is minimized to the system tray and continues to work.

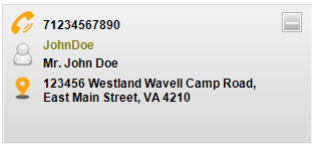
To end the application, right-click the application icon in the tray and click Exit:



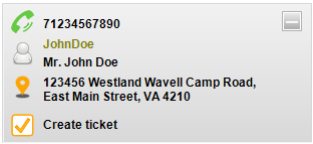
Sample OTRS PBX Client notifications:

Warnings:

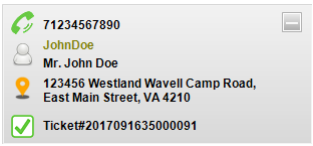
Incoming call information:



Answer:



Ticket Number:



Setting up with LDAP customer backend

The PIM module also supports LDAP customer directories.

The standard OTRS interface is used to connect to the LDAP database in the Kernel/Config.pm file.

In general, you do not need to change it.

For proper operation, it is required to place customers in the Windows AD security group, for example, “OTRS_Customers” and apply the filter in Config.pm.

For example, for the otrsdc.Inc domain, the filter entry will be as follows:

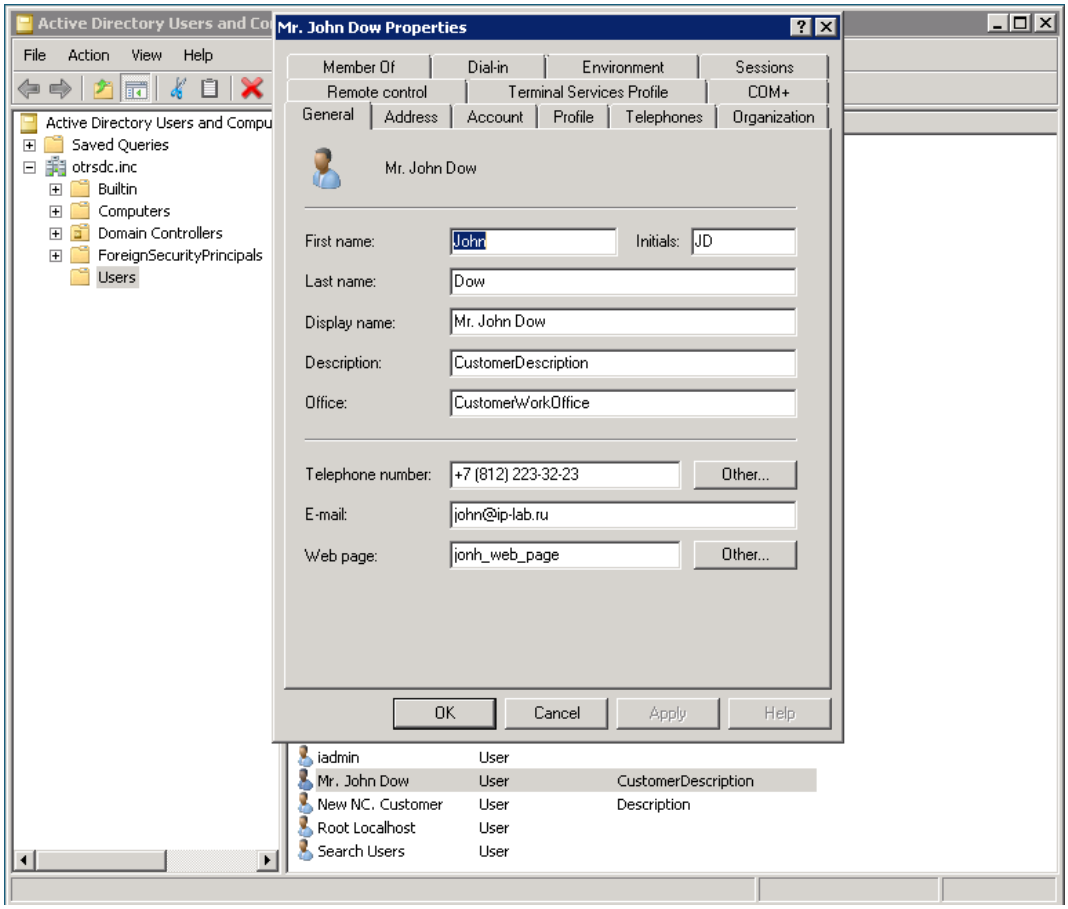
AlwaysFilter => '(&(objectclass=user)(memberof=CN=OTRS_Customers,CN=Users,DC=otrsdc,DC=inc))',

The customer search in the PIM module is performed by the fields 'UserPhone', 'UserHomePhone', 'UserFax', 'UserMobile'. To identify the customer, at least one of these fields must be filled.

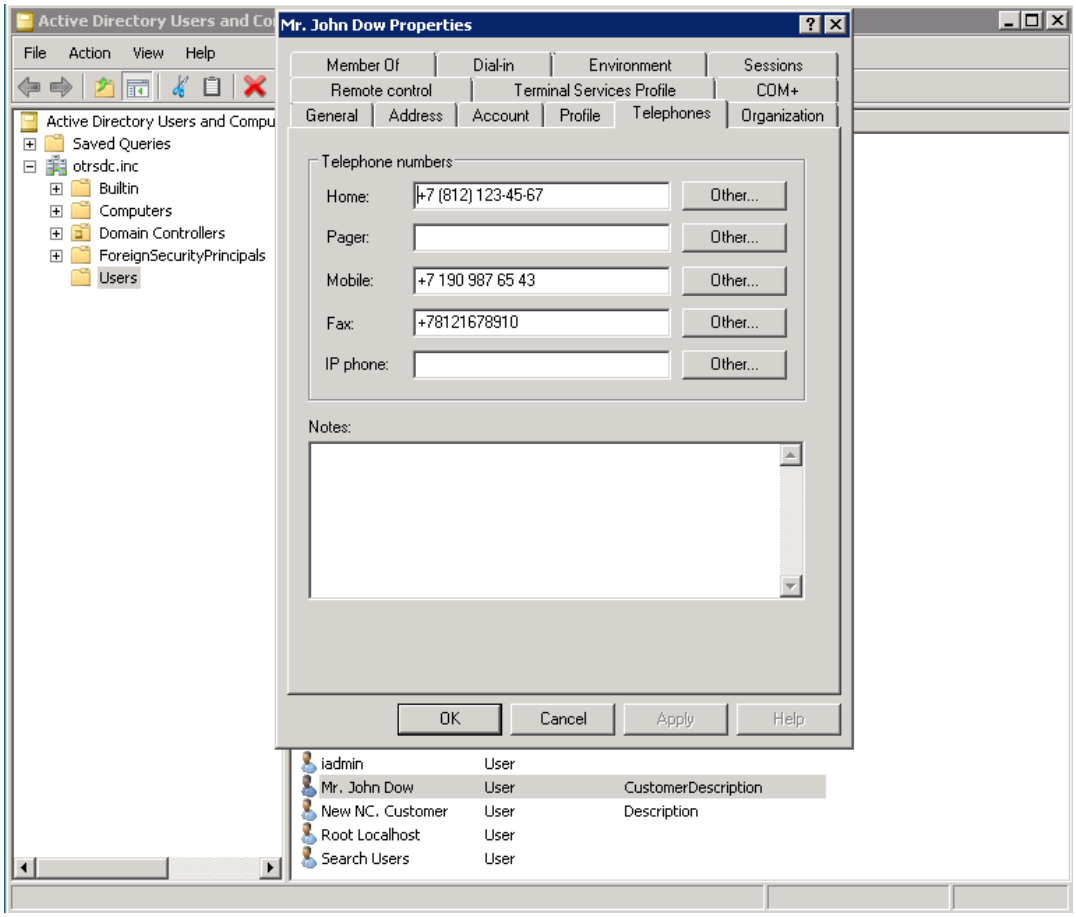
Updating LDAP data for customers occurs every 60 minutes. To immediately get LDAP changes, you need restart the PIM service.

Example of user fields in AD:

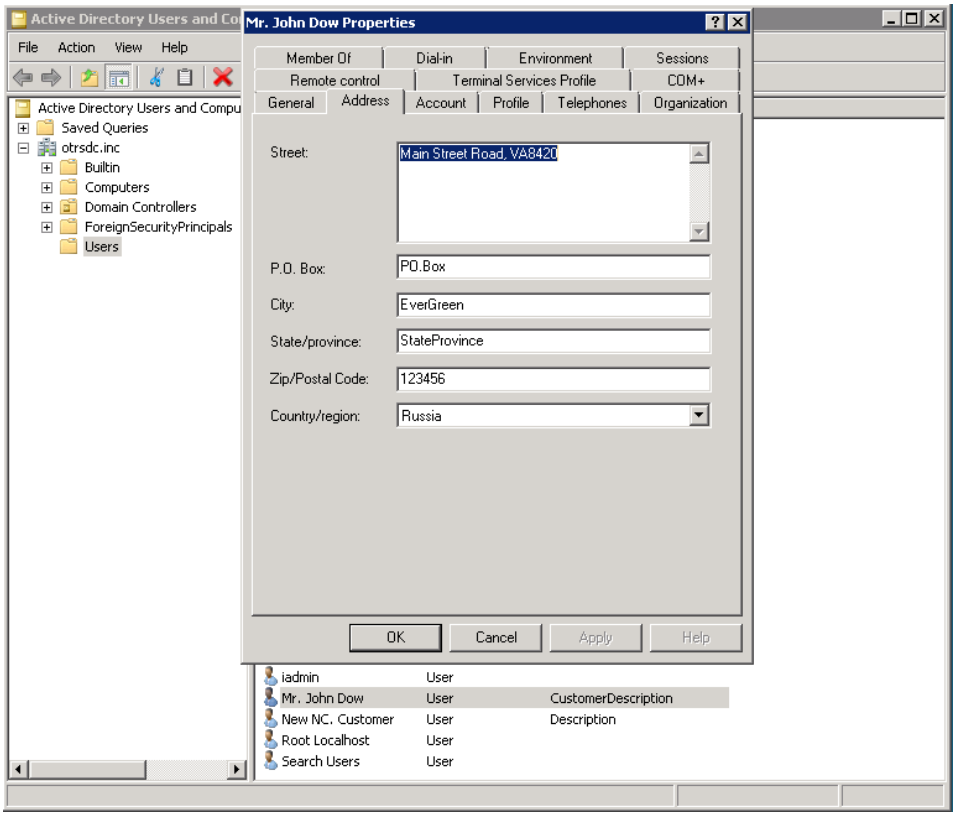
The “General” tab:



The "Phones" tab:



The “Address” tab:



Example of part of the Config.pm file of LDAP data for customers:

```
$Self->{CustomerUser} = {
        Module => 'Kernel::System::CustomerUser::LDAP',
        Params => {
        Host => '10.10.12.11',
        BaseDN => 'dc=otrsdc,dc=inc',
        SSCOPE => 'sub',
        UserDN => 'root@otrsdc.inc',
        UserPw => 'SomePassword',
        AlwaysFilter => '(&(objectclass=user)(memberof=CN=OTRS_Customers,CN=Users,DC=otrsdc,DC=inc))',
        SourceCharset => 'utf-8',
        DestCharset => 'utf-8',
},

    CustomerKey => 'sAMAccountName',
    CustomerID => 'mail',
    CustomerUserListFields => ['sAMAccountName', 'givenName', 'sn', 'mail'],
    CustomerUserSearchFields => ['sAMAccountName', 'givenName', 'sn', 'mail'],
    CustomerUserSearchPrefix => '',
    CustomerUserSearchSuffix => '*',
    CustomerUserSearchListLimit => 250,
    CustomerUserPostMasterSearchFields => ['mail'],
    CustomerUserNameFields => ['givenname', 'sn'],

   Map => [
     [ 'UserInitials', 'Initials', 'initials', 1, 0, 'var' ],
     [ 'UserFullname', 'Full name', 'cn', 1, 0, 'var' ],
     [ 'UserFirstname', 'Firstname', 'givenName', 1, 1, 'var' ],
     [ 'UserLastname', 'Lastname', 'sn', 1, 1, 'var' ],
     [ 'UserLogin', 'Login', 'sAMAccountName', 1, 1, 'var' ],
     [ 'UserEmail', 'Email', 'mail', 1, 1, 'var' ],
     [ 'UserCustomerID', 'CustomerID', 'mail', 0, 1, 'var' ],
     [ 'UserPhone', 'Phone', 'telephonenumber', 1, 0, 'var' ],
     [ 'UserFax','Fax', 'facsimiletelephonenumber', 1, 0, 'var' ],
     [ 'UserHomePhone','Home phone', 'homephone', 1, 0, 'var' ],
     [ 'UserMobile', 'Mobile', 'mobile', 1, 0, 'var' ],
     [ 'UserZip', 'Zip', 'postalcode', 1, 0, 'var' ],
     [ 'UserCountry', 'Country', 'co', 1, 0, 'var' ],
     [ 'UserCity', 'City', 'l', 1, 0, 'var' ],
     [ 'UserStreet', 'Street', 'streetAddress', 1, 0, 'var' ],
     [ 'UserOffice', 'Office', 'physicalDeliveryOfficeName', 1, 0, 'var' ],
     [ 'UserDepartment' , 'Department' , 'department' , 1 , 1 , 'var' , '' , 0 ] ,
     [ 'UserDescription' , 'Description' , 'description' , 1 , 0 , 'var' , '' , 0 ] ,
   ],
};
```

Diagnostics

The server part of the module is executed on the scripts pim_chat.pl and pim_asterisk.pl, scripts are located in the path /opt/otrs/var.

The scripts are started by CRON and are checked once a minute.

In case of startup problems, check that the scripts are in the CRON job by running the command:

crontab -l -u otrs

There should be these lines:

*/1 * * * * $HOME/var/pim_chat.pl >> /dev/null

*/1 * * * * $HOME/var/pim_asterisk.pl >> /dev/null

Additional information about errors and events is output to the following log files:

pim_chat_log_YYYYMM.log – PIM server module messages

pim_ast_log_YYYYMM.log – Asterisk connector messages

Log files output path: /opt/otrs/var/log

The log files are rotated by the month.

Feedback

If you need additional information or have any suggestions, comments on the modules or you find a bug in the package PIM v1.0.10b, please email us at http://ip-lab.ru/ on the "Contact Us" page.