

Description of
DELTA TEL
and
PJPHONE systems



Administration

DELTA TEL and PjPhone

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1. General information about the system

Delta Tel is an omnichannel solution for building communications with your customers. Thanks to integration with CRM such business needs are solved:

- Construction of incoming lines;
- Reception of calls from various telephony trunks;
- Creating scripts for incoming calls;
- Product call-back functionality;
- Creating outbound dialing campaigns including automatically generated call lists in the CRM system;
- Auto-dial in various dialing modes;
- Operators chats with your clients;
- Construction of themes for appeals;
- Flexible construction of custom reports.

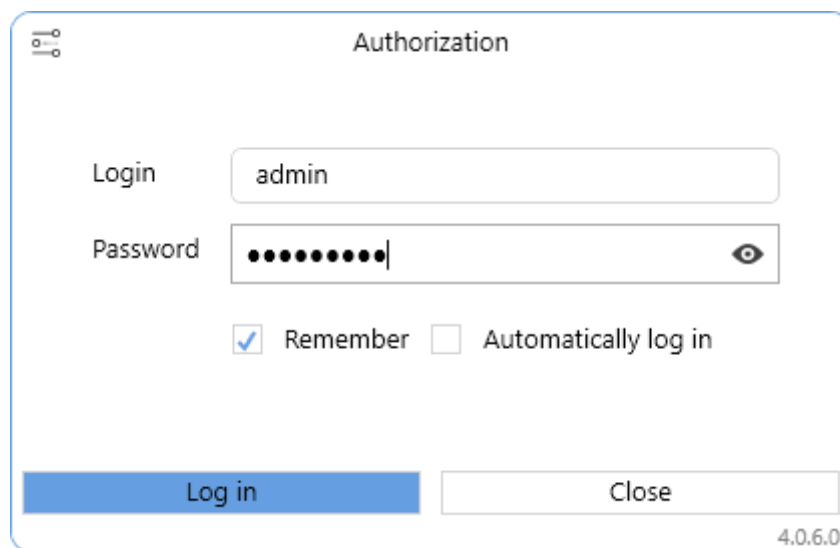
This document is intended for managers of call centers, contact centers, and their specialists who use telephony and chats for communication with customers.

The main purpose of the document is to provide information about the system features and customization of communication with customers.

It is assumed that a specialist starting to work with DELTA TEL has an understanding of simple Boolean algebra operations, in particular AND/OR operations, an understanding of common data types (int, boolean, string, etc.), as well as an understanding of filtering data according to criteria.

2. General view and main tabs

When the application is launched, an authorization dialog box opens for logging into the Delta Tel administration client. Authorization takes place under the account of one of the users created in the system, after which he gets access to the application, taking into consideration the rights that were set for his role. The first user is created when the system is deployed.



Below the login and password fields there are the following checkboxes:

- "Remember" — enables remembering of the last entered login and password and they will be filled in automatically next time when user tries to log in.
- "Automatically log in" — the user will be automatically authorized in the system using previously entered data the next time when the Delta Tel client is launched. Also, for automatic login, the "Remember" checkbox must be checked. If the application was exited through "Logout from the account" instead of the "Close" button, then this checkbox will be cleared automatically.

In the authorization window the user can change the interface language and configure connection settings by clicking on the icon in the upper left corner. User can configure the connection settings to the APP server on the "Connection" tab. On the "Active Directory" tab user must enter the server's IP address for authorization using



Active Directory. The system saves up to 6 last added ip-addresses. The entered address must match the one specified in the Delta Tel settings. This function is used when the system did not automatically find the domain group.

Settings

English

Connection Active Directory

IP address 127.0.0.1

Base port 12001

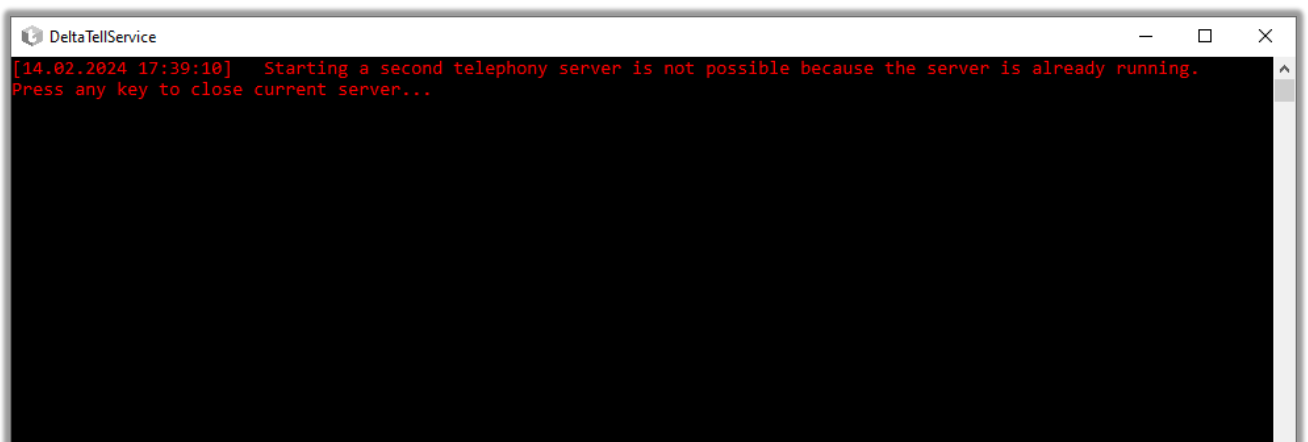
Import port 12002

Statistic port 12003

Hub port 12004

Save Cancel

IMPORTANT: only one telephony server in console or service format can be started in the system. If you try to start multiple telephony servers, the system will block their startup and a warning message will appear in the console.



When the Delta Tel server starts up, the system checks if the Asterisk version is



up to date. To do this, the server sends a request to Asterisk to get its current version. If the Asterisk version received in response to the request does not match the version specified in the "AsteriskVersion" field in the application configuration file (located at the path: ...\\Server\\configs\\appsettings.json), then the Delta Tel server will not start. Asterisk version mismatch error will be displayed in the console and log file and the server will not start.

```
DeltaTelService
[17:53:33 INF] DeltaSftpClient.Init: authenticationMethod - login/password
[17:53:33 INF] Trying connect to ssh
[17:53:37 INF] Connected to ssh
[17:53:37 INF] MinClientVersion - 4.1.1.0;
[17:53:37 INF] MinPjVersion - 4.1.1.0;
[17:53:40 INF] MinPjVersion - 0
[17:53:40 INF] Run...
[17:53:41 INF] Tell .ctor START
[17:53:41 INF] Tell .ctor FINISH
[17:53:41 INF] ===== VOIP Start =====
[17:53:41 INF] Connecting to VoIP
[17:53:42 INF] FullyBooted
[17:53:42 INF] Exten: 1000
[17:53:42 INF] Exten: 1001
[17:53:42 INF] Exten: 1002
[17:53:42 INF] Exten: 1003
[17:53:42 INF] Exten: 1004
[17:53:42 INF] Exten: 1005
[17:53:42 INF] Exten: 1006
[17:53:42 INF] Exten: 1007
[17:53:42 INF] Exten: 1008
[17:53:42 INF] Exten: 1009
[17:53:42 INF] Exten: 1010
[17:53:42 INF] Trunk: testerisk27
[17:53:42 INF] ===== VoIP connected =====
[17:53:42 INF] Tell.IsAsteriskVersionCorrect: ver - 18; fullVersion - 18.12.0
[17:53:42 ERR] Tell.Run.AsteriskVersion.Error: asterisk version in configs is incorrect
[17:53:42 INF] DeltaTel Console Server - Started
for exit press [any key] ...
```




```
в BLToolkit.Data.DbManager.ExecuteOperation(OperationType operationType, Action operation)
--- Конец трассировки внутреннего стека исключений ---
в BLToolkit.Data.DbManager.OnOperationException(OperationType op, DataException ex)
в BLToolkit.Data.DbManager.HandleOperationException(OperationType op, Exception ex)
в BLToolkit.Data.DbManager.ExecuteOperation(OperationType operationType, Action operation)
в BLToolkit.Data.DbManager.OpenConnection()
в BLToolkit.Data.DbManager.getConnection()
в DataAccess.Dal.<InsertDbEntity>d__44`1.MoveNext() в C:\azureAgent\work\16\s\Common\DataAccess\Dal.cs:строка 875
--- Конец трассировка стека из предыдущего расположения, где возникло исключение ---
в System.Runtime.ExceptionServices.ExceptionDispatchInfo.Throw()
в System.Runtime.CompilerServices.TaskAwaiter.HandleNonSuccessAndDebuggerNotification(Task task)
в DataAccess.Dal.<SaveAsync>d__43`1.MoveNext() в C:\azureAgent\work\16\s\Common\DataAccess\Dal.cs:строка 861
--- Конец трассировка стека из предыдущего расположения, где возникло исключение ---
в System.Runtime.ExceptionServices.ExceptionDispatchInfo.Throw()
в System.Runtime.CompilerServices.TaskAwaiter.HandleNonSuccessAndDebuggerNotification(Task task)
в DataAccess.Dal.<SaveAsync>d__40`1.MoveNext() в C:\azureAgent\work\16\s\Common\DataAccess\Dal.cs:строка 785
--- Конец трассировка стека из предыдущего расположения, где возникло исключение ---
в System.Runtime.ExceptionServices.ExceptionDispatchInfo.Throw()
в System.Runtime.CompilerServices.TaskAwaiter.HandleNonSuccessAndDebuggerNotification(Task task)
в DeltaM.DeltaTell.Server.Savers.BaseSaver`1.<Save>d__0.MoveNext() в C:\azureAgent\work\16\s\Server\Lib\DeltaTell\Server\
[2024-08-30 17:50:36.04917] [Error] AmiListener.ConnectToNetwork.Error: Программа на вашем хост-компьютере разорвала у
[2024-08-30 17:53:14.78274] [Error] "System.UnauthorizedAccessException: Отказано в доступе к разделу реестра \"HKKEY_LC
в Microsoft.Win32.RegistryKey.Win32Error(Int32 errorCode, String str)
в Microsoft.Win32.RegistryKey.CreateSubKeyInternal(String subkey, RegistryKeyPermissionCheck permissionCheck, Object
в Microsoft.Win32.RegistryKey.CreateSubKey(String subkey)
в DeltaM.DeltaTell.Server.Classes.DeltaLicense.LoadLicense() в C:\azureAgent\work\16\s\Server\Lib\DeltaTell\Classes
[2024-08-30 17:53:42.46974] [Error] Tell.Run.AsteriskVersion.Error: asterisk version in configs is incorrect
```

The Delta Tel administration client is in the form of a tabbed notepad application. Each tab has a specific functionality, making it easier to manage features and settings.

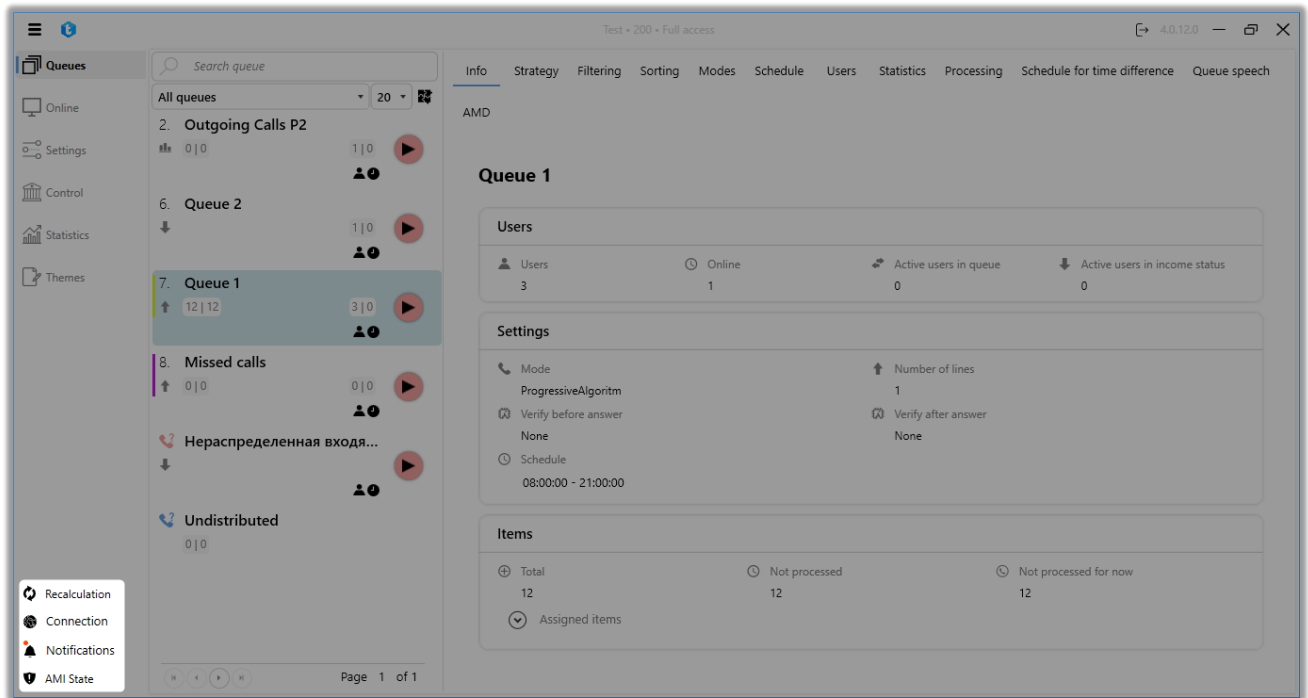
The upper central part of the program window can display the project name (optional), the user's login and access configured for his role. On the right side there is a button "Log out", after clicking which the user will log out of the system and the authorization window will be automatically opened for him.



The screenshot displays the Delta Tel software interface. The top right corner shows the version number '4.0.12.0' in a red box. The interface is divided into several sections: a sidebar on the left with navigation icons, a main queue list in the center, and a detailed view for 'Queue 1' on the right. The queue list includes 'Outgoing Calls P2', 'Queue 2', 'Queue 1' (selected), 'Missed calls', and 'Undistributed'. The detailed view for 'Queue 1' shows 'Users' (3), 'Online' (1), 'Active users in queue' (0), and 'Active users in income status' (0). The 'Settings' section includes 'Mode' (ProgressiveAlgorithm), 'Verify before answer' (None), 'Verify after answer' (None), and 'Schedule' (08:00:00 - 21:00:00). The 'Items' section shows 'Total' (12), 'Not processed' (12), and 'Not processed for now' (12). The bottom left corner contains system operation indicators like 'Recalculation', 'Connection', 'Notifications', and 'AMI State'. The bottom right corner shows 'Page 1 of 1'.





The current version of the program is also displayed there; button for minimizing the application, which will hide the window in the taskbar; button to maximize the application window to the full screen of the monitor or to return the workspace to window mode. Below is a panel with a set of tabs available to the current user, depending on the access rights configured for his role. A single click on the corresponding tab displays its content in the area below the tab bar.



An information block with system operation indicators is displayed in the lower left part of the program window:



The "Recalculation" icon indicates when recalculation of elements in the queues are taking place.

Clicking on "Connection" will display the following connection information to the user:

-  "connected" — ping connection to the main application server.
-  "connected" — ping connection to the statistics server.
-  "connected" — ping connection to the import server.
-  "connected" — ping connection to the hub server (connection or no connection). The hub affects displaying and updating of information in the "Online" tab.

-  "connected" — ping connection to the SFTP server.
-  "connected" — ping connection to the SSH server.

By clicking on the "Notifications" button, the user will be shown the following information: connecting / disconnecting a trunk, reconnecting to the Asterisk server, the status of recalculating items, the status of processing WorkItems, the operator

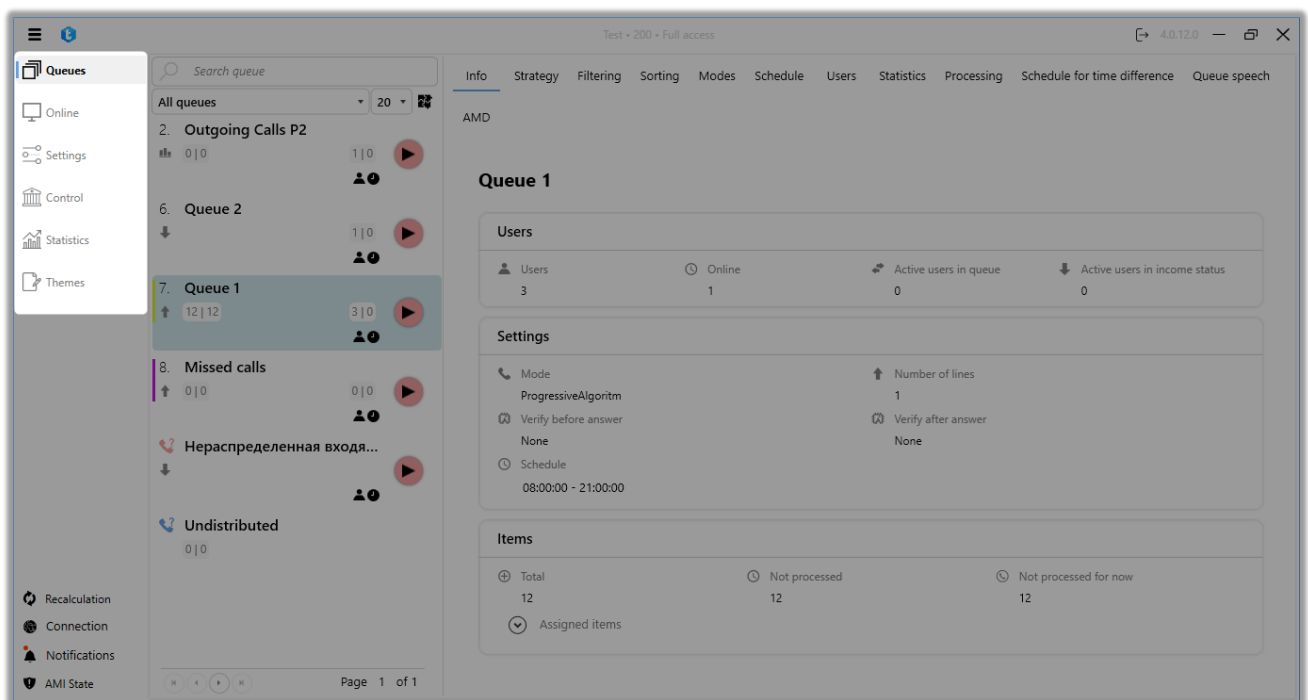


did not accept the call, the status of canceling items from autodial. An indicator in the form of an orange circle indicates that there are unviewed notifications.

The "AMI State" indicator is responsible for displaying the status of the system's connection to the telephony (Asterisk server). If there is no connection, then calls will not be made and calling clients will be stopped. The orange color of the icon indicates that there is no connection.

Depending on the business processes in Delta Tel, you can create an individual role and set up access rights for it.

List of main tabs in DELTA TEL:




- "Queues" — a tab that allows you to configure and manage selected queue;
- "Online" — statistics of dialing and operators connections with clients, workload of trunks and status of queues in real time;
- "Settings" — general system settings;
- "Control" — importing projects, editing and listening to recorded



conversations and IVM files;

- "Statistics" — detailed information on operators: shift start, average talk time, time in work statuses. Ability to generate excel reports;
- "Themes" — selection and introduction into the system of topics and subtopics of the conversation between operators and customers.

If necessary, you can switch the display of the list of menu tabs to the view of icons or icons with text names, for this you need to click on the button  at the top left of the window.

3. Description of tabs functionality

In this section setting up and working with application functions in the context of tabs are described.

3.1 Queues

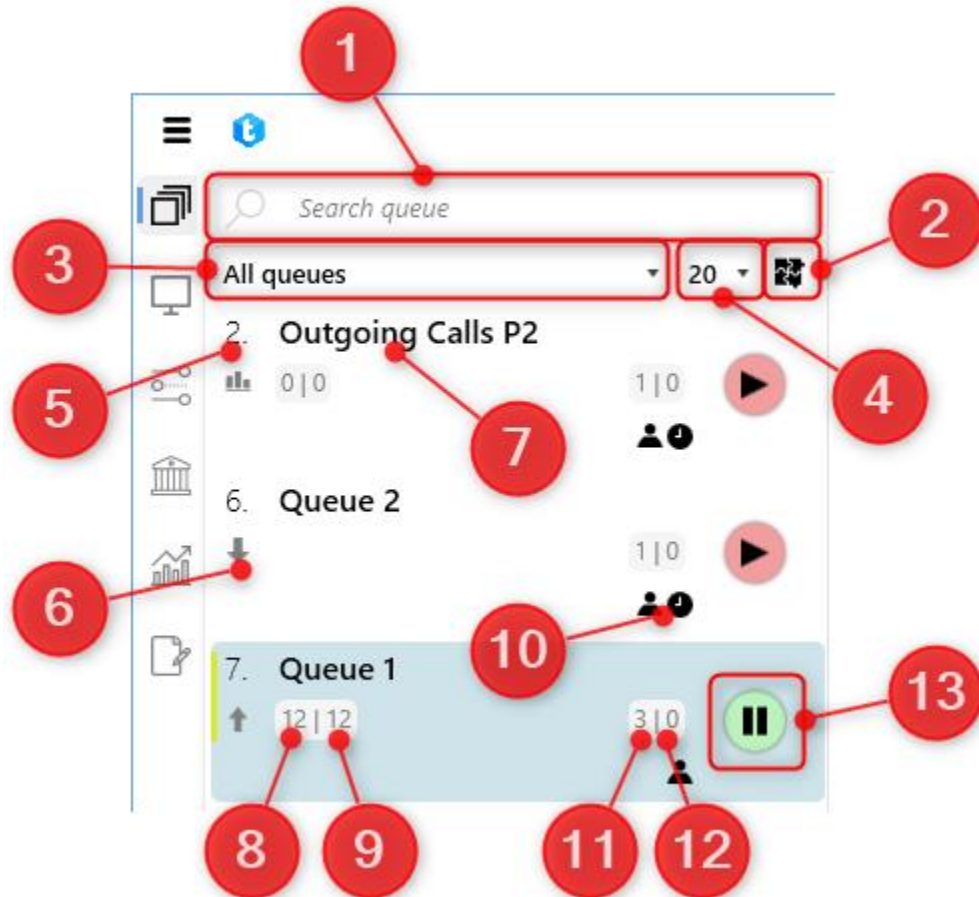
The "Queues" tab is an ordered list that displays the system's queues. This tab is used to quickly switch between created queues and work with them.



The screenshot displays the Delta Tel Queue Management interface. On the left, a sidebar lists various system components like 'Queues', 'Online', 'Settings', 'Control', 'Statistics', and 'Themes'. The main area shows a list of queues under 'All queues'. Queue 1 is selected, showing 3 items and 1 online user. The right-hand panel provides detailed configuration for Queue 1, including user statistics, settings (mode, number of lines, verification options, and schedule), and item counts (total, not processed, not processed for now, and assigned items).

There are two types of queues: incoming and outgoing, which are also divided into user and system. User queues can be created, edited and deleted by users. System queues are created by default by the system: one for the inbound "Unallocated In" queue and one for the outbound "Unallocated" queue, which includes items that do not meet the selection criteria for user queues (unallocated items). System queues have the same functionality as user queues.

The queue selection window contains the following interface elements for working with queues:







- 1) Queue search by name or id;
- 2) Show/Hide Queue Grouping;
- 3) The filter allows you to switch between displaying active and inactive queues. If you select the "All" option, all existing queues are displayed, including active and inactive queues, taking into account the configured access rights for this role;
- 4) Enable page-by-page display of queues according to the selected number of lines per page: 10, 20 or 50. In such display the button for queue grouping is hidden. If the parameter " ∞ " is set, the page-by-page display is disabled and all existing queues are displayed, taking into account the access rights of the current user. This functionality helps to reduce the load on Delta Tel Client when working with a large number of queues on the "Queues" tab.
- 5) Display the priority of the queue. Hovering the cursor will display the full name of the queue, as well as its id;



- 6) Icon informing about the selected mode type for the queue;
- 7) Name of the queue;
- 8) "Not processed" — how many items have not been processed and there are still scheduled follow-up calls;
- 9) "Not processed for now" — how many elements are available for processing at the moment;
- 10) Warning indicator for the queue (for example: no active users, no schedule created);
- 11) The number of users added to the queue for work (total amount assigned to this queue). For a queue with "IVM" mode enabled, the corresponding icon will be displayed;
- 12) Number of active agents in the queue (as of now);
- 13) Queue activity indicator button (started or paused) with the ability to manually start/pause when pressed.








The history of starting and stopping queues is logged in "Information.log". This functionality can be useful for identifying which user enabled a queue outside the established work schedule or, on the conversely, disabled it during work hours.

Types of possible warning indicators for a queue:

-  "No active users" — there are no operators available for the queue ready to receive calls;
-  "Schedule not set" — the queue operation schedule has not been set, or the specified working time range does not correspond to the current time on the server;
-  "Schedule for time difference is not set" — the schedule for time difference is not configured or there are elements in the queue selection that do not match the schedule settings;
-  "No Available lines" — there are no communication lines that can be used to make calls. It is necessary to check the presence of selected trunks in the created strategy for the queue (at least one trunk must be selected), as well as the



availability of available communication lines in the selected trunks. This parameter is checked automatically approximately every 10 seconds if the queue is running;

-  "Lack of communication lines" — the limit of communication lines specified in the license has been exceeded;
-  "Exceeding the limit of the number of lines" — the value of the number of lines set in the modes exceeds the number of lines in the trunks selected for the strategy. All exceeding values are reduced to the number that is set for trunks in the strategy (the check occurs approximately every 10 seconds when the queue is enabled).
-  "BrokenCondition" — the field that is used in the selection of elements for this queue has been removed.
-  "BrokenStrategy" — the field that was used in inside the "Set" block for the strategy for the queue has been removed.
-  "BrokenSelection" — the field that was used for sorting the values of the entity field has been removed.
-  "BrokenOrdering" — the field that was used for sorting in ascending order has been removed.
-  "Trunk unavailable" — the trunk used for dial-ups in the queue has become unavailable (for the trunk, Asterisk sent the status "Avaible: False"). The operation of such queue is automatically stopped. If there are several trunks within the same queue, then calls will be made from available trunk.

When you click on one of the queues, then a menu with its settings opens, consisting of a set of tabs, each of which is responsible for a certain functionality.



The screenshot displays the Delta Tel AMI interface. On the left, a sidebar lists various system components: Queues, Online, Settings, Control, Statistics, Themes, Recalculation, Connection, Notifications, and AMI State. The main area shows a list of queues, with 'Queue 1' selected. The 'Queue 1' configuration panel is open, showing the following tabs: Info, Strategy, Filtering, Sorting, Modes, Schedule, Users, Statistics, Processing, Schedule for time difference, and Queue speech. The 'Info' tab is active, displaying the following data:

Queue 1			
Users			
Users	Online	Active users in queue	Active users in income status
3	1	0	0
Settings			
Mode	Number of lines		
ProgressiveAlgorithm	1		
Verify before answer	Verify after answer		
None	None		
Schedule			
08:00:00 - 21:00:00			
Items			
Total	Not processed	Not processed for now	
12	12	12	
Assigned items			

The following tabs are available in this menu:

- "Info" — general information about queue;
- "Strategy" — the strategy for collecting and processing elements of the queue;
- "Filtering" — selection of elements that will be involved in the queue;
- "Sorting" — the ability to create a sorting of telephone numbers for dialing;
- "Modes" — selection and configuration of the mode for distributing calls to operators;
- "Schedule" — setting the queue operation according to the schedule;
- "Users" — adding operators to the queue;
- "Statistics" — view statistics one by one;
- "Processing" — view processing of queue;
- "Schedule for time difference" — setting up a call schedule taking into consideration time zones of customers;
- "Queue speech" — setting for the conversion of the text to voice that is used in greetings;

- "AMD" — setting for recognition of auto-responders and silence by the system.

Now let's take a closer look at each point individually.

3.1.1 Info

This tab displays general information on the selected queue. Indicators are generated automatically depending on the settings for the queue.

The screenshot shows the 'Info' tab for 'Queue 1' in the Delta Tel interface. The 'Users' section displays the following data:

Users	Online	Active users in queue	Active users in income status
3	1	0	0

The 'Settings' section displays the following data:

Mode	Number of lines
ProgressiveAlgorithm	1
Verify before answer	Verify after answer
None	None
Schedule	08:00:00 - 21:00:00

The 'Items' section displays the following data:

Total	Not processed	Not processed for now
12	12	12
Assigned items		

The first line of the tab is displaying the name of the selected queue.

The "Users" block displays information about the number of users who work with the selected queue.

- "Users" — the number of users assigned to this queue.
- "Online" — the number of users who are in automatic call processing mode.
- "Active users in the queue" — the number of active users in the queue (as of now).
- "Active users in income status" — number of active users in the selected



queue in the "Incoming calls" status.

The "Settings" block displays the set operation parameters for the selected queue.

- "Mode" — display the name of the selected mode for the queue.
- "Number of lines" — the number of available lines for the selected queue, which was set within the selected mode.
- "Verify before answering" — the name of the selected mode, checking for an answering machine before picking up the handset. If the check before answer is disabled, then this parameter will display "None".
- "Verify after answer" — the name of the selected mode of checking for an answering machine after picking up the handset. If check after response is disabled, this parameter will display "None".
- "Schedule" — displaying the settings of the queue within the current day.

The "Items" block displays the number of elements in the queue, which are divided into three categories:

- "Total" — total elements in the queue (including processed items).
- "Not processed" — how many items have not been processed and they still have scheduled follow-up calls.
- "Not processed for now" — how many elements are available for processing at the moment.

In the "Assigned items" drop-down list user can see assigned operators that were imported with list of elements assigned to them and the number of already processed elements will be displayed. Only operators that have pinned items (at the CRM level) are added to the selected queue will be displayed.

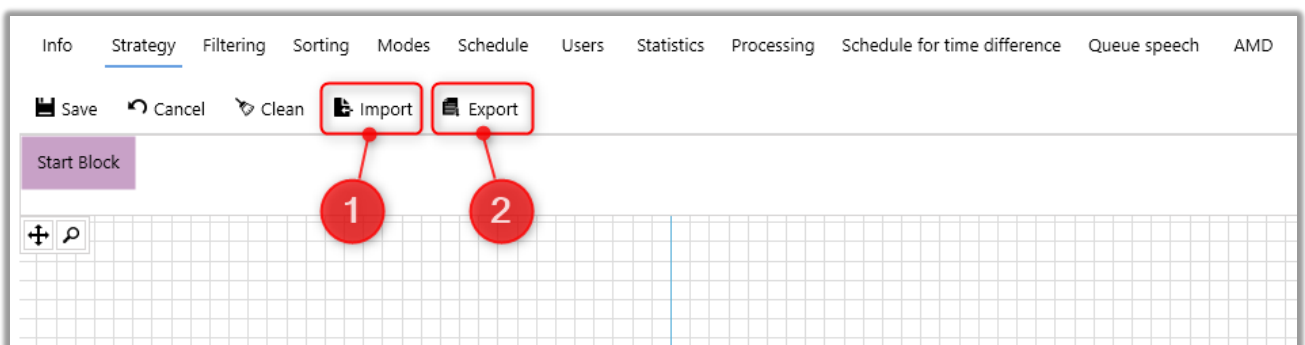
3.1.2 Strategy



A strategy is an algorithm of actions and conditional transitions that correspond to a real business process, which allows you to flexibly customize the operation of telephony. Transitions (links) between blocks are displayed as arrows connecting blocks. Using this tab, a strategy is created and configured for each queue separately.

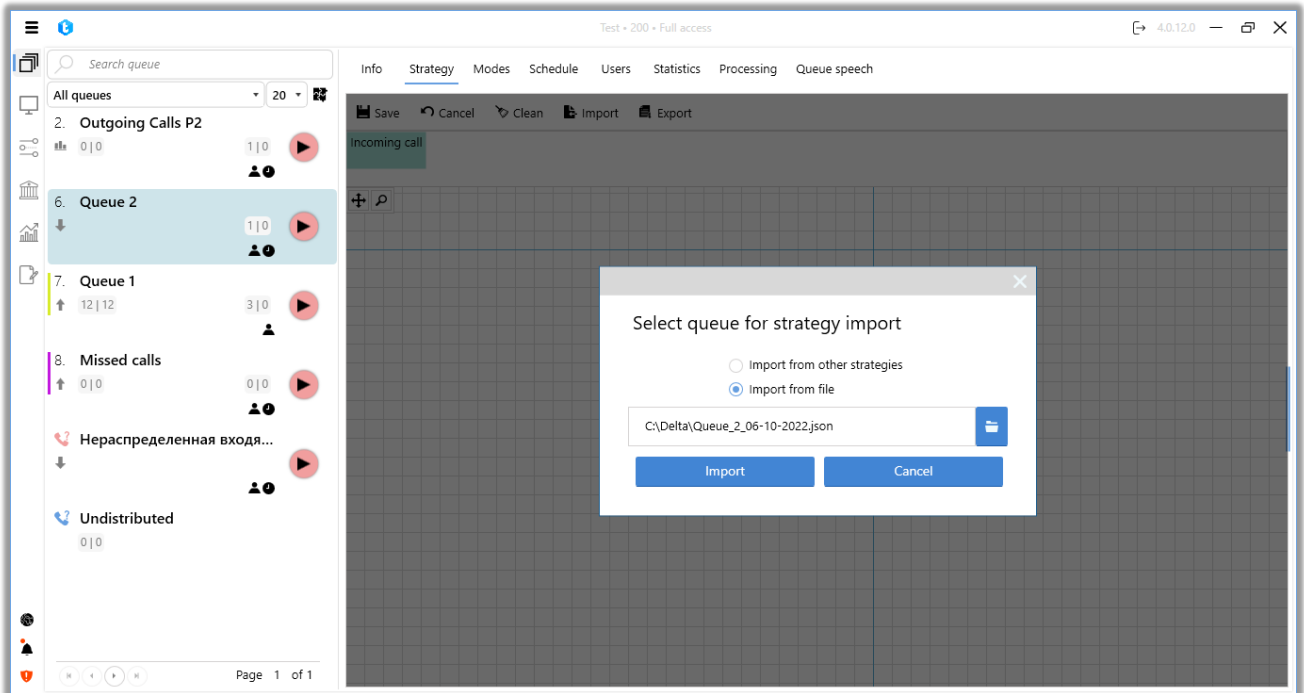
To add new blocks to the strategy, double-click on the block of interest in the block panel. To delete, select the desired block and press the "Delete" button on the keyboard or by clicking on the block with the right mouse button and select "Delete". To copy a block, you must also right-click on it and select "Copy".

The strategy is launched automatically by the system. The system also provides the ability to import and export strategies for queues.

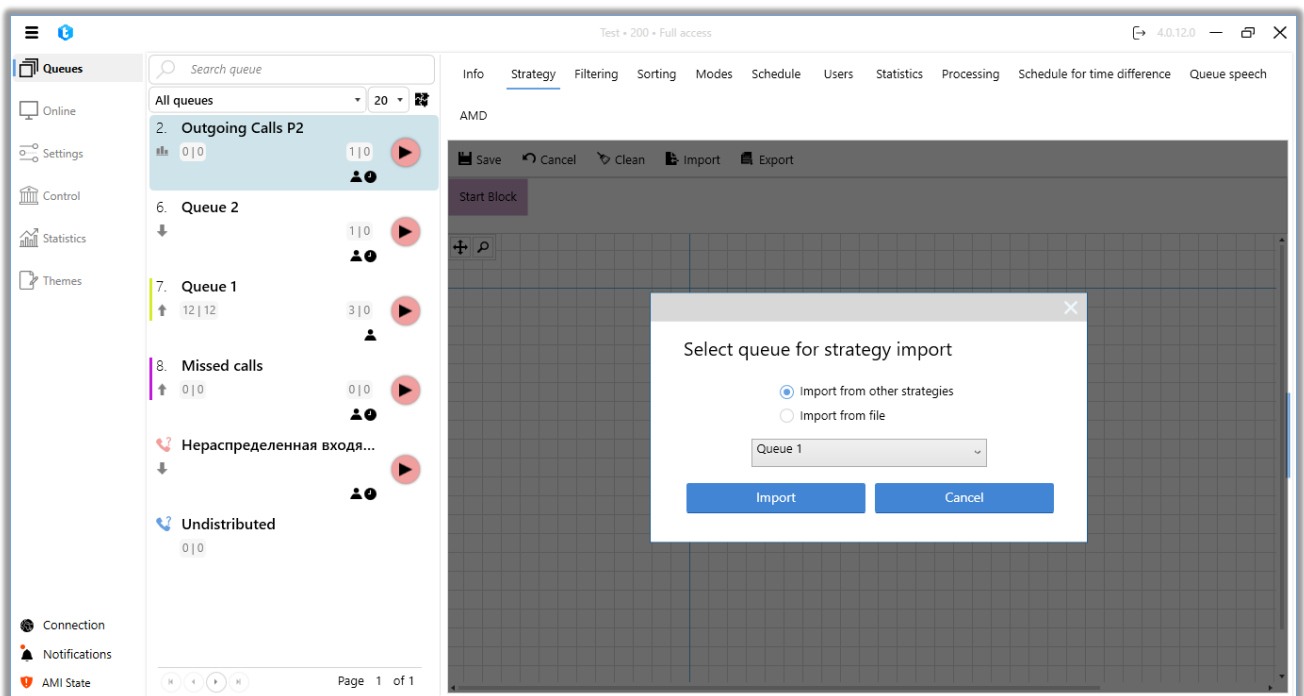


"Import" — adding a strategy for the queue via an external file (in json format) or copying from other queues.

To import a strategy from a file: select the "Import from file" item and load the file from which the strategy for the queue will be added, click "Import".



Import from other strategies: select the queue with the required strategy from the drop-down list and click the "Import" button.



"Export" — saving the created strategy as a json file with the possibility of its subsequent use during import. After pressing the corresponding button, select the



folder in which the strategy will be saved.

The Strategy tab contains the following elements:

- "Start block" — an element that indicates the beginning of the strategy.
Used in strategy for outbound queue only;
- Block "Call" — an element that starts dialing a phone from the queue.
Used in strategy for outbound queue only;
- The "Condition" block is an element that allows you to set the conditions for checking a transaction for further direction along different logic branches (based on different comparison results). Used in strategies for outgoing and incoming queues;
- The "Compare" block is an element that distributes a deal among the strategy branches depending on the compliance of the condition variant. Used in strategies for outgoing and incoming queues;
- Block "+1 callback" — an element that increases the number of dialing attempts on this number by 1;
- Block "Next call" — an element that sets the time after which the next call attempt will be made;
- Block "Set" — an element that sets the correspondence of the selected field to a certain value;
- Block "IVR" — an element that allows you to configure IVR (only available for the incoming line);
- Block "Finish" — an element that marks the end of the strategy;
- Block "Wait result" — an element that returns a value from CRM;
- Block "Cancel items" — an element that cancels the dialing and related items in the outgoing queue;
- Block "Restart strategy" — when this block is executed, the entire strategy is restarted;
- Block "Incoming call" — an element that marks the beginning of the

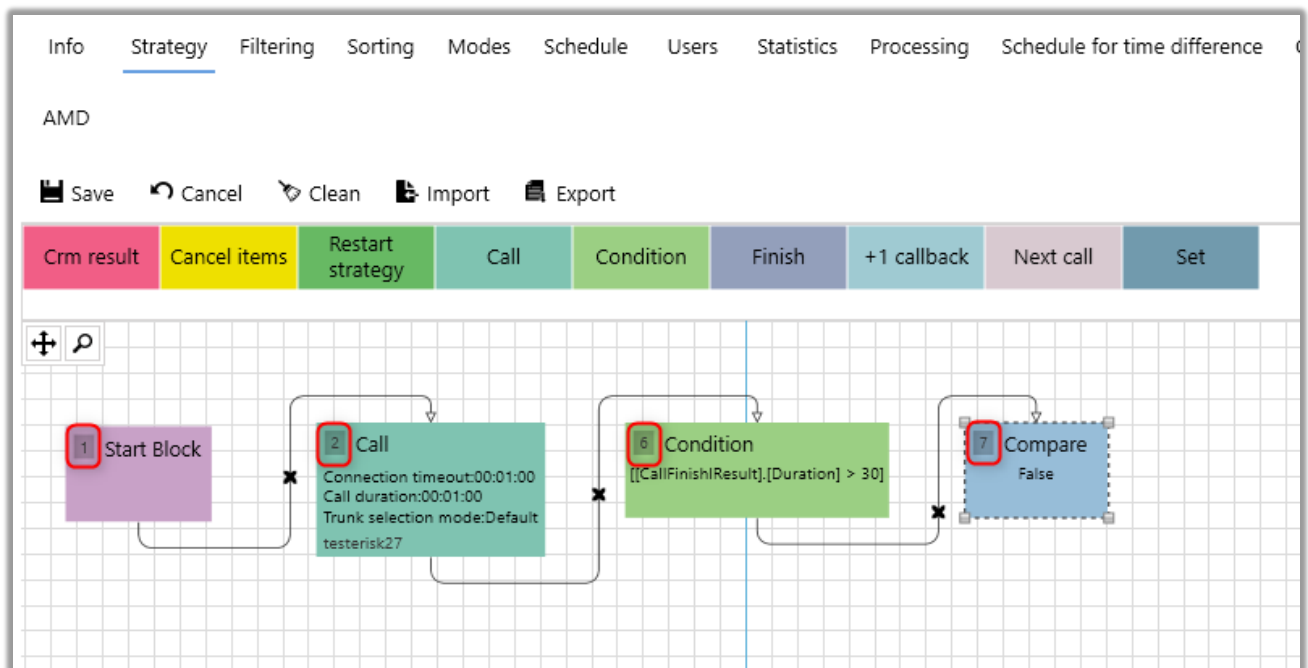


strategy for the incoming queue and has additional settings, unlike the starting block in the outgoing queue;

- Block "Conversation" — an element that processes incoming calls from subscribers.

Blocks that are unique to the incoming queue cannot be used in the outgoing queue and vice versa.

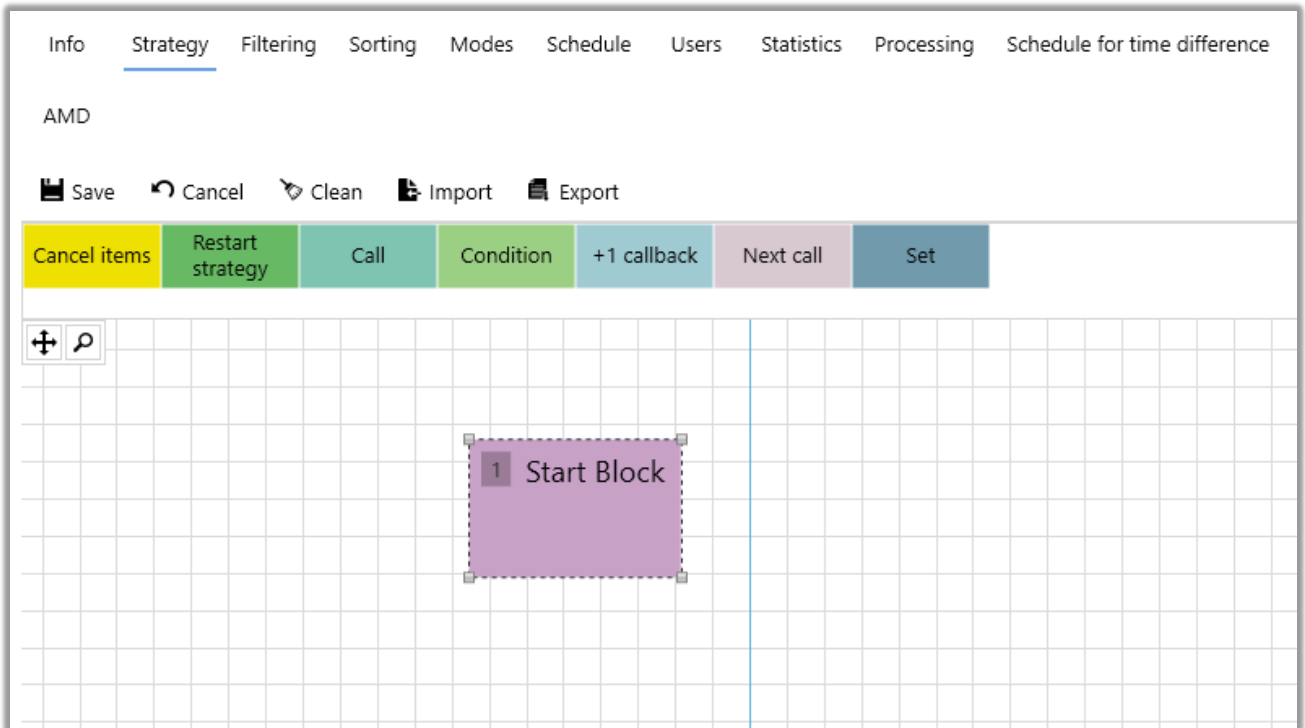
Each strategy block has its own id, which is displayed in its upper left corner. Their value is stored in the "BlockId" (for outgoing queue) and "IncomeBlockId" (for incoming queue) fields in the "WorkItems" table. Allows you to track at what stage the telephone element is when logging.



When working with strategies in the system, there are additional options for changing its visual display. By selecting the strategy completely or partially with the left mouse button and releasing it, an additional outline will appear, changing which will change the size of the blocks accordingly. To view the entire strategy on the screen you need click "Align".

3.1.2.1 Strategy, "Starting block"

"Starting block" — an element that indicates the beginning of the strategy and is mandatory for the outgoing queue and has no additional settings. Added by double clicking on the strategy block panel.



3.1.2.2 Strategy, "Call" Block

The "Set" block is an element that allows you to configure the settings for a set of clients for the outgoing queue. This block contains the following settings:

- 1) "Connection time" — the maximum allowable connection time, exceeding which dialing to this number stops;
- 2) "Call duration" — the maximum allowable conversation time, exceeding which the current call is terminated;
- 3) "Trunk selection mode" - sets the order in which the system selects trunks for dialing subscribers. It includes all available trunks in the queue and trunks from groups that have been added to the queue, combining them into a single list. If no trunks are available, a warning message is displayed, and the queue is stopped. If at least one trunk is unavailable, a message indicating this is displayed.

There are the following types of trunk selection modes:

- "With Rotation" — a list of available trunks is formed, and then trunk sets are performed one after another (for each new set the system tries to use a trunk from the beginning of the list). For each trunk in the list the following criteria are checked: exceeding the set CPS limit, absence of free lines, mismatch with the set mask or trunk availability. After that, trunks from the list are selected using the



formula for determining its index in the list: the number of attempts to dial elements % divided by the number of available trunks for dialing %. Where % is the remainder of the division. Once the list has been generated according to the indices, then at zero dialing (RetryCount = 0) the system will use the first trunk, at the first dialing (RetryCount = 1) the second trunk is used, at the second dialing (RetryCount = 2) the third trunk is used, etc. For example: if the client did not pick up the phone or dropped the call, the dialing is performed from the next trunk in the list.

- "Random" — randomly selects any free trunk for dialing. The system generates a random number, which cannot exceed the number of trunks in the list, after which the trunk itself is selected from the list by this sequence number. A trunk is skipped if any of the following conditions are met: if the set CPS limit is exceeded, if the trunk has no free lines, if it does not match the specified dialing mask, or if the trunk is unavailable. If none of these conditions are met, then the trunk is used for dialing. If the trunk is not available for dialing, the system re-generates the random number and selects a new trunk.

- "Random through all" — randomly selects any free trunk to make a set with subsequent screening of trunks that do not fit the conditions. The system generates a random number, which cannot exceed the number of trunks in the list, after which the trunk itself is selected from the list by this number. A trunk is skipped if any of the following conditions are met: if the set CPS limit is exceeded, if the trunk has no free lines, if it does not match the set dial mask, or if the trunk is unavailable. If none of these conditions are met, then the trunk is used for dialing. If a trunk is unavailable for dialing for any of the above reasons, the system re-generates a random number and selects a new trunk, and the trunk that does not fit the criteria is excluded from the list.

- "Default" — sequentially dials trunks based on predefined conditions for each. Each trunk in the list is checked. A trunk is not taken for dialing if its CPS limit is exceeded, if there are no free lines, if it does not fit the set dialing mask or if the trunk is unavailable. If a trunk is unavailable for dialing for any of the above reasons, the




system selects the next trunk in the list in order and starts the test from the beginning. After all conditions are passed, the trunk is taken for dialing.

4) "Trunks" — creating a list of trunks from which dialing will be made. You can also change the priority of the trunk in the list by holding down the left mouse button on the trunk and dragging it to the desired position;

5) "Queue greeting" — you can select an audio clip or enter text that will be played to the client as a greeting before connecting with the operator. All audio clips with the "IVM" checkbox checked are available for selection, which are located in the "Audio record" section (the "Control" tab). This audio clip is played after the greeting configured in the AMD module, if it is active.

6) IVM settings

IVM (Interactive Voice Messaging) — a system for automatic outgoing calls, which independently dials the number (numbers) of the subscriber, dials him and automatically informs the client.

Setting up IVM allows you to create a scheme of interaction with the client through voice messages. It can be used, for example, to keep customers on the line if all operators are busy or to notify customers about promotions, offers, etc. When configuring this module, you can enable the ability to change the order of selected blocks by pressing the "lock" icon , which is disabled by default, to avoid accidental movement of blocks during configuration. The programmed buttons, where some kind of logic is already embedded, will be highlighted in red. The following items are available for customizing the scenario for playing voice clips:

- "Delete all" — clears all created settings for IVM.
- "Drop" — reset the call (the final action, after which all subsequent functions will not be processed);
- "Playback" — play the entire selected audio clip or part of it to the subscriber (for example: a company's promo, a waiting melody);
- "Replay" — set the number and interval of repetitions for all selected



elements (elements to which this function will be applied are selected in turn from bottom to top, starting from the one above it);

- "Text by voice" — thanks to integration with Text-to-speech services, will reproduce the entered text to the subscriber. Also, replay of the variable value can be added by selecting the appropriate project field from the drop-down list and clicking the "Add Variable to Template" ("+") button;

IVM settings

Delete all

Text by voice

Text by voice

Full_name +

Hello {Full_name}| How are you?

Apply Cancel

- "Variable by voice" — plays a value from a pre-created custom field (for example: Speak customer name);
- "Awaiting" — puts the subscriber in the waiting status for a specified time with playing audio clip, which is set by default on the Asterisk server. After expiration



of the set time a reset will take place;

- "Missed call" — when a call falls into this block, the system assigns `IsCallbackNeeded = true`. This field can be further used in the strategy of calling elements in different scenarios as an indicator of a missed call. The field can also be used in the selection of the queue of missed calls as an additional filter for fixing elements;
- "Transfer to VOIP" — selection of available contexts from the drop-down list for transfer to certain trunks by the set key. The contexts themselves are created on the Asterisk server and automatically loaded into the system;
- "Awaiting Number in queue" — announce to the subscriber his sequence number in the waiting queue (among all clients that are on the IVM). To do this, it is enough to specify the necessary text that will be played by the speech synthesizer, after which the system will independently substitute a variable that corresponds to the number in the client's waiting queue;
- "QTE" — if the client needs to interact with the interactive IVR menu, this block configures the logic of each button from this menu. The following options are available for configuring this item:
 - a) "Playback" — playback of the selected audio clip for the subscriber after entering the QTE menu (cannot be active simultaneously with the "Introductory text" function). The list will contain audio clips that were uploaded on the "Clips" tab in the "Administration" section (with the "IVM" checkbox checked). For example: announce the functions that the subscriber will have access to after pressing each of the programmed keys.
 - b) "Introductory text" — enter the text that will be announced to the subscriber as an introduction.
 - c) "Timeout for pressing" — indicates duration the system will wait for the subscriber to press the button (up to a maximum of 30 seconds), after which a reset will occur. The waiting time is added to the time that the system needs to play the clip / text set in the QTE block. Can be set to 3 minutes maximum.



d) Programmable buttons (1, 2, 3, 4, 5, 6, 7, 8, 9, 0, #, *) - by clicking on the required button, a window will open in which you can create your own scenario (by adding functions from the IVM settings menu), which will be launched if it is pressed by the subscriber. To return to programming other buttons, press "Back".

When the customer presses an unconfigured button, nothing will happen, and the transition to the next IVM block will occur according to the time set in the "Timeout for pressing" parameter.

7) "Send KeyId variable" — when this checkbox is checked, the system will send the "KeyId" variable (import key) from the WorkItems table to the Asterisk server, which is substituted in the "variable" field in the request when initiating a set (Action:Originate event). In the Delta Tel system, "KeyId" is the field that was set as the key when mapping fields in the import. If "KeyId" = NULL, this value will not be passed. For example, this functionality can be used when importing data into the system as a key is used as a transaction card identifier, which will allow the system to determine, when making a call, which transaction the dialed phone number belongs to. Later this data can be used to build statistics, etc.

- "IVR Strategies" — selection of IVR strategy created via "IVR Builder", which will be used in the queue to inform customers.
- "Transfer to queue" — transfer the client's call to another queue without using Asterisk and context.
- "Variable from DB" — this functionality allows you to voice information to the client from variables obtained from a third-party database when processing incoming calls using IVR.



IVM settings

Delete all

Variable from DB

QTE

IVR Strategies

Transfer to queue

Variable from DB

Transfer to operator

Variable from DB

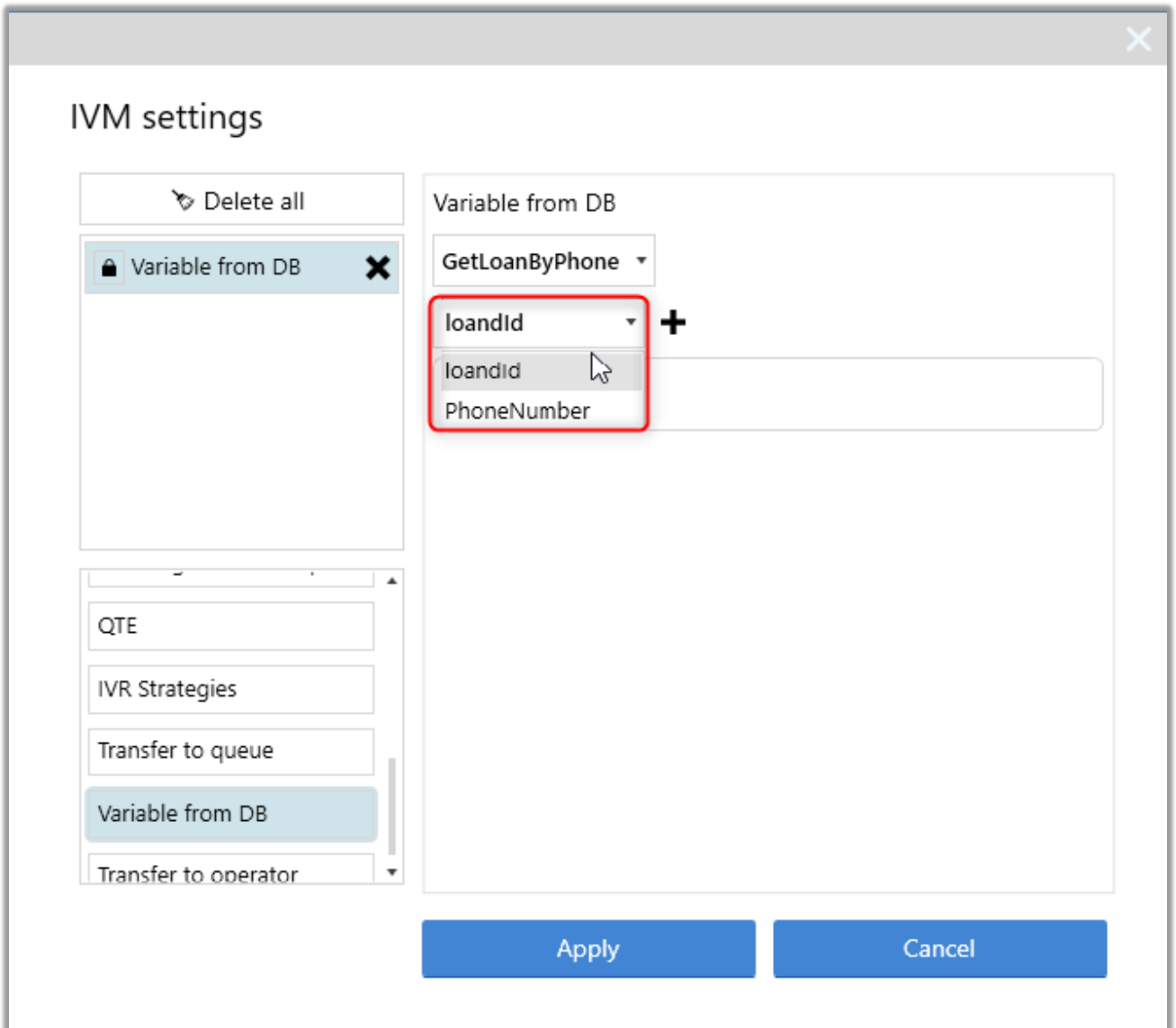
GetLoanByPhone

loanId

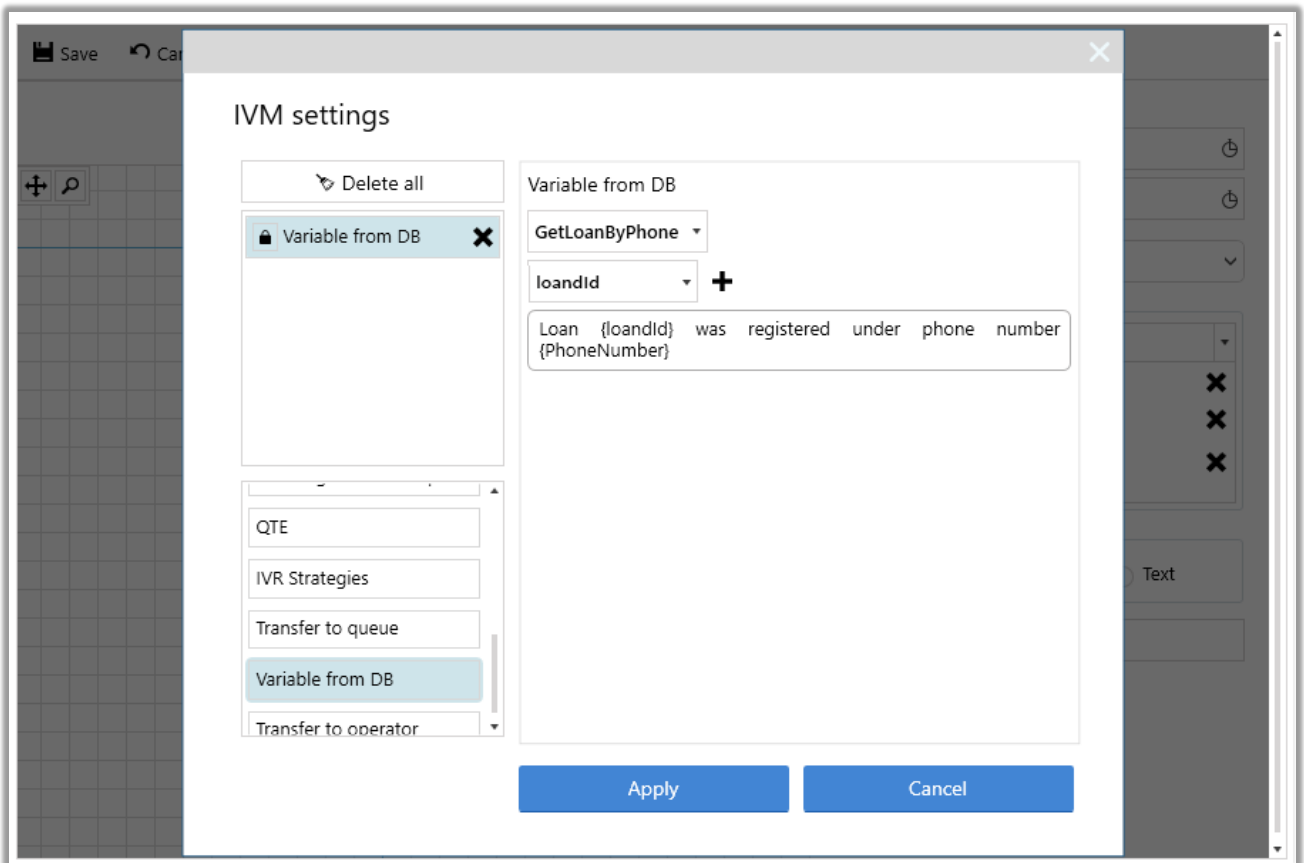
Apply

Cancel

The fields that the function returns in the selected variable mapping are used as variables.



In the block below the variable to be selected, a text template is created and customized using the variables. Example of a customized template:



- "Transfer to operator" — this functionality is used to transfer the call to the operators assigned to the queue. The block can be used in IVM queues that do not imply connection to operators. The administrator can add operators to the IVM queue in advance and allow the client to initiate connection with them if necessary by selecting this block using the QTE or IVR menu.
 - "Repeat QTE" — repeat the audio clip in the block. This function only works with the QTE block.
 - "Back to QTE" — allows you to return to the selected number of levels. Level count starts from 0. This function only works with the QTE block.

3.1.2.3 Strategy, "Condition" Block

The "Condition" block is an element that directs the strategy to one of the child branches of the system, depending on the transition condition. Comparisons of a given condition can occur directly within the condition block itself or in the

comparison block.

For this block, the following settings are implemented in the system:

- 1) Adding one or more conditions, which will be combined with logical operators "AND" / "OR";
- 2) Selection of the type of comparison: field or function;
- 3) Setting the value for the field/function by which the condition will be checked.

The following entities and their variables are available for the field:

- "WorkItems" — entity containing system fields;
- "Project" — entity containing project fields;
- "CallFinishResult" — entity containing call result fields. They are discussed in more detail in the "Entities and their fields" section;
- "DtmfResult" — an entity containing fields that receive their values from



clients. For example: pressing the menu button in the IVR block (if the "Input" condition is selected);

- "Helper" — an entity containing fields that are used to check the time.

When working with functions, you can select one of the available ones and set the values of its variables.

4) When the checkbox "Set value in the block" is checked, it becomes possible to compare within the block for the given value;

5) Select the type of comparison (equal to, greater than, less than, etc.) and what the given value will be compared with (only available when the "Set value in block" checkbox is checked). Only data with the same type as in the condition is available for comparison. You can make a comparison by:

- "Value" — depending on the type of the selected field/function. For example: set an integer (natural, negative and zero) if the field/function is of integer type;

- "Field" — select for comparison the field by which the condition will be checked;

- "Function" — set a function for comparison by performing mathematical operations on variables.

6) The choice of logical "AND" / "OR" combining several conditions in the block. When adding two or more conditions, the "Set value in block" checkbox is set automatically;

7) Remove the condition inside the block.

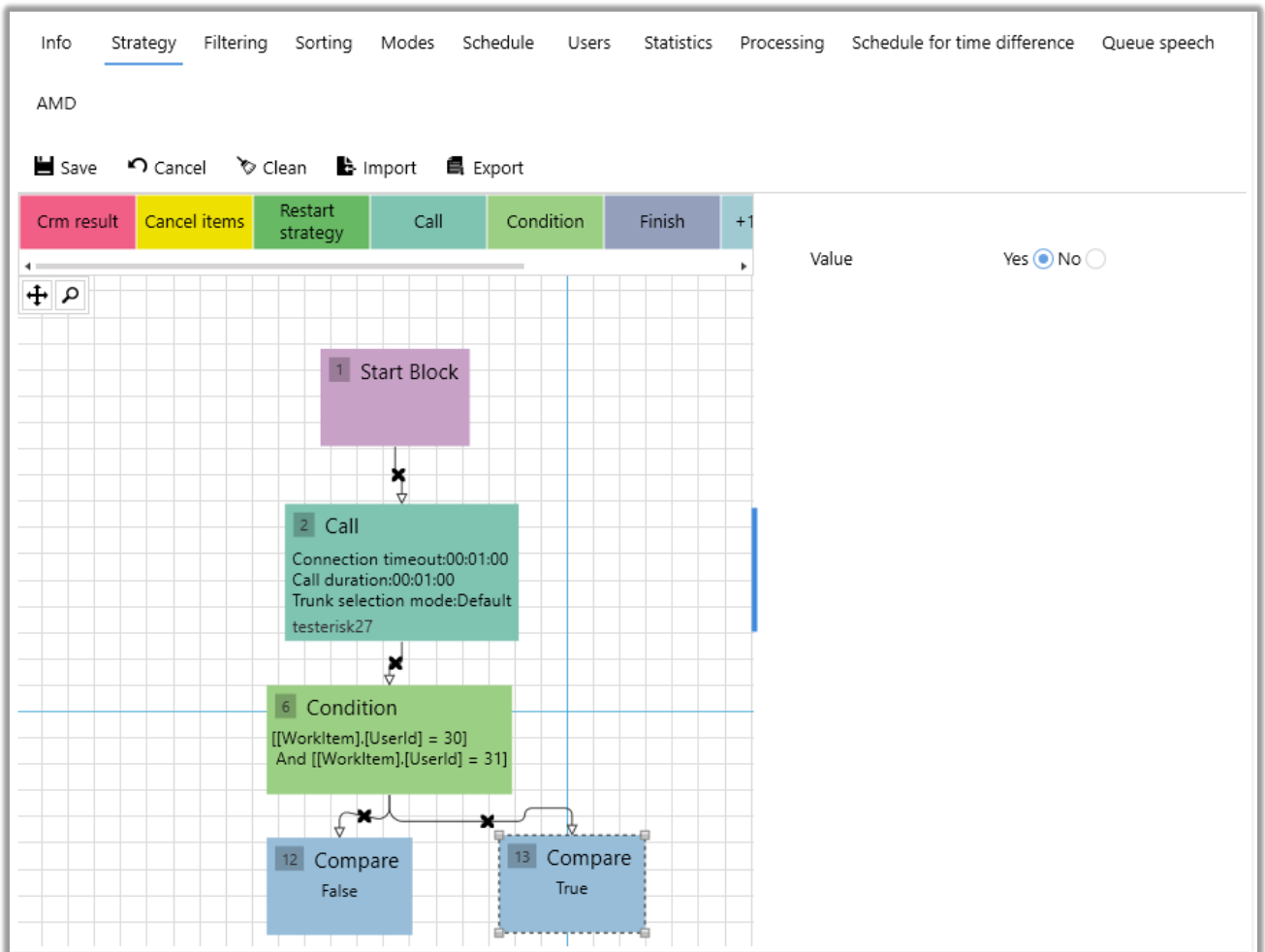
The "Condition" block is always followed by the "Comparison" block.

3.1.2.4 Strategy, "Compare" Block

The "Compare" block is an element that directs the strategy to one of the child branches of the system according to the transition condition. Set only after the condition block.

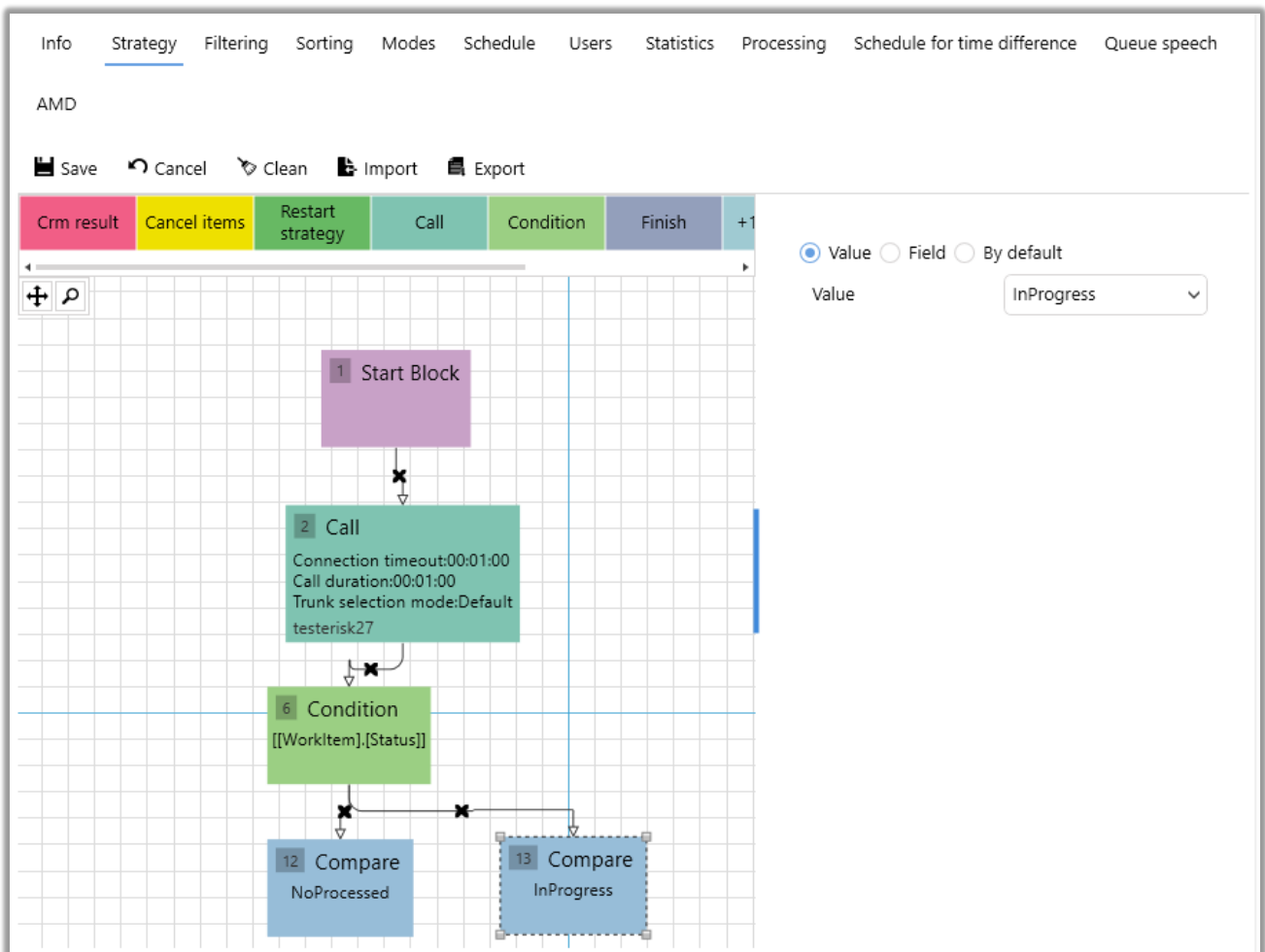
You can use one of two comparison options in the block:

1) Logical comparison — redirection to one of the branches after the comparison of the condition in the "Condition" block with the logical value "Yes" / "No", where "Yes" — the condition is met, "No" — the condition is not met;

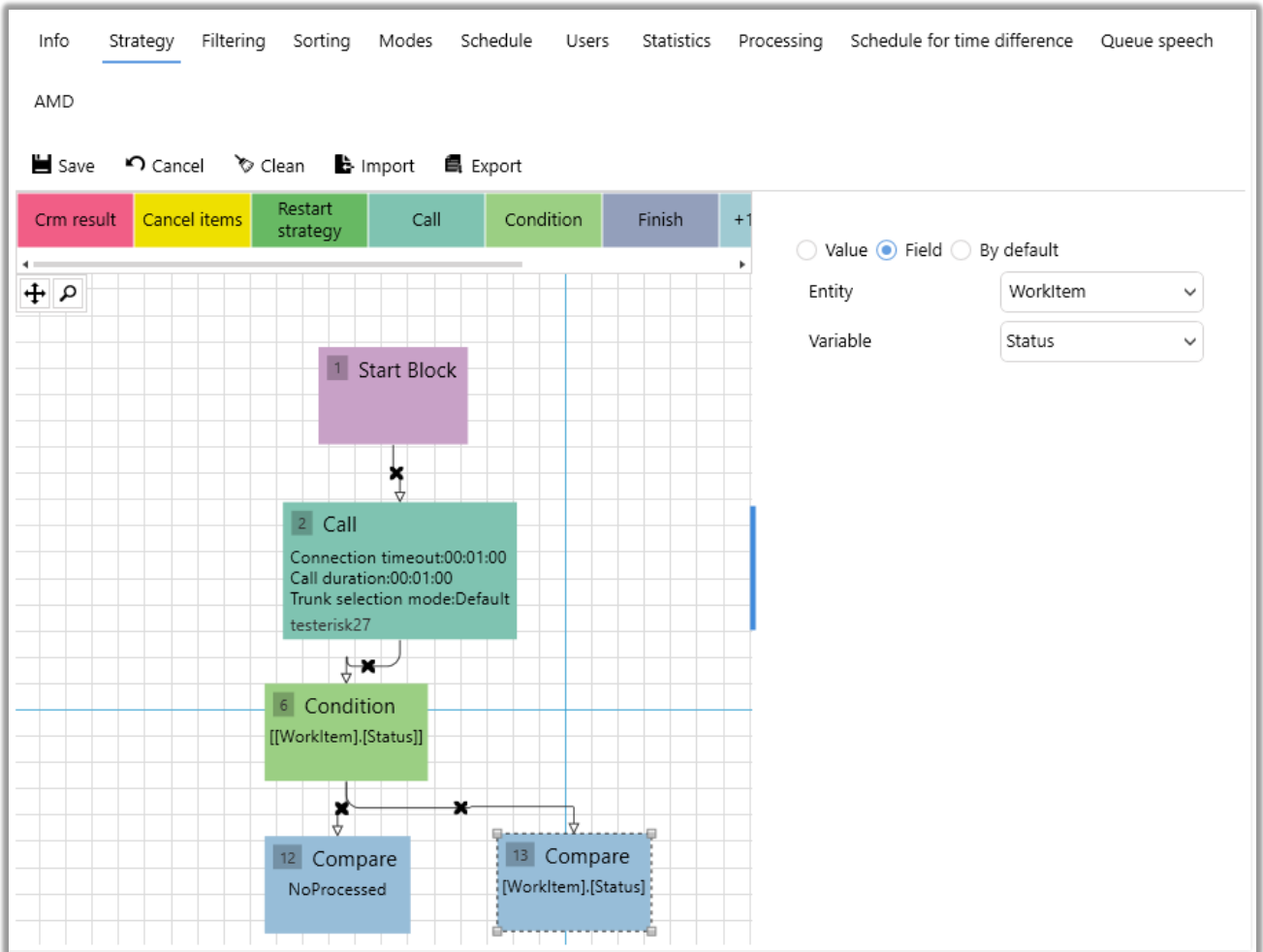


2) Comparison by value — redirection to one of the branches depending on the equality of values in the "Condition" block and in the "Comparison" block. Comparison available for:

- "Value" — enter a numeric/string value manually or select from the drop-down list (depending on the data in the condition block);



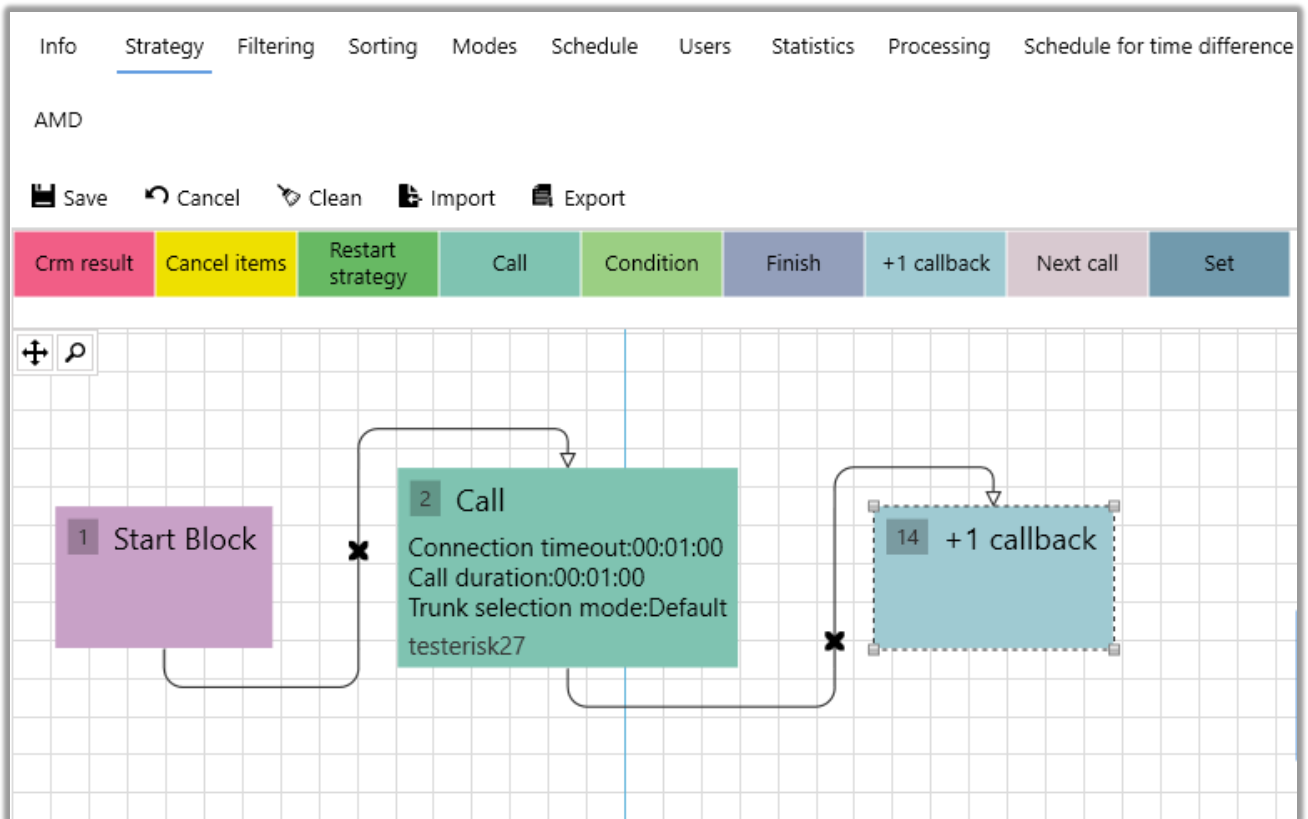
- "Field" — the comparison is performed on the selected field from the drop-down list for a particular entity. The fields are pulled up depending on the type of data that the field of the "Condition" block contains (for example: a field with the "Int" type is selected in the condition block, then in the comparison block it will be possible to select only fields with the same type "Int");



- "By default" — the strategy moves the element through this block if it does not match the comparison conditions in any of the other blocks.

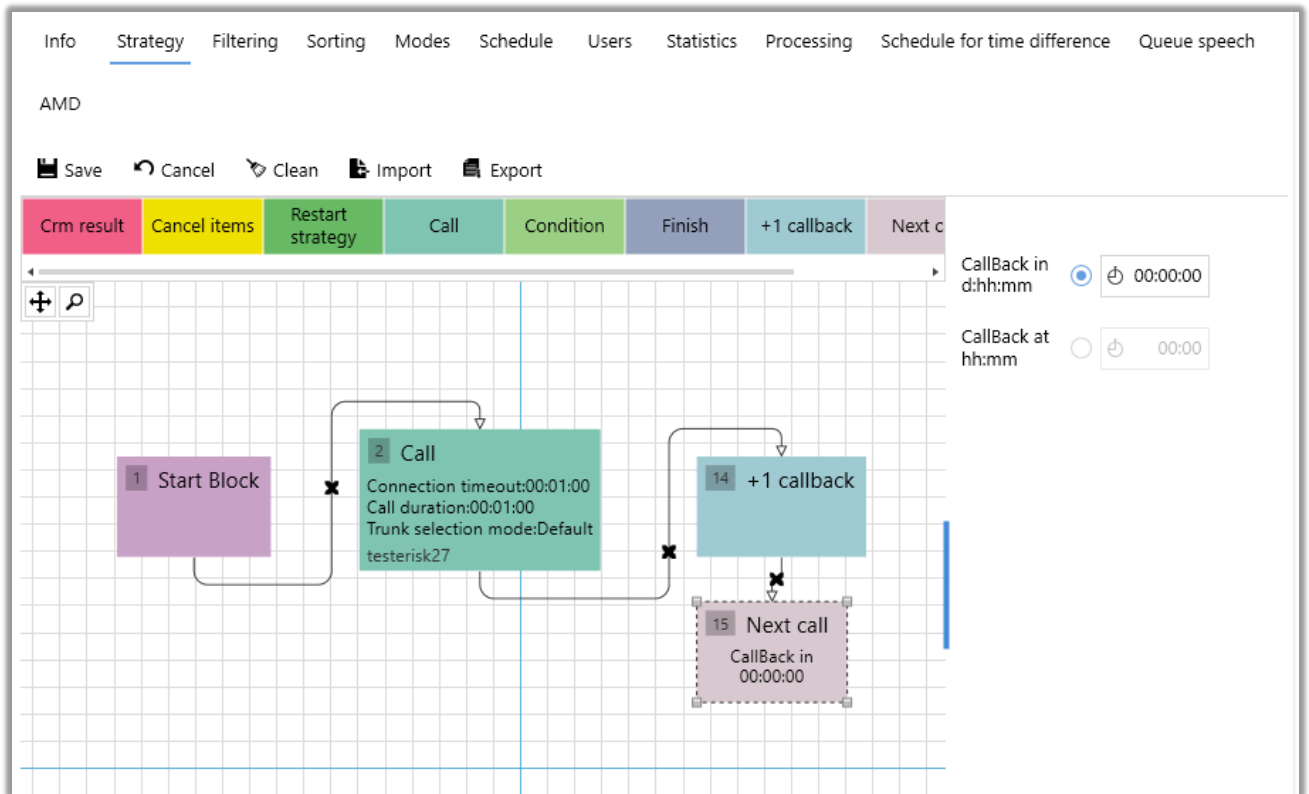
3.1.2.5 Strategy, "+1 callback" Block

"+1 callback" block — an element that increases the number of attempts to dial a given number by one. Passing through the block, the element of the queue increases the value of RetryCount by +1.



3.1.2.6 Strategy, "Next call" Block

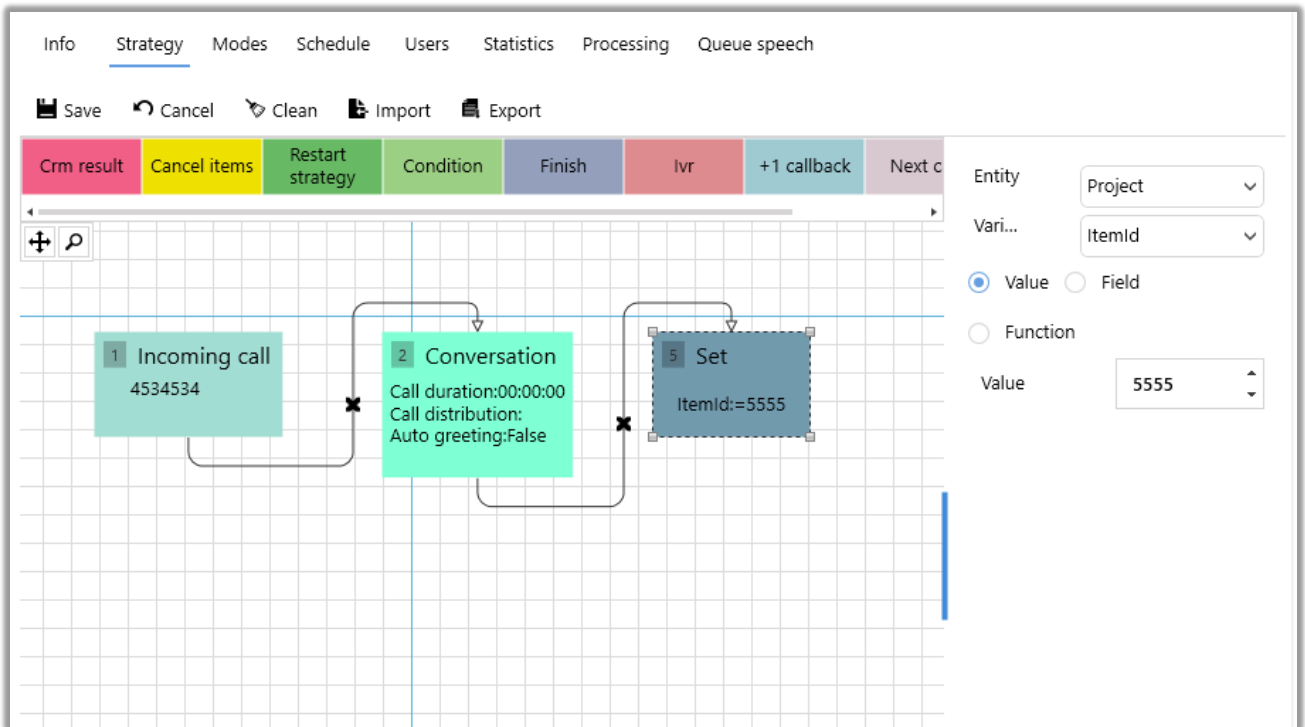
"Next call" block — an element that sets the time after which a second call will be made. When the callback time comes, the system will automatically start dialing this element out of turn. But before the set time, the system will not dial the subscriber. The callback can be set at a certain time on the same day (hh:mm format) or after a certain interval (d:hh:mm format). To set the time, click on the stopwatch icon and select the desired value.



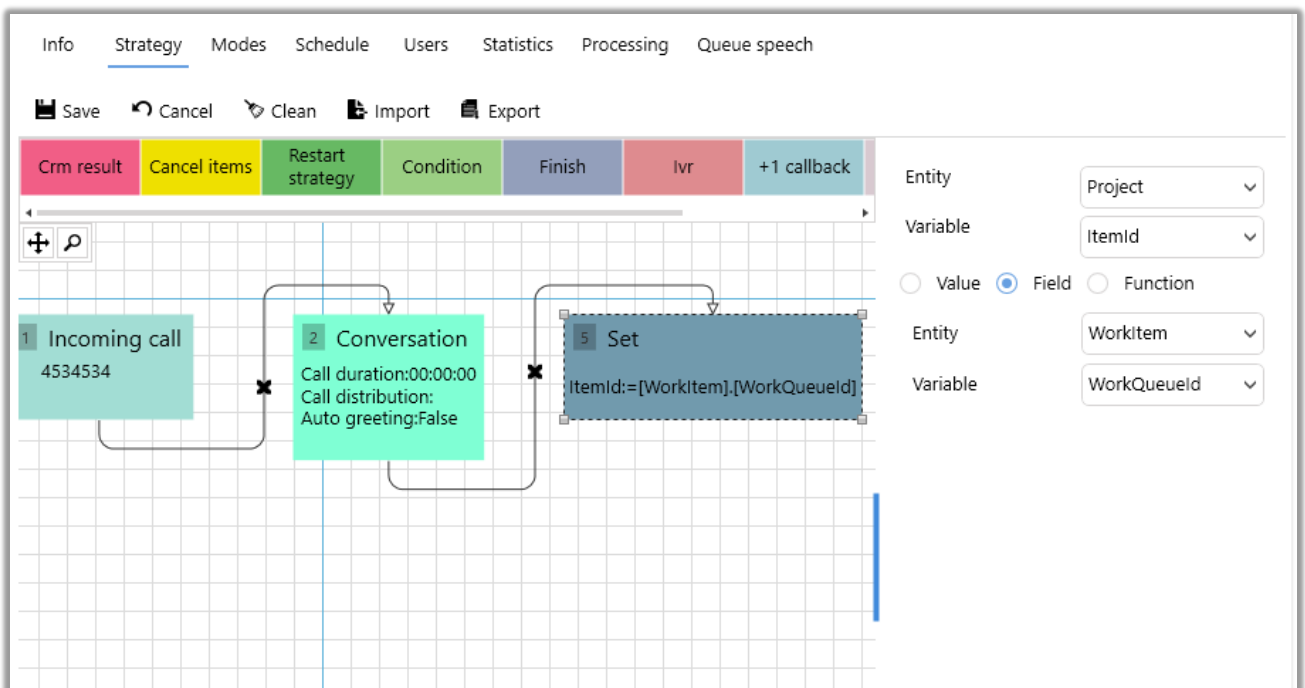
3.1.2.7 Strategy, "Set" Block

Block "Set" is an element that matches (assigns) a variable from the selected field to a certain data type:

1. "Value" — select from the list or enter manually.

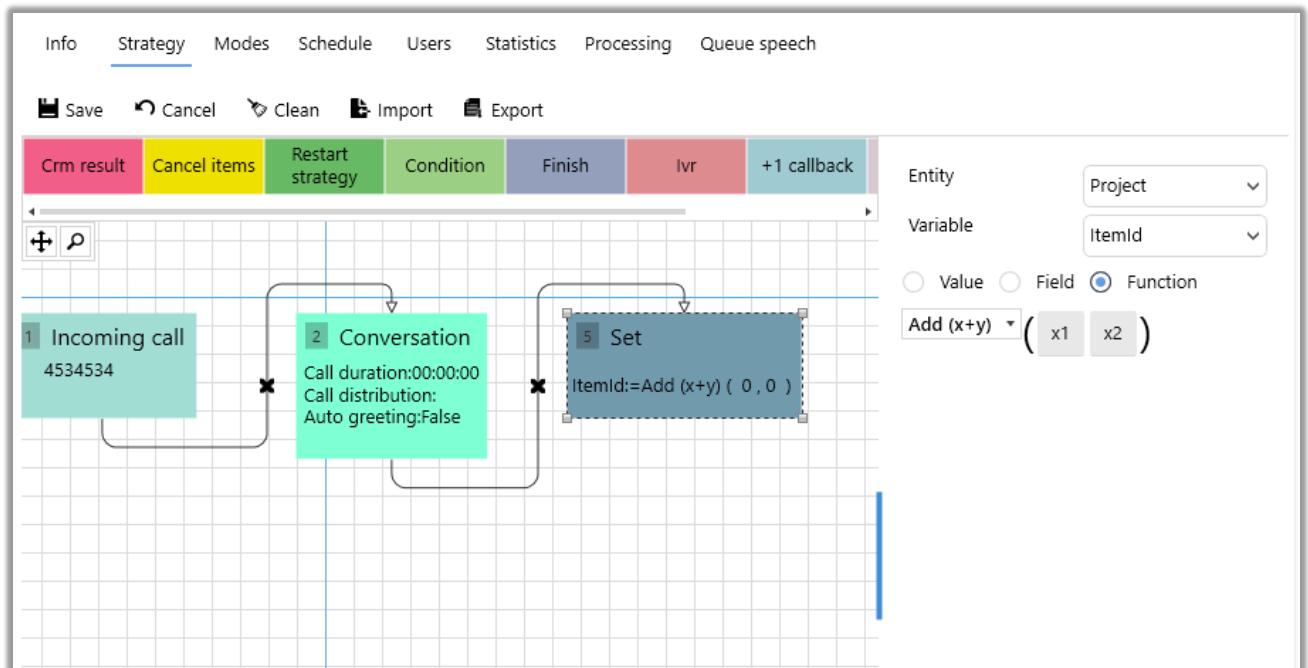


2. "Field" — setting correspondence to another variable from the selected field.



3. "Functions" — set the correspondence to the result of performing mathematical operations on variables. In this case, the Add function will add one

value to another. By clicking on x1 and x2 you can set these values.



3.1.2.8 Strategy, "IVR" Block

"IVR" block — an element that allows you to set up an interactive voice menu, through which the client will navigate by pressing buttons (only available for the incoming line).

IVR (Interactive Voice Response) is a system of pre-recorded voice messages. Using previously recorded voice messages, IVR communicates with the client without the participation of a live operator and routes the call depending on the choice of the client.

When you click on the "IVR settings" button, the settings window opens, which contains the following functions:

- "Drop" — end the call;
- "Playback" — start playback of a pre-prepared audio recording to the client;
- "Replay" — duplicate the previous information;



- "Text by voice" — play recorded text. Also, it is possible to add a variable value replay by selecting the appropriate project field from the drop-down list and clicking the "Add variable to template" ("+") button;

IVM settings

Delete all

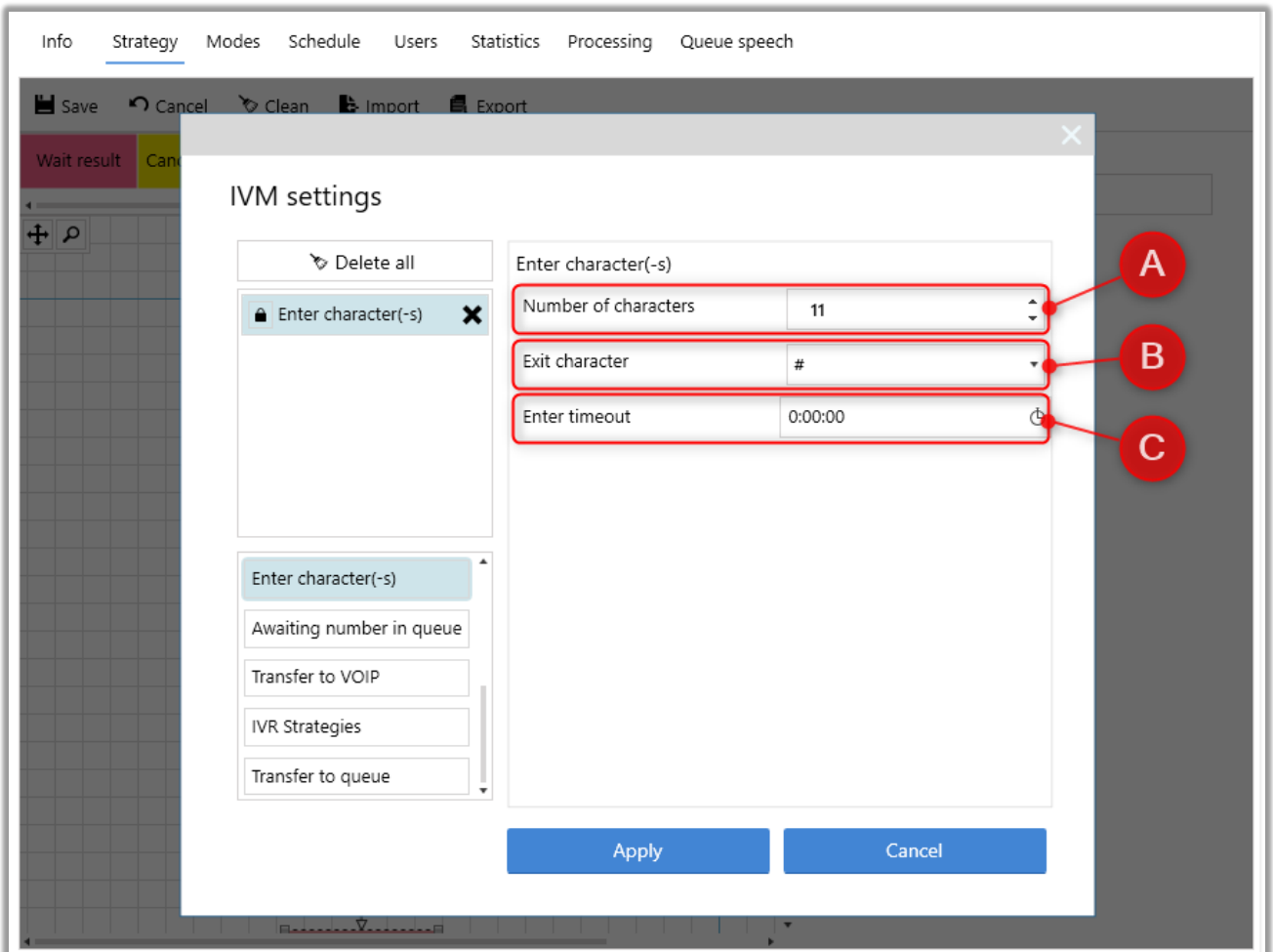
Text by voice

Full_name +

Hello {Full_name} How are you?

Apply Cancel

- "Variable by voice" — play the value of the selected field. Only fields that have been created in the Delta Tel are available;
- "Awaiting" — keeping the subscriber on the line for a specified amount of time;
- "Enter character(s)" — an element that reads the characters entered by the subscriber. The element has the following attributes:



a) "Number of characters" — sets the number of characters that the system expects from the user. For example: the system is waiting for the subscriber to enter a phone number and, depending on the length of the number, we set the number of required characters.

b) "Exit character" — the exit key that the user presses to complete the operation (the input ends).

c) "Enter timeout" — the time that the system will wait for the input of a given number of characters by the subscriber. The maximum wait time is sixty seconds.

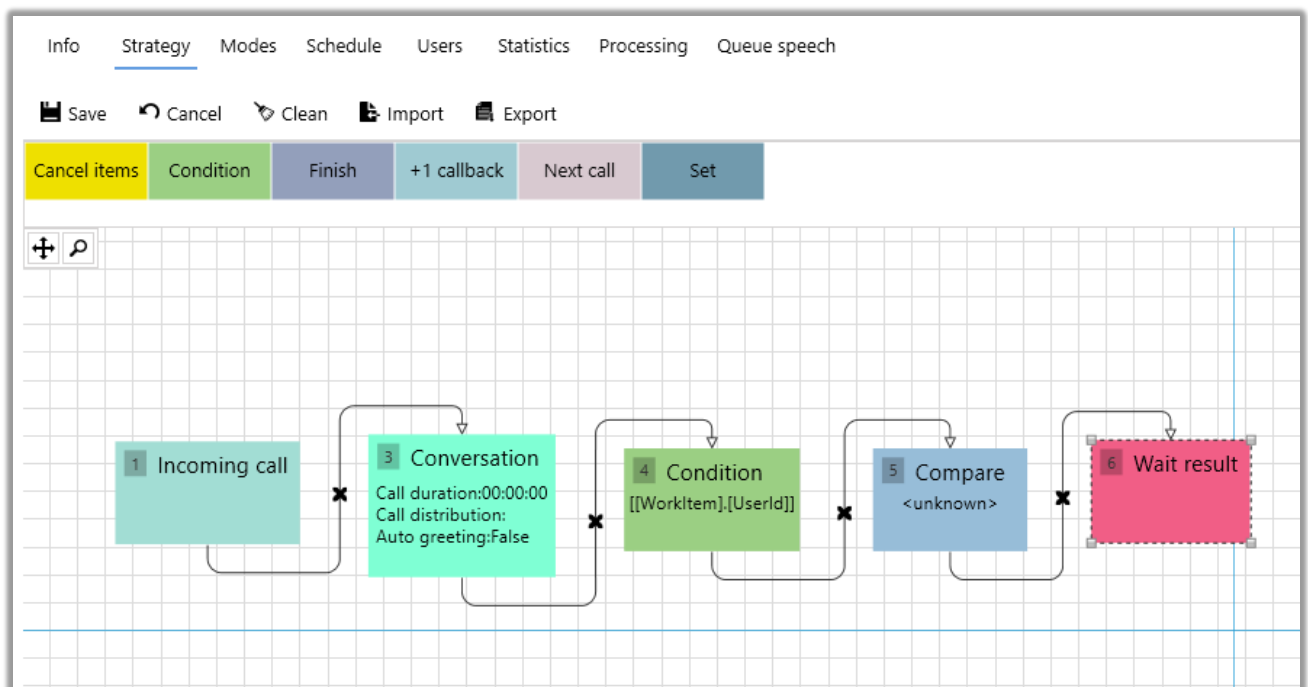
- "Awaiting number in queue" — announce to the subscriber his number in the queue waiting for connection with the operator.
- "VOIP Transfer" — selection of available contexts from a drop-down list for transferring to specific trunks based on the set key. The contexts themselves are



created on the Asterisk server and are automatically loaded into the system. For example, this function can be used to redirect to another queue if a call from a client comes in during non-working hours.

3.1.2.9 Strategy, "Wait result" Block

The "Wait Result" block stops the movement of the element in the strategy until the result of the call is received, which is transferred from Delta M CRM or PjPhone. The call result contains the status, type and result of the contact. With the help of "Wait Result" block and "Conditions" block the system can check what contact result the operator put in the client's card and with the help of "Termination" and "Cancel items" block can remove only this phone number or all related phone numbers that are in the client's card. Also, this block reacts to the subject placement in PjPhone after the end of the call.



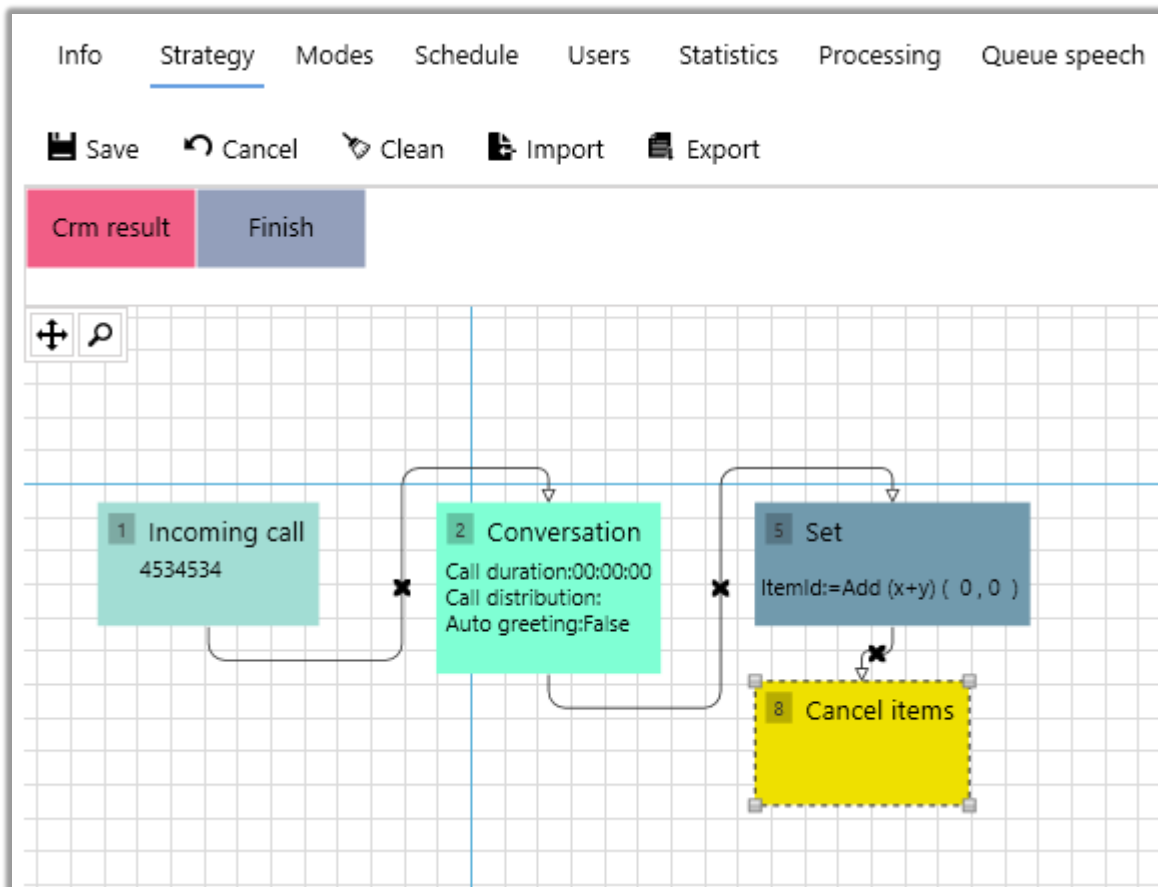
3.1.2.10 Strategy, "Cancel items" Block



Cancel Items block is a block that cancels a set of related items for outgoing queues. The system cancels related items from the WorkItems table by the ProjectEntityID key, assigning status 6 (Canceled) to all related items. In other words, all items associated with a subscriber are canceled from the call when the condition of the previous block is met. This block cancels only the linked items, without canceling the current call item!

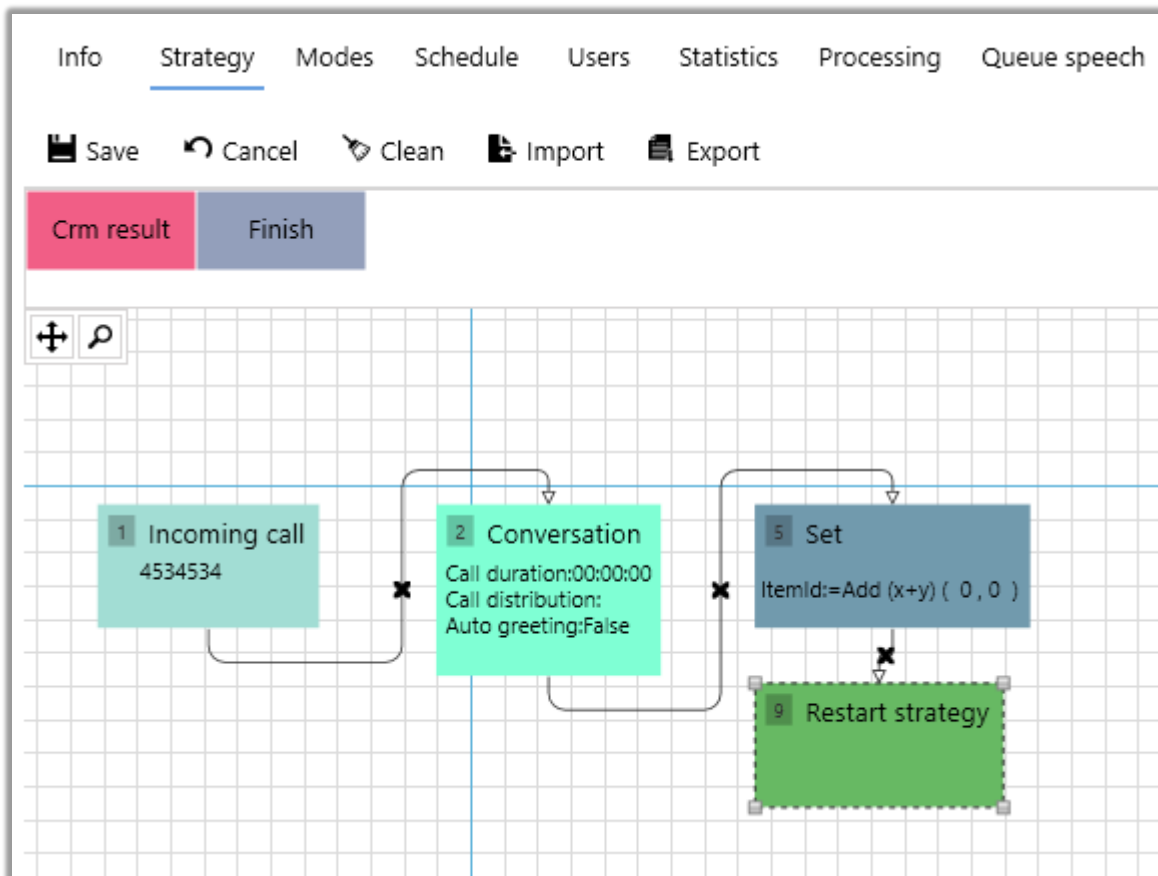
For an incoming queue, this block can be used only in conjunction with the "Process all items for this number" functionality on the "Incoming queues > Strategy > Incoming call block" tab.

IMPORTANT: if you use this block for incoming queue without the checkbox "Process all items by this number" checked, the system will not cancel items. Since the incoming call will always create new items that will be assigned a new unique WorkitemId with no related items by the ProjectEntityID field.



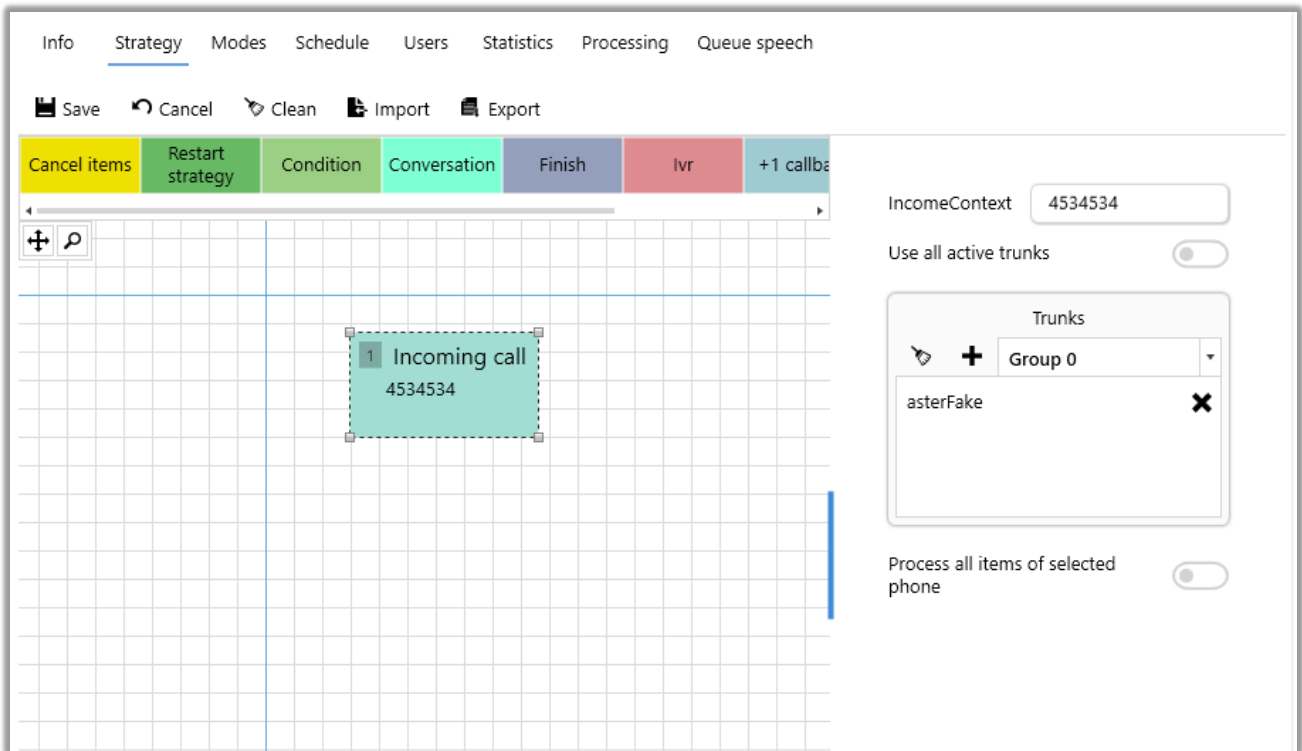
3.1.2.11 Strategy, "Restart strategy" Block

The "Restart strategy" block is an element, which is used to restart the strategy, moving the element to the first block of the strategy. Most often this block is used in conjunction with the "Set" block to send the element to the specified queue, or with the "Next call" block as an alternative to looping the strategy into the "Set" block.



3.1.2.12 Strategy, "Incoming call" Block

The "Incoming call" block is an element for the incoming line only, the strategy for incoming calls starts from it. Unlike the starting block for the outgoing queue, it has additional settings for processing incoming calls.



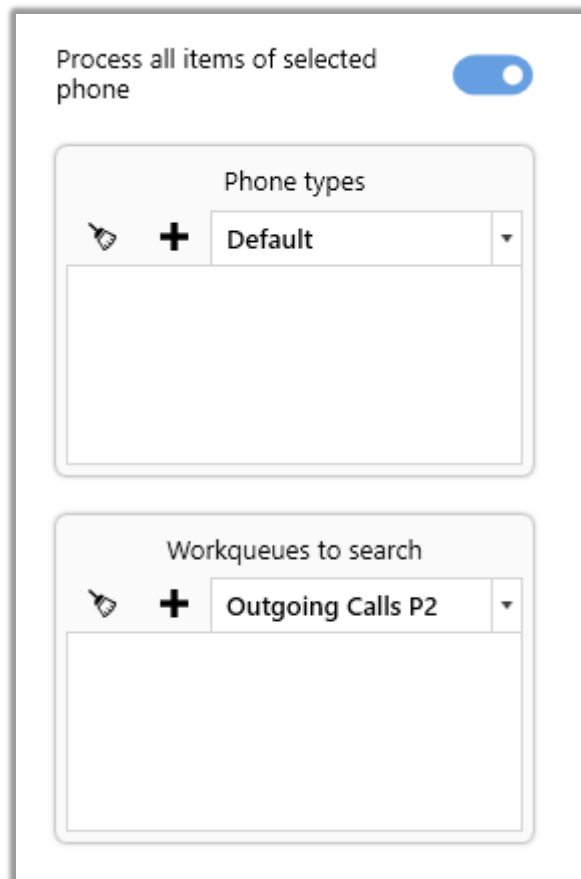
In the "IncomeContext" field, the context (key) is entered, which is responsible for the distribution of elements on the incoming queue. When the incoming context matches, the elements of the incoming line are distributed to the appropriate queues. The context is created on the Asterisk server and, based on the configured logic, is assigned to the elements arriving on the incoming line. If there is a need for business logic to distribute incoming calls to different queues, a different context is set for these queues. For example: divide incoming lines into "Hotline" and "Telemarketing".

IMPORTANT: For the Delta Tel system to correctly identify context, they must be prefixed with "**income_**" followed by the context's specific name when created on Asterisk. To distribute calls to the incoming context it is necessary to add all existing trunks in the system or checkbox "Use all active trunks" to the queue. Otherwise, some calls may not get to the incoming queue, but end up in the unallocated incoming queue.

"Use all active trunks" allows for the automatic addition of all existing trunks to the queue. When this function is active, the "Trunks" section becomes inaccessible for configuration.



In the "Trunks" section, you specify which trunks will be used to handle incoming calls. To add a trunk, select it from the dropdown list and click on the "+". To remove a trunk, simply click on the "x" button next to it. The priority of trunks in the list can be modified by dragging and dropping them into the desired position. Clicking the "Clean" button will clear the list of all added trunks.



"Process all items by this number" - the system compares the phone number with existing numbers in the specified queues with the specified phone type and, if it finds a match, does not create a new WorkItem, but takes the existing, found and processes it according to the conditions of the incoming queue strategy. If the "Cancel items" block is used in the incoming queue strategy and this checkbox is not checked, the item itself and its associated numbers will not be removed from the call because the newly created item will not contain information about associated numbers, which is recorded in ProjectEntetyId when importing items into the system.



If some type was selected in the "Phone types" block (mobile, home, stock, etc.), then only elements with the selected type will be processed. You must select the type of phone from the drop-down list and add by clicking on the "+". To cancel the added types, click the "x" next to it. If the phone type is not selected, with the checkbox "Process all items by this number" checked, then all existing types will be taken into account.

In the "Queues for element search" block you specify the queues in which the elements will be searched. If you specify several queues, the items will be excluded only in the queue with the highest priority, even if the given number is in several queues at the same time. Queues are added by selecting the necessary one from the drop-down list and pressing "+" against it. To delete a queue, press the "x" button next to it, and to clear the list of queues, press the "Clear" button.

3.1.2.13 Strategy, "Conversation" Block

The "Conversation" block is an element of the strategy for the incoming queue, which is responsible for setting up a conversation with the subscriber. In this block, call parameters and their duration, distribution, automatic greeting and IVM operation are set.



"Call duration" — set the maximum duration for an incoming call.

Types of call distribution:

- "MaxWaitAgent" — when using this type of call, calls are transferred to the operator who has been in the call waiting status the longest (as of today);
- "LastTalkAgent" — when using this type of call, calls are transferred to the operator with whom the subscriber had the last contact; if not found, they are transferred to the first free operator (the check is based on the phoneid from the history, and when it matches the phoneid of a free operator, the call is assigned on him);
- "MinTalkAgent" — When using this call type, calls are transferred first to the agents who had the least amount of time spent in conversation today;
- "Individual" — the mode when using which calls are transferred to the operators assigned to the client's card (by UserID).



"Operator selection mode" — set the operator selection mode for the selected type of call distribution. This setting becomes available if the "LastTalkAgent" or "Individual" mode has been selected. Where can I set the following operator selection options:

- "FirstAvaliable" — selection of the first available user in the "Pending" status (such operators can be tracked on the "Auto redial" tab).
- "MaxAwaitingAgent" — the choice of the user with the maximum time spent in the status "Pending".
- "MinDialProcessed" — select the operator with the minimum number of processed calls for the current day. The total number of all types of calls made by the operator is taken into account (their number can be viewed in the "DialFlow" table or on the "Auto redial" tab).
- "MaxDialProcessed" — select the operator with the maximum number of processed calls for the current day. The total number of all types of calls made by the operator is taken into account (their number can be viewed in the "DialFlow" table or on the "Auto redial" tab).

Checkbox "Auto greeting" — when checked, during connection with the subscriber in automatic mode, the operator's personal voice message is played, after which the connection with the operator itself will occur. For example: when connecting with the operator Michael, the system will play his individual audio clip "Good afternoon, my name is Michael, what can I do for you?".

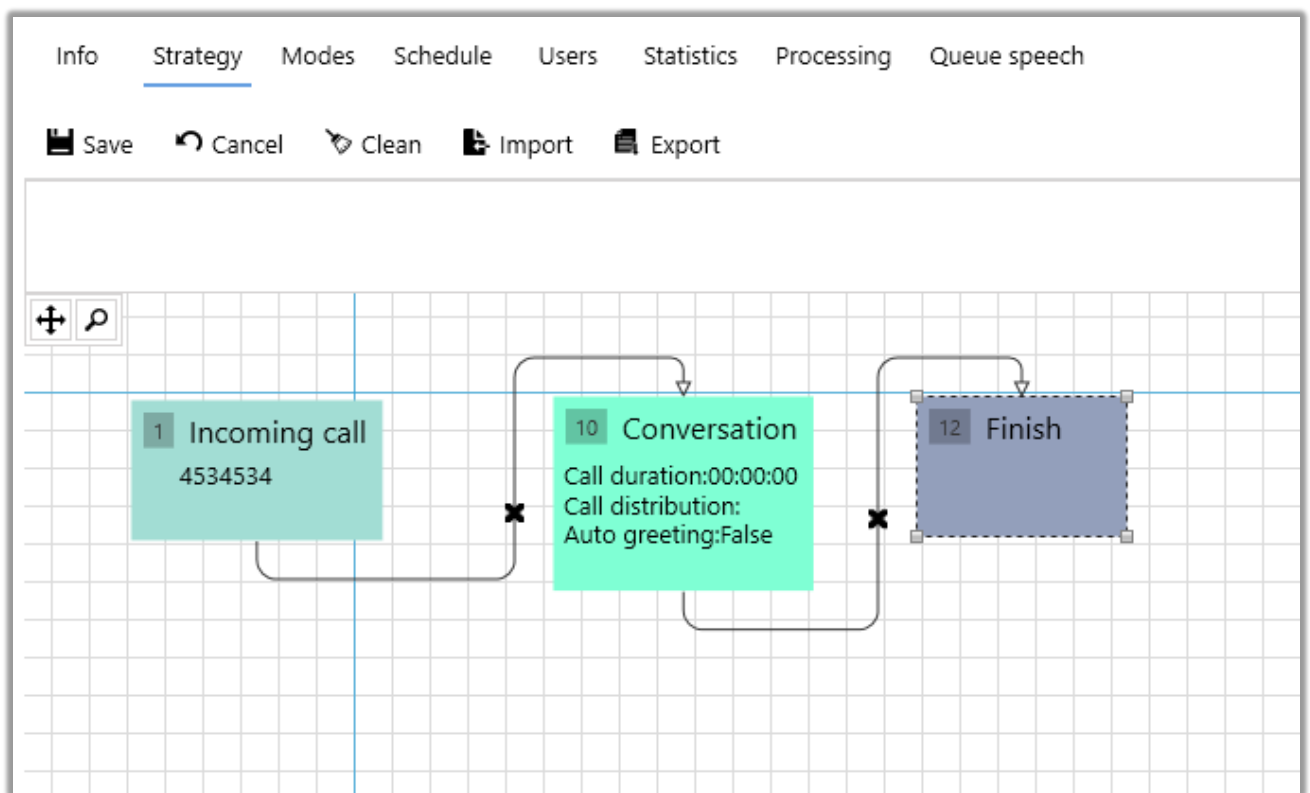
"Queue Greeting" — this parameter allows you to choose an audio clip or enter text that will be used as a greeting for customers before they are connected to an operator. This greeting will be played after the greeting configured in the AMD module, provided that it is active.

The "IVM settings" block is responsible for configuring the call hold logic if all operators are busy. The configuration of this block was described in detail in the "Call"

Block section.

3.1.2.14 Strategy, "Finish" Block

"Finish" Block — a block indicating the completion of the strategy. When an element enters this block, it's processing stops. This element can only be a child block. Getting into the "Completion" block is the main condition for assigning the "Processed" status to the element



3.1.2.15 Strategy, API Block

The "API" block allows you to transfer variable values to external API points. For example, this functionality can be used when working with external services to send e-mail to clients, if it is not possible to call them.

Value	Key
PJ_PDP	PDP
Status	job

The following parameters are available for customization:

1. This field specifies the full address to which API requests will be sent for data transfer.
2. "Request type" — selection of the type of request to be sent. Two types are available: POST, GET.
3. Adding, deleting and customizing the mapping of fields of transmitted data. After adding a field in the "Value" parameter, select a field from the database, the value of which will be transmitted. Custom project fields and system fields of the WorkItem entity are available for selection. The name of the third-party system database field to be matched is entered in the "Key" parameter.

3.1.2.16 Functions in strategy blocks

Functions are one of the main auxiliary functions when working and setting up



a strategy, which make it easier to work with variables in calculating the values used by strategies. Available Functions in Strategy Blocks:

- **InSchedulerTimer** — checks if the specified time (in the "NextCall" parameter) coincides with the schedule for the selected queue;
- **TimeFromDt(x)** — a function that takes time (hh:mm) as a variable (x1) from a value/field/function that has the "Date + Time" format;
- **TimeFromStr(x)** — a function that takes time as a variable (x1) from a value / field / function that has the format of a string (String);
- **TodayFromStr(x)** — a function that contains today's date and takes as a variable (x1) time from a value/field/function that has the string format (String);
- **Today?FromStr(x)** — a function that contains today's date and takes time as a variable (x1) from a value/field/function that has the format of a string (String) or contains an empty value (NULL);
- **Add (x+y)** — addition function. This function adds the value of one variable to another (of type Int). By clicking on "x1" and "x2" you can set their value;
- **Substract (x-y)** — subtraction function. This function subtracts the value of one variable from another (of type Int). By clicking on "x1" and "x2" you can set their value;
- **Mul (x*y)** — multiplication function. This function multiplies the values of one variable by another (of type Int). By clicking on "x1" and "x2" you can set their value;
- **RDiv (x%y)** — division function with remainder (%), works only with integer operands (of type Int) and returns the remainder of integer division. By clicking on "x1" and "x2" you can set their value;
- **isNull (x,y)** — this function checks the first variable (x1) for NULL (whether it contains an empty value), if the condition is met, then it takes the value of the second variable (x2);
- **Contact** — a function that concatenates (joins) two strings of string type. Variables for concatenation "string1" and "string2" are set using a



value/field/function;

- **Replace** — a function to replace a value in a string. To make a replacement, you must specify values (string type): source - select the string in which the replacement will be made, oldStr - set the variable to be replaced, newStr - the new value of the variable to replace;

- **DialLimit** — setting a limit on the number of calls to subscribers for a certain period (refers to the procedure: SELECT [dbo].udf_CheckLimit (@wild, @monthLimit, @weekLimit, @dayLimit)). The following variables are set for the DialLimit function:

1. *WorkItemId* — setting the client's phone id for which dialing restrictions will be set;

2. *timesInMonth* — setting a call restriction for a subscriber for a period of a month;

3. *timesInWeek* — set call restriction for a period of a week;

4. *timesInDay* — set call restriction for a period of a day.

3.1.2.17 Entities and their fields

In the Delta Tel interface, tables from the database are represented as entities, and the values of their fields are represented as variables. 5 entities are available for work in the system: "WorkItems", "Project", "CallFinishResult", "Helper", "DtmfResult".

"**Project**" is an entity that contains custom fields that are created in the "Settings" tab, "Fields" section.

"**WorkItems**" is an entity that contains system fields from the database (users cannot create, delete or edit them). List of its fields:

- ID — ordinal id number of the element in the table.
- PhoneId — unique id from Phones table.
- ProjectEntityId — if telephone elements of third parties are attached to



the client number, then their phones will be combined in the WorkQueueId table under one ID.

- ProjectId — the project id is displayed (the project is configured in "Settings", section "Projects").
- UserId — operator id in Delta M CRM. It is used to assign an operator to a phone item. By default the field has data type int, but it can be changed to nvarchar (100). To do this, change the "OutUserIdFormatString" value in the "OutSettings" parameter to "true" in the configuration file appsetting.json.

```
appsettings.json
Файл  Правка  Формат  Вид  Справка
  "IsCallingAvailable": true
},
"RabbitMQSettings": {
  "HostName": "localhost",
  "UserName": "guest",
  "Password": "guest"
},
"OutSettings": {
  "OutUserIdFormatString": false
},
```

- WorkQueueId— id of the queue the item was in.
- Status — processing status of the telephone element. The decoding of the statuses can be viewed in the table "EnumWorkItemStatus" (Fig. 1).

Id	Name
0	NoProcessed
1	InProgress
2	Processed
3	RetryLimit
4	Freeze
5	BlockedPhone
6	Canceled
7	BadTrunk

Fig. 1

Where:

- 0) NoProcessed – element not processed.
- 1) InProgress — the element is being processed, at the moment when the



element passes through the strategy and will be typed in the near future.

2) Processed — processed element.

3) RetryLimit — limit on the number of repetitions of an element set.

4) Freeze — the element is freed (frozen) to be set for now, because one of the elements associated with ProjectEntetyID is currently being set.

5) BlockedPhone — if the item is blacklisted.

6) Canceled — element canceled from set queue.

7) BadTrunk — not used.

- RetryCount — number of attempts to dial telephone elements. The system automatically sets 0 when importing items from CRM, if this field was empty during transfer.

- LastUpdate — time of the last change of data on the telephone element.

- NextCall — the time when the telephone element will be redialled.

Default status is NULL.

- AddDate — item creation date in the WorkItems table.

- TimeDifference — value for time difference.

- IsArchived — item archive status: 1 — archived, 0 — not archived.

- PhoneTypeld — phone type id (phone types are created in the "Settings" tab, "Phone types" section).

- PhoneNumber — contains a phone number.

- BlockId — id of the strategy block for the outgoing queue.

- IncomeBlockId — id of the strategy block for the incoming queue.

- StrategyStatus — displays the status of the stage of moving the element according to the strategy in the Delta Tel. Status decoding can be obtained from the table "EnumWorkItemStrategyStatus" (Fig. 2).

Id	Name
0	NotProcessed
1	Blocked
2	WaitForCall
3	NextCallWait
4	Processed
5	WaitIvr
6	NotProcessedIncome
7	WaitCrmResult

Fig. 2

Where:

- 0) NotProcessed — the element did not move through the strategy blocks.
- 1) Blocked — not used.
- 2) WaitForCall — element waiting to be set.
- 3) NexCallWait — status is currently not used.
- 4) Proccessed — the element went through the entire strategy.
- 5) Wait Ivr — the element is now on the IVR block.
- 6) NotProcessedIncome — the telephone element is in this status, before the element passes through the queue strategy.
- 7) WaitCrmResult — the element is waiting for the action to be set in the CRM cards.

- ImportId — unique import ID, generated when a new import is received from the sending system.
 - NotProcessed — elements that are in the status (Status) NoProcessed.
 - StrategyId — strategy id. A strategy can redirect one telephone element from one strategy to another (to its beginning).
 - NextCallsAllowed — boolean field, the system checks whether the next call time has come or not (NextCall).
 - HasErrors — indicates if there is an error filling in WorkItems.
- "**CallFinishResult**" — entity containing the following call result fields:
- FinishReason — the reason for the end of the call, the status of which is



obtained from the Asterisk server.

- Duration — talk time.
 - PickupTime — time before connection with the operator.
 - CallingTime — calling time.
 - OperatorId — user id in Delta Tel. This parameter is used in the "Condition" block strategy to determine if there has been a connection with an operator. If the value in the block is non-empty or > 0, contact with the operator took place.
 - IsDeleted — this field is used for internal telephony operation. It records the receipt of results from the SMC. While we are waiting for the result, we keep it in memory. When we receive the result, we associate the CFR with the result from the SMC. Write to the database and delete from memory. Displays deleted or not, takes 2 values 0-no, 1-yes.
 - WorkItemId — record id in WorkItems table.
 - IsPositive — is used to understand whether the specified action in CRM was positive or negative. This field can take 3 states: False — CRM has sent information that the specified action is negative; True — CRM sent information that the specified action is positive; Null (unknown) - set by default by the system if CRM has not transmitted anything.
 - CrmHistoryId — id of the action that was put in the card when calling.
 - HistoryResultId — the id of the result that was stamped in the card when the call was made.
 - HistoryTypeId — id of the type of action that was stamped in the card when the call was made.
 - Cause — call termination codes that are assigned and sent by the Asterisk server (with and without the "r" prefix).
 - Themeld — id of created in the tamatik system.
 - Id — ordinal id number of the element in the table.
- "Helper"** — an entity that contains fields that are used to check for time. It



contains the following fields:

- Time — current time on APP server.
- Now — displays the current time on the APP server in Date+Time format.
- Day — the current date.
- InSchedulerTime — checking if the element falls within the scope of the

created schedule.

The "**DtmfResult**" entity is an entity that contains fields that receive their values from clients. For example, setting the menu button, in the IVR block, if the Input condition is selected. Contains two fields:

- "DialId" — id of the dialed phone number.
- "Input" — entered value, which can contain one or more digits.

3.1.3 Filtering

This tab plays one of the main roles in queue management. Directly here, the conditions for selecting elements for the selected queue are configured.

In the upper area of the tab there is a block for constructing conditions for selecting elements in the queue (selection settings) and a block for filtering already selected elements of the queue (selection filtering).

The lower area displays the selected raw items for this queue (the result of the selection). Since the number of elements in the selection is often very large, they are loaded page by page. To go to the desired page, you can use pagination or a quick jump to a specific page. The user is also shown the number of items in the queue according to the configured selection and filtering conditions. The user can copy column values using the key combination "Ctrl+C".

PJ_idNumber	PJ_HPPhoneNum	PJ_OverdueDate	PJ_Field	PJ_Full_name	PJ_ItemId
				Teemo	1700
				Garen	2222
				Jinx	
				Jinx	3333
				Viktor	4444
				Alistar	5555
				Ahri	6666
				Aatrox	7777
				Brayer	8888

The main tool for constructing sampling conditions is a multilevel logical selection filter. Multilevel logical selection filter is a type of filter that allows you to set the conditions for selecting elements in the form of a tree, inside the branches of which the conditions are connected by logical operators to each other. The filter uses Boolean algebra operations — conjunction ("AND") and disjunction ("OR").

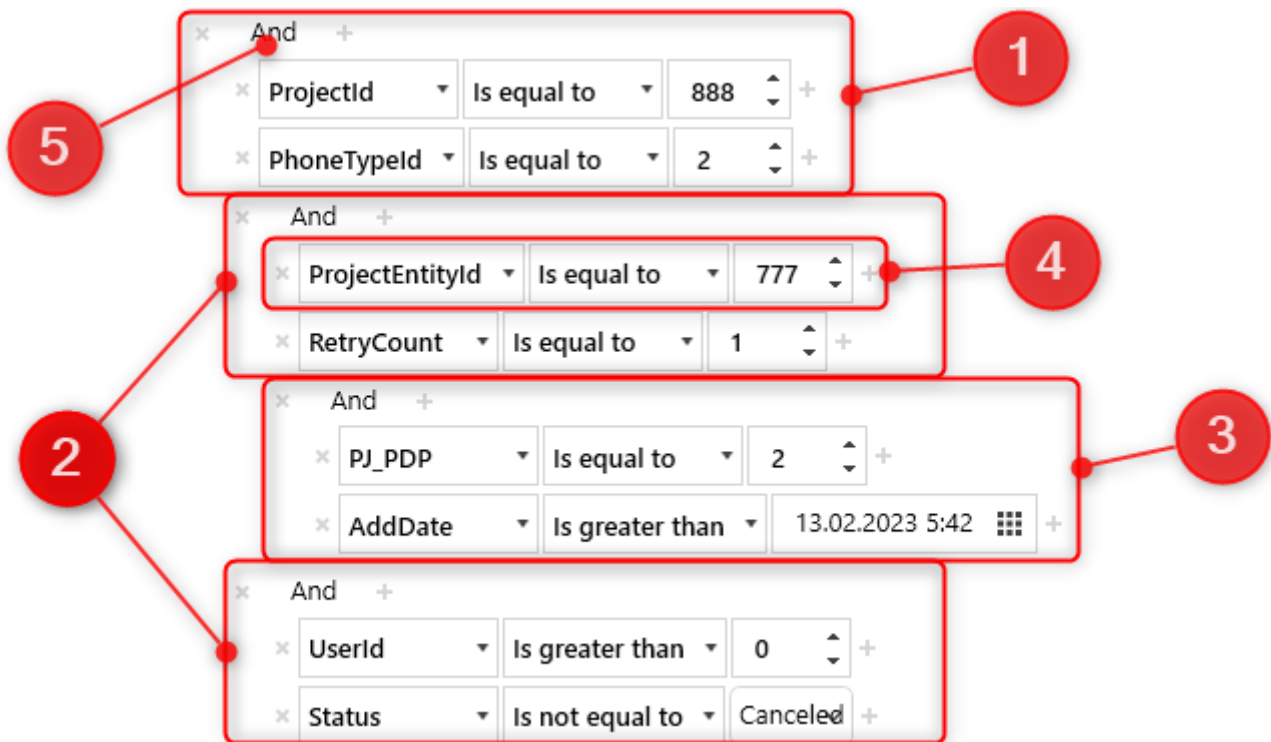
The selection of elements is divided into logical components with the help of which the conditions for filling the queue are built:

- Selection level — combines blocks with conditions within one logical operator (AND/OR) and determines the order in which the selection conditions are executed. Building a chain of logical concepts occurs from the highest level to the lowest (sublevel).
 - Condition block — used to set the field, comparison type and comparison value. The resulting condition can be either true or false. Based on the truth of the blocks, the logic is built inside the levels and their interaction with sublevels.
 - Condition operator — setting a logical operator, according to which the blocks will be compared with each other within the level, and comparison with the next level (sublevel) after it.

The condition for selecting elements for the queue consists of levels containing blocks that are interconnected by logical operations (conjunction and disjunction). The first level can be only one and with one logical operator, and after it all the rest already go. With the help of logical operators and levels, condition branches are formed.

Sampling levels can be represented as a tree, the branches of which do not intersect with each other, and logical operators establish links between the level and the sublevel.

An example of a condition tree where:

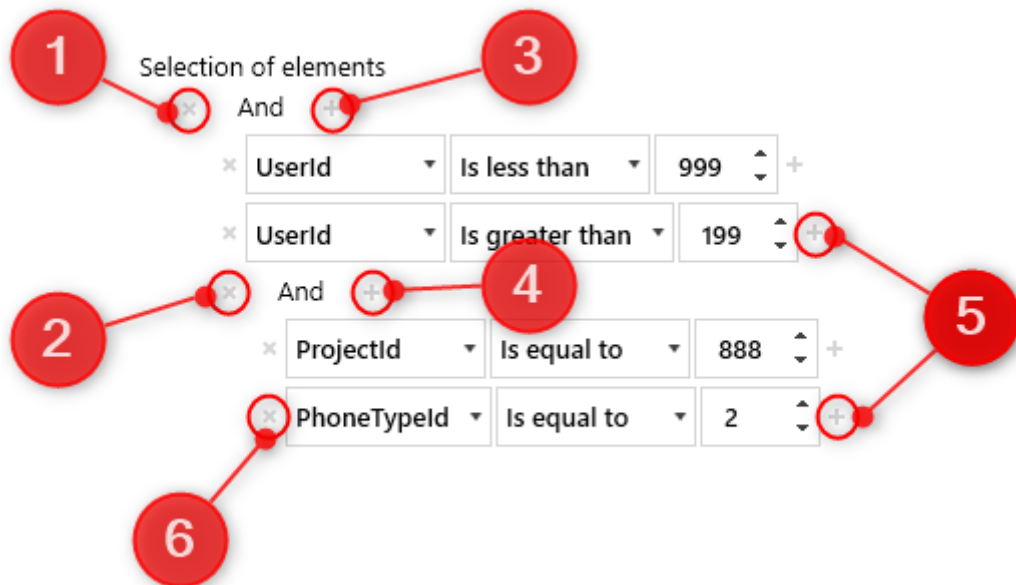


1. First level.
2. Second level.
3. Third level.
4. Block inside the second level of selection of elements.
5. Logical operator of the condition of the first level. To switch the logical operator ("AND" / "OR"), you must click on it with the left mouse button.

Logical operators define the logic within the level itself and its relation to the

next one (sublevel). But within its branch, only the first level is an exception.

An example with adding and removing blocks and levels, where:

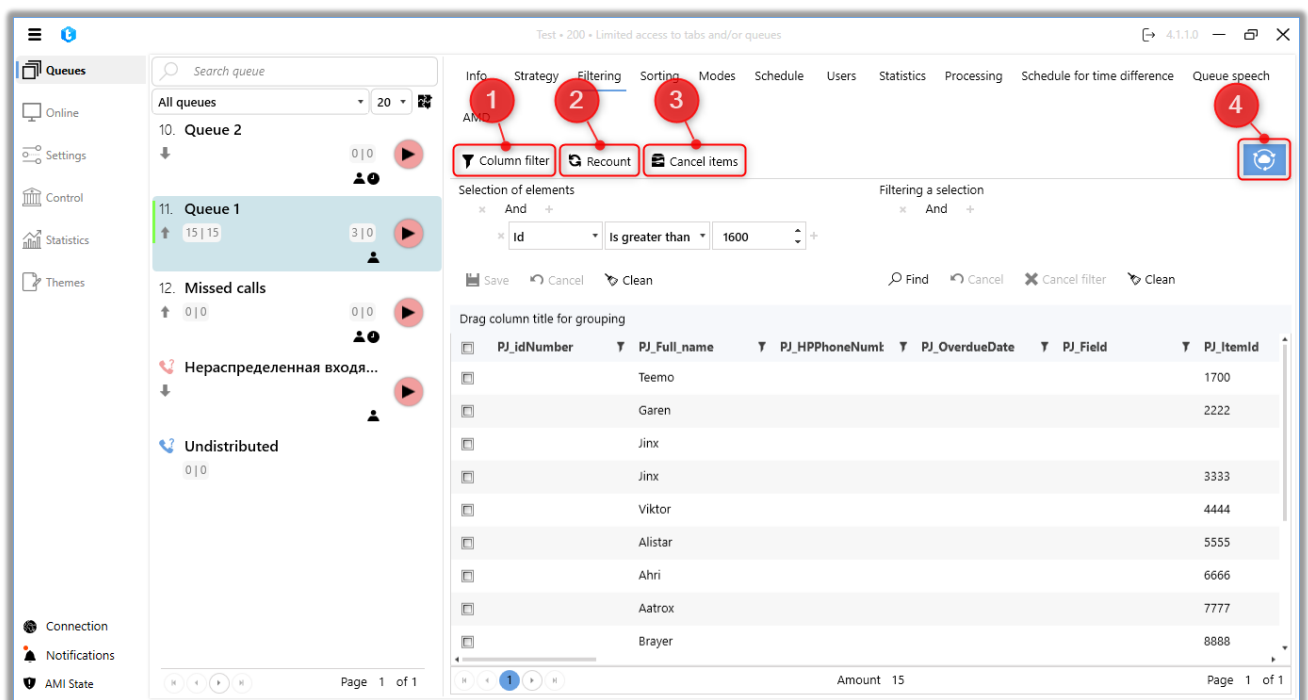


1. Deleting all blocks of the first level (all existing sublevels will be deleted).
2. Removing the second level and all its sublevels (with their condition blocks).
3. Creation of an additional condition block for the first level.
4. Creation of an additional condition block for the second level.
5. Deleting a condition from the previous level and moving it to a new sublevel.
6. Removing a block inside the level. When all blocks are deleted, the level itself will be deleted too if it does not have a sublevel, and the field (block) from which this level was created is restored. If there are sublevels, the level itself will not be deleted, but becomes empty.

After the conditions are formed, a selection of elements is built. Those elements that were not selected are transferred to the analysis in the next queue according to priority, up to getting into the unallocated queues. The sampling setting is not available for unallocated inbound and outbound queues.

To quickly select an element from the drop-down list, press the first letter from the name of the field you are looking for (the search occurs for all words, even if there are several of them in the list). In our example of a drop-down list, which is shown in the screenshot, you can press "P" on the keyboard and the list will move through the words on "P".

IMPORTANT: the same elements cannot be present in different queues, i.e. there cannot be identical elements in different queues. Here you can draw an analogy with sifting stones from a large grid to a fine one, sorting and thus selecting the necessary fractions.



When working with a queue selection setting, the following functions are available:

1. "Column filter" — allows you to hide or display the necessary columns when working with the resulting selection;
2. "Recount" — recalculation and updating of the state of the elements for the selected queue (the system recalculates only the elements that are already inside





the Delta Tel);

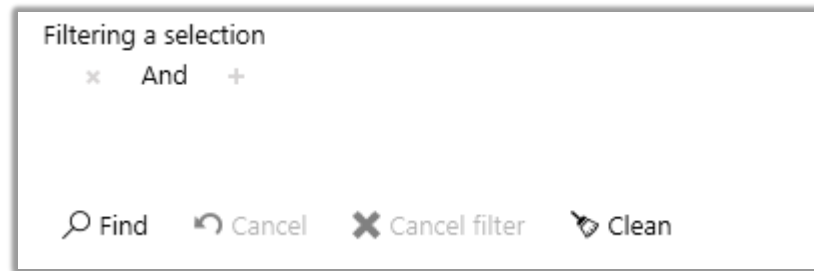
IMPORTANT: Recalculation of elements should not be done during the working hours of the queue or at a minimum load: since the process of moving elements along the blocks of the strategy, along all queues, is started, which can lead to calls for a productive action.

3. "Cancel items" — when you click the "cancel elements" button, the assignment of elements to the queue is canceled. All items are assigned a cancel status (Status 6). You need to re-import the items to get them back. This function has three operating modes:

- Cancel all items in the queue;
- Cancel only the items marked with checkboxes. It should be noted that only the elements checked on the current page in the selection will be canceled;
- Cancel only the elements based on the filtering conditions of the selection.

4. "Refresh selection on change / Do not update selection on change" — when this function is active, the system will display the state of the queue elements to the user in the order in which the elements were at the time the button was pressed. When the sample data is updated and the hold function is active, a bell icon will appear next to the button.   At the same time, the import and processing of elements does not stop. If this function is not active, then when an import enters the system or when elements are processed by operators, the selection will be constantly updated. By default, this feature is disabled and the queue is constantly updated.

The "Filtering a selection" block allows you to search the results of the selection, find and display the elements of interest (or hide the ones you don't need). At the same time, filtering does not affect the logic of selecting elements of the selection and its operation. Selection filtering settings are similar to the logic of element selection. To start the search, you must click the "Find" button.



The following buttons are available for filtering the selection:

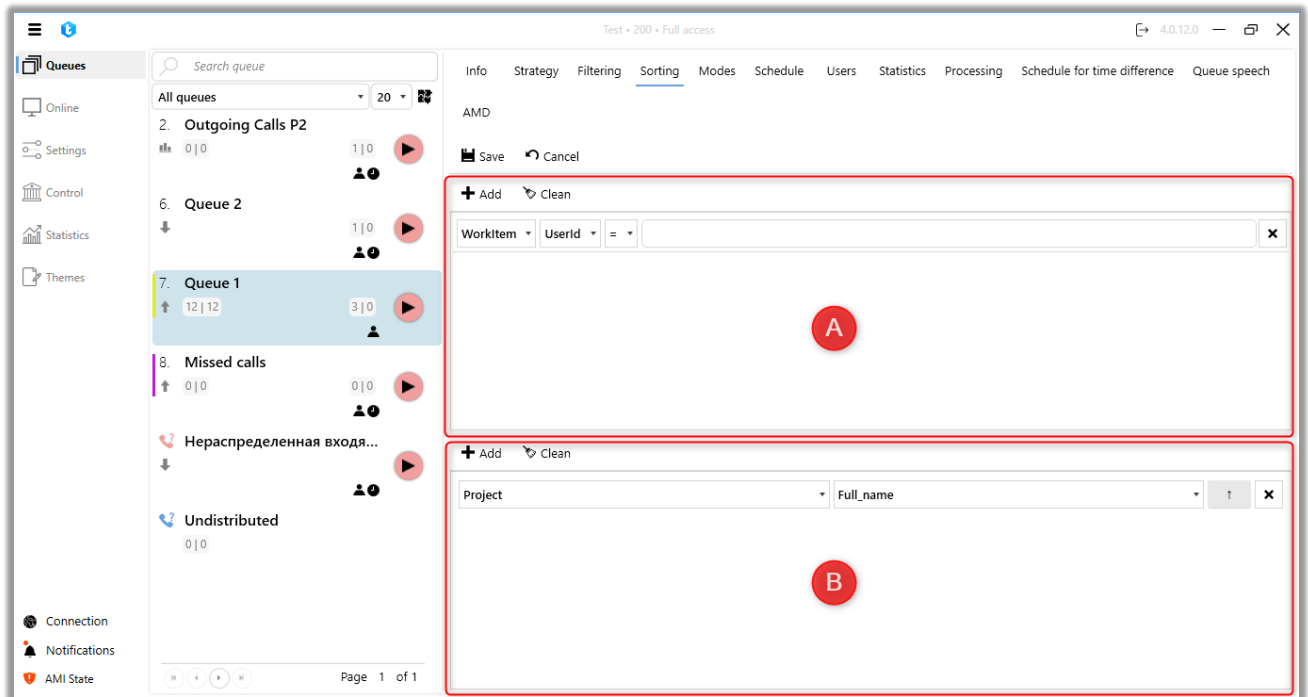
- "+" — add a filter condition;
- "x" — delete the created filter condition;
- "Find" — start searching by the configured filter;
- "Cancel" — cancel all unsaved changes in filtering settings;
- "Cancel filter" — remove the display of the filter;
- "Clean" — deletion of all filters set for the selection.

3.1.4 **Sorting**

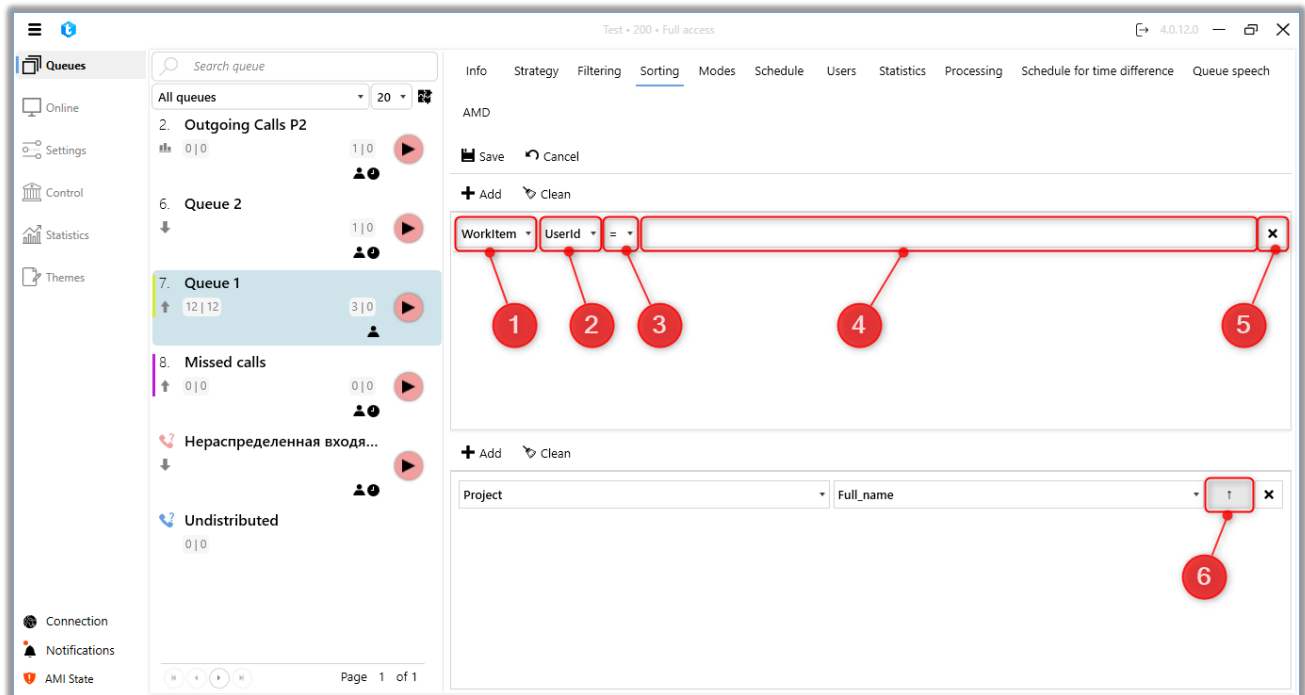
This tab determines the sorting order of elements within the selection for the queue, their sequential arrangement and division into groups depending on the specified conditions. First, the queue is filled with elements according to the selection conditions, and after that, according to the already formed selection, sorting is performed. The selection and sorting conditions are combined according to the logical "AND" condition. Sorting occurs by all elements of the sample, its conditions are fulfilled in turn. By default, sorting occurs by the "Id" parameter of the "WorkItems" entity (from smallest to largest). For example: when a certain selection of items for the queue is formed, in which the "Id" field for the "WorkItems" entity takes values from 1 to 100. Then, when adding the sorting condition "WorkItem.Id = 3" and "WorkItem.Id = 4", the system first, elements in the queue will be selected for which these conditions are met (first equality 3, then equality 4), and then those whose Id



is equal to 1, 2, 5, 6, etc. If the NextCall parameter is not specified.

The sort construction window itself is divided into two areas:



- A. Area with sorting conditions by entity field values (values will be selected one by one, according to the established list).
- B. Sorting area within entity field (largest to smallest and smallest to largest).



1. Entity selection;
2. Entity field selection;
3. Comparison function (comparison operators);
4. The value by which the comparison will be made (enter your value or select from the list);
5. Remove sort condition;
6. Set sorting inside entity fields. There are two types of sorting available:
 -  — "from largest to smallest";
 -  — "from smallest to largest".

In order to open the filters, you need to click on the "More/Less" expander and configure the filters. The "Add" button adds a new condition field, and the Clear button removes all created sort conditions. To delete a certain condition, you must click the "cross" symbol opposite it.

When creating a sort, only fields of two entities are available: Project and WorkItems.

3.1.5 Modes

On this tab, you can configure the queue processing logic. Modes — algorithms that determine how calls will be dialed, received, and distributed to operators for the selected queue. Also, the modes set limits on the time of filling out the client card.

Info Strategy Filtering Sorting **Modes** Schedule Users Statistics Processing Schedule for time difference

AMD

Save Cancel

Mode ProgressiveAlgorithm ? 1

Autostart ? 2

Card filling time 00:10 ? 3

+ Add - Remove ? 4

From	To	Pause time
00:00	01:00	00:40
01:01	02:00	00:30
02:01	05:00	00:20

Number of lines 1 000 ? 5

1. "Mode" — selection of the queue operation mode. Available modes vary depending on the type of queue (inbound or outbound);
2. "Autostart" — activation of automatic start of the queue according to the established schedule;
3. "Card filling time" — a parameter that specifies the time interval given to the operator to fill in the client's card after the call is completed. During this interval no new calls will be received by the operator, regardless of whether they have been entered or not. After the specified time expires, the system will automatically route the next call to the operator. Please note that the "Drop call when adding an action"




and "Ignore card completion time" settings take precedence over this setting and may change the order in which calls are received;

4. It is possible to set the time for filling the card depending on the duration of the user's conversation with the subscriber. To create a new value, you must click the "Add" button, and to remove it, select the required element and click "Delete". The time indicated in "from" must not exceed the value in "to". Also, the time to fill cannot be zero. Added time ranges must not overlap. The created time intervals will be presented in the form of a table;

5. "Number of lines" — the number of simultaneous dialing of numbers in turn, which will be carried out per operator (for example: there are 4 operators in the queue, and the number of lines is 40, then the system will make 10 simultaneous dialing for each operator).

By selecting from the drop-down list, the queue operation mode is set. Currently available modes for use are: "ProgressiveAlgorithm", "ProgressiveIndividualAlgorithm", "Predictive", "IvmAlgorithm", "ProgressiveIncoming" and "IndividualIncoming".

Each of the modes is selected individually, taking into account business needs.

Interactive elements are available in the mode settings (the icon in the form of a question mark ) , when hovering over them, the user will be shown a tooltip describing the operation of this parameter. Real-time interactive tooltips help you understand what each setting is for and how to properly customize it for your business needs.



Mode	<input type="text" value="ProgressiveAlgoritm"/>	?
Autostart	<input type="checkbox"/>	?
Card filling time	<input type="text" value="00:10"/>	🕒 ?
+ Add × Remove		?
From	To	Pause time
Number of lines	<input type="text" value="1"/>	?
Checking assigned operator	<input checked="" type="checkbox"/>	

"ProgressiveAlgorithm" — algorithm in which the operator is reserved, the system forms a pool of numbers from this queue and simultaneously dials these numbers. Sets are carried out according to the sorting of elements in the "Selection" tab. For example: if we have 100 elements in the selection, which are sorted by id from 1 to 100, then when the queue starts, they will be typed in order, one after the other. Upon successful connection with the subscriber, the call is transferred to the reserved operator. If two or more subscribers are connected from the pool of numbers, the system transfers the first call to the operator, and switches the remaining numbers to the IVM module. If the subscriber, who is on IVM, dropped the call without waiting for communication with the operator, then this is considered as a call drop (the "Drop" status is assigned), which will be processed according to the strategy.

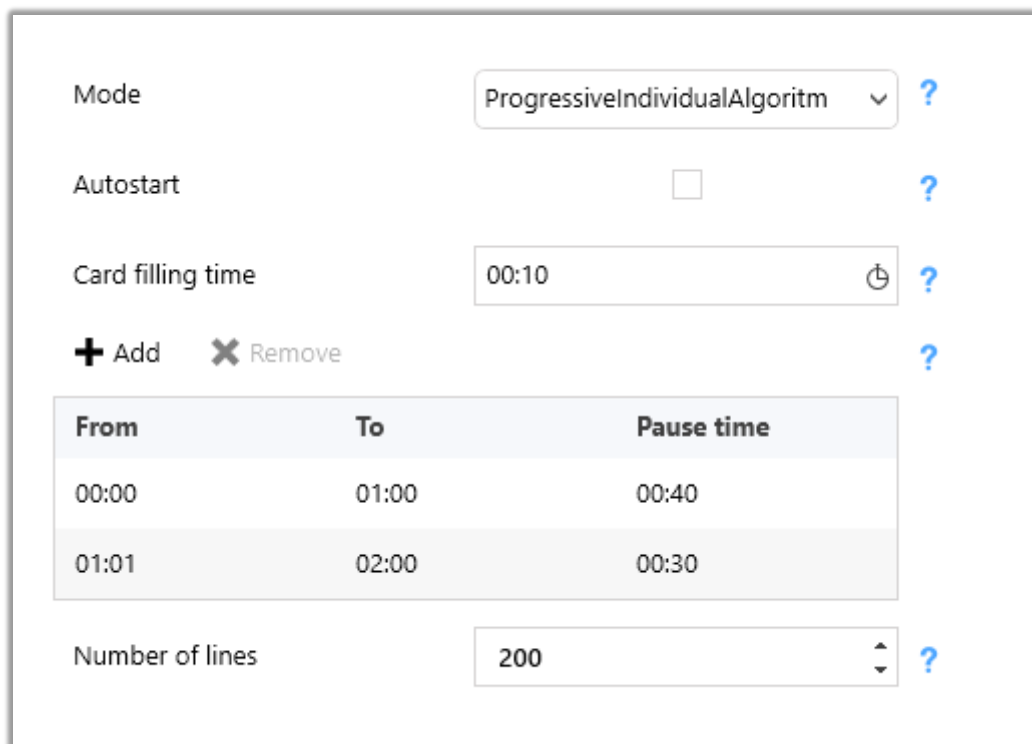
The following options are available to customize this algorithm:

- "Autostart" — activation of automatic start of the queue according to the set schedule.
- "Card filling time" — a parameter that specifies the time interval given to the operator to fill in the client's card after the call is completed. During this interval



no new calls will be received by the operator, regardless of whether they have been entered or not. After the specified time expires, the system will automatically route the next call to the operator. Please note that the "Drop call when adding an action" and "Ignore card completion time" settings take precedence over this setting and may change the order in which calls are received.

- "Number of lines" — the number of simultaneous dialing per operator. The operator is connected to the client, from the dialed ones, who will be the first to pick up the phone.
- "Check assigned operator" — calls will be distributed first to assigned operators, if they are available. If there are no available assigned operators, the call will be routed to the first available operator.



From	To	Pause time
00:00	01:00	00:40
01:01	02:00	00:30

"ProgressiveIndividualAloritm" — algorithm, when an operator is reserved, the system forms a pool of elements from this queue and simultaneously dials these numbers. If the connection with the subscriber is successful, the call is transferred to the reserved operator. If there is a connection with two or more subscribers from the



pool of numbers, the system transfers the first contact to the operator, and connects the rest to any available operators, and in their absence or unavailability switches the call to the IVM module. If a subscriber who is on the IVM drops the call without waiting for an operator, this contact is considered dropped (the "Drop" status is assigned).

Setting the operation parameters of this mode is similar to the previous one.

Mode	Predictive	?			
Autostart	<input type="checkbox"/>	?			
Number of lines	0	?			
Card filling time	00:10	?			
+ Add X Remove		?			
<table border="1"><thead><tr><th>From</th><th>To</th><th>Pause time</th></tr></thead></table>			From	To	Pause time
From	To	Pause time			
Statistics for the last	0:00:00	?			
Acceleration factor	0	?			
Lines limit	0	?			
Wiretap all IVMs	<input type="checkbox"/>	?			
Checking assigned operator	<input type="checkbox"/>				

"Predictive" — an algorithm that automatically calculates the number of sets per operator to achieve the maximum contact rate. Contact rate - for what period of time and how many calls the operator handles, how many of them are positive (connection with the operator took place) and how many are negative (connection with the operator did not take place). If the contact rate is low, the system will dial more aggressively, increasing the number of lines within the specified range of



number of lines and line limit on the queue. If the contact level is high, the system will not increase the number of dials to reach the desired level.

When calculating the system takes into account the following parameters: current queue contact rate, average operator talk time, average time to fill in a card and statistics on average pick-up time. The purpose of the mode is to perform automatic control of the operator's occupancy level.

The system can make dialing even before the end of the conversation between the operator and the subscriber. For example: if the system has calculated the average time of an operator's conversation as 2 minutes, the average time of picking up the handset as 20 seconds, and the contact level as 20% (low level), then 20 seconds before the end of the conversation the system will start dialing the number, with the assurance that the operator will soon be free and the next contact should be prepared for him.

"Number of lines" — the number of simultaneous dials per operator. The first client to pick up the phone will be connected to the operator. For the "Predictive" mode, the set number of lines is the starting number when the queue is started and can be increased or decreased depending on the current contact rate.

"Card filling time" — a parameter that specifies the time interval given to the operator to fill in the client's card after the call is completed. During this interval no new calls will be received by the operator, regardless of whether they have been entered or not. After the specified time expires, the system will automatically route the next call to the operator. Please note that the "Drop call when adding an action" and "Ignore card completion time" settings take precedence over this setting and may change the order in which calls are received;

The "Statistics for last" — parameter sets the time intervals on the basis of which the system will update the statistical information for the algorithm operation. For example, if you set the "Statistics for the last" field to 30 minutes, it means that the system will take statistics on the current contact rate every minute for the period from the current time minus the specified 30 minutes and depending on the received



data will increase or decrease the number of lines for operators. At the end of each day this parameter is reset.

The "Acceleration Factor" — parameter allows you to manually add the number of lines for dialing to the number of lines calculated by the system (if you need to use fully manual control over the autodialer mode with the ability to set the number of lines manually, we recommend using the "ProgressiveAlgorithm" mode). This parameter is calculated by the formula::

$$x \times (y \times 0,1) = z$$

Where x is the number of lines, y is the acceleration factor set by the user, 0.1 is a constant, z is the received number of communication lines that will be used by the system, but not more than that set in the "number of lines" parameter. For example: the number of lines = 10, and the set acceleration factor = 1, then according to our formula we get: $10 \times (1 \times 0.1) = 1$. In this case, we will be able to make 1 set of 10 available.

The "Line Limit" parameter sets the maximum number of sets for the queue (total lines for the queue). The queue in Predictive mode can carry out more sets per operator than set in the "Number of lines" parameter (in case the algorithm considered that the operator can increase the load), but no more than set in the "Limit of lines" parameter.

When the checkbox "Wiretap all IVMs" is checked, the system takes the average client wait time on the IVM module and uses this parameter when calculating the frequency of a set of clients, taking into account the time after which the operator is released on average. Which accordingly reduces the time spent by the client on the IVM and downtime in the work of operators.

If the checkbox "Check assigned operator" is selected, calls will be distributed first to assigned operators, if they are available. If there are no available assigned operators, the call will be routed to the first available operator.



Info	Strategy	Filtering	Sorting	Modes	Schedule	Users	Statistics
AMD							
Save Cancel							
Mode	IvmAlgorithm			▼	?		
Number of lines	0			▲▼	?		
Autostart	<input checked="" type="checkbox"/>				?		

"IvmAlgorithm" — algorithm similar to "ProgressiveAlgorithm", but no operator is needed to make calls. The call is made through the IVM module. The subscriber will be informed according to the IVM settings in the strategy for the selected queue. Only available for the outgoing queue. For example: this mode can be used for customer reminders, follow up, service quality assessment, etc.

In the "Number of lines" parameter, when the "IvmAlgorithm" mode is selected, the number of lines that will be dialed simultaneously by the system when calling clients is indicated.



Info Strategy Modes Schedule Users Statistics Processing Queue speech

Save Cancel

Mode ?

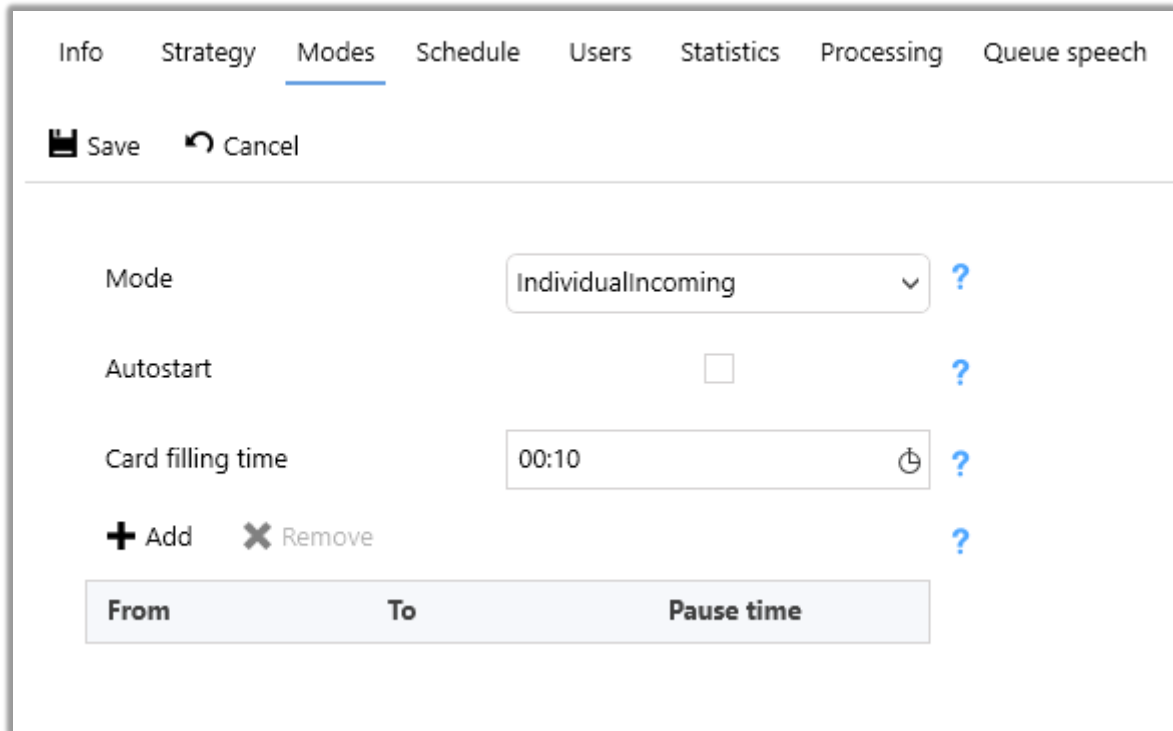
Autostart ?

Card filling time ?

+ Add - Remove ?

From	To	Pause time
------	----	------------

"ProgressiveIncoming" — an algorithm that works exclusively with the incoming queue. In accordance with the incoming context, which is transmitted from the Asterisk server (filled when setting the strategy in the IncomeContext parameter of the "Incoming call" block), the mode directs the incoming call to the first available operator. If necessary, it is configured on the Asterisk side to redirect an incoming call to the operator with whom the subscriber had the last contact (if the operator is free).



Info Strategy **Modes** Schedule Users Statistics Processing Queue speech

Save Cancel

Mode IndividualIncoming ?

Autostart ?

Card filling time 00:10 ?

+ Add X Remove ?

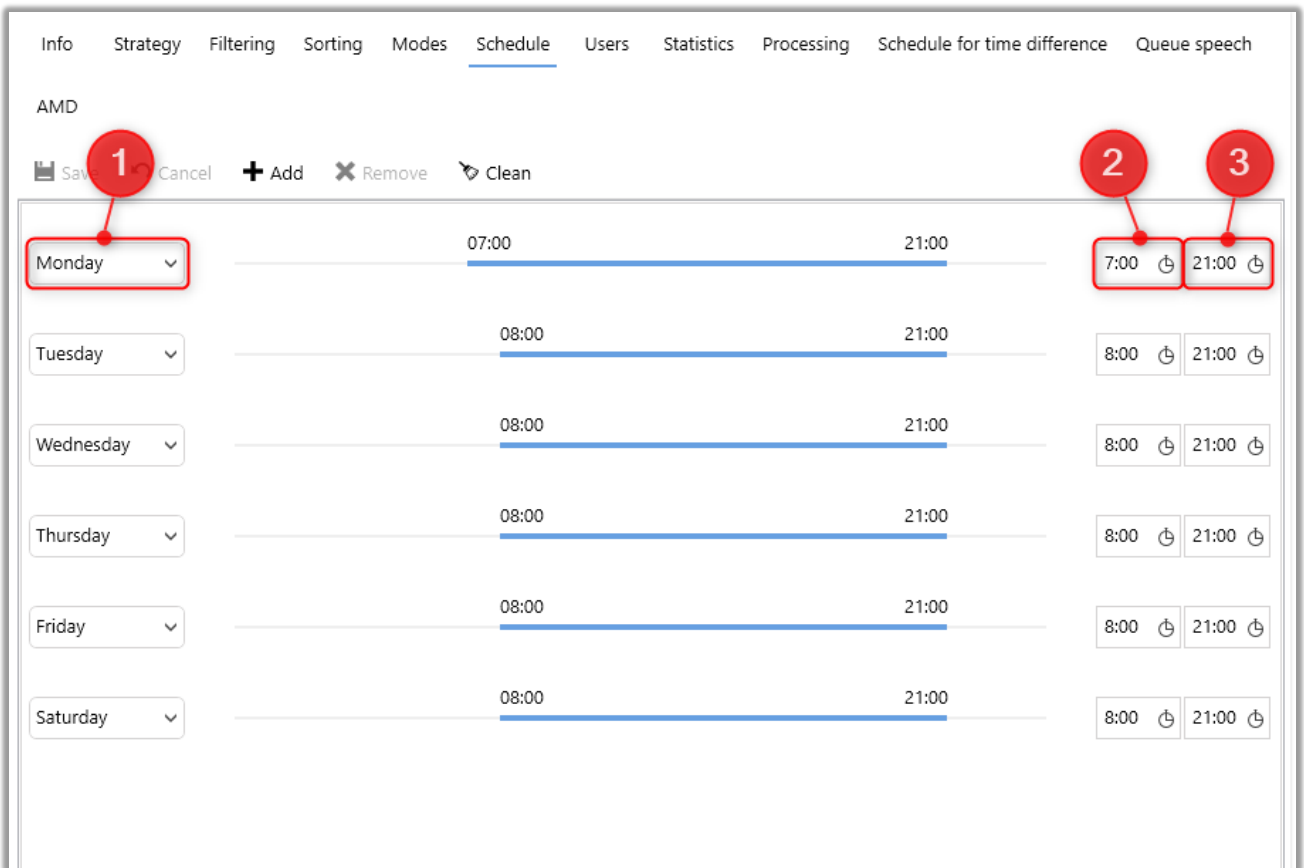
From	To	Pause time
------	----	------------

"IndividualIncoming" — an algorithm that, upon an incoming call, checks for the presence of operators assigned to this number in CRM and, if there is one, the call is redirected to it. If there are no fixed operators, then the system redirects to the first free operator. Or the subscriber will be waiting until the release of the first free operator. The system determines the assigned operators by UserId.

After selecting the call processing mode for the queue, click the "Save" button. To cancel the settings made click "Cancel".

3.1.6 Schedule

On this tab, you can configure the queue activity schedule. The outgoing queue will not work without a configured schedule, unless a schedule has been created for the incoming queue — it is considered active all the time of the day, on any day of the week. The schedule is configured separately for each day only within one week (Monday, Tuesday, Wednesday, etc.), it is not possible to set up a different schedule for several weeks in advance. Attempts to add identical or overlapping time schedules within the same day will be ignored by the system.



1. Select the day of the week;
2. Selecting the start time of the queue robots within this day;
3. Choice of the end time of the queue.

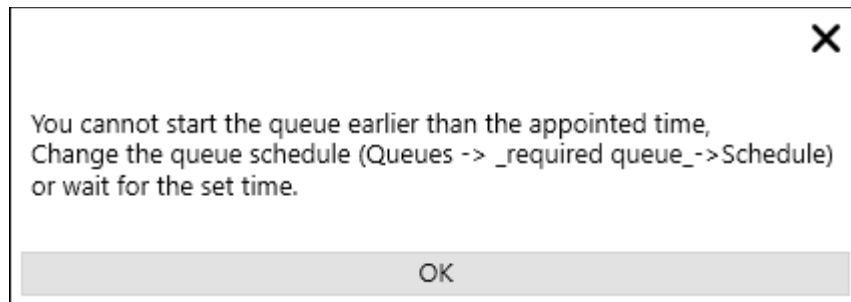
To create a new schedule, click the Add button. In the window that opens, you need to mark the days of interest and set the length of time using the slider or by entering a numeric value. After that, the created schedule will be displayed in the main window. In the same window, the already created schedule is edited. To delete a specific segment for the selected day, select it and press the "Delete" button (or the "DELETE" button on the keyboard). Schedules within the same day cannot overlap each other in time. Changes are saved and applied immediately after clicking the "Save" button.

If you set the schedule from 00:00 to 23:59, the maximum time that the queue will be inactive is approximately 15 seconds, since the schedule is checked approximately every 45 seconds.



After creating a schedule for the queue, it must be started manually (if the set time is right) or the queue will start automatically according to the configured schedule (if the "Autostart" checkbox is selected in the queue operation mode). The "Clear" button completely deletes all the created schedule for this queue.

If you try to start the queue earlier than the time set in the queue schedule, the system will give an error:

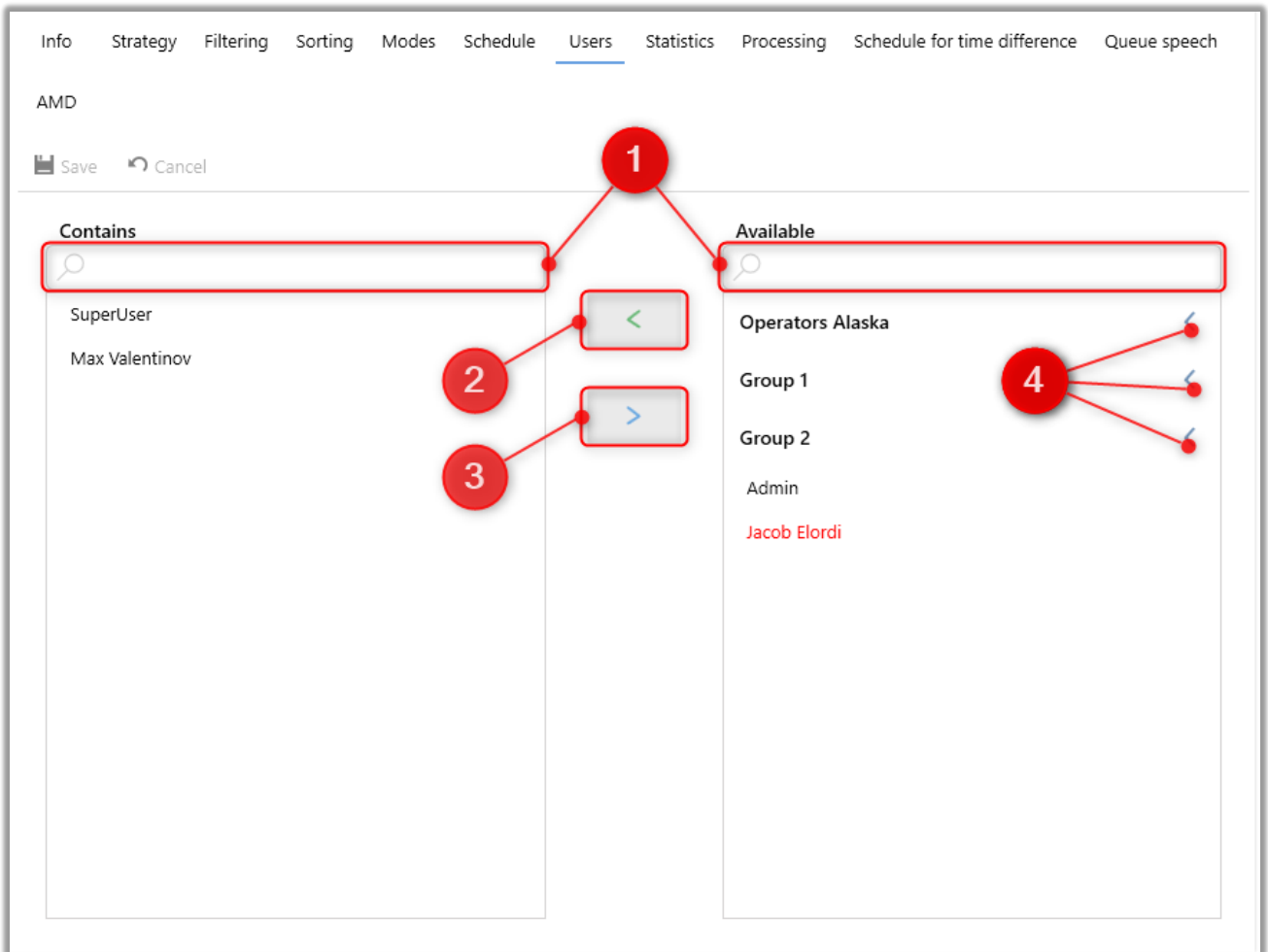


IMPORTANT: If the schedule is over, the queue stops or pauses.

3.1.7 Users

In this tab, the specialist is given the opportunity to add users and user groups to the work for the selected queue. Users not added will not be able to process and receive calls for this queue. Users who do not have the "Active user" checkbox set in the settings (in the user settings) will not be displayed in the list of available for adding.

The tab contains two containers "Contains" and "Available". The first one displays users who are assigned and can already work in this queue, the second one displays those users who are available for addition. Moving between containers is done by manual dragging between tables or using navigation keys.

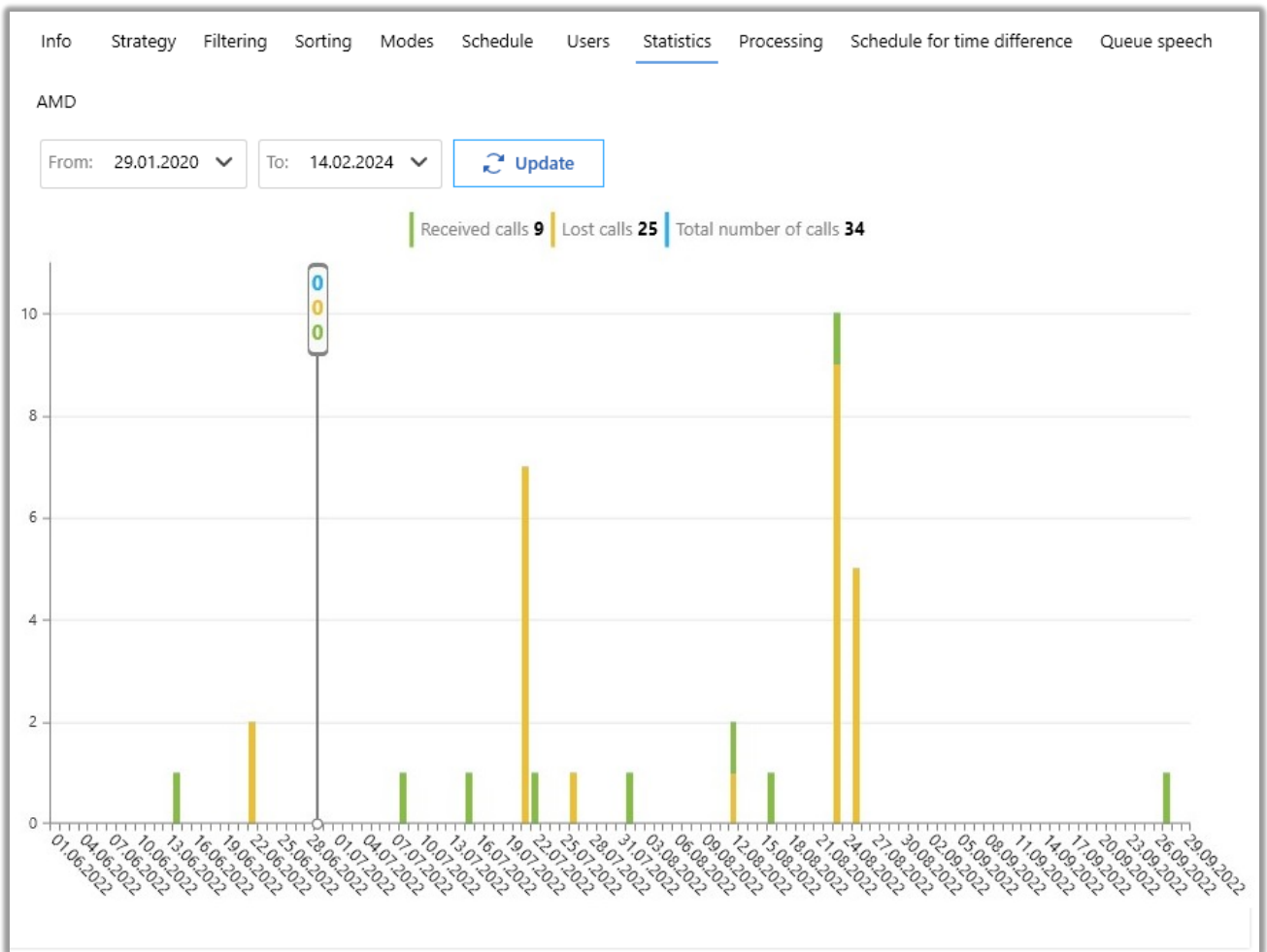


1. Search by columns;
2. Navigation key to move users from available to active;
3. Navigation key to move from active to available;
4. Expand the contents of the group.

"Cancel" button — undoes all recent unsaved user and group moves for this queue.

3.1.8 Statistics

The tab shows a graphical display of calls made on the selected queue for a certain period. Separate graphs are built for three types of calls. The graph is presented as a rectilinear coordinate axis, where the number of calls is displayed along the "Y" axis, and the period is displayed along the "X" axis.



For queues with the selected mode "IvmAlgorithm":

- "Listened IVM" — all calls that got to the "Ivm" stage (DialStage table) and received the "DropIVM" status (the IVM-clips was listened to by the subscriber, after which the call was dropped by the system after the time for its playback expired).
- "Total IVM" — the total number of calls that got to the "Ivm" stage and received the "Drop" status (the audio was not fully listened to by the subscriber).
- "Total calls" — the total number of dialing attempts made. This also includes all calls that did not fall into the "Ivm" stage (decoding of the stages is presented in the "EnumTypeOfStage" table).

For all other dialing modes:

- "Received calls" — the number of calls where the handset was lifted and the subscriber contacted the operator. Such calls are assigned "OperatorId" in the

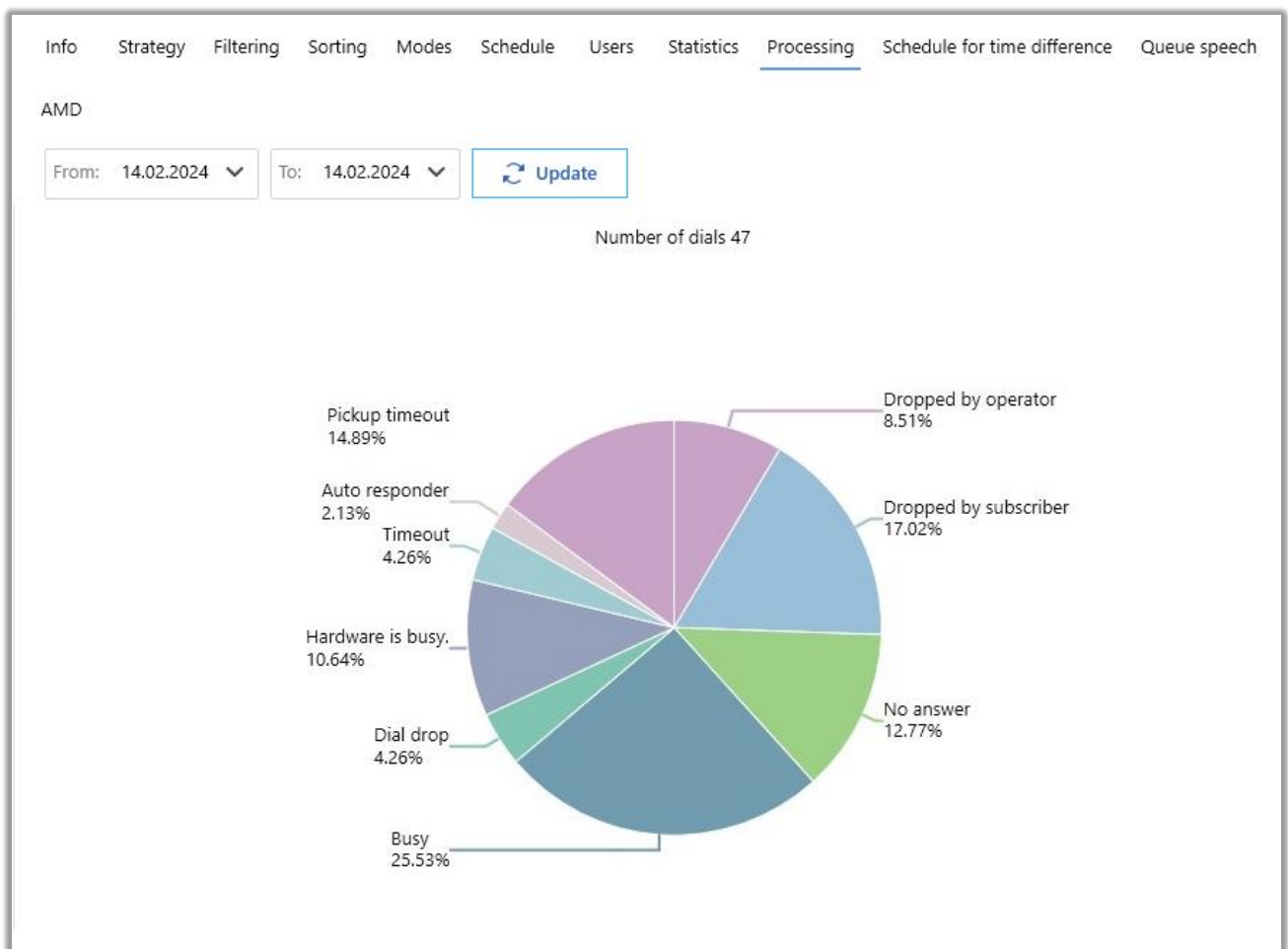


"CallFinishResult" table, and the "Talk" status is set in the "TypeOfStageId" column of the "DialStage" table (6).

- "Lost calls" — the call was made, but the subscriber for some reason did not pick up the phone.
- "Total number of calls" — the total number of received and lost calls.

3.1.9 Processing

The tab shows a graphical display of the reasons for the termination of calls, as well as the percentage of processed items in the form of a pie chart, which is divided into parts to show the numerical proportion. To view the chart for a certain period, you must specify the desired period and click the "Refresh" button.





The diagram shows the number of calls for the selected period, indicating the reasons for their termination and the number of completed calls.

The reason for the end of the call can be viewed in the database, the "FinishReasonOfDial" table, where their "id" is recorded, the decoding of which is indicated in the "EnumFinishReasonOfDial" table. There are such status of the end of the call:

- "Empty" — no status received yet from the Asterisk server;
- "CallerHangUp" — connection has occurred (the call has moved to the "Talk" stage). The call was dropped by the caller during the call (for outgoing calls it is the operator, for incoming calls it is the client);
 - "DestationHangUp" — there was a call drop from the caller's side during the call. (for outgoing calls - it is the client, for incoming calls - the operator);
 - "DontAnswer" — the subscriber does not answer;
 - "Busy" — the subscriber is busy (the call was dropped by the subscriber);
 - "Drop" — the set has been dropped. This parameter is interpreted using the system statuses (Cause) transmitted by the Asterisk server;
 - "HardwareBusy" — hardware is busy. This parameter is interpreted using the system statuses (Cause) transmitted by the Asterisk server;
 - "Bridget" — connected. This parameter is interpreted using the system statuses (Cause) transmitted by the Asterisk server;
 - "StopAutoDial" — stop dialing per subscriber;
 - "SilentCall" — connection with an undefined source;
 - "AutoAnswer" — autoresponder. This parameter is interpreted using the system statuses (Cause) transmitted by the Asterisk server;
 - "DropIvm" — the system ended the call after playing the IVM;
 - "TimeOut" — call rejection after the allotted time for a conversation has expired, set in the "Call Duration" parameter, which was set in the strategy for the queue;
 - "AutoAnswerMachine" — the call was dropped after it was identified by



the system as an auto answer. This status is assigned based on autoresponder cutoff configured in Delta Tel;

- "WrongNumber" is an invalid number. Response received from provider;
- "DropIVR" — the subscriber dropped the IVR;
- "PickUpTimeOut" — dropping the call after the connection time has expired, set in the "Time to connect" parameter, which was set in the strategy for the queue;
- "RemoveFromUI" — indicates to remove the item at the time of dialing through the Delta Tel Client application interface;
- "CancelWIProcessing" — indicates to reimport the item (phone number) at the moment of its dialing.


The second chart is the number of items in the queue (for an outgoing queue) or the number of unique phone numbers that called (for an incoming queue).

3.1.10 Schedule for time difference

This tab configures the schedule for working with subscribers located in other time zones. If the client's time falls within the created interval, then the dialing occurs, if not, the system will not complete the dialing. The client time is calculated as the time on the APP server + the value from the field where the "TimeDifference" is written. The client's time zone is transferred to the system when importing from CRM to Delta Tel (information is transferred from the mapped field from CRM to TimeDifference), in the configuration file (deltaTelBoxConfig) it is possible to set TimeDifference as a calculated number by subtracting or adding the desired value. For example: "TimeDifference": "timeZoneClient.IntOffset - 3", where we subtract 3 from the incoming timeZoneClient.IntOffset value. If necessary, separate queues are created for the time zones of interest.



If the "Ignore setting" checkbox is checked, the system will ignore the created schedule for the time difference.

If an indicator is displayed in the queue  — this means that there are elements to set that do not match the configured schedule for the time difference, or it is not configured.

The time difference schedule is configured for a maximum period of one week (Monday — Sunday). You can create several time periods of work within one day, but they should not overlap in time. The system will ignore attempts to make such settings.

3.1.11 Queue speech

On this tab, a text-to-speech service is selected and its parameters are configured. You can also enable and configure the AMD greeting that will be played to the client after going off-hook.

Info Strategy Filtering Sorting Modes Schedule Users Statistics Processing Schedule for time difference Queue speech

AMD

Save Cancel

Speech type Google

Language English (US)

Greetings from AMD active

AMD greetings type Text

Hello text Hello world!

1. "Speech type" — select a service for converting text into voice. Google and Yandex services available.

2. "Language" — selection of the language into which the text will be converted. The selected language must match the language in which the text to be converted is entered.

3. "Greetings from AMD active" — when this function is enabled, the text will be spoken to the client after picking up the phone using the selected service. This function will work only if check for an answering machine, check after answer is enabled in the queue ("Check after answer" checkbox) and one of the modes that checks for silence is selected. A greeting can be useful, for example, when working with the silence detection function, to provoke the client to answer if he is silent after picking up the phone.

- "AMD greetings type" — select the type of greeting that can be spoken from the text field if the Text option is selected, or from the selected audio clip if the File option is selected.

- "Hello text" — enter text that will be spoken to the client using a speech synthesizer. Available with "Text" greeting type selected.

- "AMD greetings audio" — select an audio clip that will be played to the client after going off-hook. Available when "File" greeting type is selected. The list will contain audio clips that were uploaded on the "Videos" tab in the "Administration" section (with the "IVM" checkbox checked).

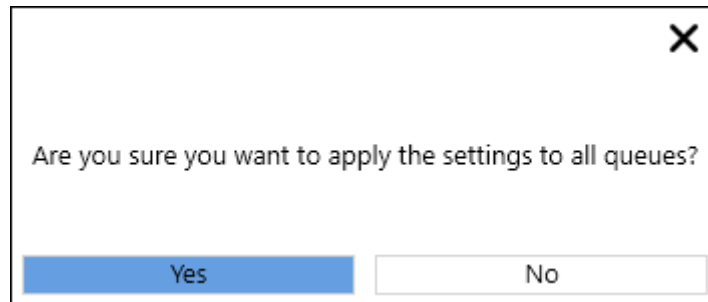
3.1.12 AMD

The tab is responsible for configuring the recognition of answering machines by the Delta Tel system when making outgoing calls. "AMD" is an algorithm that is responsible for recognizing answering machines and silence before and after picking up the handset by a telephone subscriber. The autoresponder recognition logic is as follows: the system records the conversation in real time and compares it with the added recording or grammar templates, using various verification modes.

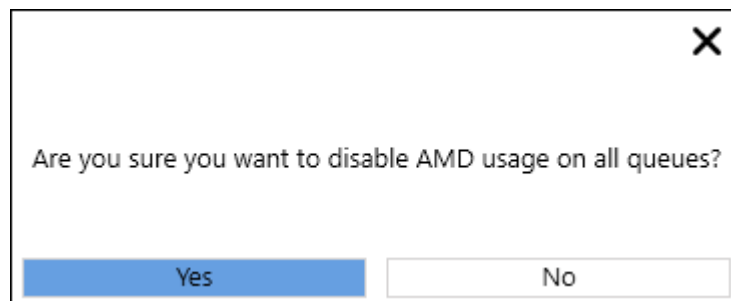
1. [Save] — apply the changes made.
2. [Cancel] — undo all unsaved changes.
3. [Use AMD] — enable the AMD module for the selected queue.



4. [Apply to all queues] — apply the AMD module settings of the selected queue as a template for all queues where this module is enabled (the [Use AMD] checkbox is checked). The settings template will not be applied to queues where the AMD module is disabled.



If you use this function in a queue with the [Use AMD] checkbox not checked, the system will apply the settings of the AMD module of the selected queue as a template for all other queues, disabling the operation of the AMD module on them accordingly.



In the "Basic" section, you can adjust the settings for recognizing answering machines and the silence duration before and after picking up the handset.

5. [Verify before answering] — disable or enable checking for the presence of an answering machine before the client picks up the phone according to the selected algorithm.

There are 5 modes available for checking the answering machine before answering:



- "Hard" — the algorithm looks for a 100% match with the library.
- "Partial" — faster algorithm, compared to Hard, due to the fact that the verification is performed in two stages. The default confidence level for this mode is set around 90-100%.
 - "Partial75" — the algorithm only needs 75% similarity between the call and the reference to cut it off. For this mode, the default confidence level is 75%.
 - "MSSpeechBefore" — this mode performs a check on the answering machine before picking up the handset, by comparing it with preset text grammars (configured in the corresponding subsection of the AMD> MSSpeech module), which the user can fill manually. If the text grammar and the audio track match, the system cuts off such a call. The confidence level of the match is manually configurable. When working with this mode, an extended language library is used, which is installed and customized separately by the development team. Such library has more available languages.
 - "SpeechBefore" — this mode performs a check on the answering machine before lifting the handset, by comparing it with the preset text grammars (configured in the corresponding subsection of the AMD> Speech module), which the user can fill manually. If the text grammar and the audio track match, the system cuts off such a call. The confidence level of the match is manually adjusted. When working with these modes, the standard library of supported languages is used, which does not require additional customization.
 - "NeuralNetworkBefore" — this mode uses machine learning artificial intelligence to correlate spectrograms to effectively cut off autoresponders. The system translates the received sound recording into a spectrogram and compares it with its library to determine the answering machine. With the help of machine learning, this mode allows you to cut off autoresponders with a probability of up to 85%. The library is filled only through the development team. The training requires the collection of about 800-1000 human and autoresponder benchmarks. Archives with trained libraries are stored in AMD microservice at path:



\AMD\Resourcesses\NeuralModel\Heavy or Lite\MLModel.zip

6. [Trimm the record] — when performing recognition, the system utilizes only a portion of the audio track, rather than the entire duration. The duration of this segment is measured in seconds using the "Number of seconds to trim" parameter. The minimum acceptable value is 4 seconds. A typical range in practice is from 4 to 5 seconds. It is important to note that larger values can significantly burden the system and slow down the queue, as this check is applied to all outgoing calls.

7. [Confidence level] — setting the similarity of the reference or text grammar to the audio track of the call-in percent. If the similarity of the audio clip corresponds to the set value, such a call will be cut off as an answering machine. This parameter can be changed only for "MSSpeech", "Speech", "NeuralNetworkBefore" and "NeuralNetworkAfter" modes, as the other modes already have a preset confidence level value. This parameter is selected individually. It is recommended to set the initial value around 60-70%. Further it can be changed if necessary.

8. [Verify after answer] — disable or enable checking for the presence of an answering machine after the client picks up the phone according to the selected algorithm.

There are 5 modes available for checking the answering machine after answering:

- "Hard" — the algorithm looks for a 100% match with the library.
- "Partial" — faster algorithm, compared to Hard, due to the fact that the check is performed in two stages. The default confidence level for this mode is set to 90-100%.
 - "Partial75" — algorithm needs 75% similarity between the call and the reference to cut it off. For this mode the default confidence level is 75%.
 - "MSSpeechAfter" — this mode performs the verification on the answering machine after picking up the handset, by comparing it with the preset text grammars (configured in the corresponding subsection of the AMD> MSSpeech



module), which the user can fill manually. If the text grammar and the audio track match, the system cuts off such a call. The confidence level of the match is manually configurable. When working with this mode, an extended language library is used, which is installed and customized separately by the development team. This library has more available languages.

- "SpeechAfter" — this mode performs checking of the answering machine after picking up the handset by comparing it with preset text grammars (configured in the corresponding subsection of the AMD> Speech module), which the user can fill manually. If the text grammar and the audio track match, the system cuts off such a call. The confidence level of the match is manually adjusted. When working with these modes, the standard library of supported languages is used, which does not require additional customization.

- "NeuralNetworkAfter" — this mode uses machine learning artificial intelligence to correlate spectrograms to effectively cut off autoresponders. The system translates the received sound recording into a spectrogram and compares it with its library to determine the answering machine. With the help of machine learning, this mode allows you to cut off autoresponders with a probability of up to 85%. The library is filled only through the development team. For training it is necessary to collect about 800-1000 human and autoresponder benchmarks. The archives with trained libraries are stored in the microservice on the path:
`\AMD\Resourceses\NeuralModel\Heavy or Lite\MLModel.zip`

9. [Silence detection] — the system checks for silence when picking up the handset according to the selected algorithm.

- "None" — no mode selected. Silence is not detected.
- "Default" — check by the size of the audio file.
- "NAudio" — checks the volume of the audio file. Recommended mode.

10. [Confidence level] — setting the similarity of the reference or text



grammar to the audio track of the call-in percent. If the similarity of the audio clip corresponds to the set value, such a call will be cut off as an answering machine. This parameter can be changed only for "MSSpeech", "Speech", "NeuralNetworkBefore" and "NeuralNetworkAfter" modes, as the other modes already have a preset confidence level value. This parameter is selected individually. It is recommended to set the initial value around 60-70%. Further it can be changed if necessary.

11. [Samples] — the list of added reference audio files that will be used for checking against an answering machine (for Hard, Partial, Partial 75 modes). If no autoresponder samples have been added, the system will consider all calls passing through it as human speech because it has nothing to compare them to. It is recommended to use only audio files that have been recorded by the Asterisk server as samples. Other uploaded audio recordings may not function correctly (e.g., recordings made on a dictaphone, etc.), which can impede the system's ability to accurately detect an answering machine.

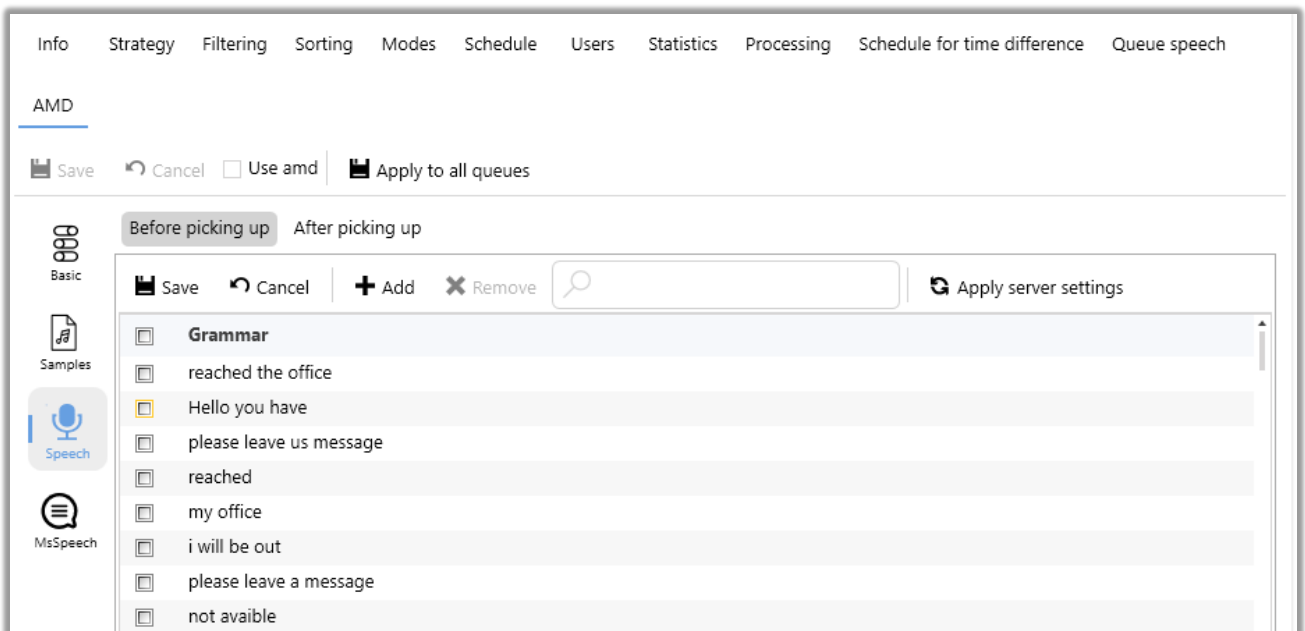
The user's task is to listen, add and remove audio files, thus forming a set of the necessary samples for successful clipping of autoresponders. Practice shows that usually 40-60 selected samples are enough to successfully cut off most autoresponders.

Recording of sample audio files for AMD, which will be used as references for answering machines, is always done automatically when "Use AMD" mode is active on the queue and "pre- or post-raise" check is enabled. The clips are saved by the Asterisk server to the directory: ...\\AMD\\Resources\\tmp in the microservice.

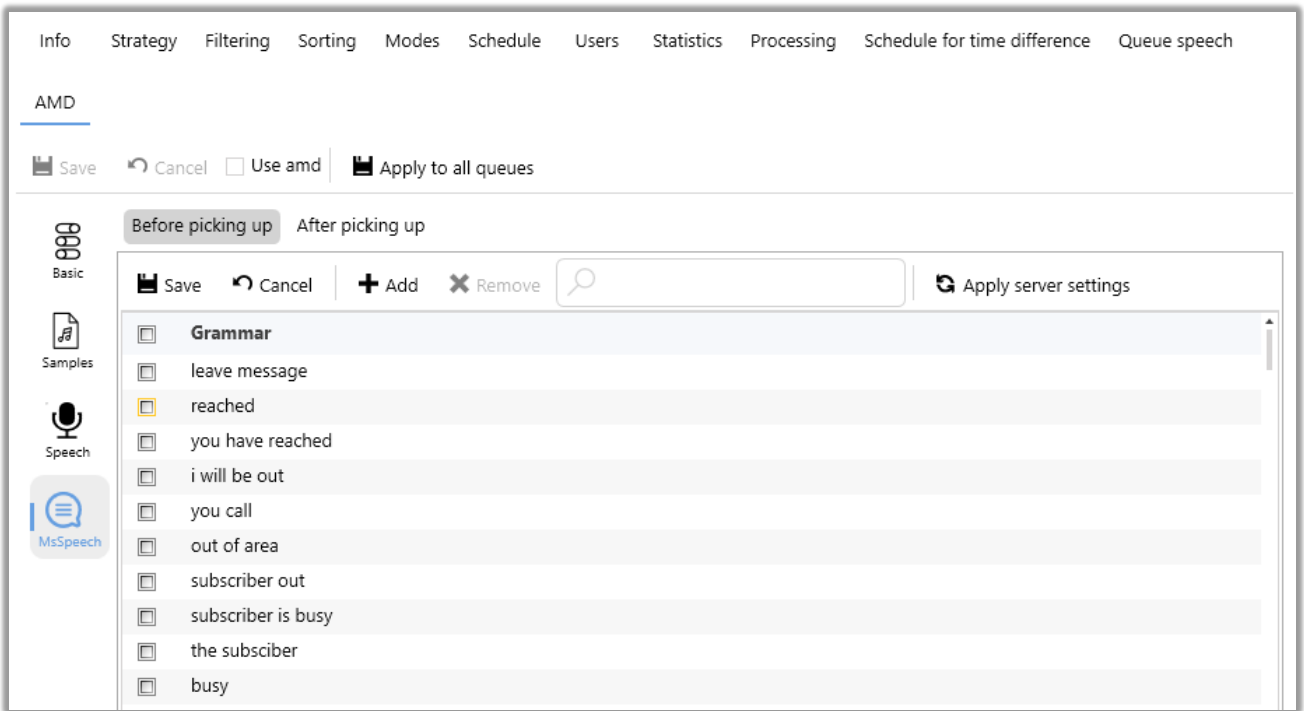
The file name will contain the name of the channel, trunk from which the call was made, the name of the selected mode, and the ID of the pre- or post-raise recording.

To upload a new sample, go to the "Samples" section and click the "Add" button. Then, in the opened window, select the necessary audio file from the file system. After a successful upload, the entry will be displayed in the list of samples.

12. [Speech] — the list of text grammars that will be used when checking for an answering machine. Grammar is a library of words used to represent speeches in a caller's answering machine audio recording. The system recognizes the grammar text and compares it with the audio track when making a call. Text grammars are added and configured separately before and after picking up the handset, on the respective tabs. When working with these text grammars, the system uses the standard library of supported languages, which is built into the Windows system by default and does not require additional configuration.



13. [MsSpeech] — a list of text grammars that will be used when checking for an answering machine. On the "Before picking up" and "After picking up" tabs, you can configure the respective grammars for checking before and after picking up the handset. When working with text grammars, an extended language library is used, which needs to be installed and configured separately by the development team. This library provides support for a wider range of languages.



Through this block, the user can work with grammars in the system: add, edit and delete.

"Apply server settings" — after saving, the user can apply the changes made to the grammars on the Delta Tel server.

IMPORTANT: at the moment of answering machine check, the system compares the added references (answering machines, grammars) in the Delta Tel Client interface with the clips of answering machines that are written in real time in the ...\\AMD\\Resources\\tmp folder in the microservice.

3.2 Online

The "Online" tab provides the user with information to monitor the work of operators in real time. It consists of six internal tabs: "Autodial", "User Statuses", "Trunks", "User in break", "Queue Status".

3.2.1 Autodial



This tab displays information on calls and work with chats in real time, with the ability to select the display both for all queues and selectively for each individual queue (by selecting the required queue from the drop-down list in the "Select queue" parameter).

The tab consists of four conditional blocks: "Operators", "Information", "Sets" and "Chats".

The "Operators" block displays information on the operators currently in the system, as well as their statuses (the color of the operator changes depending on the status change).

There are two types of displaying information on operators in the system: basic and expanded. The button for changing the display type of the block is located below it on the left side.

The basic view is presented in the form of tiles with brief information about the operator, which will be highlighted in a color corresponding to his status.

Queue	Trunk	Operator	Phone	Type of dial	Call duration	Finish reason
PreCollection Мобильный	intell	77055		OutAuto	00:01:05	DontAnswer
DialerSkill	intell	77755		OutAuto	00:01:05	DontAnswer
PP	intell	77079		OutAuto	00:01:03	Empty
_Lite_RB Pre-Collection_Other	intell	77172		OutAuto	00:01:02	DontAnswer
Solva_Lite_RBK Pre-Collection_Other	intell	77277		OutAuto	00:01:00	Empty
PP	intell	77028		OutAuto	00:00:58	Empty
PP	intell	77769		OutAuto	00:00:57	Empty
DialerSkill 1 Other	intell	77277		OutAuto	00:00:57	Empty
DialerSkill 1 Other	intell	77273		OutAuto	00:00:57	Empty
_Lite_RB Pre-Collection	intell	77756		OutAuto	00:00:55	Empty
DialerSkill 1	intell	77000		OutAuto	00:00:54	Empty
PreCollection Мобильный	intell	77012		OutAuto	00:00:48	WrongNumber

If an expanded view (table view) is selected, then the information in the block



will be presented in the form of a table, where the following columns are located:

The screenshot displays a software interface with a table of operator statuses and a call log below it. The table has columns for Operator, Sip, Groups of user, Operator status, Queues, Time in status, Type, Incoming, Outgoing, and Manual. The call log table has columns for Dial id, Call start, Call status, Queue, Trunk, Operator, SIP, Phone, Type of dial, Call duration, and Finish reason.

Operator	Sip	Groups of user	Operator status	Queues	Time in status	Type	Incoming	Outgoing	Manual
Yerlan	136		Рабочие вопросы	Skip t...	01:20:13		0	0	0
Algerim	133		Ручные очереди	PreColl-Coll RR Мо...	00:18:21		0	155	0
Aimur	13	Ан	Рабочие вопросы	PreColl-Coll RR Мо...	00:58:01		0	158	3
Zhanna	155	RB	Заполняет карточку	Lite_RB Pre...	00:00:01		0	465	0
Dias	140		Перерыв	Lite_RB Pre...	00:13:42		0	456	0
Aidar	142	Дайлер 1	Рабочие вопросы	DialerSkill 1	00:00:24		0	226	0
Altynay	137		В ожидании	DialerSkill 1 Dial...	00:00:33		0	249	0
Nazym	132	Входящая	В ожидании	Входящая DCA и д...	00:03:15		219	22	0
Maira	129		Ручные очереди	Входящая Light...	00:00:07		15	150	5
Kuanysh	155	Дайлер 1	В ожидании	DialerSkill Dial...	00:02:12		0	264	0
Araily	156	RB	В ожидании	Lite_RB	00:00:16		0	483	0
Ayaulym	142		Рабочие вопросы	DialerSkill 2	00:32:20		0	116	2
Самал	104		Рабочие вопросы	Входящая Light...	00:05:19		31	136	11
Али	106		Ручные очереди	Входящая Light...	00:00:34		8	163	8
Aibek	114	Aibek M	Рабочие вопросы	RESTRUCT Mobil...	00:14:56		0	104	1
Moldir	136	Ан	Ручные очереди	PreColl-Coll RR Мо...	00:29:34		0	151	0
Almas	131		Ручные очереди	Входящая Light...	00:00:07		22	164	5
Makhabbat	155		В ожидании	Pre Collection	00:01:20		0	331	0
Yernar B	156		В ожидании	PreCollection	00:00:47		0	304	0

Dial id	Call start	Call status	Queue	Trunk	Operator	SIP	Phone	Type of dial	Call duration	Finish reason
2127	16.02.2024 16:57:49	Finished	DialerSkill 1	intell			774768	OutAuto	00:01:08	WrongNumber
2127	16.02.2024 16:57:55	Finished	DialerSkill 1	intell			774739	OutAuto	00:01:05	DontAnswer
2127	16.02.2024 16:57:55	Finished	DialerSkill 1 Other	intell			772223	OutAuto	00:01:02	DontAnswer
2127	16.02.2024 16:57:56	Finished	DialerSkill 1 Other	intell			772525	OutAuto	00:01:02	DontAnswer
2127	16.02.2024 16:57:59	Started	PreCollection Мобильный	intell			770551	OutAuto	00:01:02	Empty
2127	16.02.2024 16:57:59	Started	DialerSkill 1	intell			777554	OutAuto	00:01:02	Empty
2127	16.02.2024 16:58:02	Started	PP Низкий Чек	intell			770795	OutAuto	00:00:59	Empty
2127	16.02.2024 16:58:02	Started	Lite_RB Pre-Collection_Other	intell			771725	OutAuto	00:00:59	Empty
2127	16.02.2024 16:58:05	Started	DialerSkill 1 Pre-Collection_Other	intell			772779	OutAuto	00:00:56	Empty
2127	16.02.2024 16:58:07	Started	PP Низкий	intell			770280	OutAuto	00:00:54	Empty
2127	16.02.2024 16:58:08	Started	PP Низкий	intell			777690	OutAuto	00:00:53	Empty
2127	16.02.2024 16:58:08	Started	DialerSkill	intell			772778	OutAuto	00:00:53	Empty

- **"Operator"** — displaying the user's full name.
- **"Sip"** — displaying the user's Sip number.
- **"Groups"** — a list of all groups of operators in which this user is a member.
- **"Operator status"** — displaying the status in which the user is located.
- **"Queues"** — displaying the queue in which the user is located.
- **"Time in status"** — the time the user was in the status.
- **"Incoming calls"** — the number of received incoming calls per user. Only calls are counted where the handset was lifted and OperatorId assigned.
- **"Outgoing calls"** — the number of outgoing calls of the user, where there was a connection with the subscriber.
- **"Outgoing manual calls"** — the number of manual calls made by the operator via PjPhone. Calls made using ClickToCall are not taken into account.

The "Information" block displays general information on received/missed calls, information on calls and operators for all queues or one selected one, information on IVM operation and SLA (Service Level Agreement) indicators. The user can choose to display information only for the queues of interest. Here are the following indicators:

The screenshot shows the Delta Tel software interface. At the top, there are tabs for 'Auto dial', 'User statuses', 'Trunks', 'Users in break', and 'Queues status'. Below these is a table with columns: Operator, Sip, Groups of user, Operator status, Queues, Time in status, Type, Incoming, Outgoing, and Manual. The table lists various operators and their current status and queue assignments. Below the table is a summary bar for 'All queues' showing statistics like 50 operators, 4 online, 0 offline, 17 on break, 0 on lunch, 214775 total calls, 274 missed, and 127 in progress. It also shows SLA indicators (22%, 95%, 3%, 1%, 3%) and call volume (1008 incoming, 10838 outgoing, 19 manual). At the bottom is a call log table with columns: Dial id, Call start, Call status, Queue, Trunk, Operator, SIP, Phone, Type of dial, Call duration, and Finish reason.

Operator	Sip	Groups of user	Operator status	Queues	Time in status	Type	Incoming	Outgoing	Manual
Yerlan	136		Рабочие вопросы	Skip t...	01:20:13		0	0	0
Aigerim	133		Ручные очереди	PreColl-Coll RR Mo...	00:18:21		0	155	0
Aimur	13	Ан	Рабочие вопросы	PreColl-Coll RR Mo...	00:58:01		0	158	3
Zhanna	155	RB	Заполняет карточку	Lite_RB Pre...	00:00:01		0	465	0
Dias	140		Перерыв	Lite_RB Pre...	00:13:42		0	456	0
Aidar	142	Дайлер 1	Рабочие вопросы	DialerSkill 1	00:00:24		0	226	0
Altynay	137		В ожидании	DialerSkill 1 Dial...	00:00:33		0	249	0
Nazym	132	Входящая	В ожидании	Входящая DCA и д...	00:03:15		219	22	0
Maira	129		Ручные очереди	Входящая Light...	00:00:07		15	150	5
Kuanysh	155	Дайлер 1	В ожидании	DialerSkill Dial...	00:02:12		0	264	0
Araily	156	RB	В ожидании	Lite_RB	00:00:16		0	483	0
Ayaulym	142		Рабочие вопросы	DialerSkill 2	00:32:20		0	116	2
Самал	104		Рабочие вопросы	Входящая Light...	00:05:19		31	136	11
Али	106		Ручные очереди	Входящая Light...	00:00:34		8	163	8
Aibek	114	Aibek M	Рабочие вопросы	RESTRUCT Mobil...	00:14:56		0	104	1
Moldir	136	Ан	Ручные очереди	PreColl-Coll RR Mo...	00:29:34		0	151	0
Almas	131		Ручные очереди	Входящая Light...	00:00:07		22	164	5
Makhabbat	155		В ожидании	Pre Collection	00:01:20		0	331	0
Yernar B	156		В ожидании	PreCollection	00:00:47		0	304	0

Dial id	Call start	Call status	Queue	Trunk	Operator	SIP	Phone	Type of dial	Call duration	Finish reason
2127	16.02.2024 16:57:49	Finished	DialerSkill 1	intell			774768	OutAuto	00:01:08	WrongNumber
2127	16.02.2024 16:57:55	Finished	DialerSkill 1	intell			774739	OutAuto	00:01:05	DontAnswer
2127	16.02.2024 16:57:55	Finished	DialerSkill 1 Other	intell			772223	OutAuto	00:01:02	DontAnswer
2127	16.02.2024 16:57:56	Finished	DialerSkill 1 Other	intell			772525	OutAuto	00:01:02	DontAnswer
2127	16.02.2024 16:57:59	Started	PreCollection Мобильный	intell			770551	OutAuto	00:01:02	Empty
2127	16.02.2024 16:57:59	Started	DialerSkill 1	intell			777554	OutAuto	00:01:02	Empty
2127	16.02.2024 16:58:02	Started	PP Низкий Чек	intell			770795	OutAuto	00:00:59	Empty
2127	16.02.2024 16:58:02	Started	Lite_RB Pre-Collection_Other	intell			771725	OutAuto	00:00:59	Empty
2127	16.02.2024 16:58:05	Started	Lite_RB Pre-Collection_Other	intell			772779	OutAuto	00:00:56	Empty
2127	16.02.2024 16:58:07	Started	PP Низкий	intell			770280	OutAuto	00:00:54	Empty
2127	16.02.2024 16:58:08	Started	PP Низкий	intell			777690	OutAuto	00:00:53	Empty
2127	16.02.2024 16:58:08	Started	DialerSkill	intell			772778	OutAuto	00:00:53	Empty

- **"Online"** — displays the number of operators who are online (Offline status is not selected). Information is displayed for the selected queue.
- **"Break\Lunch"** — displays the number of users who are on break or lunch. This parameter is linked to the "Break" and "Lunch" statuses. More details are displayed on the Breaks Dashboard tab.
- **"Pending"** — the number of users who are waiting for a call.
- **"In talk"** — the number of users who are in a conversation (there was a connection with the subscriber). All types of calls are taken into account.
- **"Total number of incoming calls"** — the total number of received calls



during the operation of the queues.

- **"Calls without talk to operator"** — displaying the number of unsuccessful calls where there was no connection with the operator (OperatorId was not assigned).
- **"IVM (number of calls in queue)"** — displays the number of clients that are currently on the IVM. This indicator can be taken into account when setting up the queue, since it displays the number of clients that are waiting for a connection with the operator. And according to this adjust the number of sets for the queue.
- **"Calling amount"** — displays the number of ongoing calls at the moment (calls with the status "Calling").
- **"Incoming without operator connection \ All income"** — display as a percentage of incoming calls without connection to the operator to the total number of incoming calls.
- **"Automatic actions without operators\ All automatic actions"** — displays the percentage of callers that were not connected to an operator. It is counted as the total number of unsuccessful automatic calls where the subscriber was not connected to the operator (the operator id was not assigned), divided by all automatic calls.
- **"Dropped IVMs \ all calls"** — display as a percentage of the number of IVMs dropped from the total number of calls.
- **"Received calls in 10 seconds \ All received calls (SLA 10)"** — displays the percentage of calls from the total number of incoming calls that were received in 10 seconds or less.
- **"Received calls in 20 seconds \ All received calls (SLA 20)"** — displays the percentage of calls from the total number of incoming calls that were received from 10 to 20 seconds or more.
- **"Received income"** — the number of received incoming calls.
- **"Outgoing calls made"** — the number of outgoing calls made.
- **"In the queue of missed"** — the number of items in the queue for missed



calls.

- **"Answered in up to 5 seconds \ All answered calls"** — display as a percentage of the rate of acceptance by operators of calls from the total number in 5 seconds.
- **"Answered between 5 and 10 sec \ All answered calls"** — display as a percentage of the rate of acceptance by operators of calls from the total number between 5 and 10 seconds.
- **"Answered between 10 and 15 sec \ All answered calls"** — display as a percentage of the rate of acceptance by operators of calls from the total number between 10 and 15 seconds.
- **"Answered between 15 and 20 sec \ All answered calls"** —display as a percentage of the rate of acceptance by operators of calls from the total number between 15 and 20 seconds.
- **"Answered between 20 and 25 sec \ All answered calls"** — display as a percentage of the rate of acceptance by operators of calls from the total number between 20 and 25 seconds.
- **"Answered more than 25 seconds \ All answered calls"** — display as a percentage of the rate of acceptance by operators of calls from the total number of more than 25 seconds.

The "Dials" block displays all telephone numbers in the queue that the system dials or that arrive for the incoming line, and information on them.

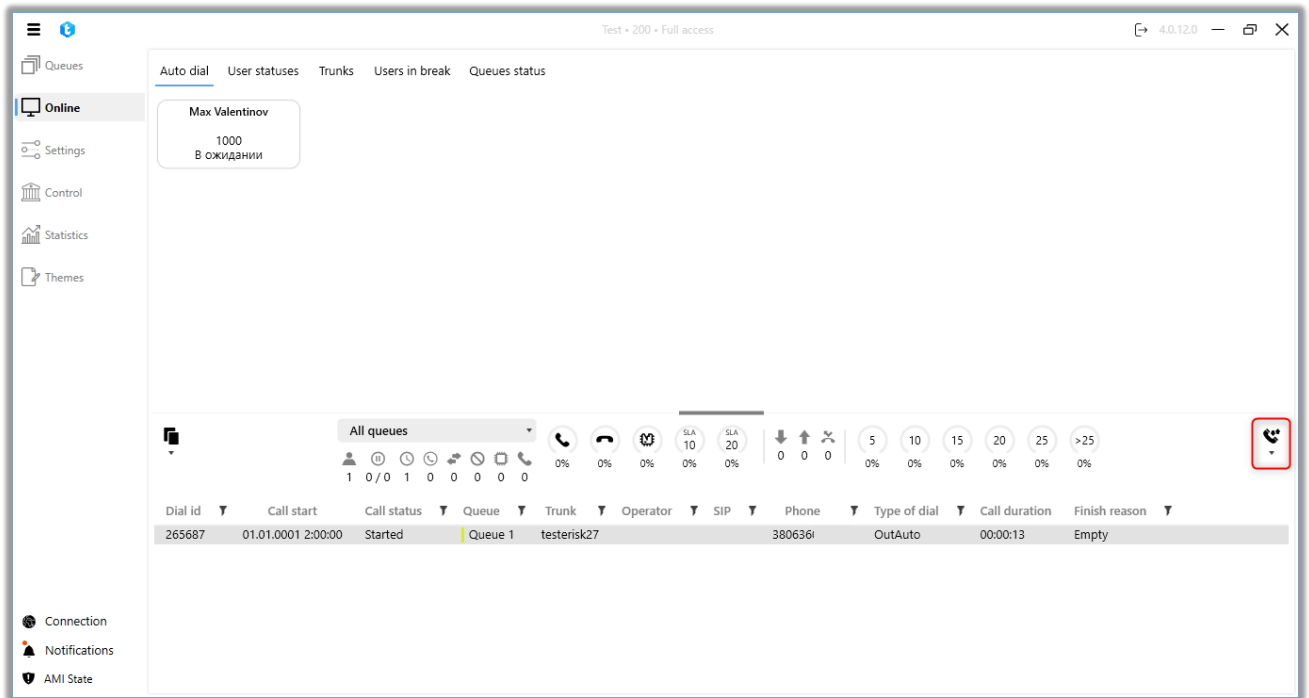
Dial id	Call start	Call status	Queue	Trunk	Operator	SIP	Phone	Type of dial	Call duration	Finish reason
2127	16.02.2024 16:57:49	Finished	DialerSkill 1	intell			774768	OutAuto	00:01:08	WrongNumber
2127	16.02.2024 16:57:55	Finished	DialerSkill 1	intell			774739	OutAuto	00:01:05	DontAnswer
2127	16.02.2024 16:57:55	Finished	DialerSkill 1 Other	intell			772223	OutAuto	00:01:02	DontAnswer
2127	16.02.2024 16:57:56	Finished	DialerSkill 1 Other	intell			772525	OutAuto	00:01:02	DontAnswer
2127	16.02.2024 16:57:59	Started	PreCollection Мобильный	intell			770551	OutAuto	00:01:02	Empty
2127	16.02.2024 16:57:59	Started	DialerSkill 1	intell			777554	OutAuto	00:01:02	Empty
2127	16.02.2024 16:58:02	Started	PP Низкий Чек	intell			770795	OutAuto	00:00:59	Empty
2127	16.02.2024 16:58:02	Started	Lite_RB Pre-Collection_Other	intell			771725	OutAuto	00:00:59	Empty
2127	16.02.2024 16:58:05	Started	Lite_RB Pre-Collection_Other	intell			772779	OutAuto	00:00:56	Empty
2127	16.02.2024 16:58:07	Started	PP Низкий	intell			770280	OutAuto	00:00:54	Empty
2127	16.02.2024 16:58:08	Started	PP Низкий	intell			777690	OutAuto	00:00:53	Empty
2127	16.02.2024 16:58:08	Started	DialerSkill	intell			772778	OutAuto	00:00:53	Empty



- **"Dial Id"** — a unique id that is assigned to each call made in the database.
- **"Call start"** — display the date and time of the start of the call.
- **"Call status"** — displaying the status in which the call is located.
- **"Queue"** — the name of the queue.
- **"Trunk"** — displays the name of the utilized trunk and the number to which the incoming call is directed. It is important to note that the incoming line number will only be displayed if the provider includes this information in the "Exten" field when receiving the "NewCallerid" event from the Asterisk server.
 - **"Trunk"** — display the name of the used trunk.
 - **"Operator"** — displaying the user's full name.
 - **"SIP"** — display the user's SIP number.
 - **"Phone"** — display the phone number.
 - **"Type of dial"** — displays the type of call. The corresponding types are taken from the database table "EnumTypeOfDial", where: "In" - incoming call; "Out" - outgoing manual call; "Out Auto" - outgoing automatic dialing.
 - **"Call duration"** — displaying the duration of the call.
 - **"Finish reason"** — reasons for terminating the call. This column displays the FinishReason sent by the Asterisk server. The "Empty" value will be displayed until a new value is received from the telephony server, no more than after the specified time for a dialing attempt in the strategy ("Connection time" parameter).

If the basic type of displaying information in the "Auto redial" window is selected, then some of the columns will be hidden.

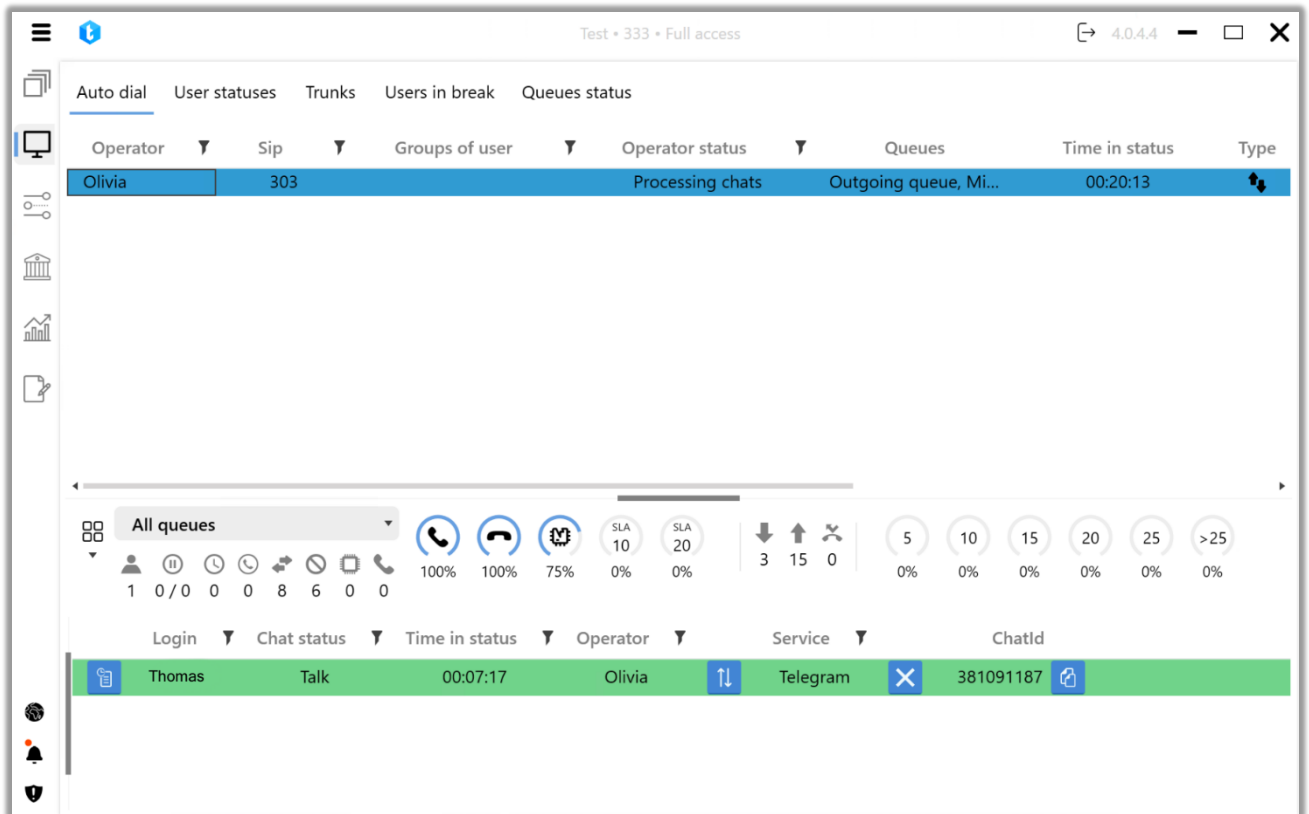
On the "Auto dial" tab you can switch between three types of displaying calls and chats in the "Dials" block. This setting is available only if you have access to work with chats in your license.



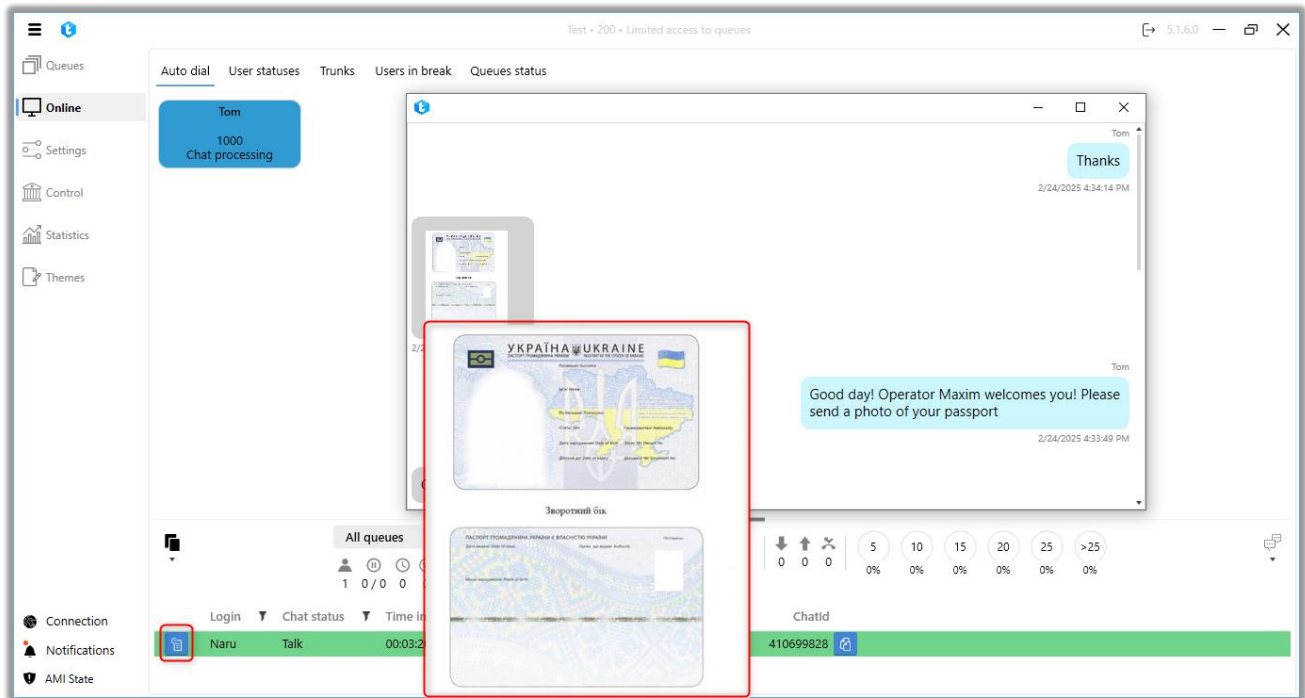
Three display types are available:

-  — display only calls;
-  — display calls and chats;
-  — display only chats.

When you switch to displaying chats, the "Chats" block displays all chats in the queues and information about them. The information is presented in the form of a table, where:



"Display" — a button for viewing a chat, if you press on it, a window for viewing the correspondence history for the selected active chat opens. Viewing of sent images and media files is also available: hovering the cursor over an image thumbnail displays a larger version of the image in the chat. This allows the user to quickly view the content without the need to download files, which, in turn, provides increased security of customers' personal data. The enlarged image is displayed at the size set by the system, providing a convenient way to view information that may not be visible in the thumbnail.



"Login" — displaying the user's full name.

"Chat Status" — displays the current chat status. There are following statuses:

- "Empty" — empty.
- "Bot" — the subscriber follows a pre-created chat-bot strategy.
- "Wait" — waiting for the next chat.
- "Talk" — chatting between the subscriber and the operator.
- "Finished" — the chat is closed.
- "Omilia" — the chat is processed by a special chat bot "Omilia".

"Time in status" — display of chat processing time.

"Operator" — displaying the user's SIP number.

"Service" — the name of the service or messenger through which the correspondence takes place.

"ChatId" — unique chat id number.

The size of the blocks can be changed if you hold down the left mouse button on a special area (it is highlighted in blue).

Port 49816 must be open to display and update information in the "Auto redial"

tab.

3.2.2 User statuses

The tab displays the statuses of all users and the time spent in this status, operator's SIP, version of the softphone (PjPhone) used, full name and IP address. Operators are grouped according to their status. The line changes its color depending on the current status of the user, as specified in the settings.

Full name	Operator sip	Status	Time	PjPhone version	IP address	
Не запаркован						
Admin	301	Не запаркован	22:50:33			Offline
HPtask	1001	Не запаркован	22:50:33			Offline
SuperUser	-1	Не запаркован	22:50:33			Offline
Work issues						
Tom	1000	Work issues	00:00:43	4.1.1.0	http://192.168.0.9:17001	Offline

The "Offline" button allows you to change the status of the selected operator to "Offline" in PjPhone. After that, you should confirm this action in the opened window.



Test • 200 • Limited access to tabs and/or queues 4.1.1.0

Auto dial User statuses Trunks Users in break Queues status

Full name	Operator sip	Status	Time	PjPhone version	IP address
Не запаркован					
Admin	301	Не запаркован	22:50:53		
HPtask	1001	Не запаркован	22:50:53		
SuperUser	-1	Не запаркован	22:50:53		
Work issues					
Tom	1000	Work issues	00:01:03	4.1.1.0	http://192.168.0.9:17001

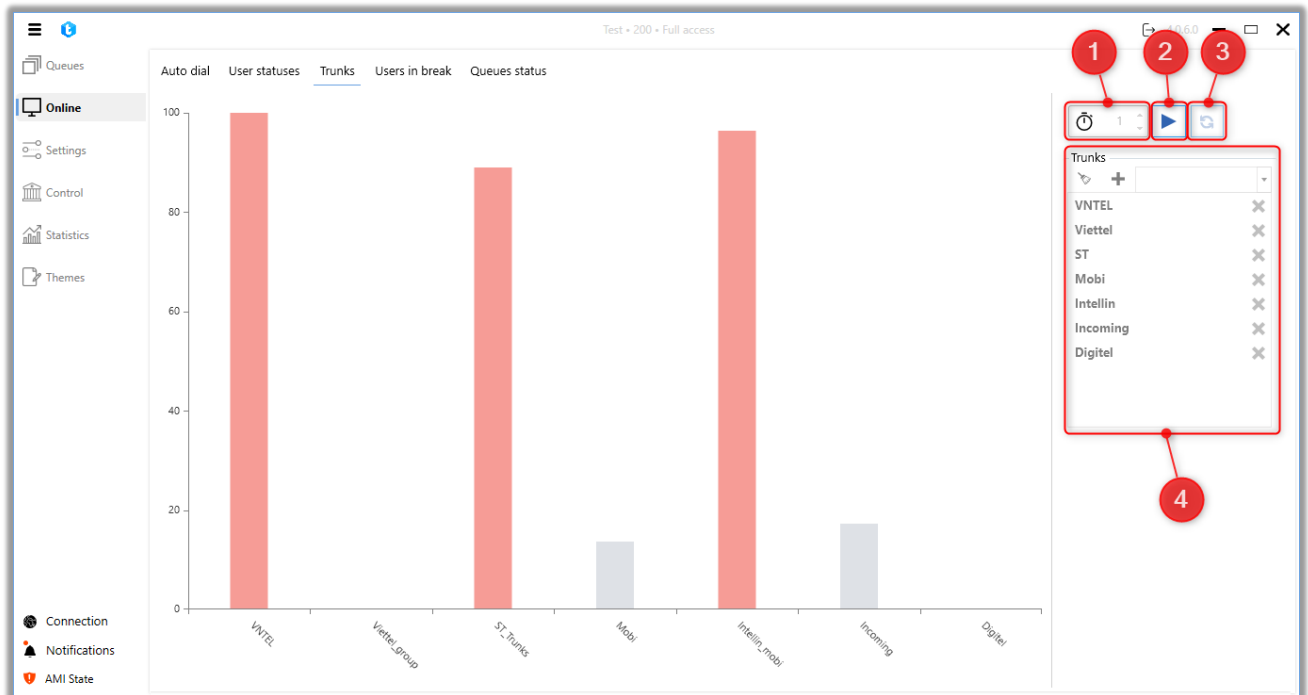
Changing user (1000) status can cause dial drop if its connecting to operator or he is talking right now, proceed?

Yes No

IMPORTANT: Forced change of the user status may cause dialing and connection failure, if at this moment the number is being dialed or the operator is already in a call. The reason for call termination will be "DestinationHangUp" or "CallerHangUp" if the connection with the operator has already been established.

3.2.3 Trunks

This tab displays all available trunks in the system and their load. The load for each individual trunk is displayed as a percentage from 0 to 100, depending on the number of communication lines in use at the moment. Additionally, the color of the trunk display changes based on its load.

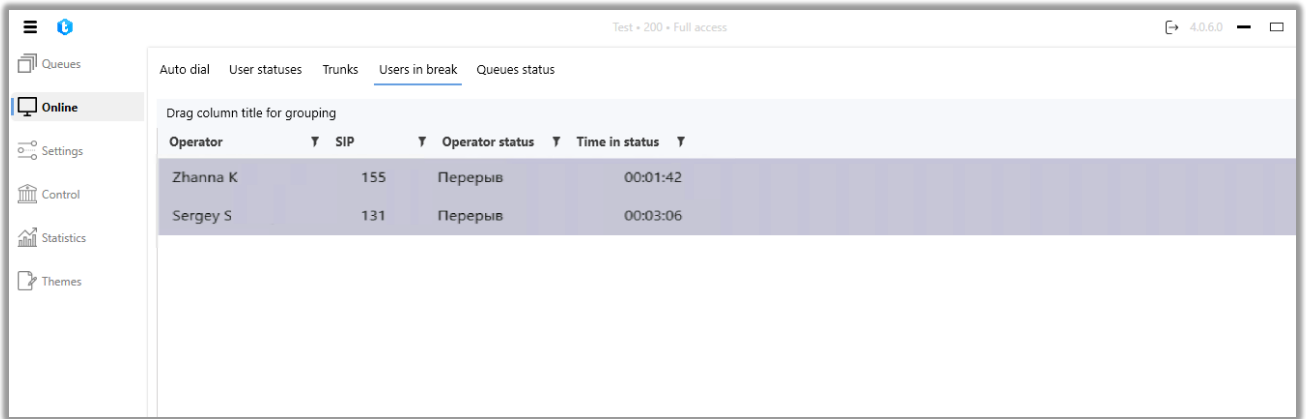


The sidebar of the tab contains the following control elements:

1. "Timer" — allows you to set a time interval for automatically updating the information on the load of selected trunks and trunk groups.
2. "Play" — initiates the display of the load on the selected trunks and trunk groups according to the set timer.
3. "Refresh" — displays and updates the load on the added trunks and trunk groups at the current moment.
4. List of added trunks and trunk groups for display. Trunks and trunk groups are displayed as a dropdown list, where you can select the desired ones and add them to the display list using the "+" button. To remove an item, select it and click the "x" button. The "Clean" button allows you to clear the list of added elements.

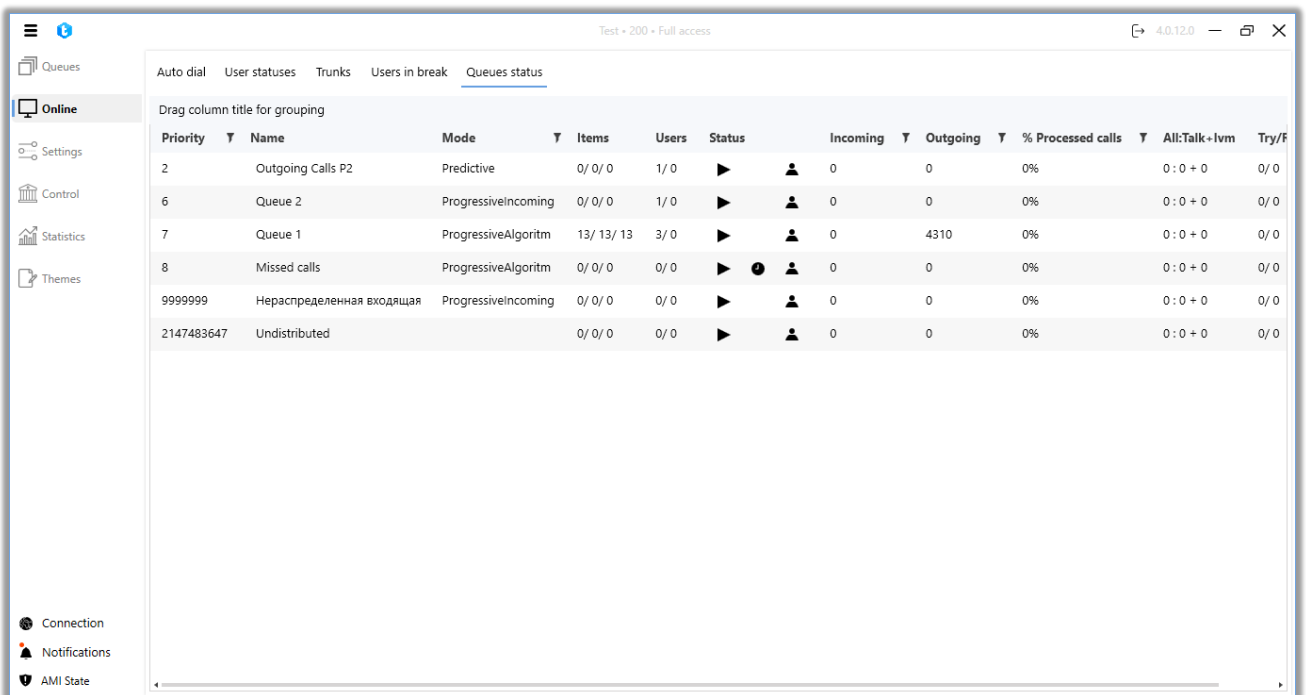
3.2.4 Users in break

This dashboard displays the amount of time users spent in the Break or Lunch status. It is also possible to filter them by columns.



3.2.5 Queue status

This tab displays basic information about the operation and status of all queues in the form of a table. When working with a tab, you can use the grouping filter by headings by dragging the column of interest to the grouping field to make a quick comparison by the selected parameter. For example: sort the queues according to the algorithm used in their work by dragging the "Algorithm" column. Sorting is reset when switching to other tabs.





The tab displays the following columns:





- **"Priority"** — shows the number that determines the priority of the queue, which determines which queue the element will fall into, in the case when the same entry conditions are configured in two queues.
 - **"Name"** — the name of the queue and its color (if it is selected in the queue settings).
 - **"Mode"** — the selected mode, according to which sets are made in the queue.
 - **"Items"** — total number of elements / number of elements that have rung / number of elements waiting to be called.
 - **"Users"** — the number of assigned / active users in the queue.
 - **"Status"** — displays statuses with interactive indicators informing about possible problems for the queue.


This column displays 5 types of statuses:

1) Status  — indicates that the queue is not active. When you click on it, you will be taken to the window for working with queues (the selected queue will be highlighted);

2) Status  — indicates that this queue is not scheduled. Clicking on it will take you to the work tab with its schedule;

3) Status  — indicates that there are no active users in the queue. When you click on it, you will go to the tab for working with users for this queue.

4) Status  — indicates the presence of errors in the sorting settings. When you click on it, you will go to the work tab with sorting elements for this queue.

5) Status  — signals from an incorrectly created strategy. Clicking on this status will take you to setting up the queue strategy. Additionally, the warning "BrokenStrategy" will be displayed in the list of queues for such a strategy.

- **"Incoming"** — the number of incoming calls for the queue at the moment.
- **"Outgoing"** — the number of outgoing calls for the queue at the



moment.

- **"% Processed Calls"** — percentage of manual calls so far.
- **"All: Talk + Ivm"** — total number of dials by the system at the moment:

number of clients in conversation + number of clients on IVM.

3.3 Settings

The Settings tab consists of the following internal tabs: "Users", "Groups", "Roles", "Fields", "Projects", "Queues", "Trunks", "Group of trunks", "Operator statuses", "Block list", "Phone types", "Contacts", "Queue groups" and "Server settings".

3.3.1 Users

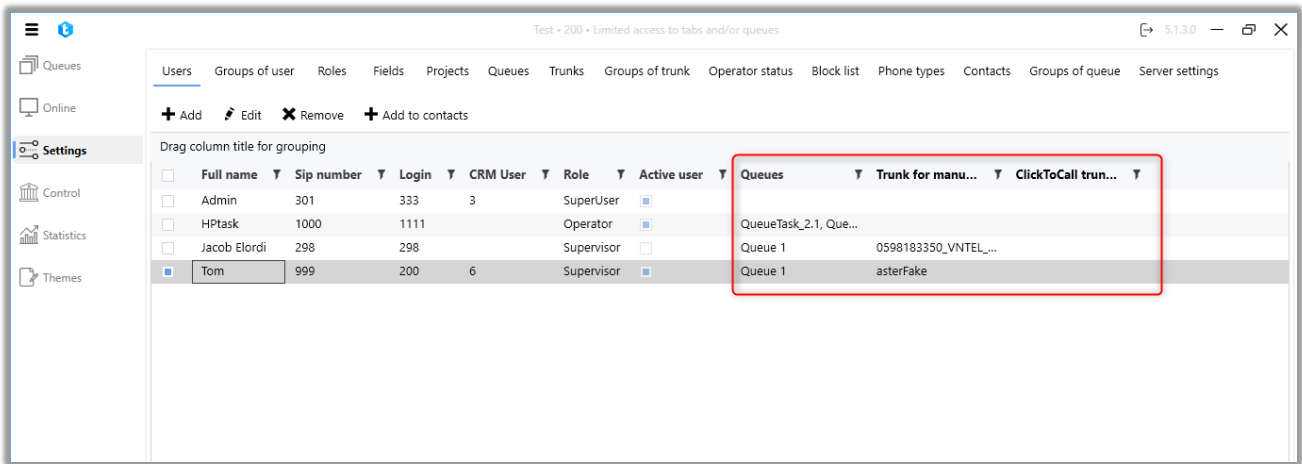
The functionality of this tab allows you to create, delete and edit new user accounts to work in Delta Tel, and represents a table with existing users, their data, and buttons: "Add", "Edit", "Delete" and "Add to contacts".

Each column of the table can be sorted by name by clicking on the column name, after which one of the 3 available groupings will be applied (from greater to lesser, from lesser to greater, by default). Also, the user can filter by values in the cells of the column, where it is necessary to set the necessary parameters and click on "Filter", after which the elements that fit the set filtering parameters will be displayed. By default, the list is sorted in alphabetical order by the "Full name" field.

Full name	Sip number	Login	CRM User	Role	Active user	Queues	Trunk for manu...	ClickToCall trun...
Admin			3	SuperUser	<input checked="" type="checkbox"/>			
HPTask				Operator	<input checked="" type="checkbox"/>	QueueTask_2.1, Que...		
Jacob Elordi				Supervisor	<input type="checkbox"/>	Queue 1	0598183350_VNTEL...	
Tom			6	Supervisor	<input checked="" type="checkbox"/>	Queue 1	asterFake	

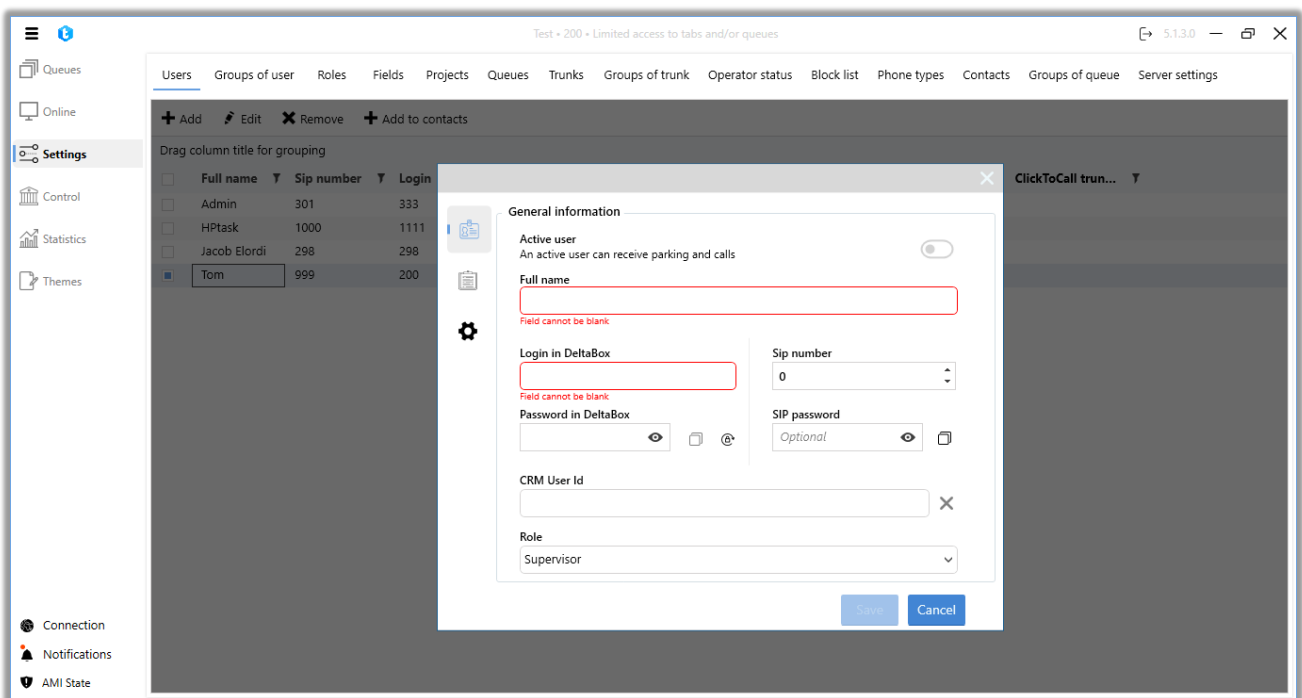
This tab displays a table with a list of system users organized in a column format. In addition to the main information, columns with the following additional data are also displayed:

- "Queues" — displays the list of queues to which this user is assigned.
- "Trunk for manual calls" — displays the trunks that have been assigned to this user for making manual calls via the Click to Call API. The list of available trunks can be customized individually for each user or in the parameters of his role.
- "ClickToCall trunk group nameTrunk for manual calls" — displays the groups of trunks assigned to this user for making manual calls via the Click to Call API. The list of available trunks can be customized individually for each user or in the parameters of his role.



After clicking on the "Add" button, a dialog box opens for the user to enter data about a new account that will be created in the system. The interface for entering user data is divided into two tabs.

The "General Information" tab contains the following options:



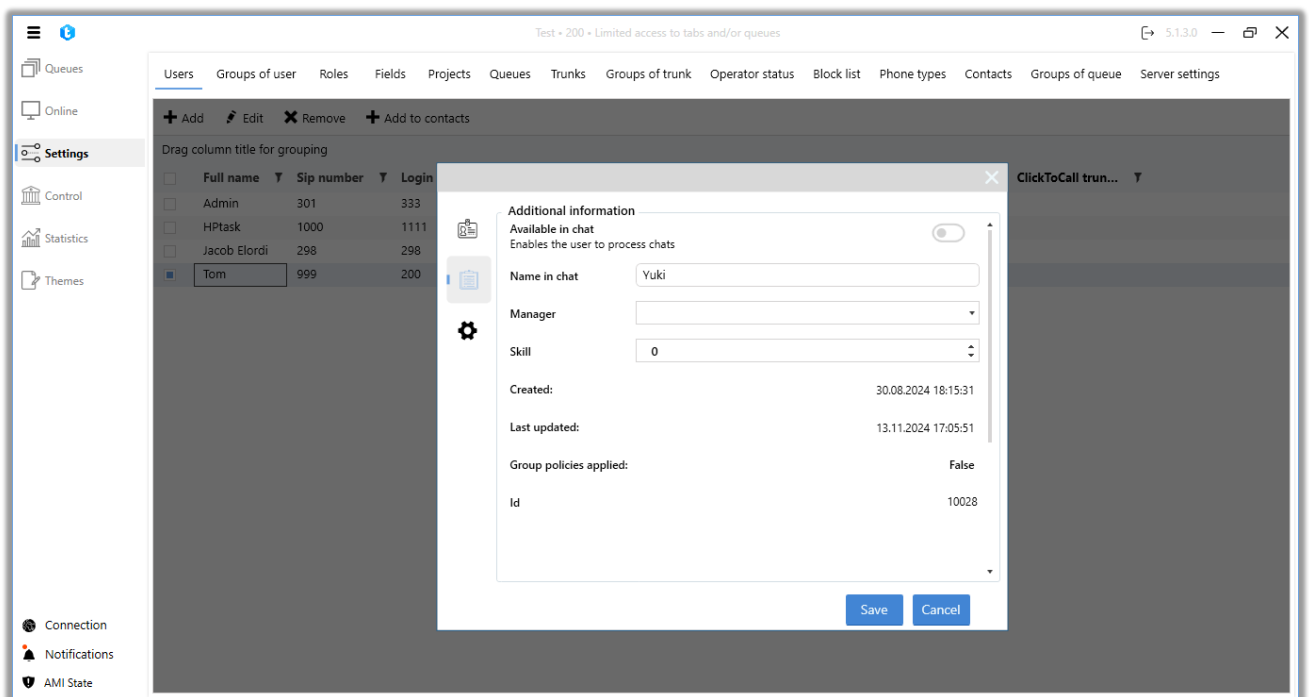
- "Active user" — if this checkbox is not set, then this user cannot be queued for work (it will not be displayed in the list of available ones).
- "Full name" — the user's name is entered. The field is required.
- "Login in DeltaBox" — user login used for authorization, must match the



field "Name" in Delta M CRM. The field is required.

- "Sip number" — determines the SIP telephony number for the employee (configured on the Asterisk server and must match the "Telephony code" field in CRM).
- "Password in DeltaBox" — the user's password for authorization, must match the password in CRM (the password for the SIP account is created on the Asterisk server). Under the password entry block there are two buttons with which you can generate a random password or copy it by clicking the "Generate random password" and "Copy password" buttons, respectively.
- "Sip password" — SIP operator password (optional).
- "CRM user id" — specifying the employee ID in CRM to automatically open cards during a call (must match the UserID that is created by the system in Delta M CRM).
- "Role" — assign this user one of the created roles

On the "Additional Information" tab, the following parameters are configured:

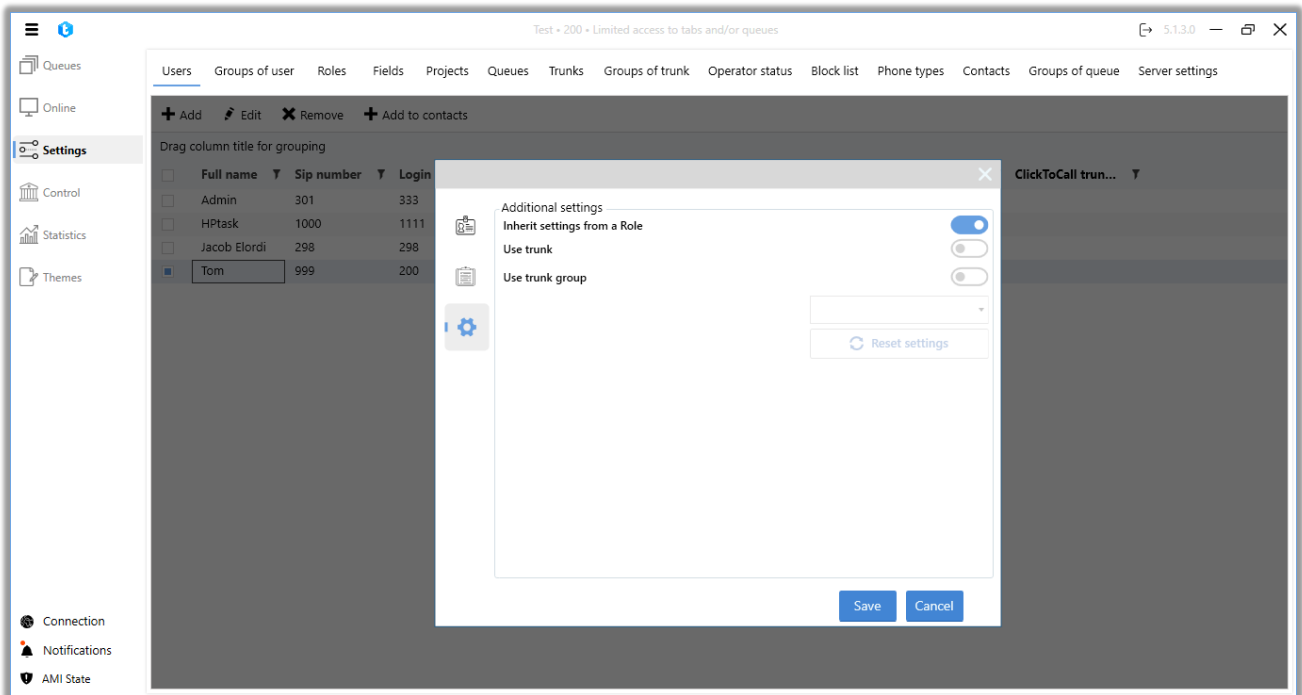




- "Available for chat" — grant access to the user to process chats. This setting works regardless of "Active user".
- "Name in chat" - specifies the name in the chat, which will be displayed when corresponding with clients. If this field is not filled, then the user's "name" will be displayed in the chat.
- "Manager" — assign this user a manager (only users with a role for which the "Is a manager" checkbox is set are available).
- "Skill" — a field in which you can enter the skill level for each agent. Can be used when building a strategy to assign the number of lines per operator depending on this parameter.

After creating a user, the date of its creation ("Created") and the date of the last changes to the profile of the selected user ("Last update"), as well as the user id from the database will be displayed at the bottom of the window. The "Group Policies Applied" item will display the group policy applied to the selected user's rights settings within the "Active Directory". If "No" is displayed in this parameter, it means that the user was created manually.

When Active Directory authorization is enabled, the "GUID" (Globally Unique Identifier) field will be displayed, which contains information about the internal unique identifier of the user in the system. By default, the GUID is written in curly braces and upper case. This field will be available for copying.



The "Advanced Settings" tab is used to set the parameters of trunk usage by the selected user when making manual calls (API Click to Call). The following parameters are available for customization:

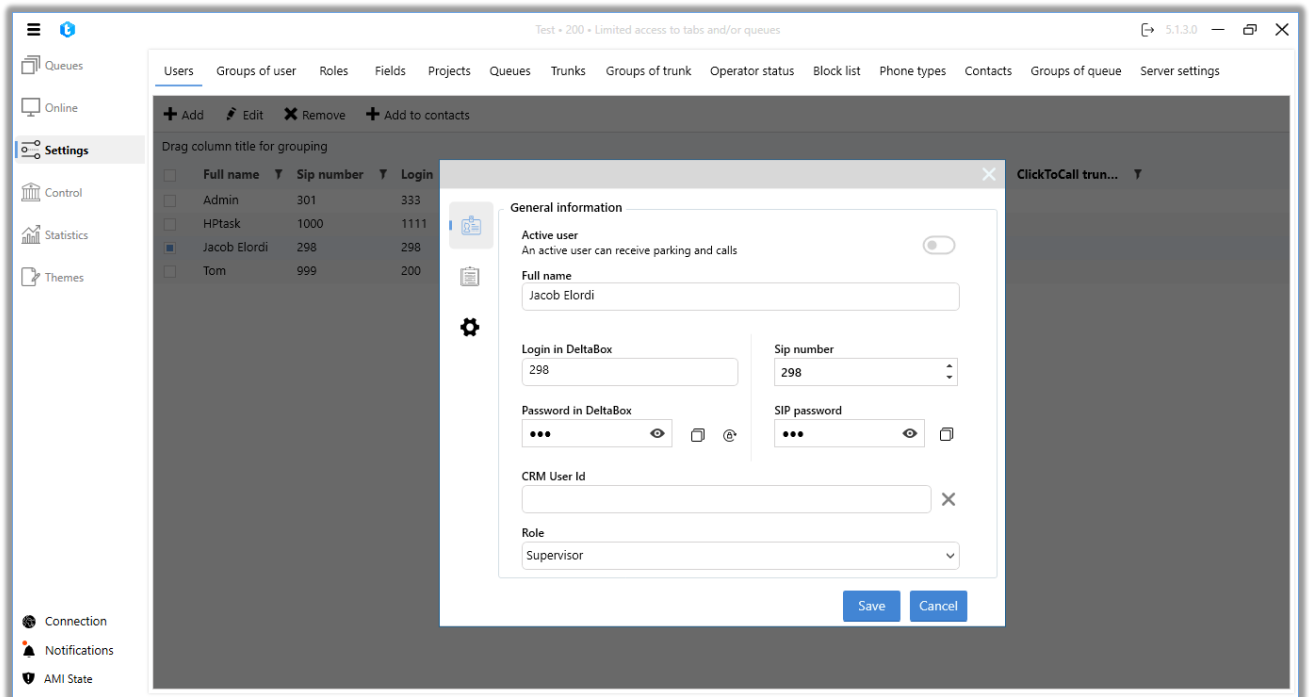
- "Inherit settings from a Role" — when this option is activated, the trunk selection settings for manual calls set in the user's role will be automatically applied to the user. This checkbox is set by default when creating a user.
- "Use trunk" — when this option is activated, the selection of trunk from the drop-down list that will be used by users of this role for manual calls (API Click to Call) becomes available. Only one trunk can be selected.
- "Use trunk group" — if this parameter is active, then it is possible to select the required trunk group from the drop-down list, which will be used when making manual calls (API Click to Call) by users of this group. Only one trunk group can be selected.
- "Reset settings" — button to reset the settings of trunk and trunk group selection parameters.

To save or cancel, press the corresponding buttons. The "Save" button will not



be active if all the required fields have not been filled in.

Already created user accounts can be edited. To do this, select the desired user by clicking the mouse and click on the "Edit" button. The user will be shown a familiar window with editable account fields, as well as information on the date the user was created and the time the user was last edited.



To add users to the contact list, mark them in the user list and click the "Add to Phone book" button, after which a notification will appear about the successful addition of contacts, as well as their number (in brackets).



Test • 200 • Limited access to tabs and/or queues 5.1.3.0

Users Groups of user Roles Fields Projects Queues Trunks Groups of trunk Operator status Block list Phone types Contacts Groups of queue Server settings

+ Add Edit Remove + Add to contacts

Drag column title for grouping

<input type="checkbox"/>	Full name	Sip number	Login	CRM User	Role	Active user	Queues	Trunk for manu...	ClickToCall trun...
<input type="checkbox"/>	Admin	301	333	3	SuperUser	<input checked="" type="checkbox"/>			
<input type="checkbox"/>	HPtask	1000	1111		Operator	<input checked="" type="checkbox"/>	QueueTask_2.1, Que...		
<input checked="" type="checkbox"/>	Jacob Elordi	298	298		Supervisor	<input type="checkbox"/>	Queue 1	0598183350_VNTEL...	
<input type="checkbox"/>	Tom	999	200	6	Supervisor	<input checked="" type="checkbox"/>	Queue 1	asterFake	

Users added to contact list (1)

OK

Connection Notifications AMI State

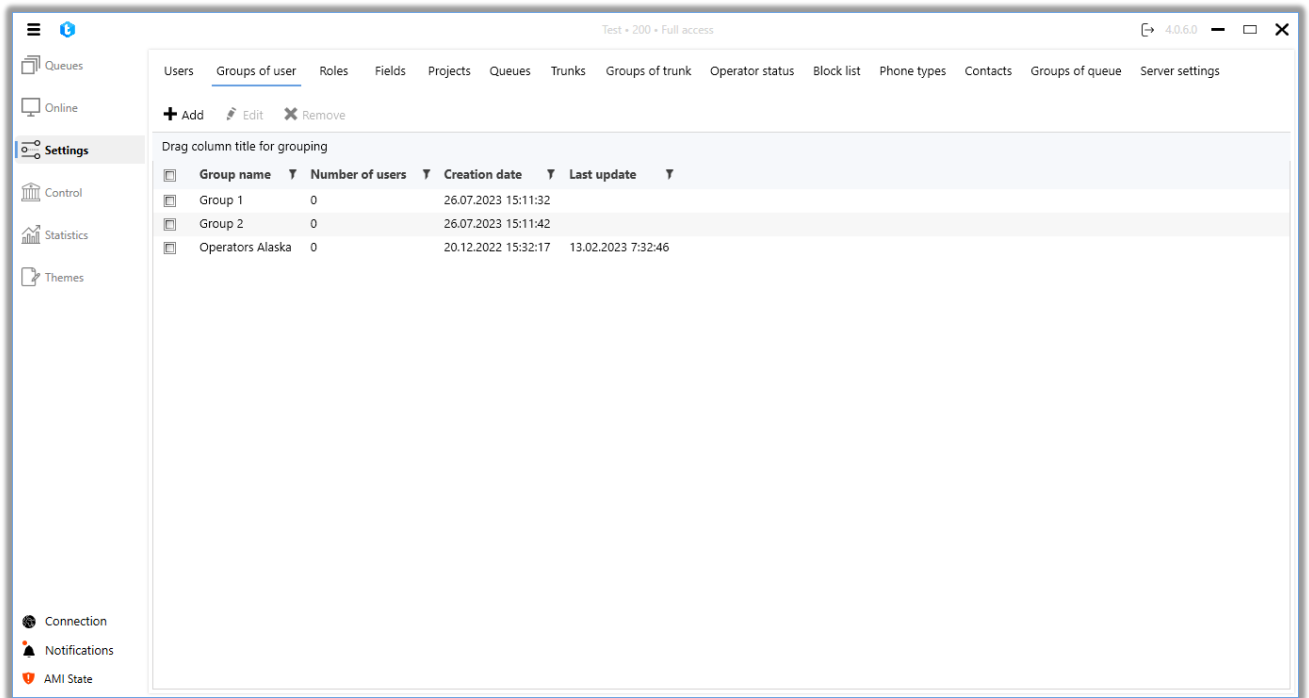
To delete users, it is enough to mark the necessary ones using the checkboxes, then click on the "Remove" button and confirm the selected action in the window asking about deleting.

3.3.2 Groups of user

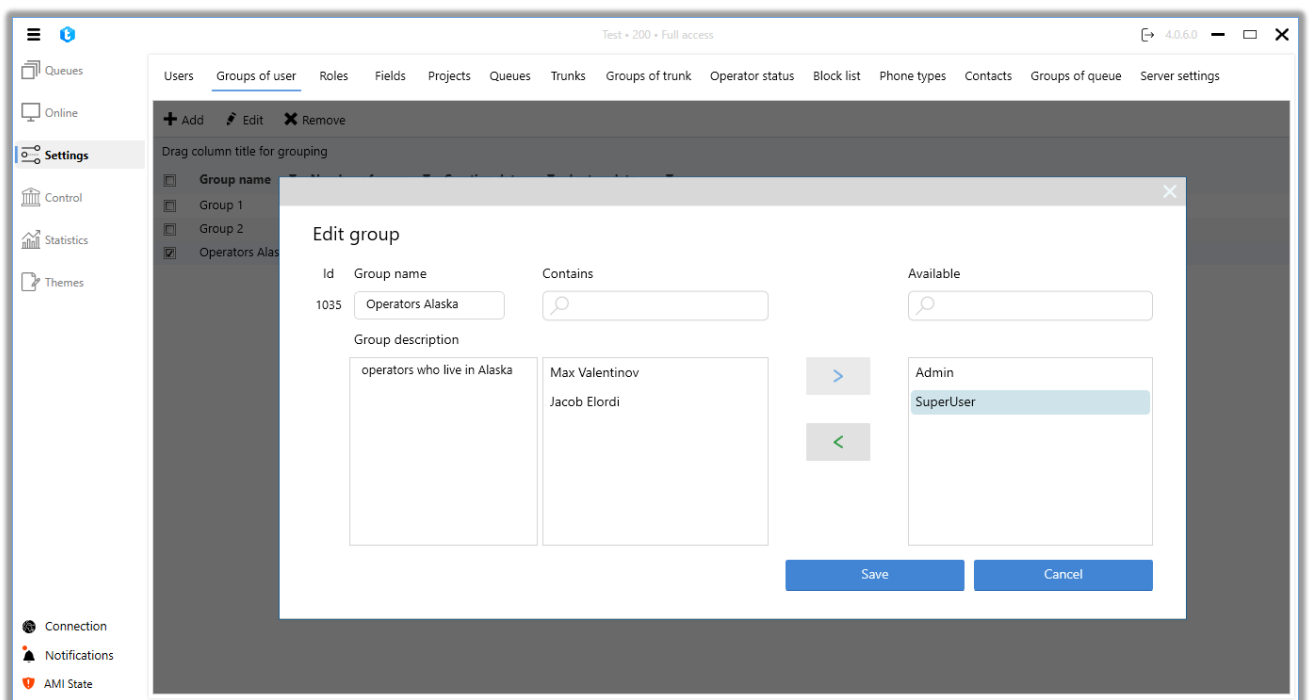
Combining users into groups makes it possible to quickly set up and remove groups of operators for queues. The tab is a table with the corresponding group data, as well as the buttons: "Add", "Edit" and "Remove".

By default, the list is sorted alphabetically by the "Group name" field.

After clicking on the "Add" button, the user is presented with a dialog box for entering data about the group. It is necessary to fill in the following fields: group name, group description, and you also need to add users who will be in this group. Users are added by transferring them from the "Available" block to the "Contains" block. The same user can belong to several groups. To save or cancel, press the corresponding buttons.



It is also possible to edit the group. To do this, select the desired group by clicking the mouse and click on the "Edit" button. The user will be shown a familiar window with editable group fields.



To delete a group or several, it is enough to mark them with a mouse click and



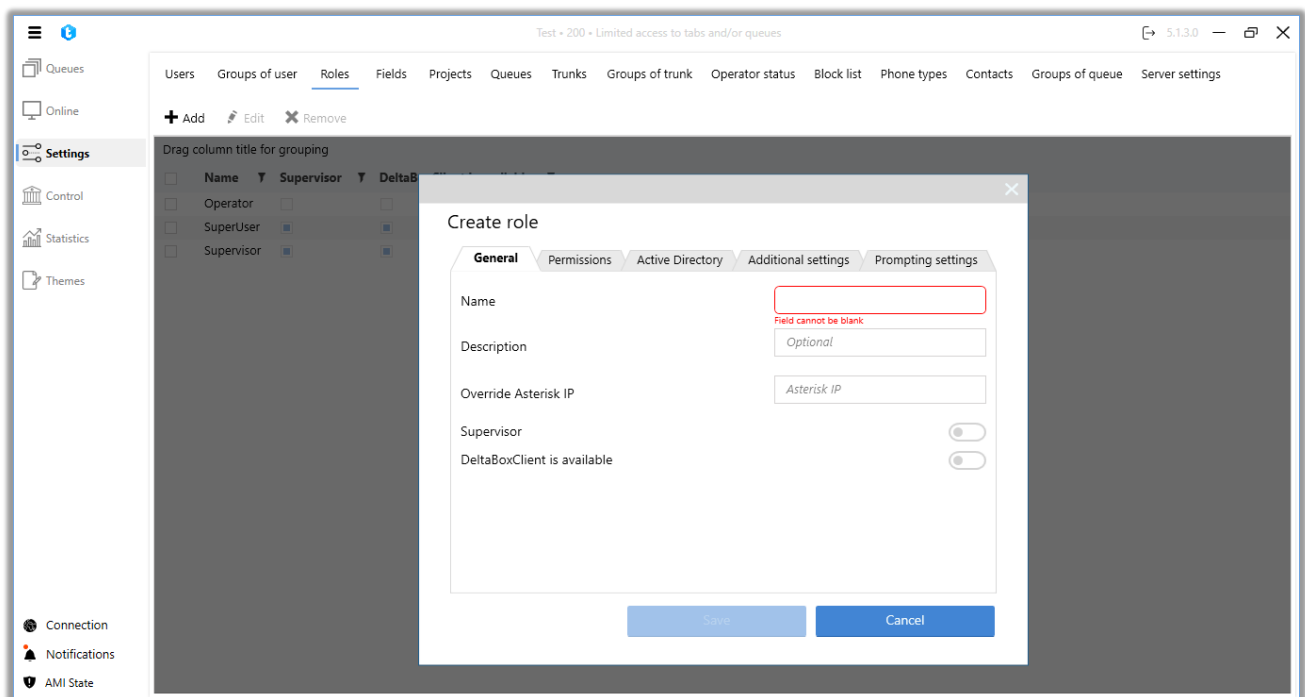
click on the "Remove" button, and in the window asking about deleting confirm the selected action.

3.3.3 Roles

This tab is responsible for creating roles and their settings for Delta Tel users. As part of the role, access for users to the functionality of the product is configured. The tab itself is a table with existing roles, as well as buttons: "Add", "Edit" and "Remove".

By default, the list is sorted alphabetically by the "Name" field.

After clicking on the "Add" button, the user is presented with a dialog box for entering data about the role. Which is divided into three tabs "General", "Permissions", "Active Directory".



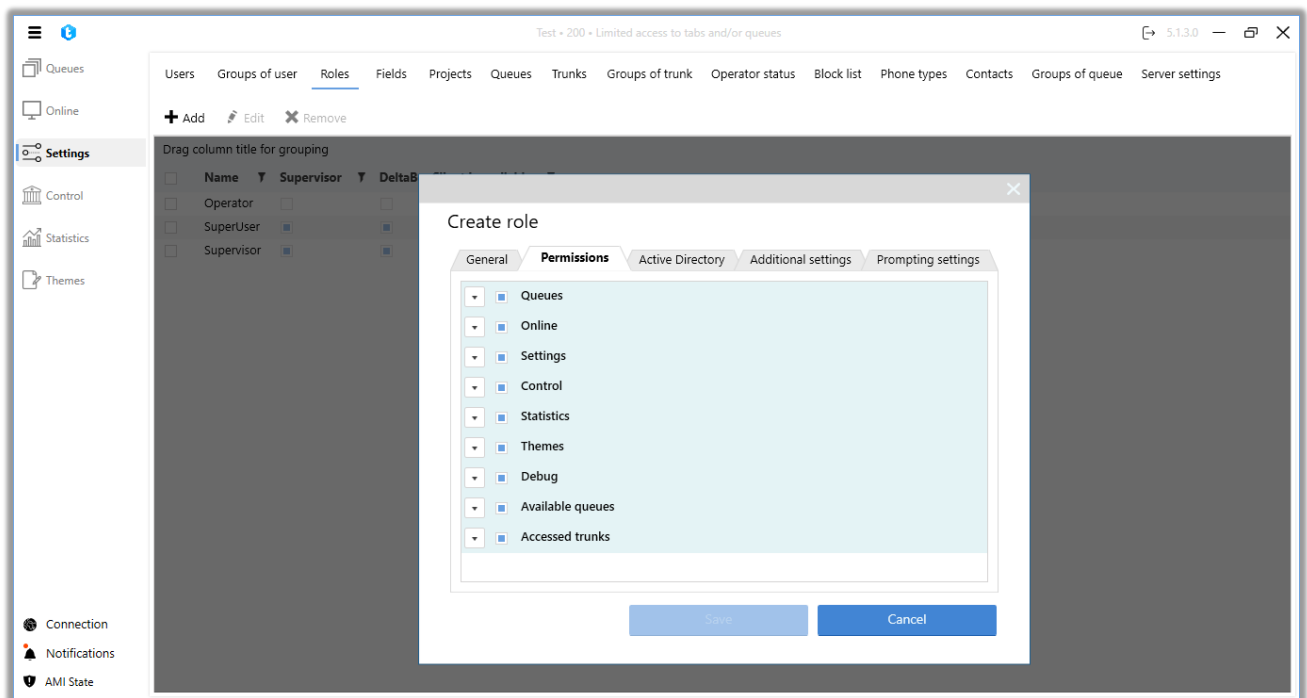
On the "General" tab, you need to fill in the name, enter a description of the role (optional), and also indicate whether the user of this role is a manager and whether he has access to the Delta Tel client.



In the "Asterisk IP Override" parameter for users of this role you can specify the ip address of the Asterisk server used in PjPhone. By default, the ip address of the Asterisk server is automatically loaded to PjPhone from the configuration file (appsettings.json). This function can be used, for example, if the configuration file uses the internal ip address of the Asterisk server, but the PjPhone operators use the external one.

When the checkbox "Supervisor" is set, members of this group can be appointed as managers for other users.

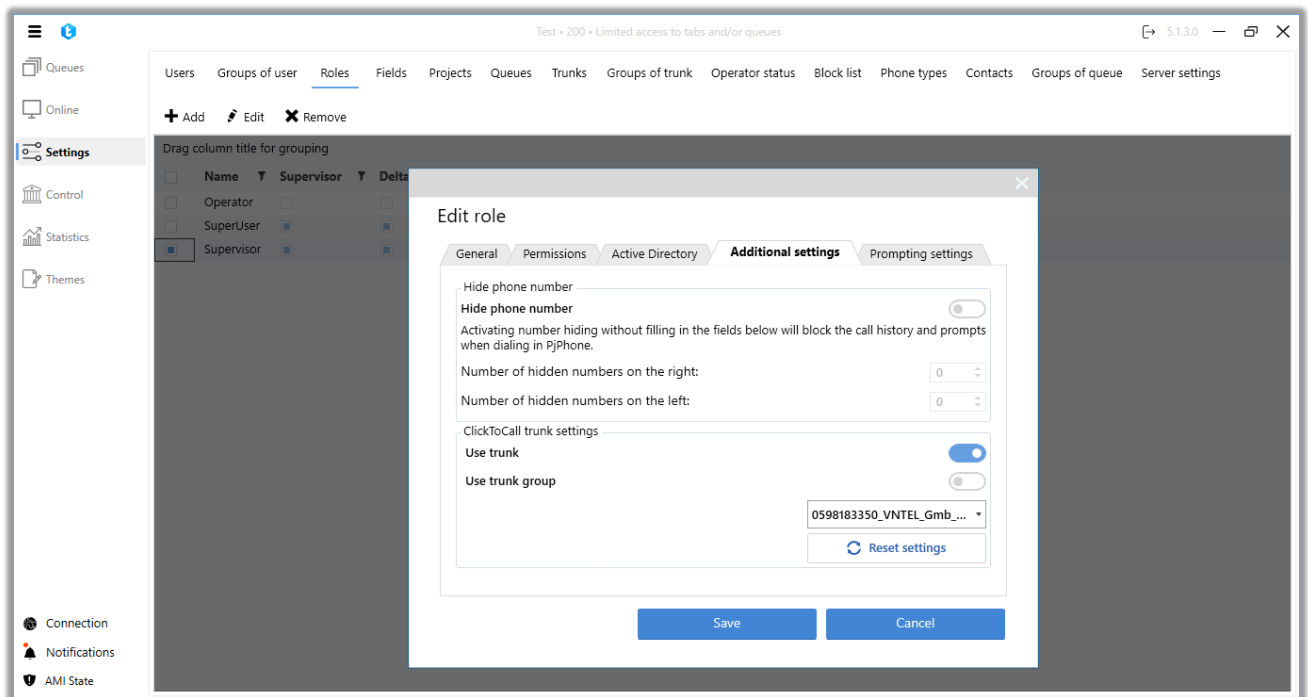
Role users with the "DeltaBoxClient is available" checkbox checked will be able to log in to the Delta Tel administration client.



On the "Permissions" tab, users of this role can access the modules and tabs of the Delta Tel. By default, for each new created role, access to all available tabs is open, so when creating it, you need to remove the checkboxes next to the tabs that will not be available for use and viewing by users with this role.

On the "Active Directory" tab, you can configure the assignment of the necessary domain groups to roles in Delta Tel, under which users will be able to log

into the system. The list of domain groups is generated automatically. To work with AD, a company must already have created and configured a network with distribution by employee roles. It is recommended to assign a different domain group for each role. It is not recommended to select more than one domain group for one role. If several domains are selected, then the one selected first in the list will be assigned.



The "Additional Settings" tab is divided into two blocks, in which you can configure the settings for hiding phone numbers and the trunks or trunk groups used for manual API Click to Call calls that are assigned to users of the selected role.

In the "Hide phone number" block setting the mask for hiding the client's phone number when making a call. Instead of digits in the phone number, users of this role will see the symbol "*". If necessary, you can specify the number of digits that will be hidden to the right and left of the digits displayed in the mask.

If the phone number hiding feature is active, but the number of hidden digits is not configured, the call history and dialing prompts in PjPhone will be hidden.

The "ClickToCall trunk settings" block specifies the parameters for using a trunk or trunk group by users of this role when making manual calls. The following

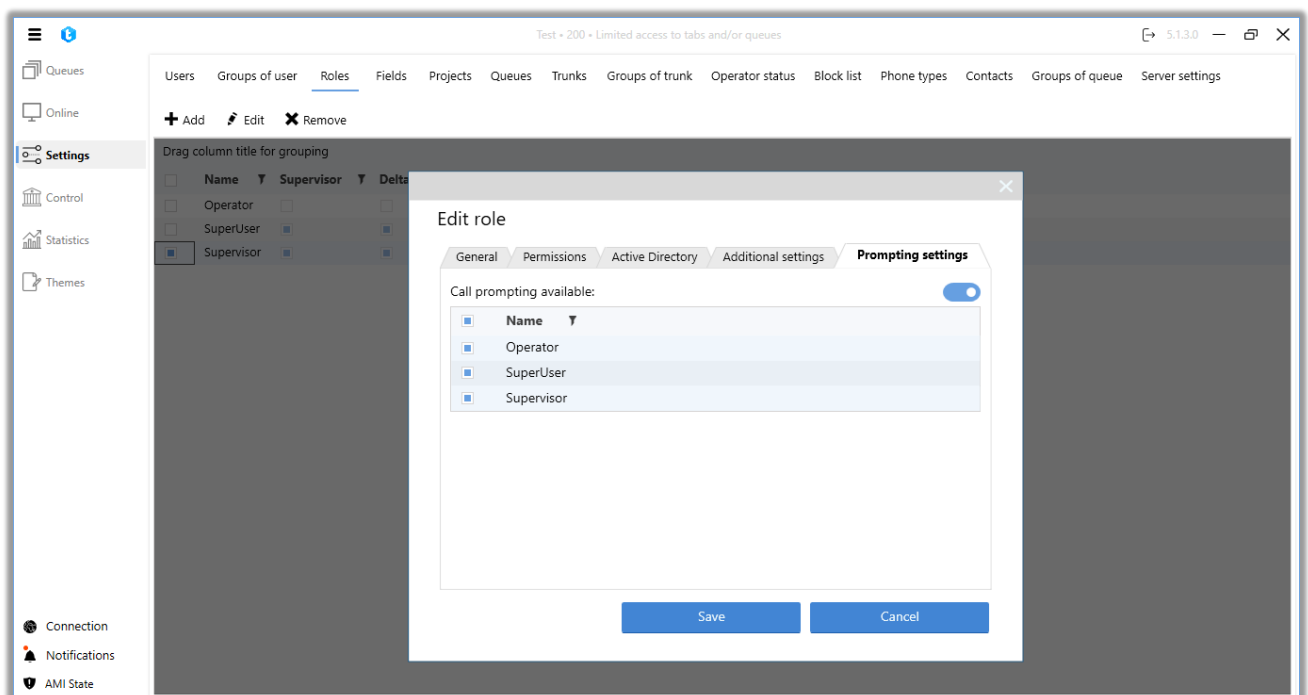


parameters are available for customization:

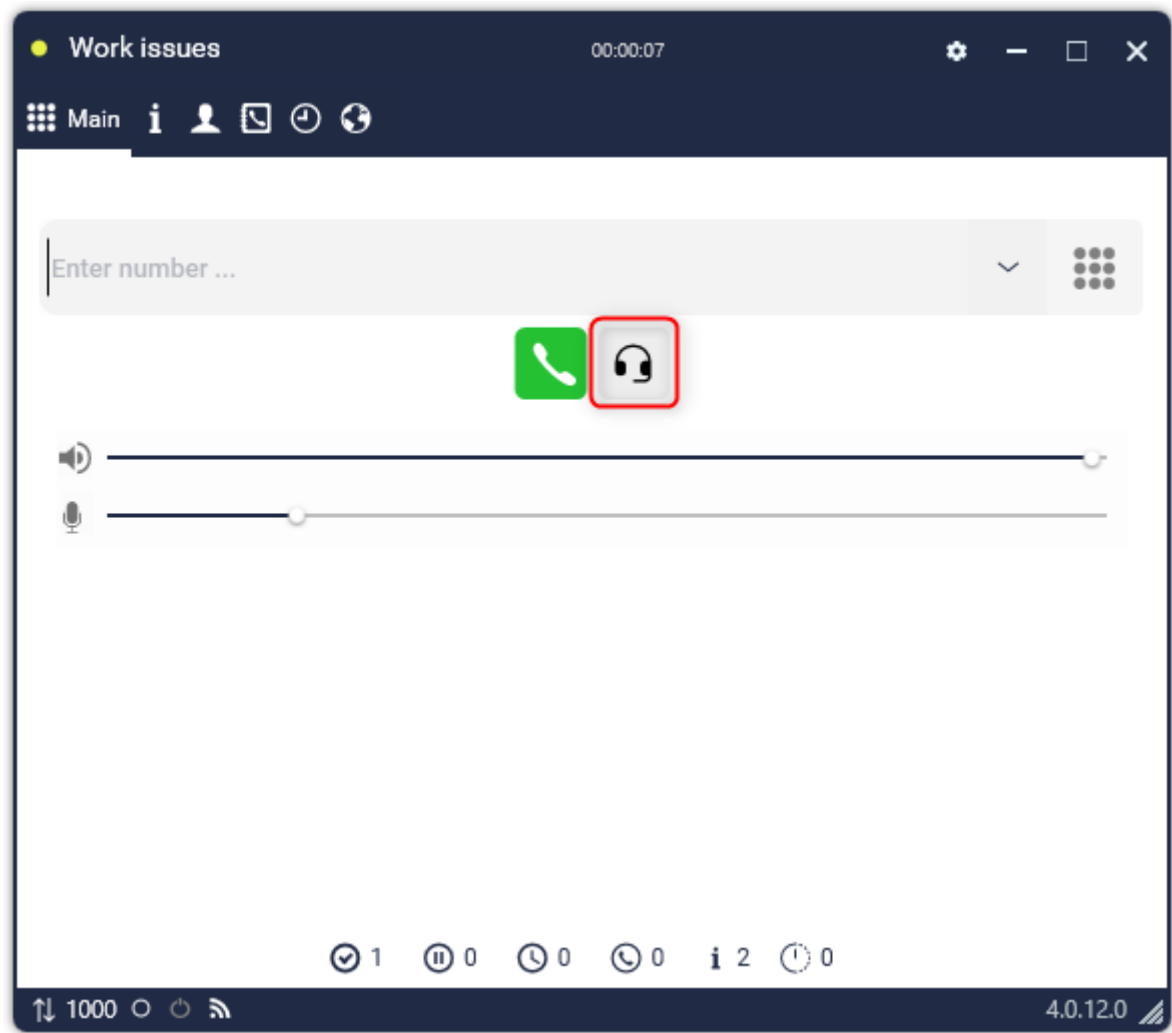
- "Use trunk" — when this parameter is activated, the selection of a trunk from the drop-down list that will be used by users of this role when making manual calls (Click to Call) becomes available. Only one trunk can be selected.
- "Use trunk group" — if this parameter is active, then you can select the required trunk group from the drop-down list, which will be used when making manual calls (Click to Call) by users of this group. Only one trunk group can be selected.
- "Reset settings" — button to reset the settings of trunk and trunk group selection parameters.

IMPORTANT: To apply the settings for trunk or trunk group usage by users of this role, the "Inherit settings from a role" option must be active in the additional settings of users of this role.

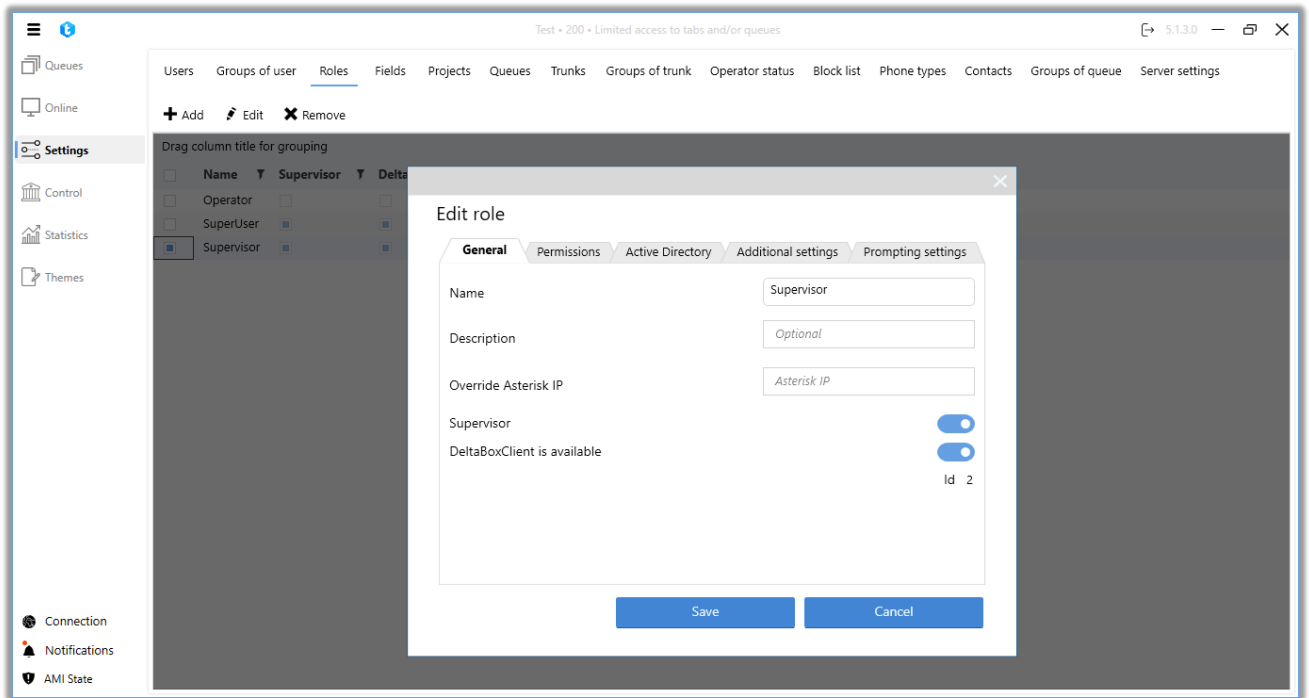
On the "Prompting settings" tab, you can enable access to the prompting functionality for the selected role and select the roles whose calls will be displayed in the prompting window in PjPhone.



"Call prompting available" — enables access to the summarization functionality for the selected role. When this checkbox is activated, a list of user roles becomes available, whose calls will be displayed in the PjPhone call shuffling window for users of the current role. If necessary, roles can be sorted by the "Name" column.

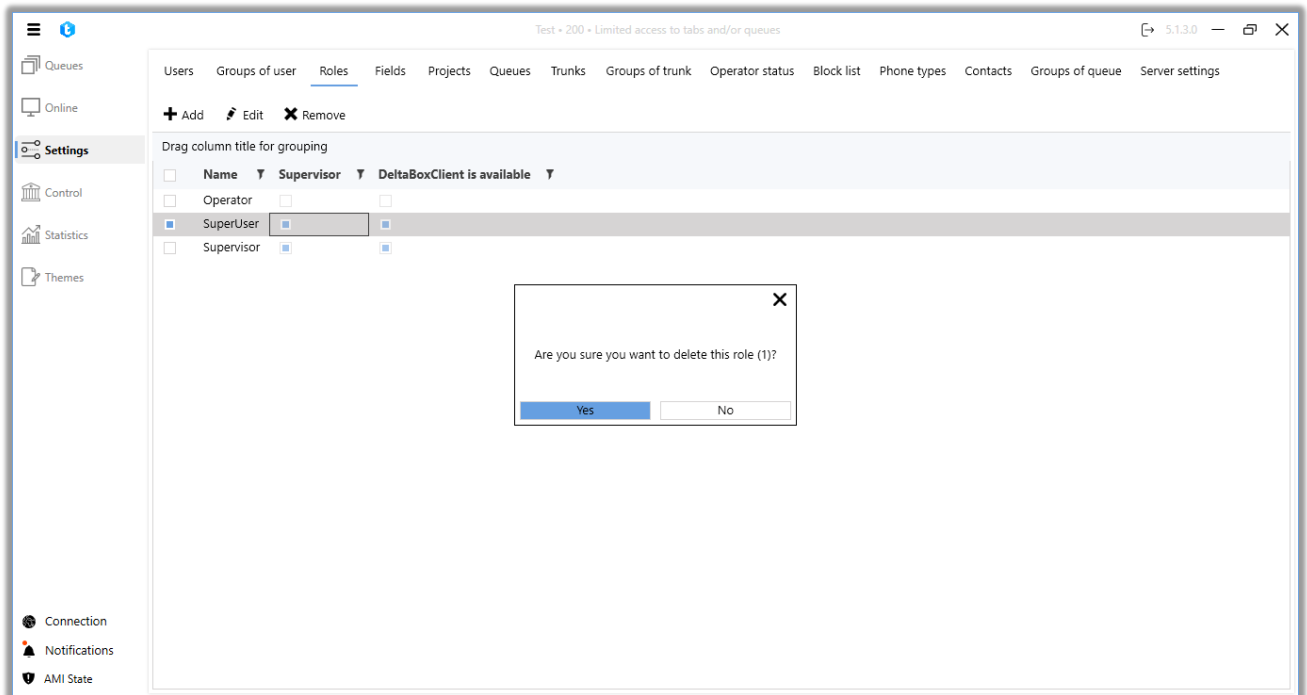


To save or cancel the changes made, you must click the buttons of the same name.



It is also possible to edit an already created role. To do this, select the desired role by clicking the mouse and click on the "Edit" button. The user will be shown a familiar window with editable fields. In this window, you can enable or disable the availability of tabs and their functions in the Delta Tel menu for each of the roles.

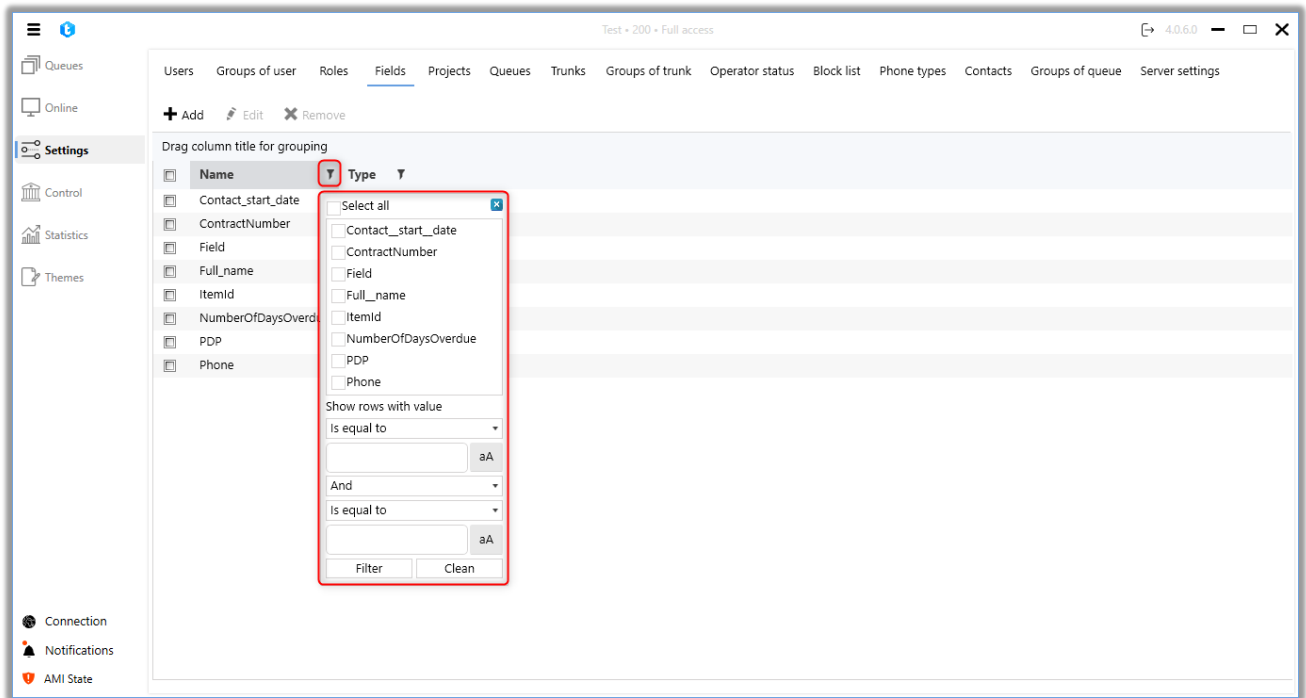
To delete a role, just select it in the list of roles with a mouse click and click on the "Remove" button, confirm the selected action in the delete question window.



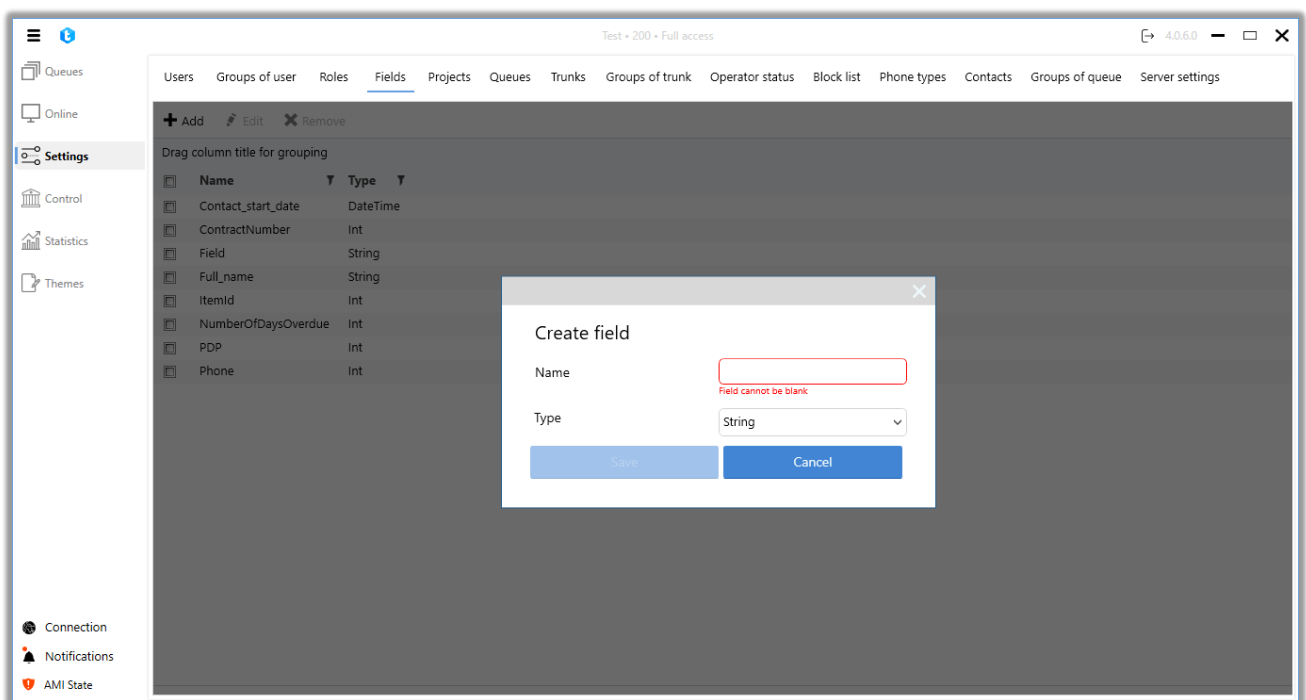
3.3.4 Fields

Through this tab, you can create, modify, and delete project fields in the Delta Tel. The tab is a table with existing fields, where their id, name and type are displayed, as well as buttons: "Add", "Edit" and "Remove".

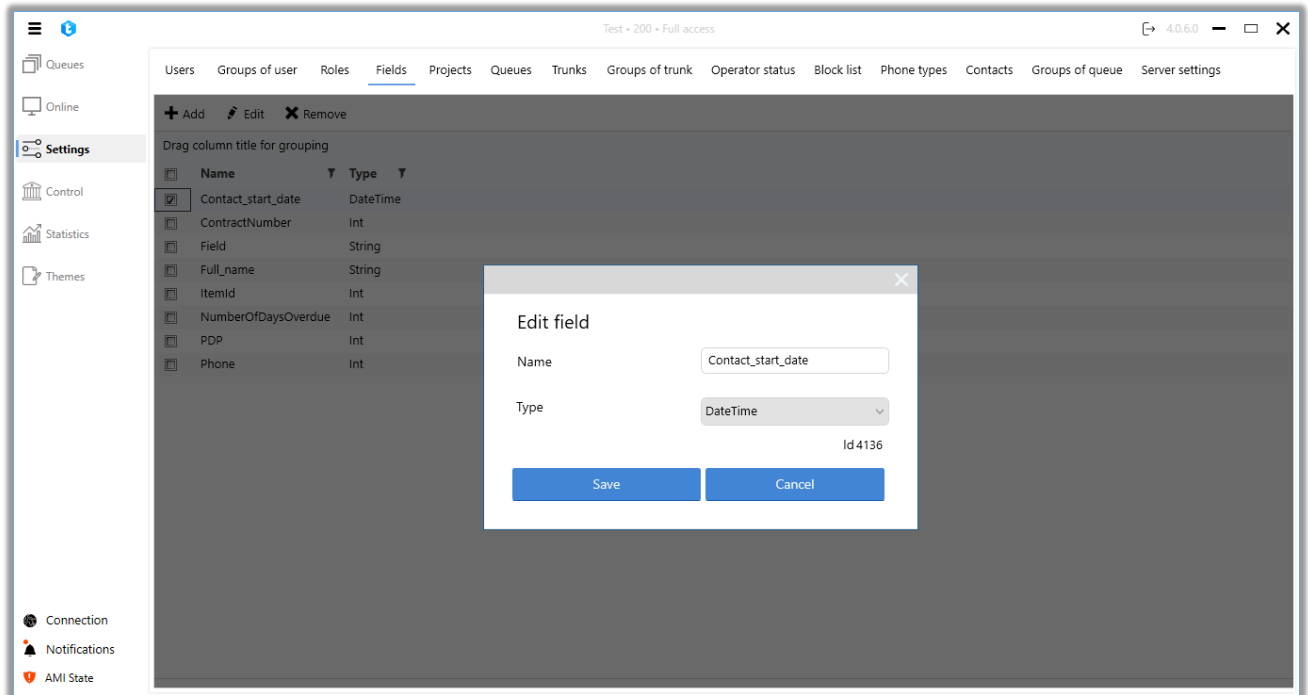
By default, the list is sorted alphabetically by the "Name" field.



After clicking on the "Add" button, the user is presented with a dialog box for entering data about the field. You must fill in the field name and select its type. The field name cannot be empty. To save or cancel, press the corresponding buttons. Once a field has been created, its type cannot be changed.



It is also possible to edit the field. To do this, select the desired field by clicking the mouse and click on the "Edit" button. The user will be shown a familiar window for editing fields. To save the changes or cancel them, you must click the appropriate button.



To delete, just select the desired field with a mouse click and click on the "Remove" button, confirm the selected action in the deletion question window.

IMPORTANT: the names of the created field types should not be duplicated, and should not match the names of system fields (fields from the WorkItem table). If an attempt is made to create a field with an inaccessible name, a corresponding warning will be displayed to the user.

3.3.5 Projects

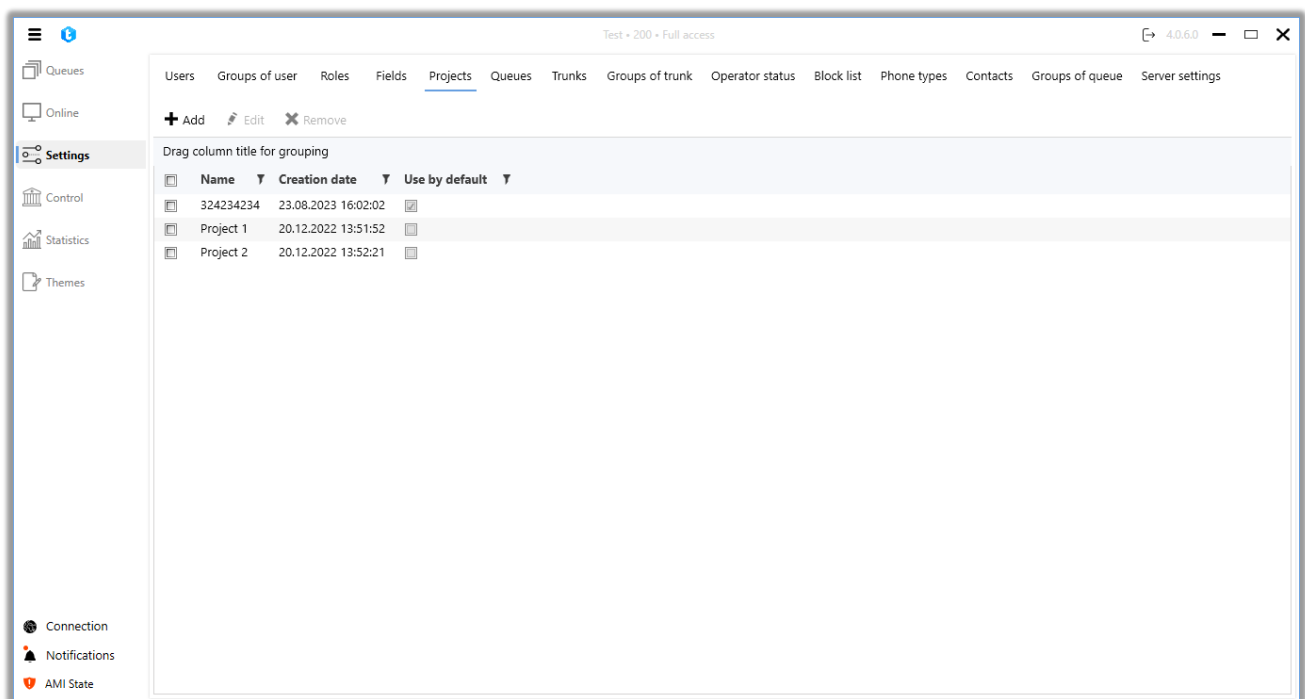
Projects are used to distribute elements over mapped fields when filling the system through import. They are also used to build reporting within a single selected project. The project acts as a unique identifier for the elements so that they are



correctly identified by the system; when importing data into the system, the elements are assigned a project id (ProjectId). There can be several projects in the system. Through this tab, projects are added and configured in the Delta Tel, it is a table with existing projects, as well as the buttons: "Add", "Edit" and "Remove".

By default, the list is sorted alphabetically by the "Name" field.

After clicking on the "Add" button, the user is presented with a dialog box for entering data about the project. You must enter a name for the project, assign fields to that project, and optionally fill in a description. Fields are added to the project by transferring the created fields from the "Available" block to the "Contains" block. To do this, select the desired field and click on the transfer button. One and the same field can be assigned to several projects at once. To save or cancel, press the corresponding buttons.

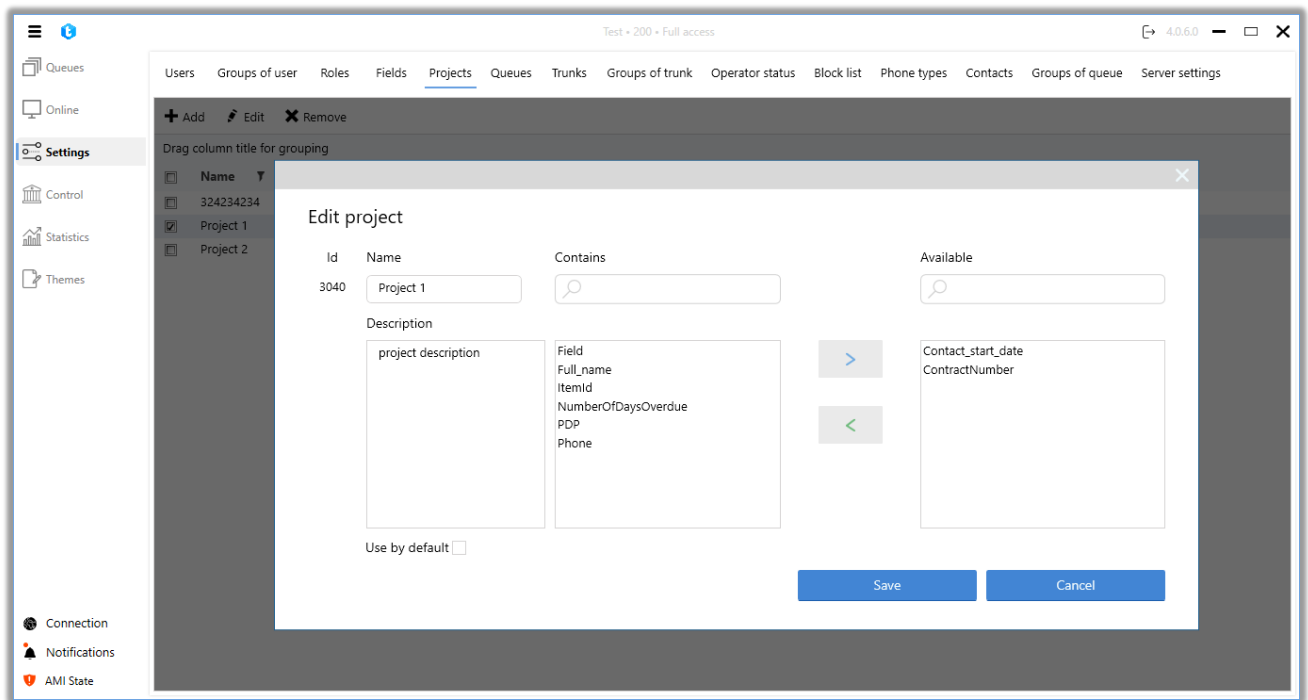


The list of projects is presented in the form of a table with the following columns:

- "Name" — the name of the project.
- "Creation date" — date of creation of the project.

- "Use by default" — displays information about which of the projects will be used in the system by default (checkbox "Use by default" is set).

It is also possible to edit the project. To do this, select the desired project by clicking the mouse and click on the "Edit" button. The user will be shown a familiar window for editing projects.



To delete, just select the desired project with a mouse click and click on the "Delete" button and confirm the selected action in the window asking about deletion.

There can be only one project in the system, marked as "Use by default". The project that is uploaded from CRM should always be marked as "Use by default". Otherwise, its elements will not be imported into the Delta Tel.

IMPORTANT: there must be at least one project in the system that is used by default, otherwise imports will not be performed.

3.3.6 Queues

This tab is used to create queues in Delta Tel. In queues, the order of

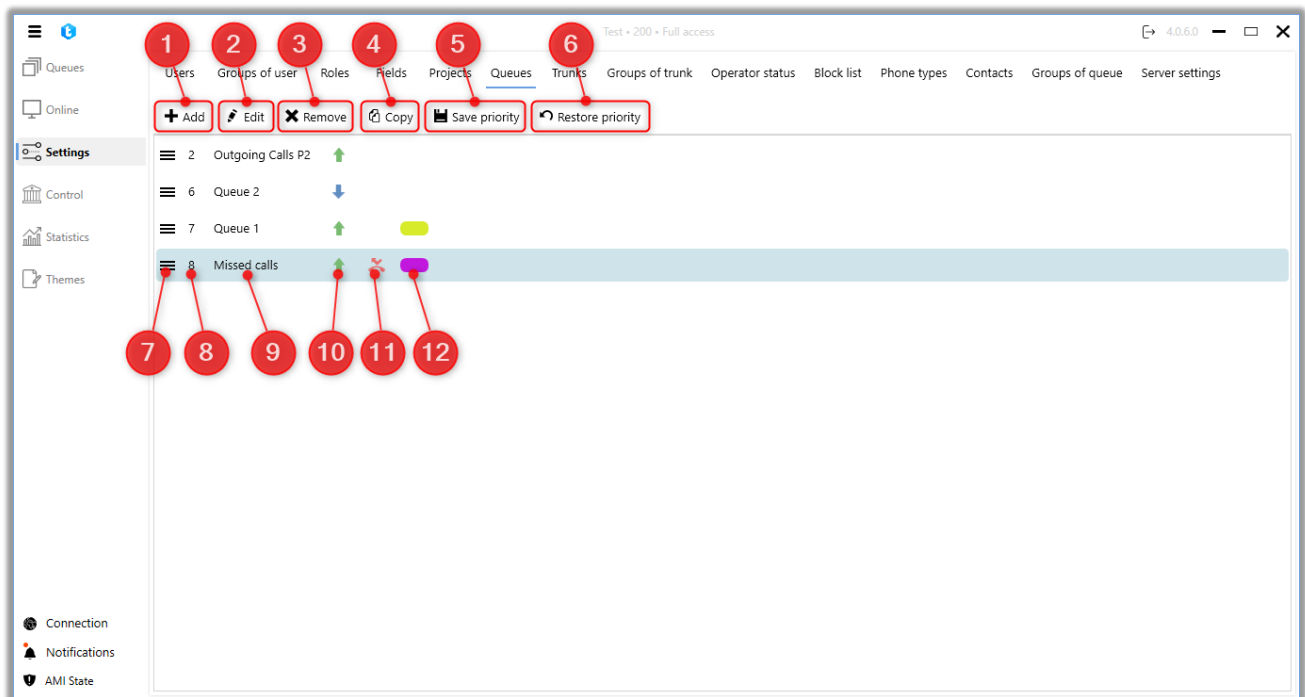


recruitment and distribution of elements to operators is formed. The tab is a table with existing queues, as well as buttons: "Add", "Edit", "Remove", "Copy", "Save priority" and "Restore priority".

There are three types of queues:

- "Incoming" — a queue that works exclusively for receiving incoming calls from clients, can only work with a certain type of calls, depending on the incoming context.
- "Outgoing" — the system performs automatic dialing of customer numbers according to the configured parameters. When the client picks up the phone, the number is transferred to the connection with the operator.
- "For missed calls" — outgoing queue for which the statistics of missed calls are taken into account (it can be viewed on the "Online" tab, the "General information" block, the "Missed calls" item).

The system has such a concept as the priority of queues while the program is running. If it encounters samples with the same conditions in two or more queues, then the system will transfer the elements to the highest priority queue. Priority between queues is set in order of placement in the list. Queues that are at the top of the list are the highest priority. Queues that are at the bottom of the list are the lowest priority. You can change the queue priority by dragging it inside the list. Queues are always listed in order of priority. To cancel unsaved priority changes, click the "Restore Priority" button.



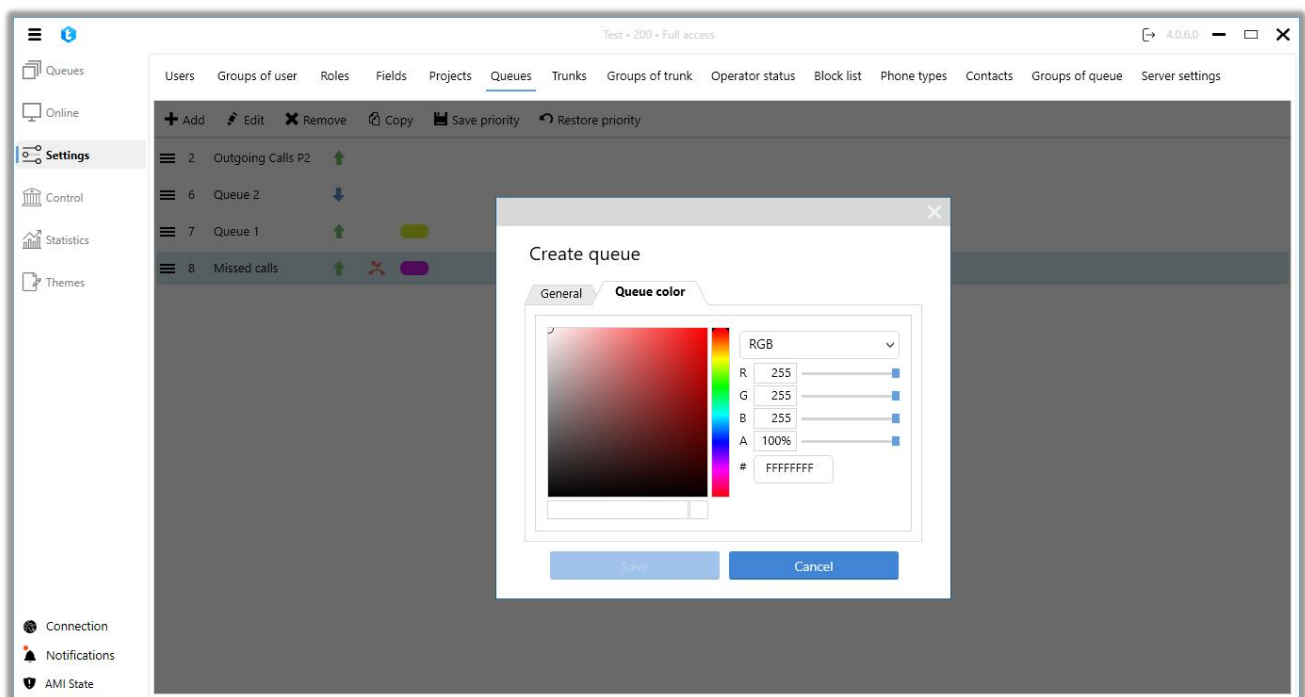
1. [Add] — create a new queue;
2. [Edit] — edit queue settings;
3. [Remove] — delete the selected queue;
4. [Copy] — duplication of the selected queue with all its settings;
5. [Save priority] — save the changes made to the priority;
6. [Restore Priority] — restore unsaved changes to priority settings;
7. An interactive element with which you can drag the queue in the list, thereby changing its priority;
8. Sequence number of the queue showing its priority, which affects the filling of its elements;
9. Queue name;
10. Type of queue (incoming/outgoing);
11. Queue for missed calls;
12. Queue color (white by default).

After clicking on the "Add" button, dialog box for entering data about the queue the user will be displayed. It is necessary to fill in the name of the created queue and



select its type: "Incoming" or "For missed", if none of the checkboxes is selected, then the queue is created with the type "Outgoing". The name of each queue must be unique.

It is also possible to set the color of the queue through one of the color models (RGB, CMYK, HLS, HLV) or by moving the slider on the color panel (the color of the queue will be displayed next to its name). To save or cancel the changes made, you must click the buttons of the same names.

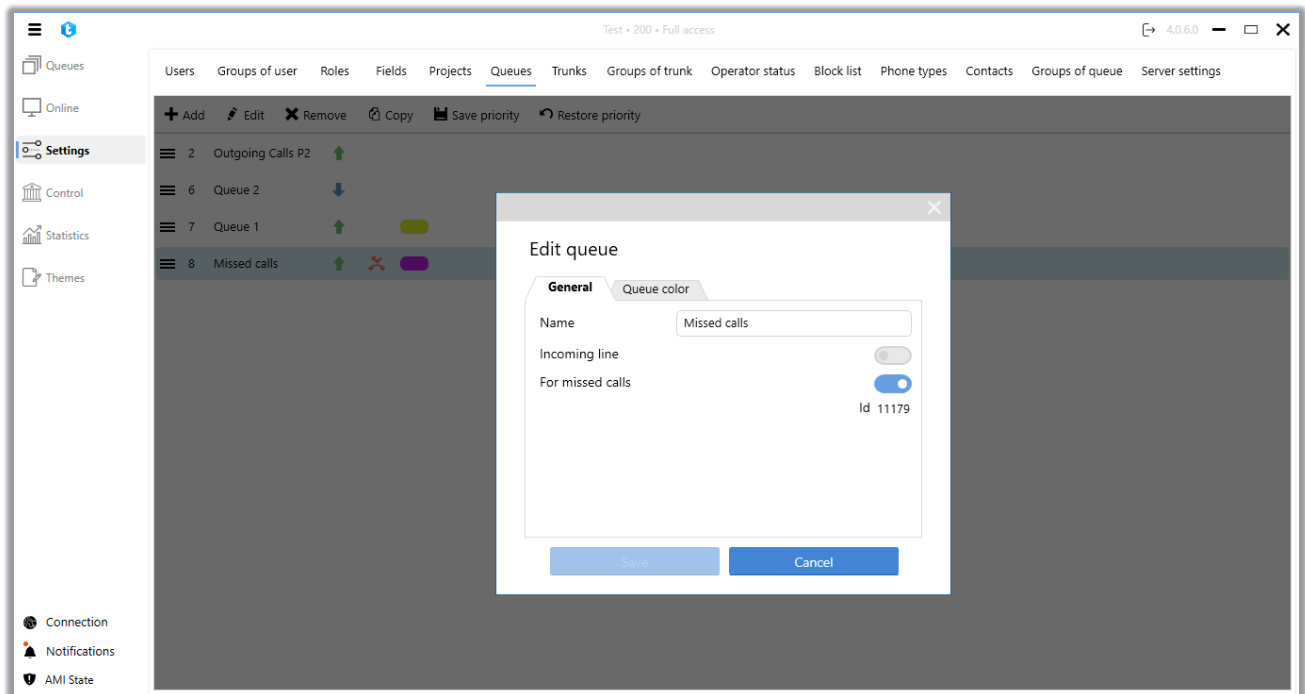


IMPORTANT: By default, the queues that are created will only be accessible and visible to users who have the role assigned by the user who created them. To enable the display of such queues, you need to configure the corresponding permissions for the role in the "Available Queues" section on the "Permissions" tab.

Queues can be copied, if needed, by selecting the desired queue and clicking the Copy button. All its settings (strategy, mode, selection, schedule, etc.) will be completely copied. A duplicate is created with the same name as the original, but with the symbol "*" added at the end.



It is also possible to edit the queue. To do this, select the desired queue by clicking the mouse and click on the "Edit" button. The user will be shown a familiar window for editing queues.



To delete, just select the desired queue with a mouse click, click on the "Remove" button and confirm the selected action in the window asking for deletion.

3.3.7 Trunks

A trunk is a data transmission channel. In our case, this is a means of communication that aggregates a certain number of communication lines and numbers on them (the numbers themselves can either be assigned or not assigned to communication lines). Communication lines — directly the place where the call itself is made. Trunks are provided by the telephone provider, connected to the DTB, and are used to dial customer telephone numbers. The number of communication lines on a trunk is responsible for the maximum number of calls that the system can make at the same time.



One trunk can be used for incoming and outgoing queues at the same time. In this case, we assign through the modes a certain number of its communication lines for the outgoing queue, and the rest will be used for the incoming one. But depending on the load on the outgoing queue, if at one moment it uses fewer lines than it was assigned, then free communication lines can be used for the incoming queue. When one trunk is assigned to several outgoing queues, then its communication lines, if the limit of available ones is exceeded, will be distributed among the queues depending on their priority (the queue with a higher priority will receive more lines).

This tab is a table with the settings of existing trunks and their communication channels on the telephony server. By default, the list is sorted alphabetically by the field "Name on client". Also, in the "Queues" column, if you move the cursor, the list of queues where this trunk is used is displayed. The user can copy the trunk name using the key combination "Ctrl+C". The "Created date" column displays the date when the selected trunk was added to the system (according to the data in the "dbo.Trunks.CreatedOn" table) with the ability to filter and customize the selection by filter.

Id	Name on client	Number of lines	Mask	CPS	Queues	Created date
3035	0598183350_VNTEL_Gmb_14072023	0		0	Queue 1	16.01.2024
22	asterFake	0		0	Queue 1	
21	asterTest	1		0	Queue 1	
20	ba_test	2	X.	0	Queue 1, Нераспред...	
3034	bck	0	X.	0	Queue 1	08.06.2023
31	dummyTrunk	0		0	Queue 1	
30	notActualTrunk	0		0	Queue 1	
29	sipFake127	0		0	Queue 1	
34	sipp	0		0	Queue 1	
28	sippTest	0		0	Queue 1	
1034	sippTest_new	0		0	Queue 1	
27	sippTest2	0		0	Queue 1	
32	test19	0		0	Queue 1	
2	testbe	50		0	Queue 1	
25	testee	5	X.77	0	Queue 1	
24	tester	0		0	Queue 1	
23	testerisk	0		0	Queue 1	
33	testerisk2	0		0	Queue 1	
2034	testerisk27	1	X.	0	Queue 1, QueueMiss...	
26	testOneChannel	0		0	Queue 1	



Communication channels are added to the system automatically by the Delta Tel server, which in turn receives from the "Asterisk" server. But it should be borne in mind that the server adds the element itself and its name, the rest of the parameters are entered by a specialist. When deleting or adding trunks, you must click the "Refresh trunks" button to update the displayed information.

"Edit" — function of editing the selected trunks.

"Remove" — function of deleting the selected trunks.

IMPORTANT: trunks used in manual calls cannot be deleted. If you try to delete them, the corresponding warning will be displayed, and the system will offer to generate and save a text file (users_and_roles.txt) with the list of trunks that are not available for deletion. The generated file will contain the roles and users for which this trunk is used in manual calls (API Click to Call). This file can be used as a hint, as it contains all roles and users, in the settings of which it is necessary to disable access to this trunk for its successful deletion. This is especially useful when there are a large number of users and roles in the system.

The screenshot shows the Delta Tel interface with a list of trunks. A dialog box is displayed over the list, warning that a trunk cannot be deleted because it is used for manual calls. The dialog box text is as follows:

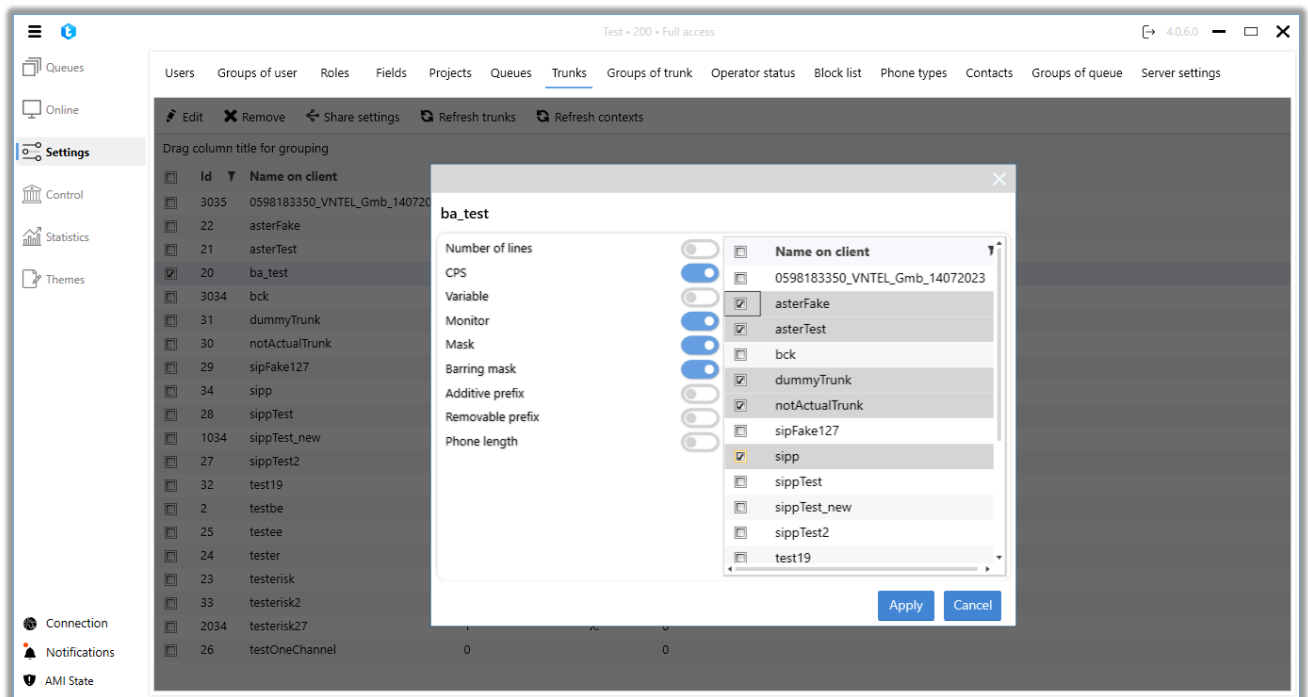
Unable to delete trunk that is used for manual calls ClickToCall
Id: 3035 Name: 0598183350_VNTEL_Gmb_14072023
Do you want to save a list of entities that use this trunk to a file?

The dialog box has two buttons: "Yes" and "No".

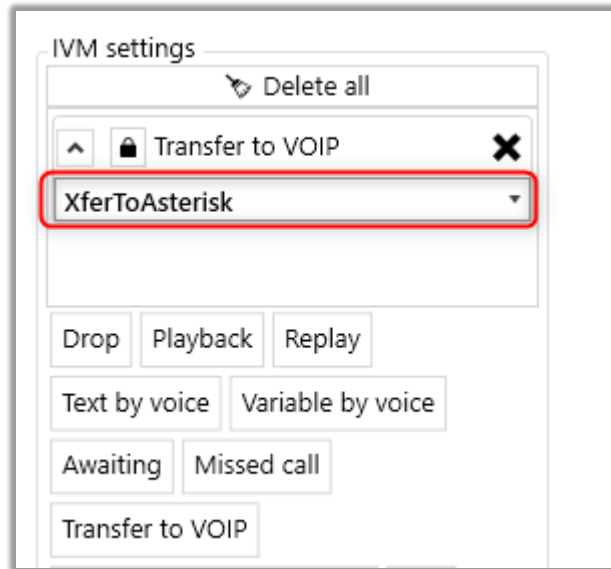
Id	Name on client	Number of lines	Mask	CPS	Queues	Created date
3035	0598183350_VNTEL_Gmb_14072023	0		0	Queue 1	16.01.2024
22	asterFake	0		0	Queue 1	
21	asterTest	1		0	Queue 1	
20	ba_test	2	X.	0	Нераспределенная...	
3034	bck	0		0		08.06.2023
31	dummyTrunk	0		0		
30	notActualTrunk	0		0		
29	sipFake127	0		0		
34	sipp	0		0		
28	sippTest	0		0		
1034	sippTest_new	0		0	Queue 1	
27	sippTest2	0		0	Queue 1	
32	test19	0		0	Queue 1	
2	testbe	50		0	Queue 1	
25	testee	5	X.77	0	Queue 1	
24	tester	0		0	Queue 1	
23	testerisk	0		0	Queue 1	
33	testerisk2	0		0	Queue 1	
2034	testerisk27	1	X.	0	Queue 1, QueueMiss...	
26	testOneChannel	0		0	Queue 1	

"Share settings" is a feature that allows you to copy the settings of the selected

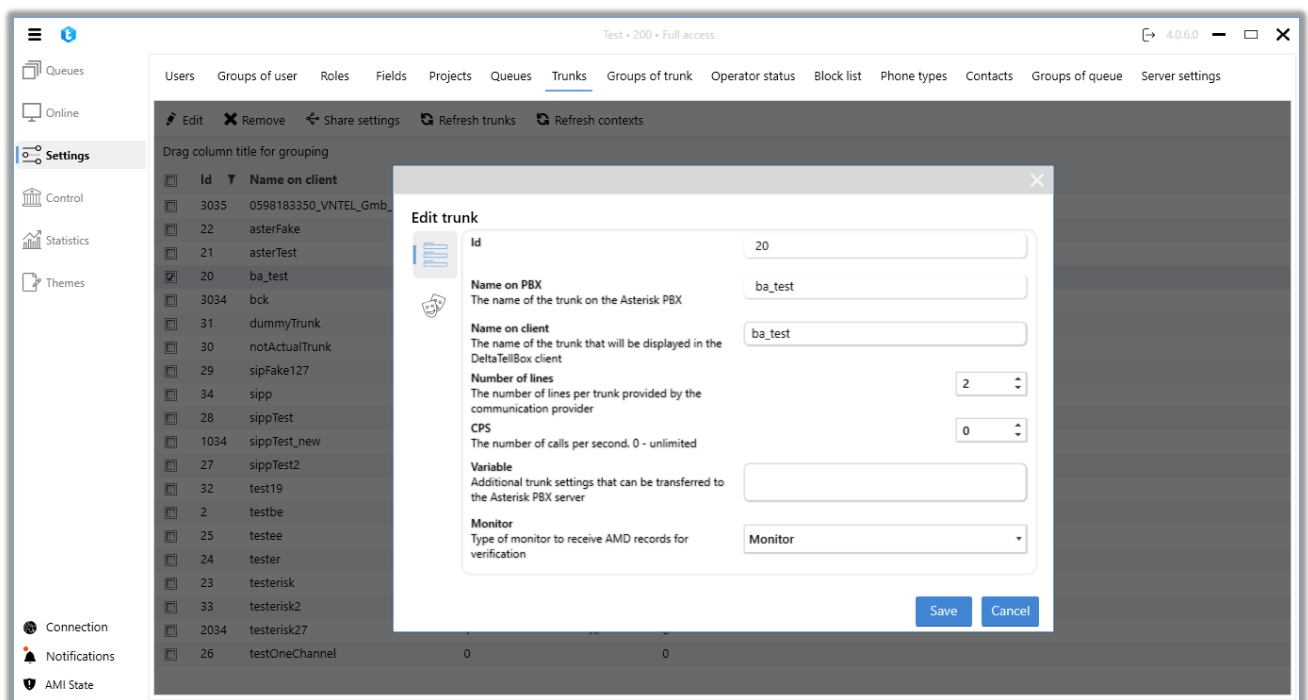
trunk and apply them to other trunks. To do this, you need to check the checkbox next to the desired trunk, click the "Spread Settings" button, and in the opened window, select the necessary settings that will be copied and applied to the marked trunks in the list. The trunk from which the settings are copied will not be displayed in the available list.



"Refresh contexts" — synchronization of the incoming call distribution context between the Asterisk server and Delta Tel, without the need to restart the telephony server. After using this function, the list of contexts in the drop-down list will be updated when configuring the "Transfer to VOIP" parameter.



In order to start editing the settings, you need to select the desired trunk with a mouse click and click "Edit". Consider the parameters presented in detail:



- "Id" — id of the element.
- "Name on PBX" — the name of the trunk on the telephony server, which is automatically filled in by the system;
- "Name on client" — the name of the trunk, which will be displayed in the



Delta Tel client, is editable by the user;

- "Number of lines" — total lines in the given trunk (limits the number of simultaneous dialing). As additional information, the column heading indicates the number of all lines on all trunks. This information is taken into account in licensing;
- "CPS" — setting a limit on the number of calls made per second. Field type — "int".
- "Variable" — the context on which the selected trunk operates. Configured on the Asterisk server.
- "Mask" — a number mask that indicates which numbers can be dialed through this trunk. "X" is any number. "X." — any number (for example: 38X. — a mask that allows you to call all phone numbers that start with 38). The field is required.
- "Barring mask" — a number mask that indicates which numbers are prohibited from dialing through this trunk.
- "Additive prefix" — indicates the numbers that will be added to the phone number when dialing through the selected trunk;
- "Removable prefix" — indicates the digits that will be removed from the phone number when dialing to the selected trunk (can be specified regardless of the presence of an additional prefix);
- "Phone length" — limit the number of characters used in dialed phone numbers (for example: if the limit is set to 10 characters, the numbers will be reduced to the last ten characters).
- "Variable" — the context that the selected trunk operates on. It is configured on the Asterisk server.
- "Monitor" — selection of monitor type that will be used for receiving call recordings from the Asterisk server within the selected trunk. These recordings are used for checking and cutting off auto-responders before and after connecting to call using AMD (Answering Machine Detection). There are two types of monitor: "Monitor" — call recordings of the calling and called party are saved in separate audio

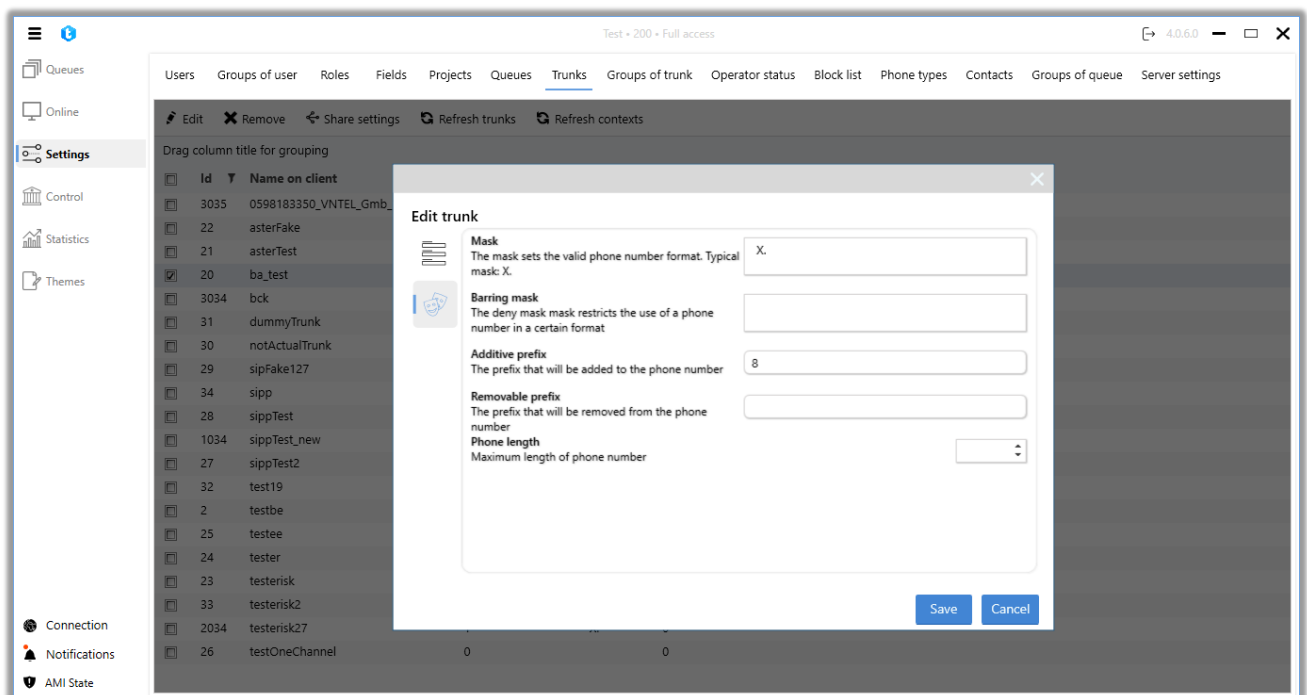


files; "MixMonitor" — audio from two channels (receiver and transmitter) are mixed and saved in one file.

By setting the call barring mask and mask, you can optimize and manage the cost of calls within telephony providers. For example, when working with several operators, you can configure outgoing calls for the provided trunks of the provider only to its numbers.

IMPORTANT: When specifying "Mask" and "Barring mask" — the character "X" must be entered on the English keyboard layout.

Trunks are configured depending on the form in which the number is stored in the database (it can be viewed both in the database itself and in the selection (PhoneNumber)) and the format in which it is necessary to dial. For example: subscriber numbers are recorded in the database in the form of 10 digits, and to make calls, a format of 11 is required, then the required digit is added to the additional prefix and the "X." mask is indicated. (allows all numbers). Let in our example numbers be stored in the format "0991234567", and you need to dial "80991234567", then "8" will be our added prefix.



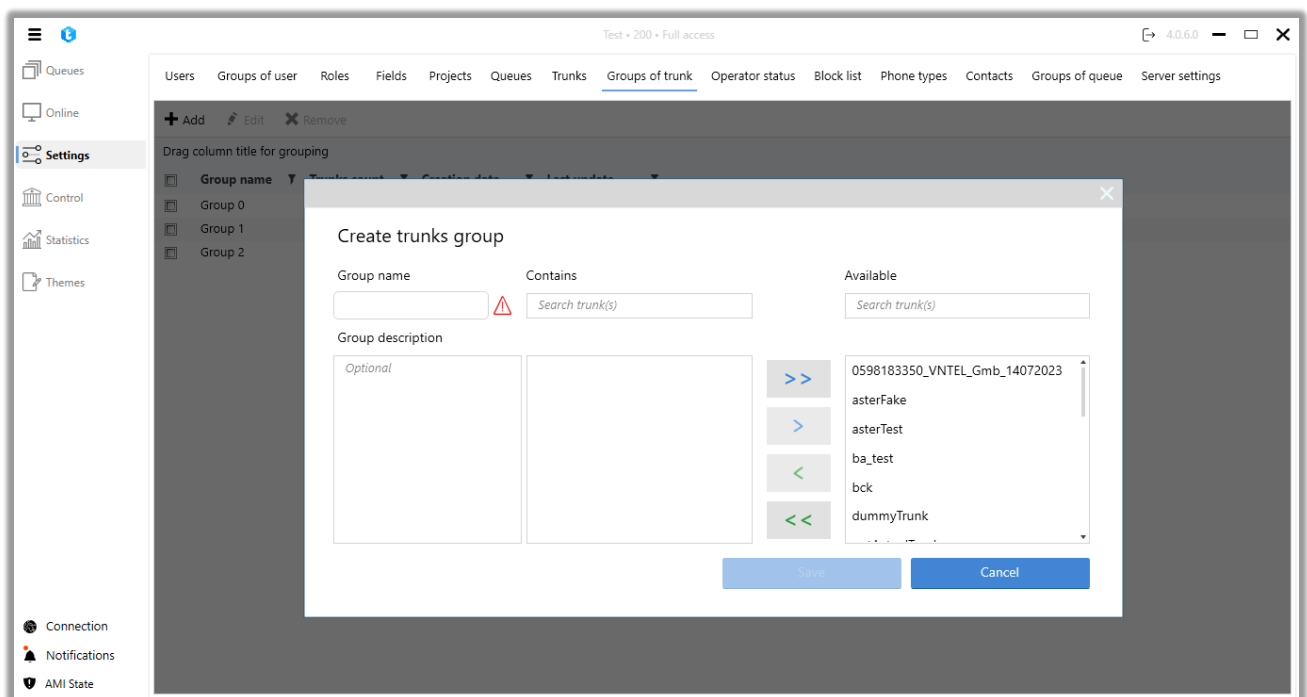
To delete, just select the desired trunks with a mouse click and click on the "Remove" button, confirm the selected action in the window that appears.

3.3.8 Groups of trunk

This tab is used to create, configure and delete trunk groups. A trunk group allows you to combine a large number of trunks and subsequently add them all with one click when setting up a strategy.

By default, the list is sorted alphabetically by the "Group Name" field.

After clicking on the "Add" button, the user is presented with a dialog box with the settings of a group of trunks, where:

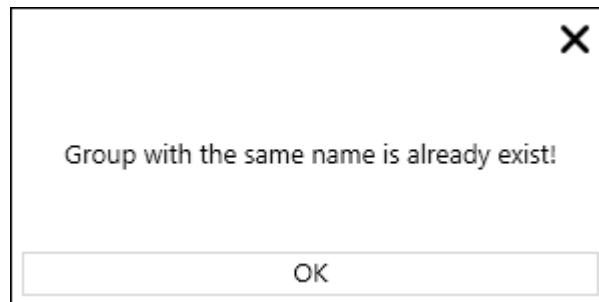


"Id" — display the id of the trunk group. Assigned only after the creation of the group.

"Group name" — enter the name of the group, which will be displayed in the system. This field is mandatory, the group name cannot be empty. Also, the names of







trunk groups cannot be repeated, if the user tries to create such a group, then a corresponding warning will be displayed to him.



"Group description" — enter a text description for the group being created. This block is optional. This description is for informational purposes only.

"Contains" — search for the trunks selected in the group. Below is a block with a list of trunks selected for the group.

In the window for creating or editing a group of trunks, there is a navigation block that contains buttons:

-  — button for mass removal of trunks from available.
-  — deleting the selected trunk from the available ones.
-  — transfer of the selected trunk from the "Contains" block to the available.
-  — button for mass transfer of all trunks to available.

"Available" — search for trunks to add to the group. You can search for several trunks at once by specifying their names separated by commas. The user can also search for the necessary trunks by copying and pasting their names using the key combinations "Ctrl + C" and "Ctrl + V". If their list was copied as a column (an Excel table or the result of a selection from the database), then the system will automatically place commas between them. Below is a block with a list of all created

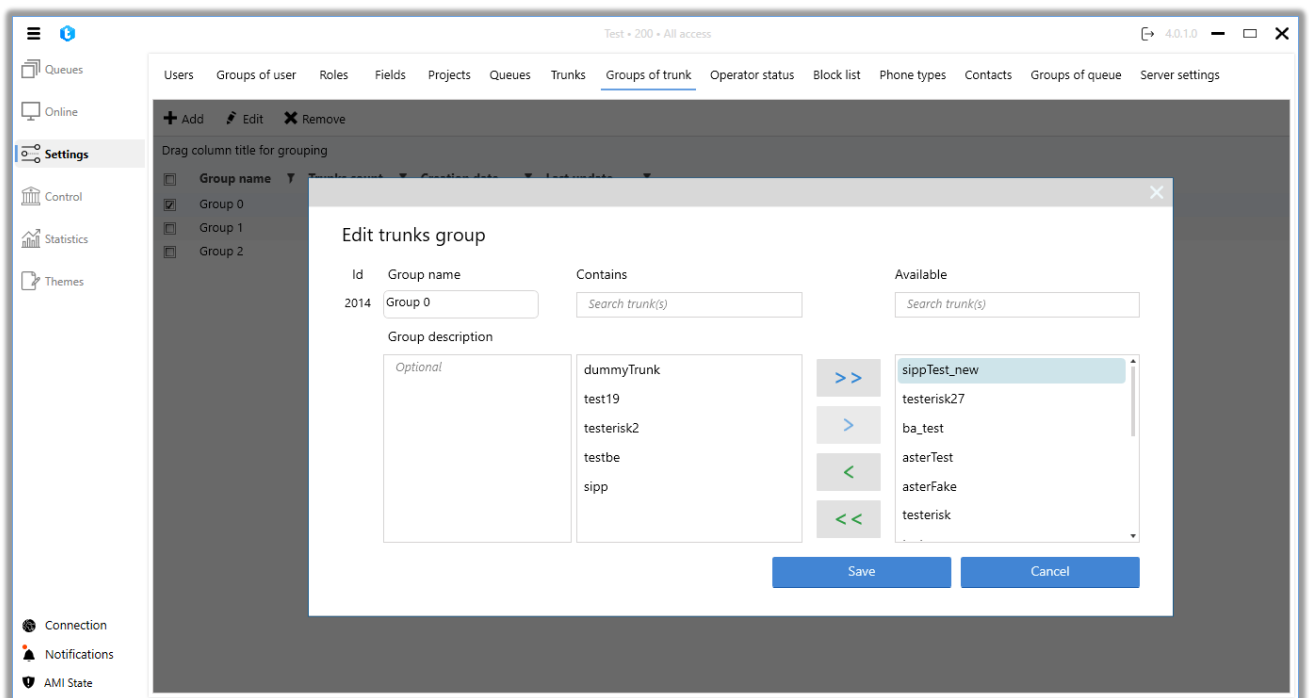


trunks in the system.

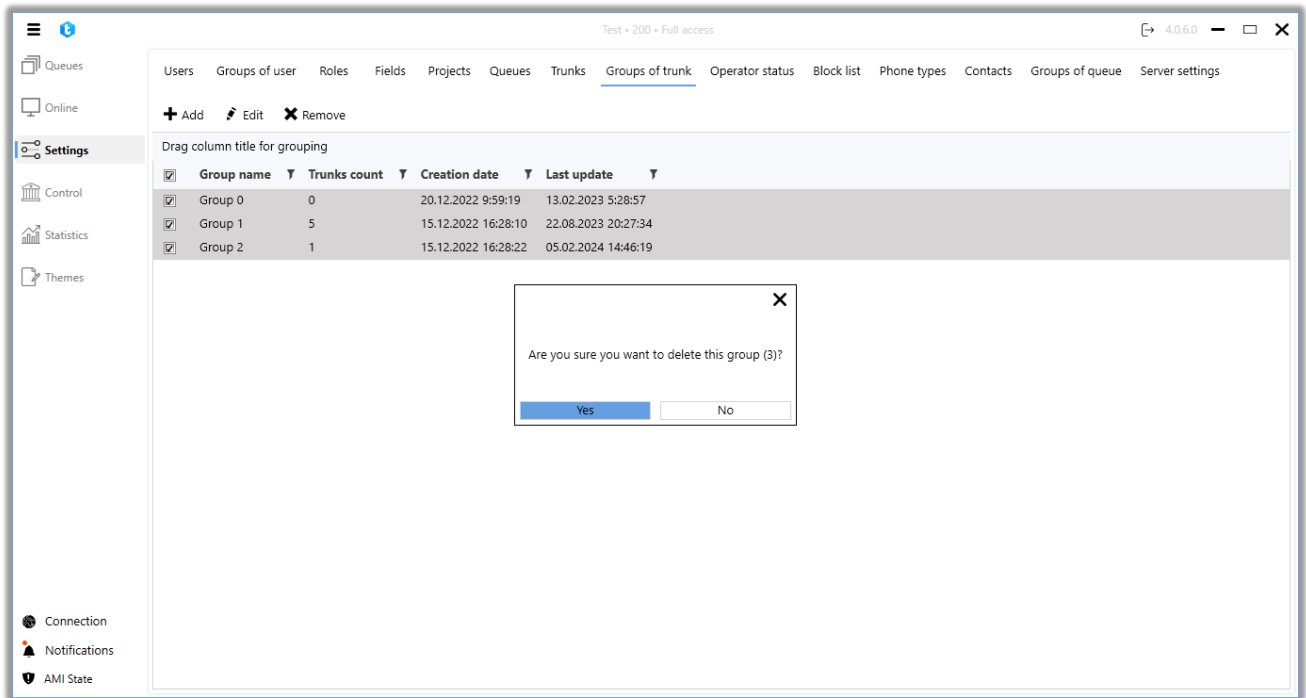
To complete the creation of a trunk group, click the "Save" button. The button will be inactive if the field with the name of the group is empty.

The "Cancel" button closes the trunk group editing window, and all changes made will not be saved.

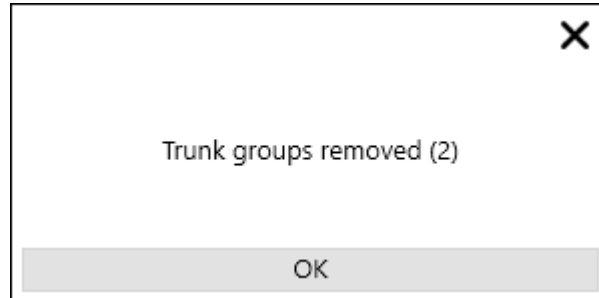
It is also possible to edit a group of trunks. To do this, select the desired group by clicking the mouse and click on the "Edit" button. The user will be shown a familiar window with a list of available trunks.



To delete a group of trunks, just select it with a mouse click and click on the "Remove" button, and in the appeared window asking about deleting confirm the selected action. The number of groups to be deleted will also be indicated in the delete window.



After deleting a group of trunks or several, a window will be displayed to the user about the successful deletion.



3.3.9 Operator status

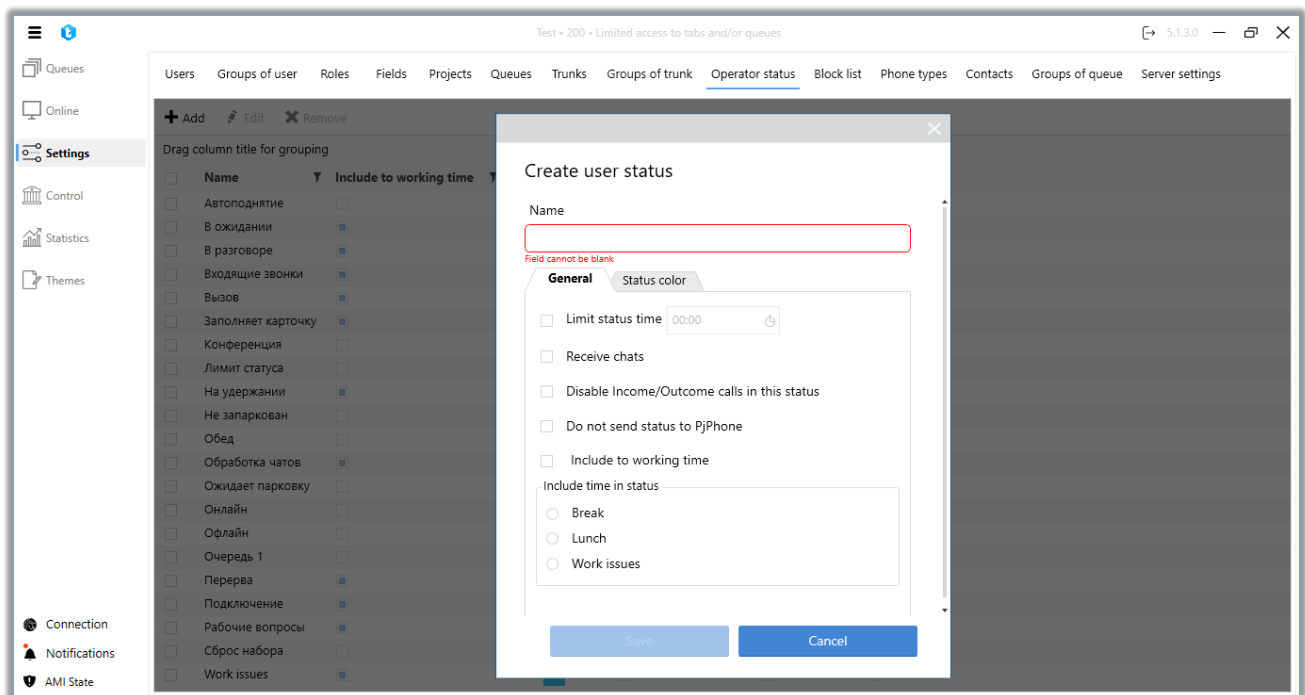
The tab is responsible for creating and editing statuses in the Delta Tel, which operators can select from their softphone. There are two types of statuses: system and user. Most of the system statuses are not editable; they are configured in the database when the system is deployed. Custom ones are available for editing, deleting and creating directly in Delta Tel. System Statuses: "Online", "Auto Pick Up", "Recess," "Pause," "Working Questions.," "Pending", "In Call", "Connecting", "Filling Card", "Dial

Reset", "On Hold", "Offline", "Incoming Calls", "Chat Processing". The tab contains a table with existing statuses, as well as buttons: "Add", "Edit" and "Remove".

By default, the list is sorted alphabetically by the "Name" field.

After clicking on the "Add" button, the user is presented with a dialog box for entering status data. The "Name" field is required and cannot be empty. Each status after creation is assigned its own unique Id.

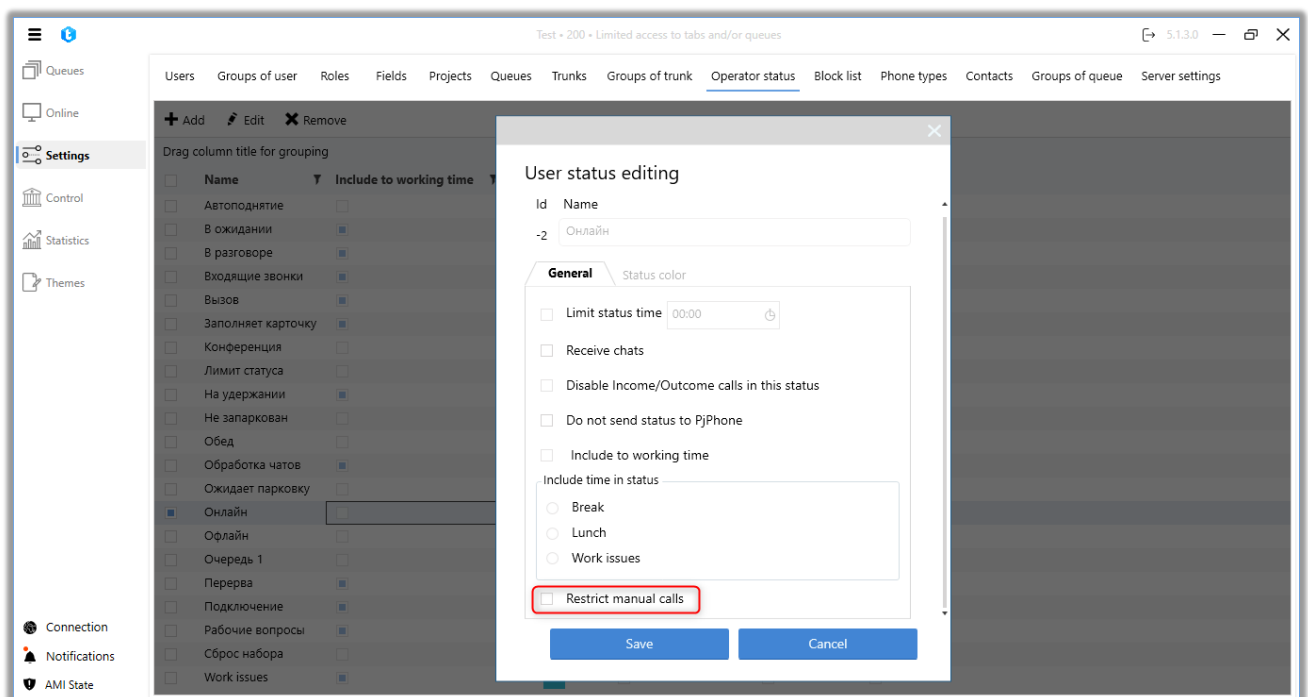
The "General" tab contains the following checkboxes:



- "Limit status time" — set a limited time for users to stay in this status. The user can view the time spent in the status in PjPhone on the "Operator Statistics" tab. Resetting restrictions for being in this status occurs every day at 00:00 server time. If the user has exceeded the set limit for being in this status, then he will be transferred to the "Offline" status, and if he tries to switch to this status again, he will be shown a notification that the time spent in this status has expired. For example, users can be in the "Lunch" status for no more than an hour.

- "Receive chats" — users will be able to process chats while in this status. Also, in the user role settings, the checkbox "Available for chat" must be checked.

- "Disable Income/Outcome calls in this status" — users will not be able to receive or make automatic calls if they are in this status. This setting does not apply to manual call types.
- "Do not send status to PjPhone" — this status will not be displayed and will not be available for user selection in the softphone. This setting can be applied to both user and system PjPhone statuses.
- "Include to working time" — the time of the operator in this status will be counted as working time in statistics and reporting.



- "Restrict manual calls" — when this checkbox is checked, users are prohibited from making outgoing calls manually (API Click to Call, Click to Call, manual calls from PjPhone). This option is available for setting only in the following system statuses: "Auto Raise", "Online" and "Incoming Calls".

In the "Include time in status" block select one of the three system statuses, the time spent by the user in this status will be counted in the statistics. Only one system status can be selected. When switching to this status, the operator in PjPhone will see



the statistics of the time spent in the system status selected in this parameter.

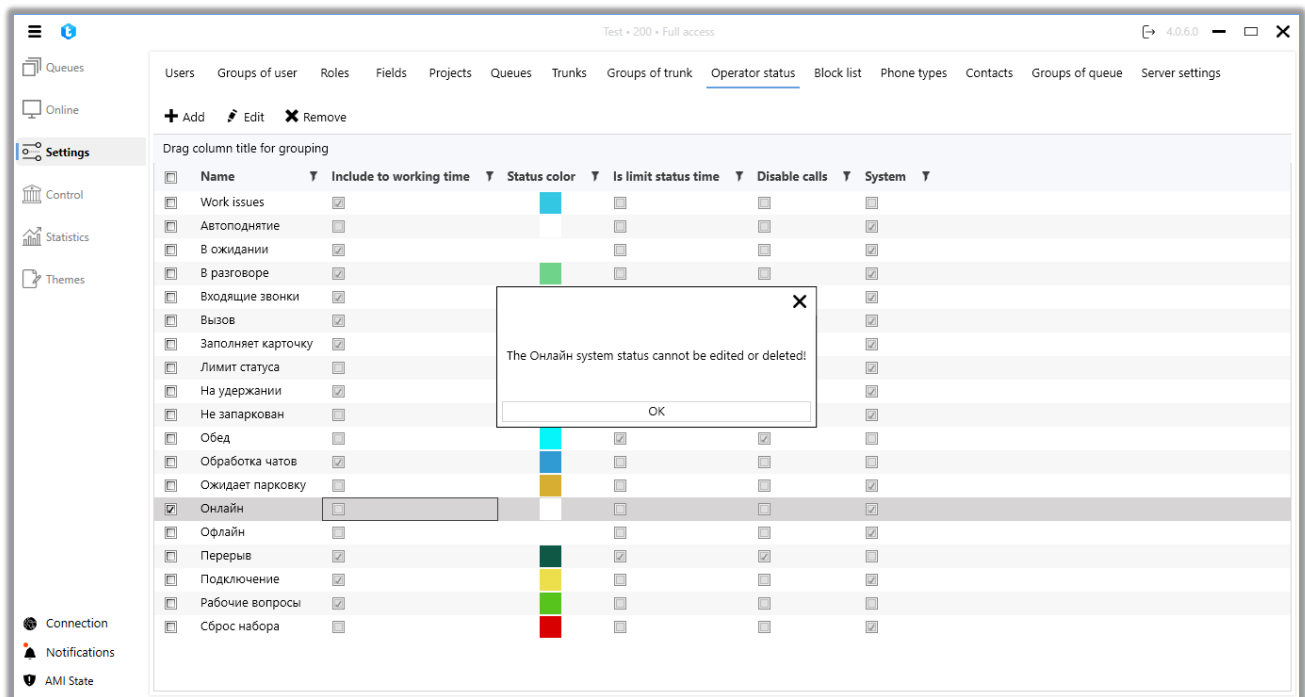
- "Break" — time spent in this status will be recorded in the system status "Break".
- "Lunch" — the time spent in this status will be recorded in the system status "Lunch".
- "Work Matters" — time spent in this status will be recorded in the system status "Work Matters".

On the "Status Color" tab, you can set the desired color for the selected status by entering it in one of the proposed formats (RGB, CMYK, HLS, HLV) or by selecting it using the graphical color panel.

To save or cancel the changes made, you must click the buttons of the same name. The changes made will be applied automatically, without the need to restart the system.

It is also possible to edit the status. To do this, select the desired status by clicking the mouse and click on the "Edit" button. The user will be shown a familiar window for editing statuses.

System statuses cannot be edited or deleted. When attempting to change the system status, the user will be prompted with a corresponding warning.



To delete a status, just select it with a mouse click and click on the "Remove" button. Confirm the selected action in the delete question window.

3.3.10 Block list

On this tab, client phone numbers are added to the Delta Tel black list. For the entered numbers, the possibility of making calls will be blocked, regardless of the type of queue (the system sets the Blocked status to such numbers). The tab is a table with existing phones in the block list, as well as buttons: "Add", "Edit", "Remove" and "Find".

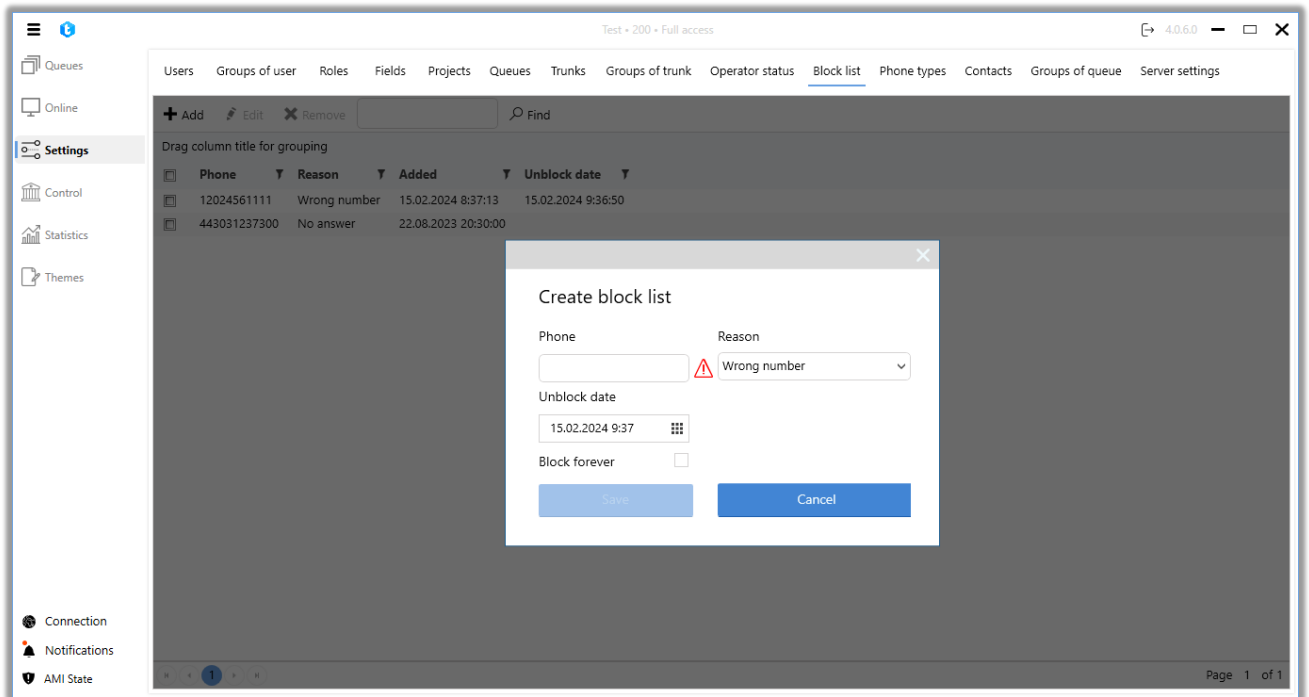
The block list search is carried out by entering the numbers from the desired phone number, after which you must click "Find".

By default, the list is sorted from by the date added (the "Added" field).

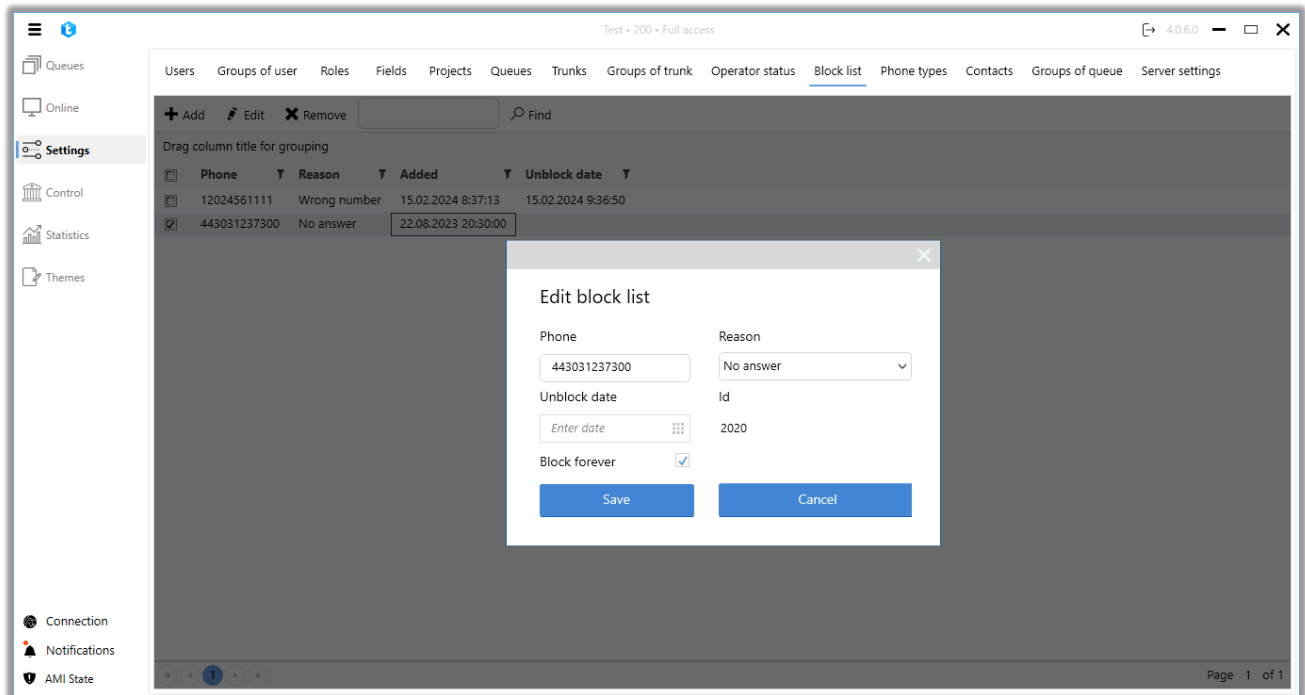
To add a client's phone number to the black list, click "Add", after which the user is presented with a dialog box for entering data. It is necessary to fill in the phone number (the field cannot be empty and can contain only numbers), select the reason for adding to the block list from the list of available ones (the reasons for blocking



have an exclusively informative role), and also set the date of unblocking or block this number forever (by setting the checkbox accordingly "Block forever"). Initially available blocking reasons in the interface are system ones, new statuses are created in the database ("EnumBlockListReason" table). To save or cancel changes, press the corresponding buttons.



It is also possible to edit the created lock. To do this, select the desired phone by clicking the mouse and click on the "Edit" button. The user will be shown a familiar window for data editing.



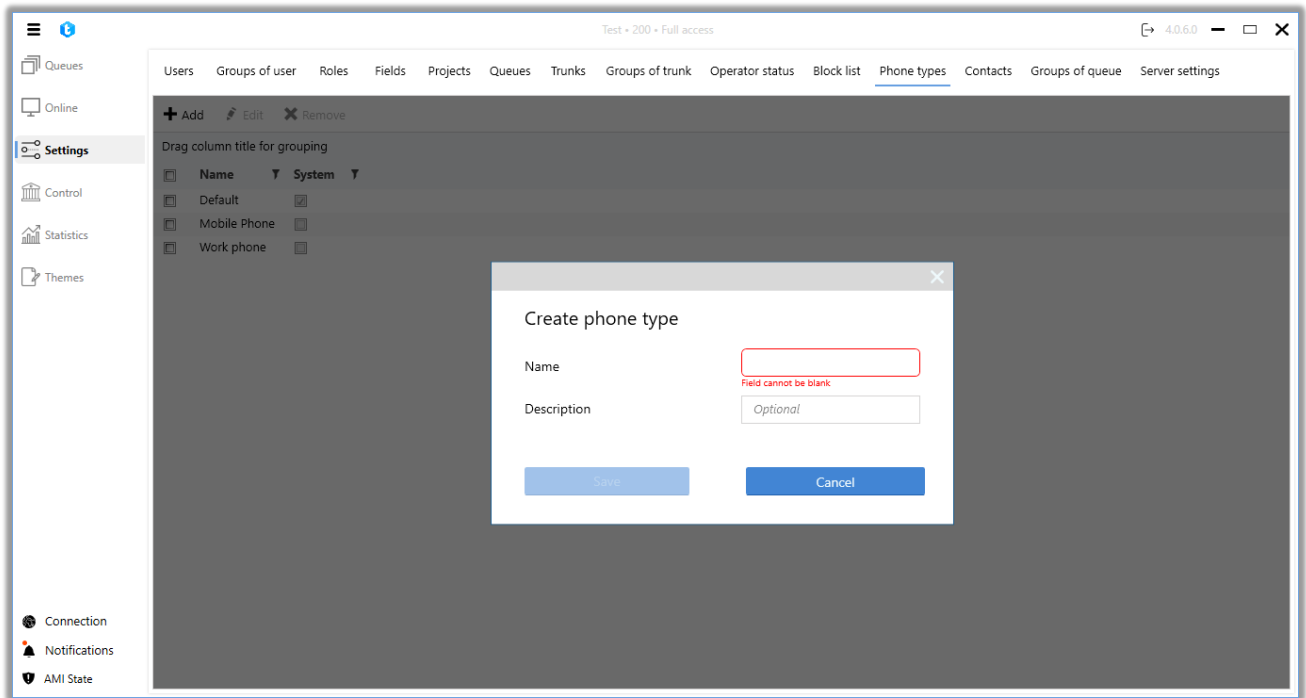
To remove the lock, just select the desired phone with a mouse click and click on the "Remove" button and confirm the selected action in the window asking for removal.

3.3.11 Phone types

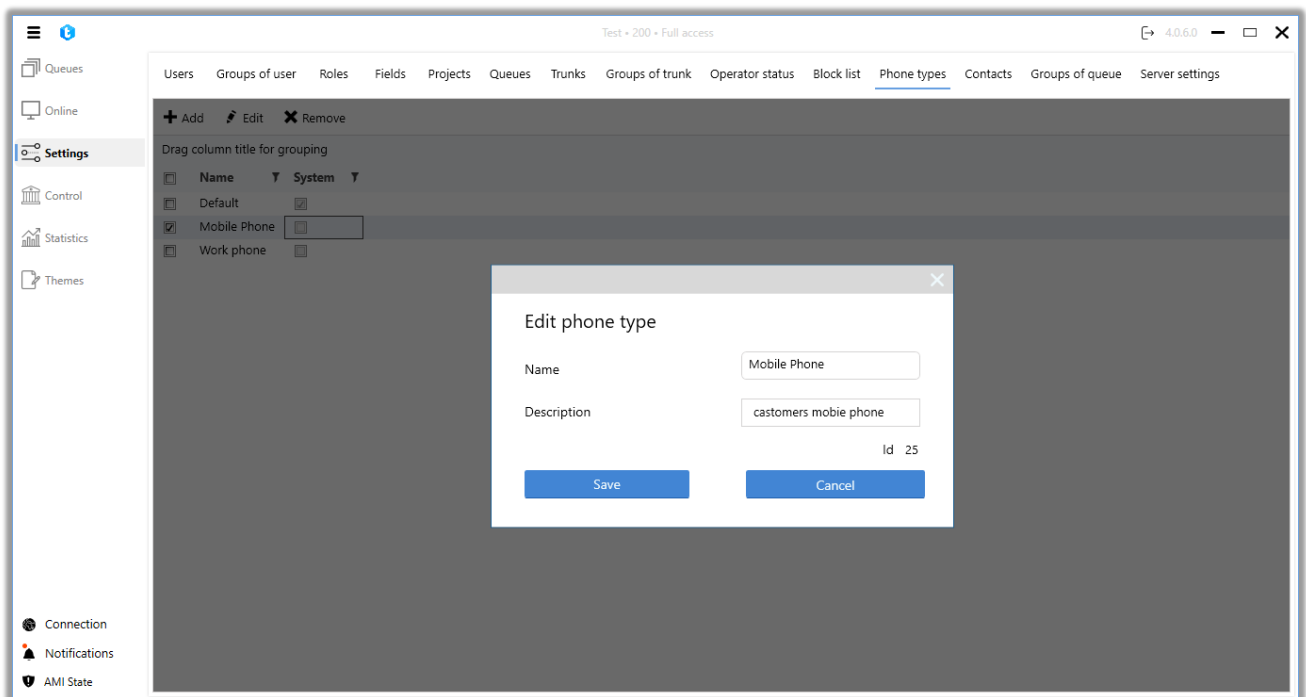
This tab provides the ability to edit and add new phone types to the Delta Tel. The "Default" type is system type, it is pre-installed when the system is deployed and cannot be removed. Phone types are stored in the PhoneTypeId field of the WorkItems table. The tab is a table with already existing types of phones, as well as buttons: "Add", "Edit" and "Remove".

By default, the list is sorted alphabetically by the "Name" field.

After clicking on the "Add" button, the user is presented with a dialog box for entering data about the type of phone. You must enter the name of the phone type (the field cannot be empty) and, if required, add a description. To save or cancel, press the corresponding buttons.



It is also possible to edit the created phone types (users cannot edit system types). To do this, select the desired type of phone by clicking the mouse and click on the "Edit" button. The user will be shown a familiar window for editing phone types.



To delete, just select the desired type of phone with a mouse click and click on



the "Remove" button and confirm the selected action in the delete question window.

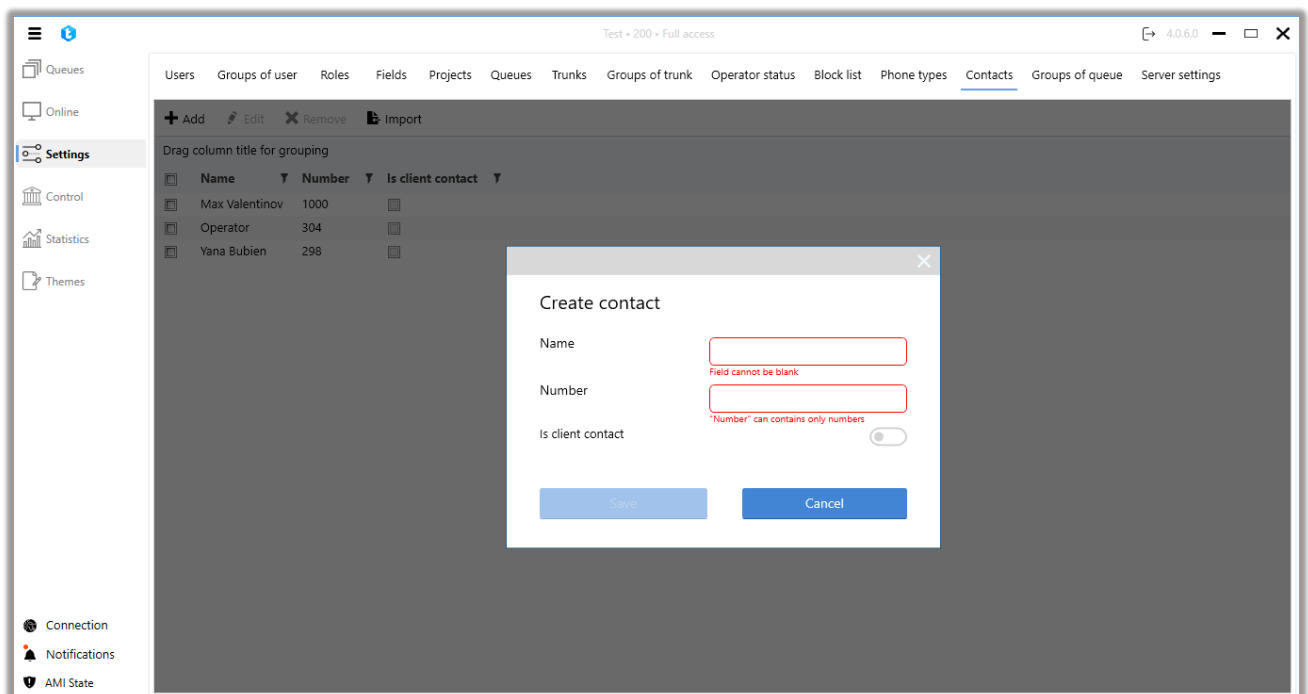
3.3.12 Contacts

This tab is used to add contacts to the Delta Tel. The created contacts will be available to operators for speed dialing when using a softphone. For example: these can be the numbers of supervisors, managers, administrators, etc. The tab is a table with existing contacts, as well as buttons: "Add", "Edit", "Remove" and "Import".

By default, the list is sorted alphabetically by the Name field.

After clicking on the "Add" button, the user is presented with a dialog box for entering data about the contact. You must fill in the name and enter the number (or SIP number). To save or cancel, press the corresponding buttons.

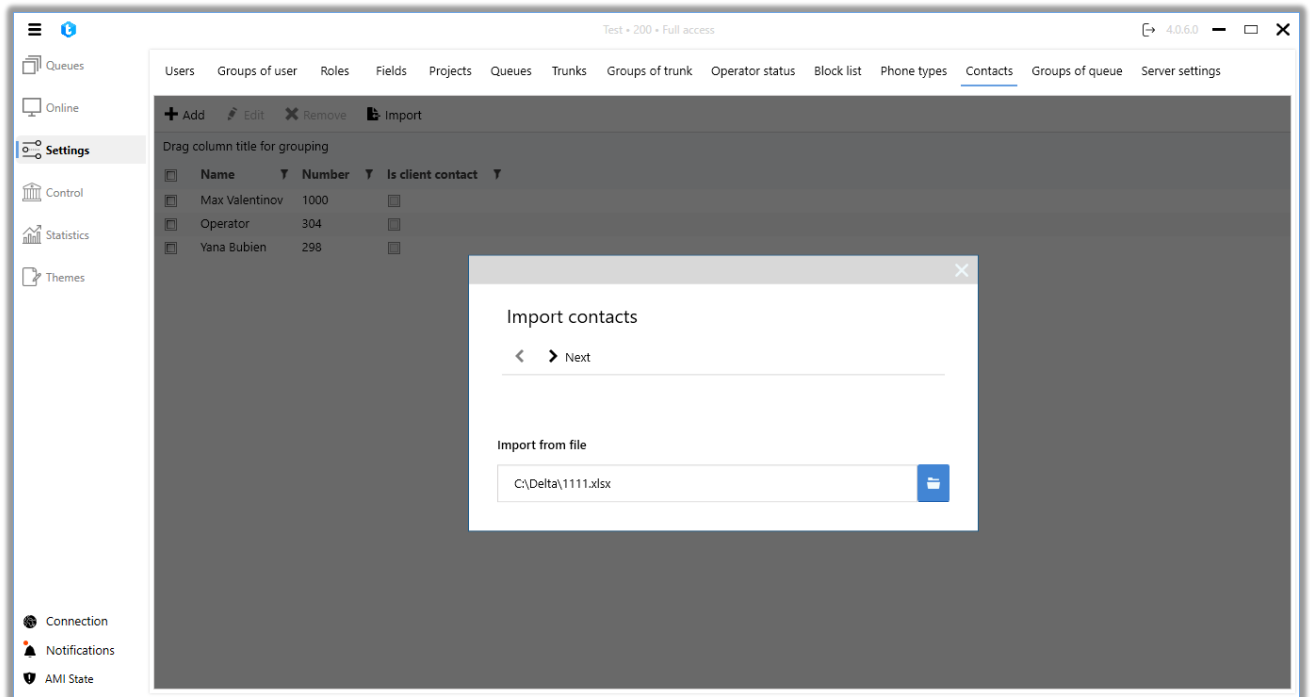
Using the checkbox "Is client contact" the display of the name of the selected contact in PjPhone is enabled when making a call.



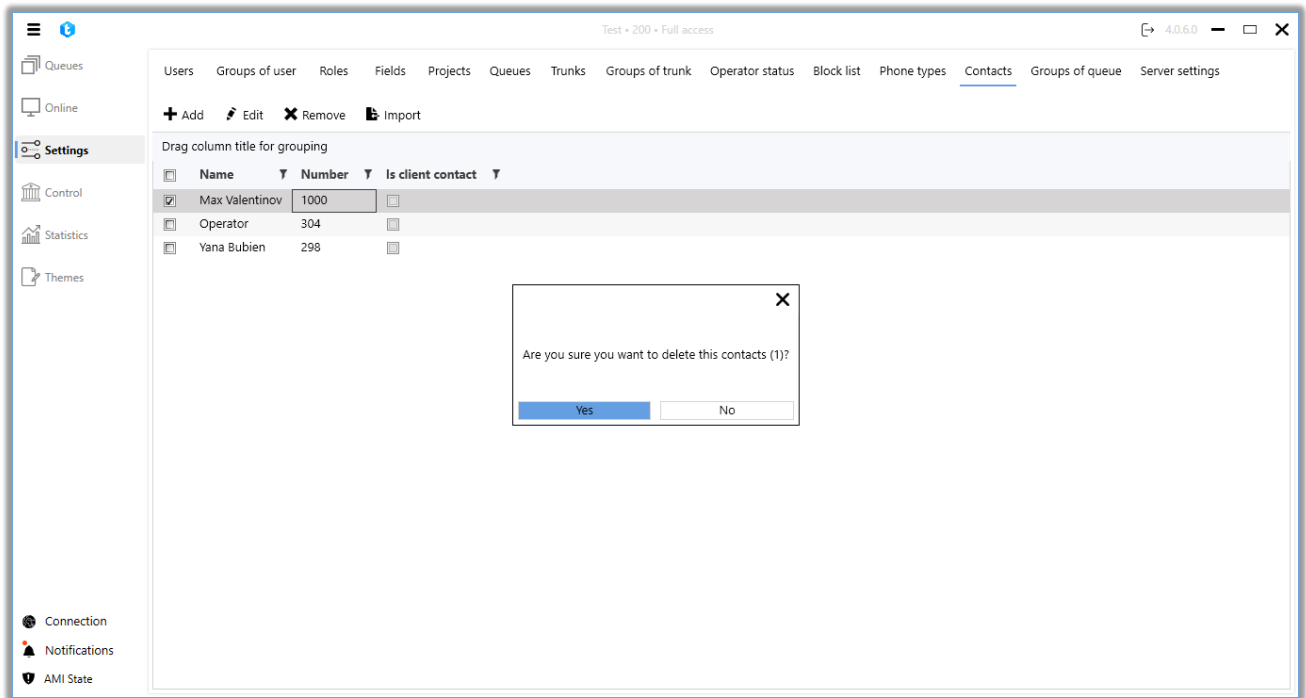
To edit already saved contacts, you need to click the mouse to select the desired contact and click on the "Edit" button.



Also on this tab, you can import contacts into the system from files with the extension ".csv".



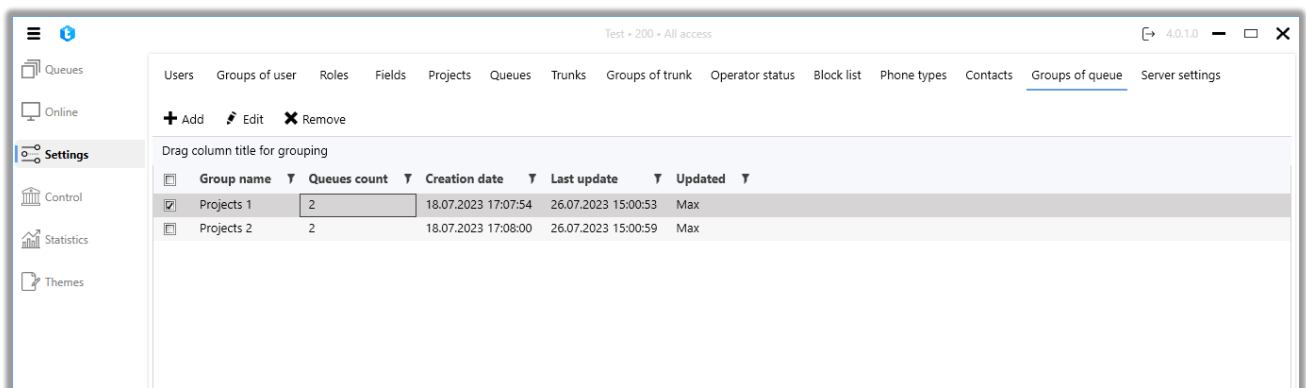
To delete, just select the necessary contacts with a mouse click, click on the "Remove" button and confirm the selected action in the window asking about deletion.



3.3.13 Queues groups

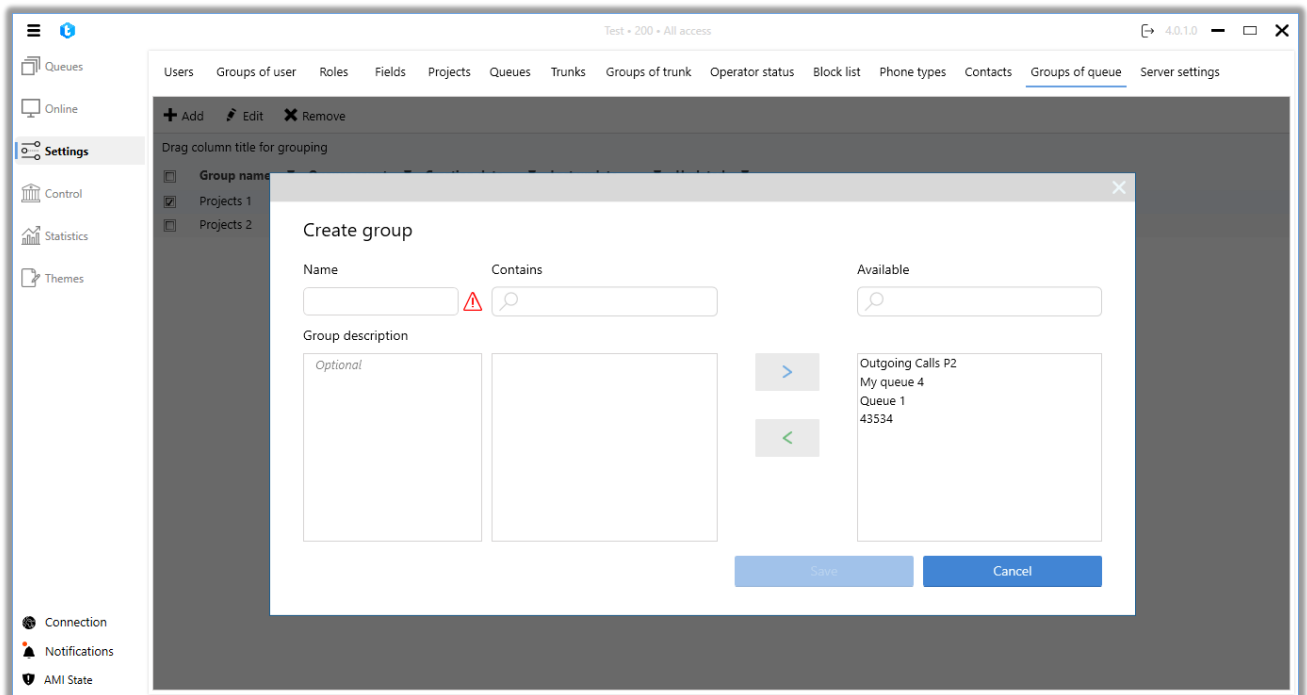
On this tab, you can configure grouping of queues. After that, it becomes possible to sort them in the Queues tab, which speeds up navigation and improves visual perception when working with a large number of queues.

By default, the list is sorted alphabetically by the "Group name" field.

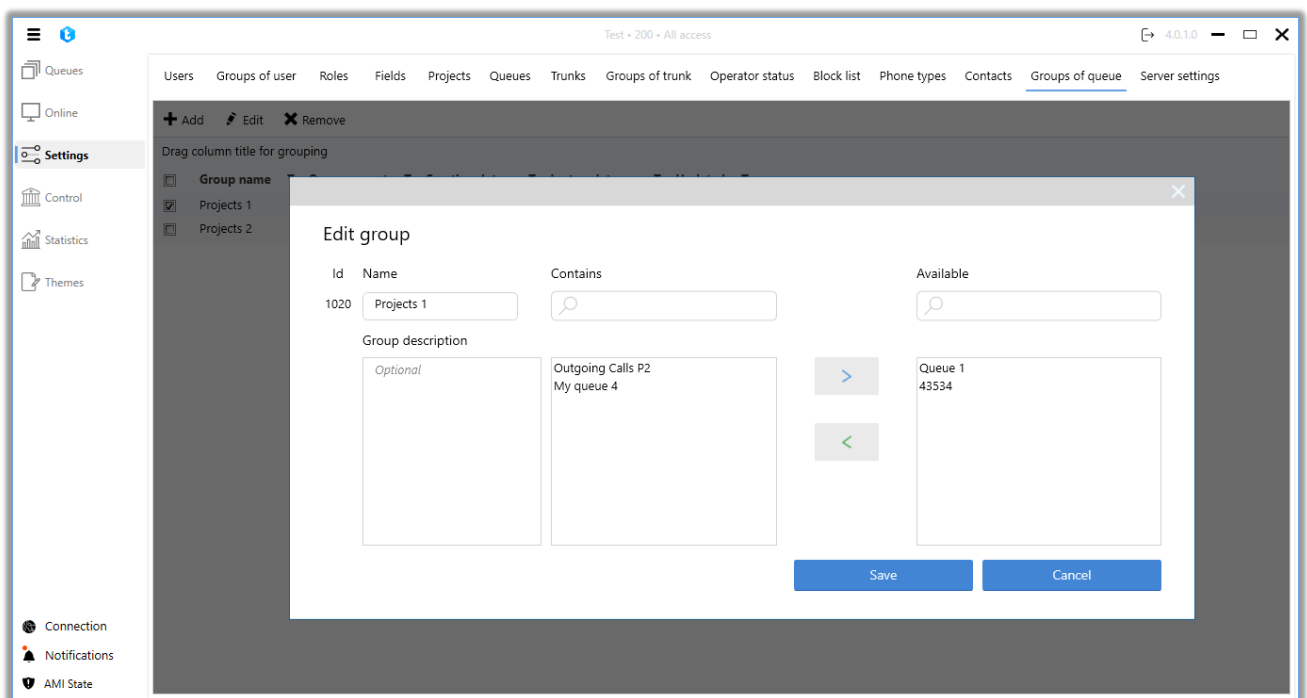


A new queue group is created using the Add button. Next, you need to enter the name of the group, select from the "Contains" block the queues necessary for merging and move them to the "Available" block, if necessary, fill in the description

of the group and click "Save".



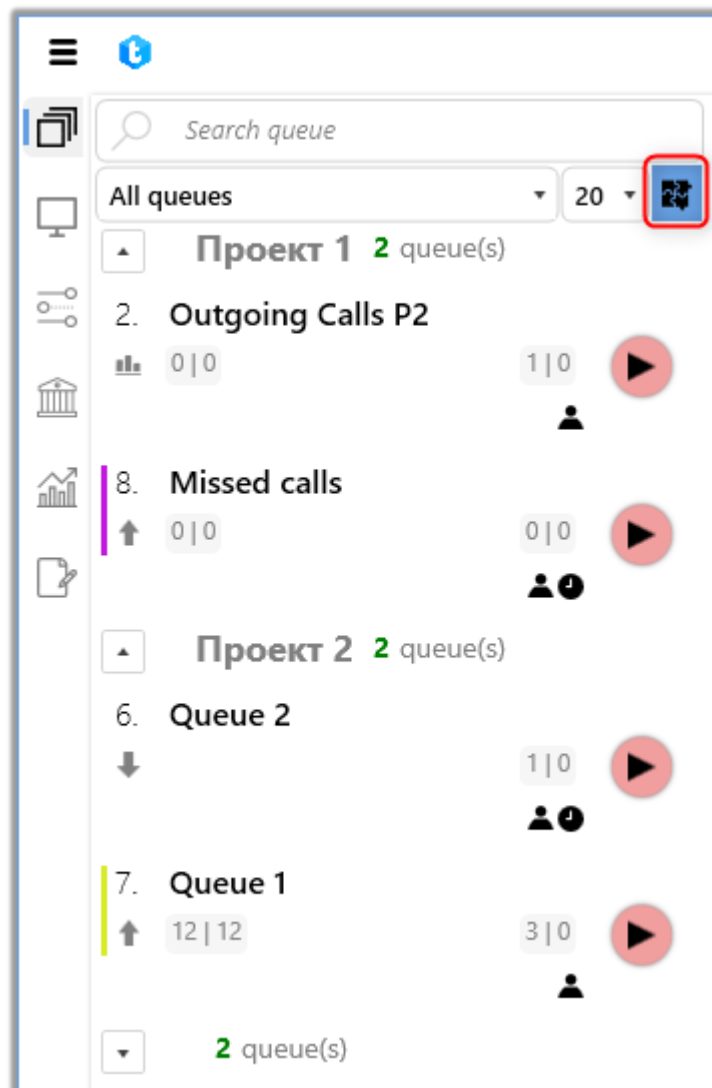
To edit already created queue groups, you need to select the desired group and click "Edit". The Edit Group window will open. After making changes, click "Save".





To delete a group of queues, select the desired group and click "Remove". Then confirm deletion.

You can check the settings for grouping the queue by going to the "Queues" tab and clicking on "Group". Pressing again cancels the grouping.

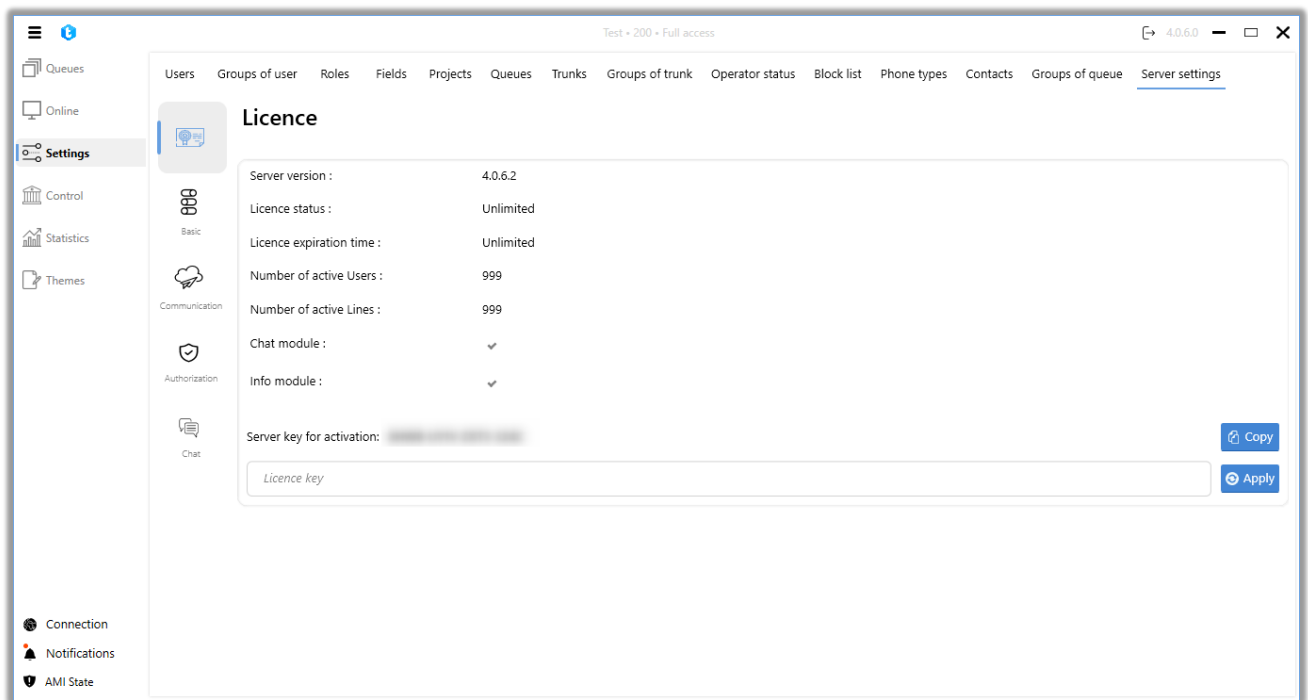


3.3.14 Server settings

In this section, you configure the parameters of the Delta Tel operation. The section contains five internal tabs: "License", "Basic", "Communication", "Authorization" and "Chat".

3.3.14.1 License

The "License" tab displays the state of the license, the connected module under the current license, and also through this tab, it is activated and renewed.

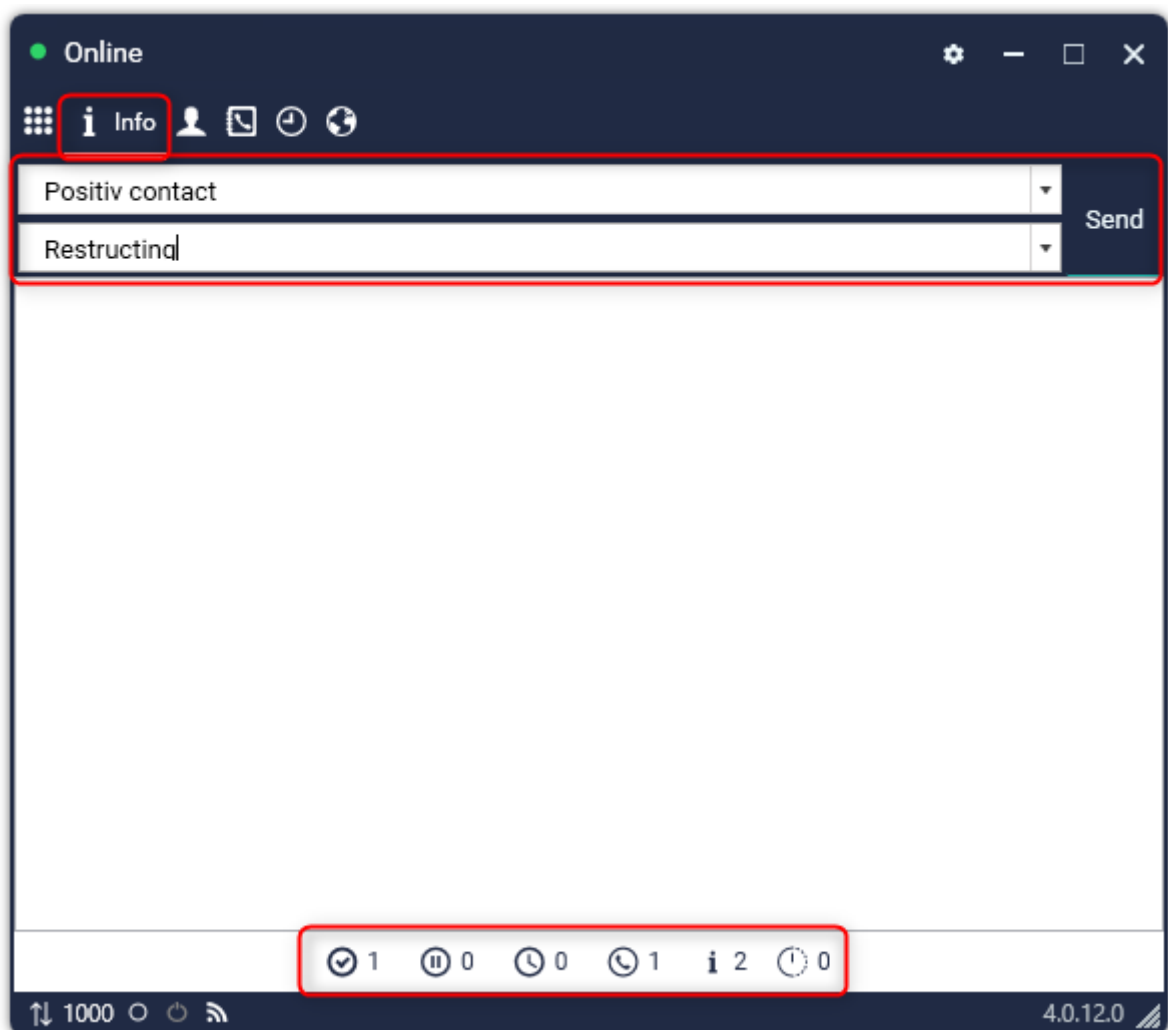


- **"Server version"** — displays the version of the Delta Tel server.
- **"License Status"** — displays information about the license status. It can take on the following statuses: "Limited" — the license is activated, there are restrictions on the operation of modules; "Unlimited" — the license is activated, there are no restrictions on modules; "NotActivated" — the license is not activated; "Overdue" — the license has expired.
 - **"License expiration time"** — this item displays the license expiration date.
 - **"Number of active users"** — the maximum number of possible users that can be in the system at a time. The system takes into account the number of running client applications and softphones. If the set number is exceeded, the system will



display a notification that the maximum number of active users has been reached.

- **"Number of active lines"** — the maximum number of available lines for incoming and outgoing calls, more than which the system will not dial. Values exceeding this limit will be ignored by the system. An unlimited number of lines can be set.
- **"Chat module"** — indicator of connection to the chat module system.
- **"Info module"** — indicator of connection to the info module system. The module allows you to use themes, the "Info" tab and the statistics sidebar in PjPhone.

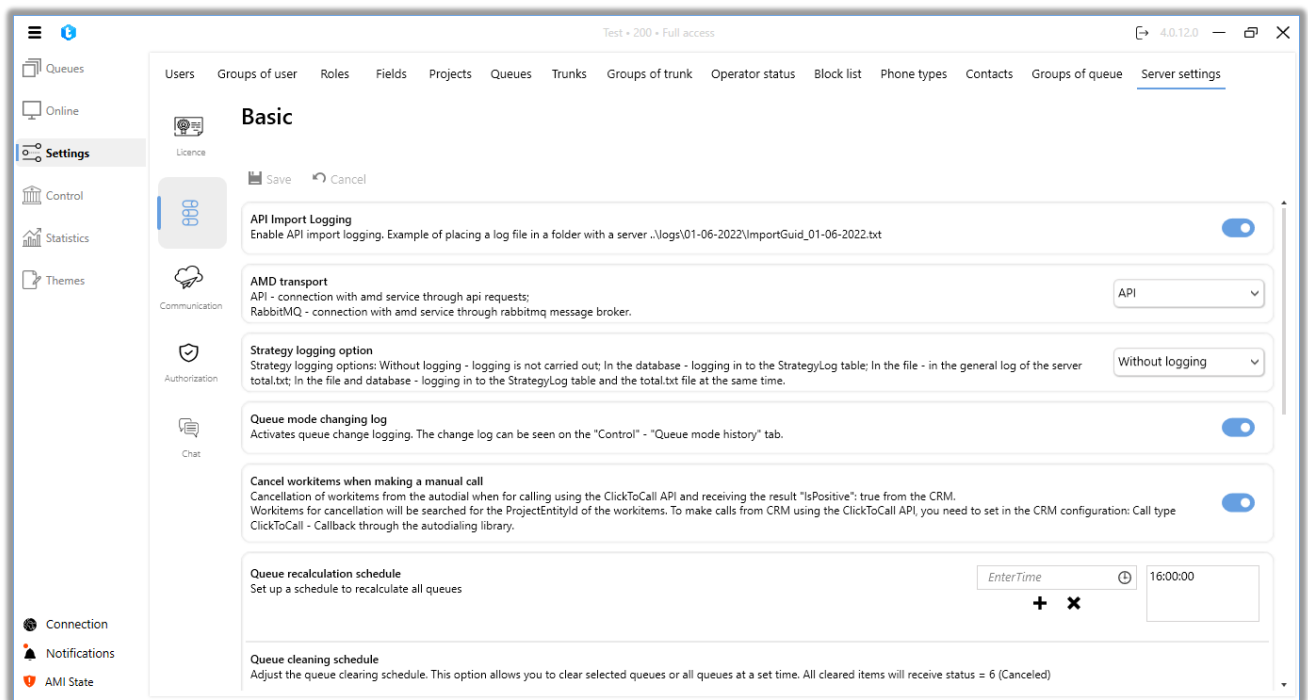


- **"Server key for activation"** — the key of the software product that is used to generate the license key (created during system deployment).
- **"License key"** — a field for entering a license key and a button to activate

it. The license key is generated based on the server key.

3.3.14.2 Basic

This section configures the basic parameters of the Delta Tel application.



The following options are available on this tab:

"API import logging" — activation of recording logs of imports made by API (import from the CRM system). Logs allow you to analyze data import via API. The system writes import logs to one file per day (from 00:00:01 to 23:59:59), such a file will be called "ImportGuid". An example of placing such a file in the server folder:\logs\01-06-2022\ImportGuid_01-06-2022.txt.

IMPORTANT: when enabling any of the available types of logging, it must be taken into account that it increases the load on the system.

"AMD Transport" — this option allows you to select the type of request used for connecting the Delta Tel server with the AMD microservices (an application for autoresponder recognition). There are two connection types available: API -



communication with the AMD service through API requests; RabbitMQ - connection with the AMD service through the RabbitMQ message broker.

"Strategy logging option" — recording logs of all elements that go through all blocks of each of the strategies. There are four options for logging the strategy:

- "Without logging" — logging is not performed;
- "In the database" — logging to the "StrategyLog" table;
- "In the file" — logs are written to the total.txt file, which is located along the path: ...\\Delta Tel\\Server\\logs;
- "In the file and database" — logs are simultaneously written to the "total.txt" file and the "StrategyLog" table.

"Queue mode changing logs" — enable logging of mode changes for queues. The change log can be viewed on the Control tab in the Queue Mode History section.

"Cancel workitmes when making a manual call" — the element will be removed from the call queues in the Delta Tel if this element was called using the ClickToCall function via the CRM API and a request was received from the CRM side (IsPositive: true). Items to be canceled are searched for by their "ProjectEntityId". To make calls using the ClickToCall function in CRM, the configuration "Callback via autodial library" must be set in the "ClickToCall call type" parameter.

"Cancel an item with regular manual call" — canceling elements from automatic dialing when receiving the result "IsPositive: true" and "DialId: 0" from CRM. Items to be canceled are searched for by their LoanId. For the correct search and cancellation of elements, it is necessary to map the fields in the ProcessedCardField block that contain LoanId.

"Queue recalculation schedule" — this parameter is responsible for the automatic start of the recalculation of queue elements according to the set time. The system accesses the database, retrieves all phone numbers, and internally recalculates the state of the queue. Spent items are removed from the "Total Items" value in the queue. After recalculation, the system will send all items for redialling the next day. The time can be set by selecting from the drop-down list (by clicking on the



clock icon) or by entering a value (hh:mm format) and clicking on the "+" icon. To delete, select a value and press "x". In order to avoid repeated calls, it is highly recommended to set the counting start time outside the queue's working hours.

"Queue cleaning schedule" — setting up automatic cleaning of queues from elements. The established schedule allows you to clear the queues before the next import from CRM, in order to avoid duplication of elements in the system, which may appear if some element has not been processed and this one has been re-processed in the next import. This function allows you to clear queues without using additional jobs in the database. Also, clearing queues allows you to clear all queues or only those selected at a specified time. All unprocessed items that were not rang during the working day (usually such items have the NotProcessed status) will be assigned Status = 6 (Canceled).

Information from the fields associated with WorkItems will automatically move to the History table when the queue is cleared or items are manually deselected. This will allow you to easily view historical information on them as needed (what data was loaded on a particular day, etc.). When the queue is cleared, all of this data associated with the canceled WorkItems will be moved to the "History_projectdynamic" table.

"Clear all queues" — enable the cleaning of all queues within the Delta Tel according to a set schedule. If the schedule is not set, then cleaning will not be performed. If this option is enabled, then the selection of queues for cleaning becomes inactive.

"Store temporary AMD recording files" — set the number of days during which AMD autoresponder template records will be stored, after which they will be deleted. If set to "0" - no cleaning will be performed.

"Store log files" — set the required number of days that files with logs will be saved, which are located in the directory: "...\\Logs". If the value is set to "0" - no cleaning will be performed.

"Clearing log file by size" — when the limit of the allocated memory size for log storage is reached, the system will delete the number of oldest log files according to



the specified size.

"Cleaning size" — set the amount of memory in GB that the box will clean when the specified log size is reached in the "Clearing log file by size" parameter.

"Set the field name" — the name of the field in the Asterisk database is specified, from which DeltaTelService can get a call to place records of conversations. This field is responsible for storing conversation records. If this field is specified incorrectly, then the user will not have access to the call records through the Delta Tel interface.

"Default phone length" — length restrictions (number of digits) of imported phone numbers in Delta Tel, which will be set by default. If the length of the phone number exceeds the specified value, then the number is converted to the specified form. The cutoff starts from the leading digits of the phone. It is advisable not to edit the default value, but to perform all the necessary manipulations with the long phone number in the trunk settings.

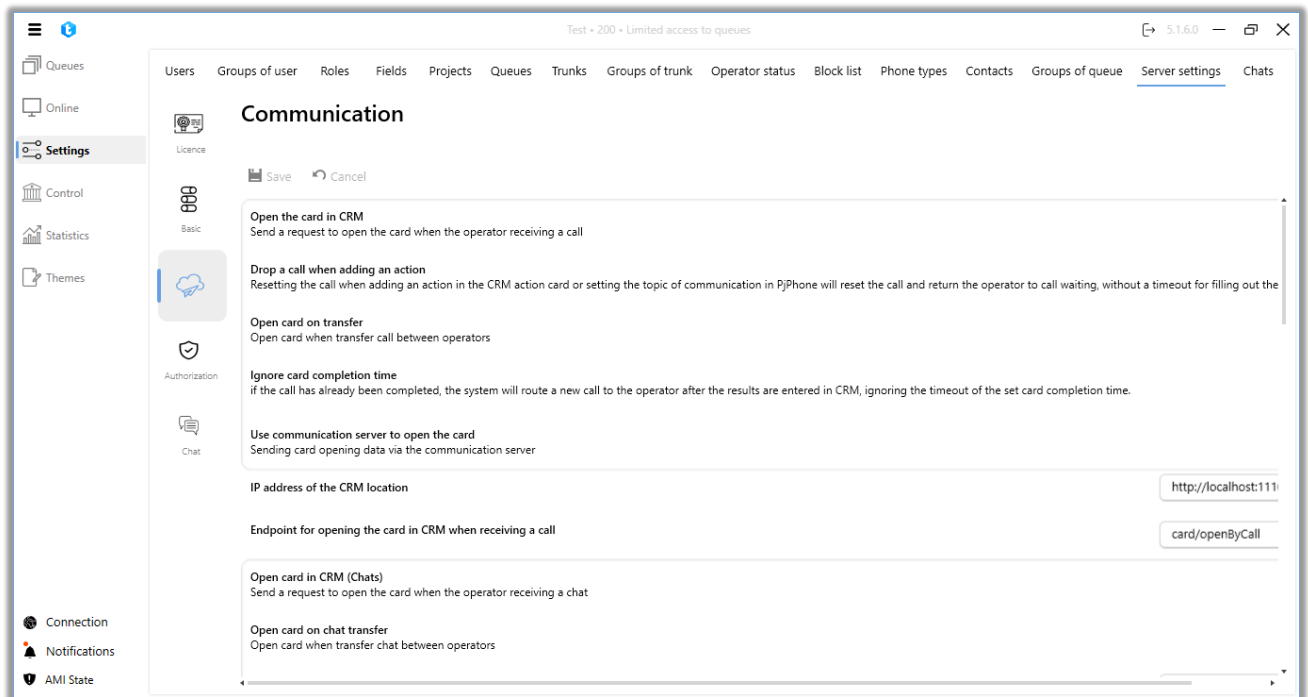
"Synchronization of work items with the database" — after pressing the "Recalculate all queues" button, the system completely clears the existing selection of items in all queues and brings it to the current state in the database (including all items and dynamic fields).

IMPORTANT: The recalculation of elements should be done not during the working hours of queues or at minimum load: because the process of movement of elements across strategy blocks, across all queues is started, which may result in calls for a productive action. When recalculating all queues, items that were in the Freeze or WaitCRMResult status can leave this status.

After making all the necessary settings and changes, you need to click the "Save" button. To cancel unsaved changes, click the "Cancel" button.

3.3.14.3 Communication

On the "Communication" tab, the interaction of Delta Tel with CRM and external services is configured.



The following settings are configured on the tab:

"Open card in CRM" — send a request to open a card when receiving a call. This option is triggered on automatic dialing, on incoming calls and on ClickToCall calls. It does not open only in case of a manual call (in the status "Working issues").

"Drop call when adding an action" — reset the call and close the card after the user has added an action in the customer's card. CRM will automatically end the call, without time to fill out the card. If this setting is not active or the call was completed without adding an action, then after the end of the call, the "Card filling time" parameter will be activated (the "Modes" tab in the queue settings).

"Open card on transfer" — when this checkbox is checked, the system automatically opens the client's card at the operator to whom the call was transferred. This allows the operator, to whom the call is transferred, to immediately access the necessary information and continue working with the client. By default,



the card is not opened at the operator to whom the call was transferred. You can track which operator has performed a successful action in the client's card using "UserID", which corresponds to the user ID in CRM.

"Ignore completion time" — if this parameter is active, then after the call is completed and the operator has entered the results in CRM, the system will automatically route a new call to him, ignoring the time for card filling set in the settings of queue modes (parameter "Card filling time"). For example, after the call is completed, the operator has put the result in CRM for 1 minute, and the time to fill the card is set to 5 minutes, then the system will not wait for the remaining 4 minutes, and will immediately send a new call to the operator.

"Use communication server to open the card" — if this checkbox is activated, sending data for opening the card is done via HTTPS service. The method settings are configured through the Delta Tel Client interface using existing communication fields. In case of activation of this checkbox the setting "Endpoint for opening a card in CRM when receiving a chat" will not be available.

"IP address of the CRM location" — entering the IP address of the CRM server.

"Endpoint for opening a card in CRM when receiving a call" — enter a case that will be used to open it in CRM when receiving a call. The default value used when working with CRM is card/openByCall.

"Open card in CRM (chats)" — when this checkbox is activated, the system automatically sends a request to open a client's card in CRM as soon as the operator accepts the chat. When sending the request, the POST method is used.

Example request:

```
{  
  "UserId": 1,  
  "ChatId": '6050140131',  
  "MessengerUserName": 'deltam',  
  "SessionId": '65c3a72e8868f24534280f68',  
  "MassengerName": 'Telegram',
```



```
"PhoneNumber": "3806673569201"  
}
```

Where:

- "UserId" — Id of operator in CRM (Int);
- "ChatId" — Id of the client in messenger (string);
- "MessengerUserName" — username of the client in messenger, if it was possible to get it (string);
- "SessionId" — Id of the chat session (string);
- "MessengerName" — name of the messenger, which is set in the administrative panel of the chatbot (string);
- "PhoneNumber" — phone number, if the client shared it (string).

"Open card on chat transfer" — when this checkbox is checked, the system automatically sends a request to open a client's card with a new operator after chat transfer.

"Endpoint for opening the card in CRM when receiving a chat" — entering a call that will be used to open it in CRM when receiving a chat. Standard value used by default when working with CRM: OpenCardChat.

"Fields to send to CRM" — fields, the values of which are transferred from Delta Tel to CRM to open the card.

"Fields to receive from CRM" — values in the fields that Delta Tel expects to receive from CRM when an action is set there.



— an icon in the form of a chain that visually displays the correspondence of data for fields (mapping). Blue highlight indicates line selection (e.g. for deletion).

"Activate sending call results" - When this functionality is enabled, Delta Tel, after calling imported items, will transfer the results of the call to an external API.

Delta Tel expects to import items at the following address

[POST]



`http://{ServerIpAddress}:12004/api/v1/Import/SavePhoneNumber`

, where `ServerIpAddress` is the address of the server that hosts the Delta Tel.

JSON that accepts this API method:

```
{
  { "PhoneNumber": "0123456789",
    "ImportId": "ImportTest\\\\\\1"
  }
}
```

If the import is successful, Delta Tel will return the following result:

```
Successfully added phone number (ph:0123456789 id:APIImport\\\\ ImportTest\\\\\\1):
wi: 1;
```

Where `ph` is the number of the imported item, `id` is the unique identifier of the import and `wi` is the identifier of the created `WorkItem` to be called.

`PhoneNumber` - the phone number that was sent in the import;

`ImportId` - unique identifier of the import;

In order for the queue to "catch" imported items, you need to select the necessary queue, go to the "Selection" tab, add selection by `ImportId` field and specify `ImportIdPrefix` that was used when importing items.

When the call is completed, the functionality to send the call result is active and the `ImportIdPrefix` is filled, Delta Tel will send the call result to the specified [POST] External IP + `ExportCallController` using the following JSON:

```
{
  { "phoneNumber": "0123456789",
    { "ImportId": "ImportTest\\\\\\1",
      { "DialFinishReason": "Drop"
    }
  }
}
```

`PhoneNumber` - the phone number that was sent in the import;

`ImportId` - unique identifier of the import;

`DialFinishReason` - result of the call;



- **"IP address to send results"** — External IP address of the external service where the call result will be exported.

- **"The name of the controller to which the results will be sent"** — name of the controller and the action to which the call result reception will be performed.

- **"Import ID of the Items to be processed"** — ImportIdPrefix is the identifier of the WorkItem that came by means of external import. If ImportIdPrefix is empty, external import of items to Delta Tel Client will not be performed.

"Enable sending incoming call data" — sending data about an incoming call from the Delta Tel database to a third-party application. For example: sending operator data (number, his id, etc.) from the database to the web application on an incoming call.

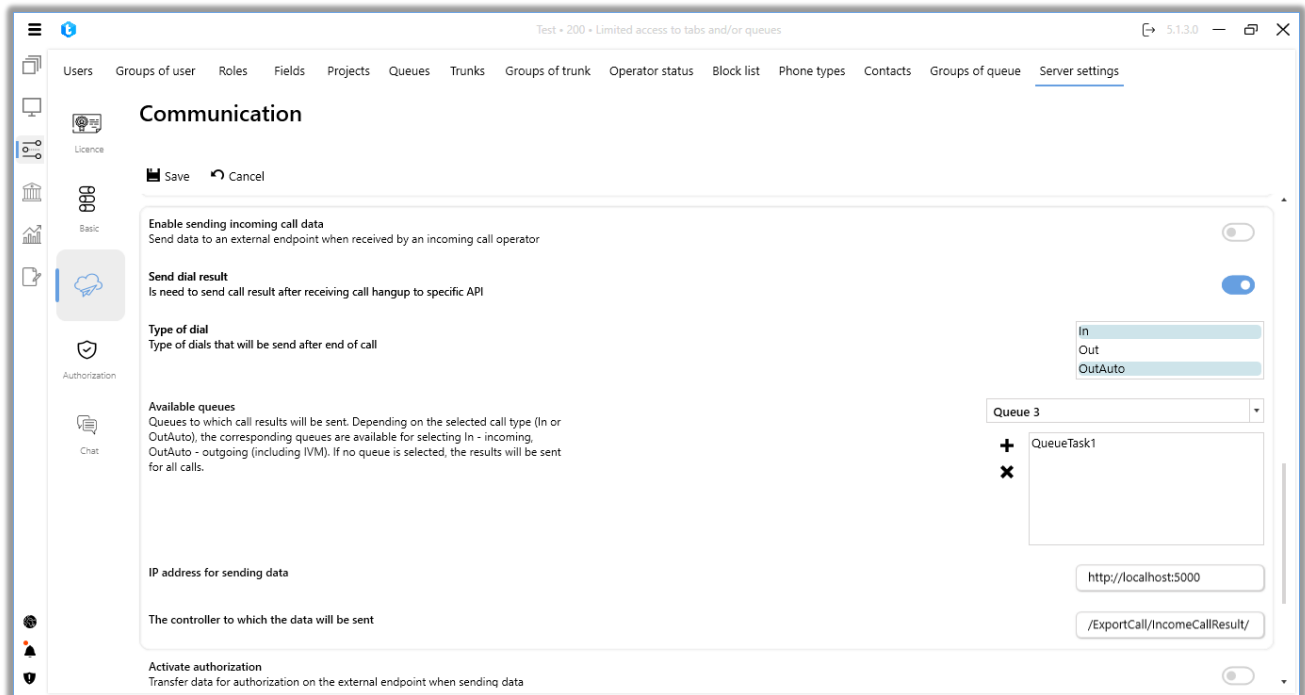
"Send call result" — when enabled, the system automatically sends the call results to a specific API after the call is completed.

- **"Call type"** — select the type of call, after completion of which parameters will be sent to a third-party API point. The following types are available:

"In" — incoming call;

"Out" — outgoing manual call with PjPhone;

"OutAuto" — outgoing automatic call.



- **"Available queues"** — in this parameter select queues from which the system will send data about the call result via API. To work with this functionality, the "Send call result" checkbox must be active. The queues available for adding depend on the type of call selected in the "Call Type" parameter (In or OutAuto): In - incoming, OutAuto - outgoing and IVM queues. To add the required queues choose them from the drop-down list and press the "+" button. To delete a queue, select it from the list of added queues and press the "-" button.

IMPORTANT: if there are no queues added, then the call results will be sent for all queues with the selected types in the "Call Type" parameter.

- **"IP address for sending data"** — enter the IP address to which the data will be sent.
- **"The controller to which the data will be sent"** — the API point to which the data will be sent.

Data to send:

"DialId": Call ID,

"StartTime": 'StartTime',

"CallType": 'Call Type',



"CallerPhoneNumber": 'Customer Phone Number',
"WaitingDuration": 'Waiting Time',
"SpeakingDuration": 'Speaking Duration',
"FinishReasonOfDial": 'Reason for ending the call',
"TrunkGroupId": 'Trunk Group',
"CRMHistoryId": 'CRMHistory table record',
"KeyId": 'Import Key'.

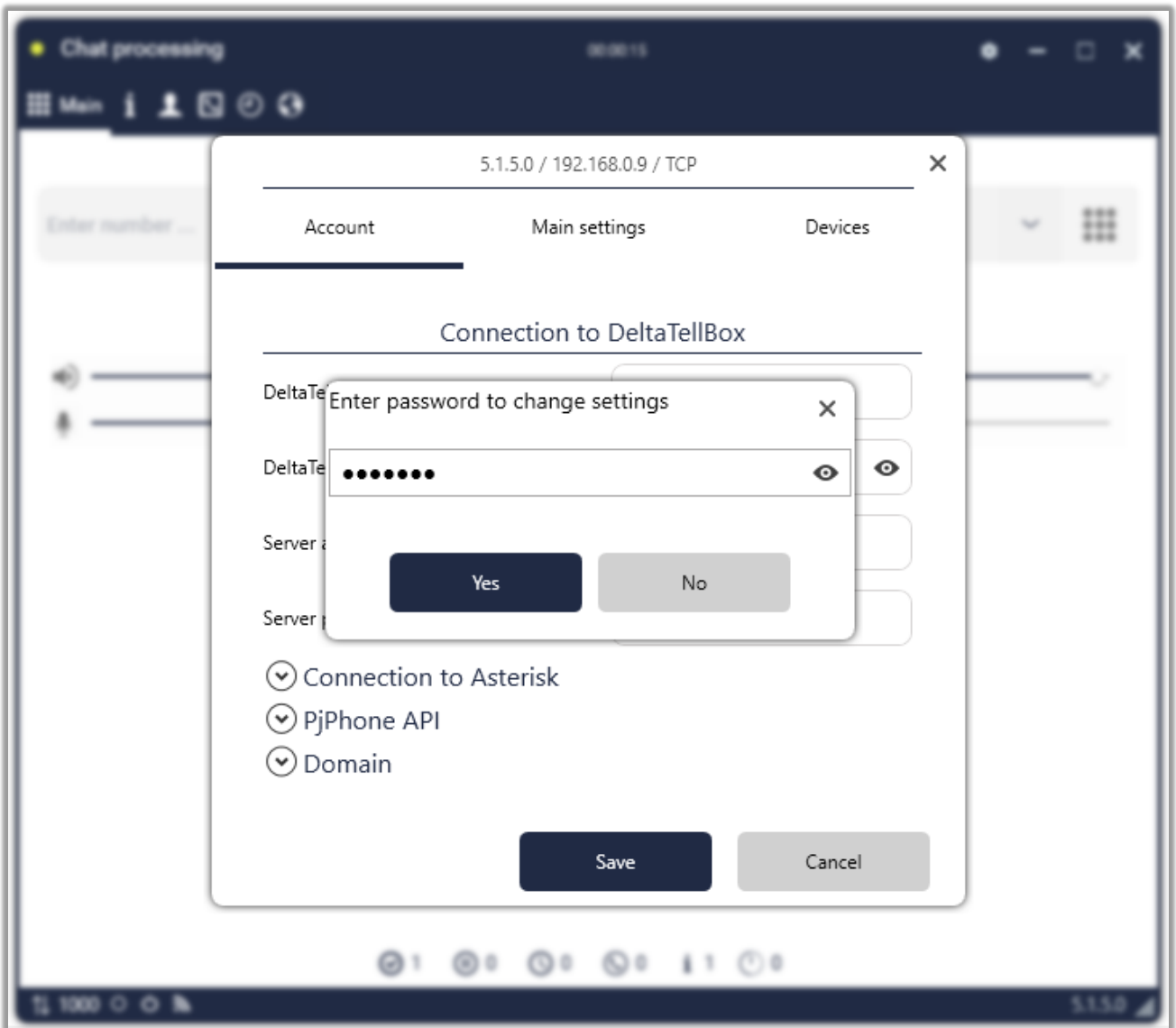
"Activate authorization" — enable data transfer for authorization to an external endpoint when sending data.

- "Authorization method" — setting the authorization method.
- "User login" — enter the user login for authorization.
- "User password" — enter the user password for authorization.

"Setting the startup status of the PjPhone" — building the start status that will be automatically set when PjPhone is started.

"Prohibit manual status change in PjPhone" — this feature allows you to prohibit users from manually changing the status in PjPhone. The status will only be able to be changed via API point. To use this feature, you must set the start status in "Set PjPhone start status" except for "Offline" status.

"Use password to adjust settings in PjPhone" — after activating this checkbox, users will not be able to change PjPhone softphone settings without entering the password. When trying to save the changes made in the softphone settings, the user will be shown a window with a field for entering the password. If the entered password does not match the specified one, the changes in PjPhone will not be saved.



When this feature is enabled, the field for setting a new password or editing an already set password becomes available. If a password has been set and then this feature is disabled, the previously entered password will not be deleted - it will remain saved and available for later use or editing when this feature is enabled again.

This feature allows you to set an empty password. In this case, when saving changes in the settings, the user will not need to enter the password — just click the "OK" button. If the user enters the password in the field, but it turns out to be incorrect, the system will not allow saving the changes in the softphone.

Next to the field for entering the password there is a button in the form of the "Eye" icon. It allows you to temporarily display the entered password so that the user can check its correctness.

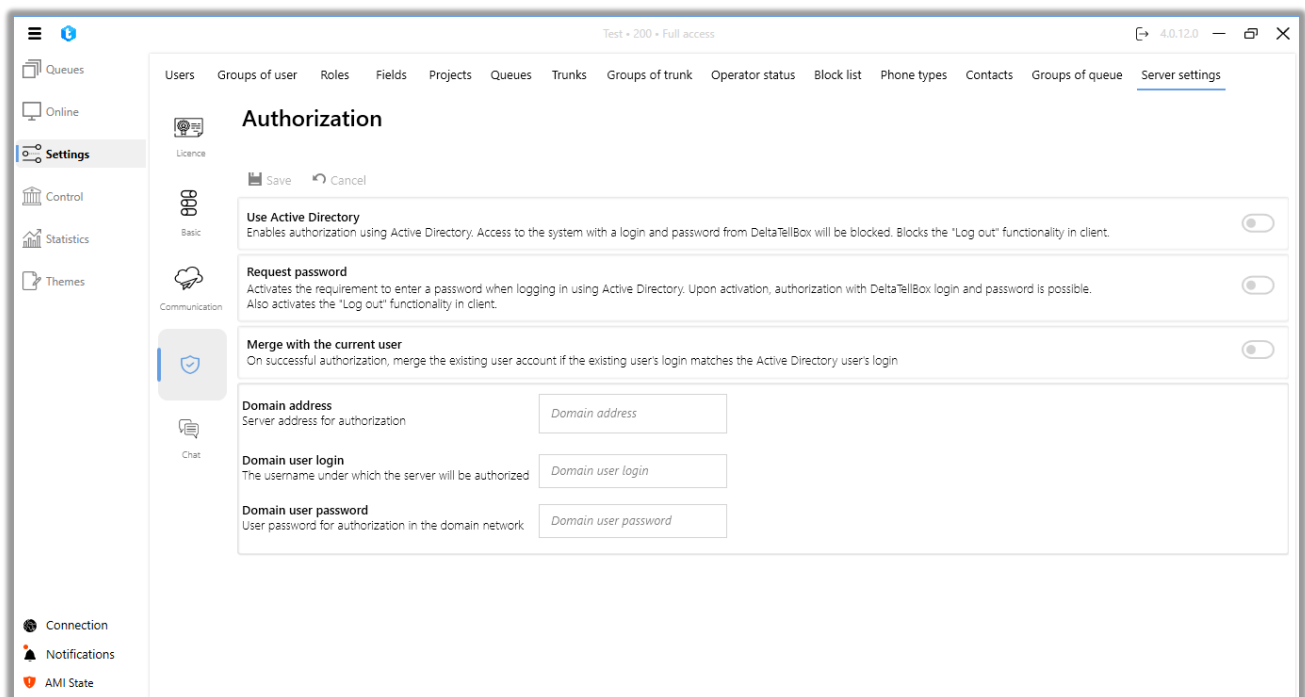


By default, the entered characters are replaced by password masking characters, which protects the password confidentiality. There is also a "Copy" button next to the field, which allows you to quickly copy the entered password.

After making all the necessary settings and changes, you need to click the "Save" button. To cancel unsaved changes, click the "Cancel" button.

3.3.14.4 Authorization

On the "Authorization" tab, parameters of Delta Tel operation with Active Directory are configured.



On this tab, the following authorization parameters are configured:

"Use Active Directory" — enable user authorization using Active Directory (AD).

IMPORTANT: The ability to log in using the Delta Tel login and password will be blocked.



"Request password" — enables users to be required to enter a password when logging in using Active Directory. When this function is activated, authorization using the login and password "Delta Tel" becomes possible.

"Merge with current user" — is an option that allows the merging of user accounts during the initial successful authorization using Active Directory (AD), if the login of the existing user matches the login in the Active Directory.

Next is the block for connecting to the Active Directory server, which is filled in if the server is located remotely or the system does not automatically recognize domain groups.

- **"Domain address"** — server address for authorization.
- **"Domain user login"** — enter the username under which the server will be authorized.
- **"Domain user password"** — user password for authorization in the domain network.

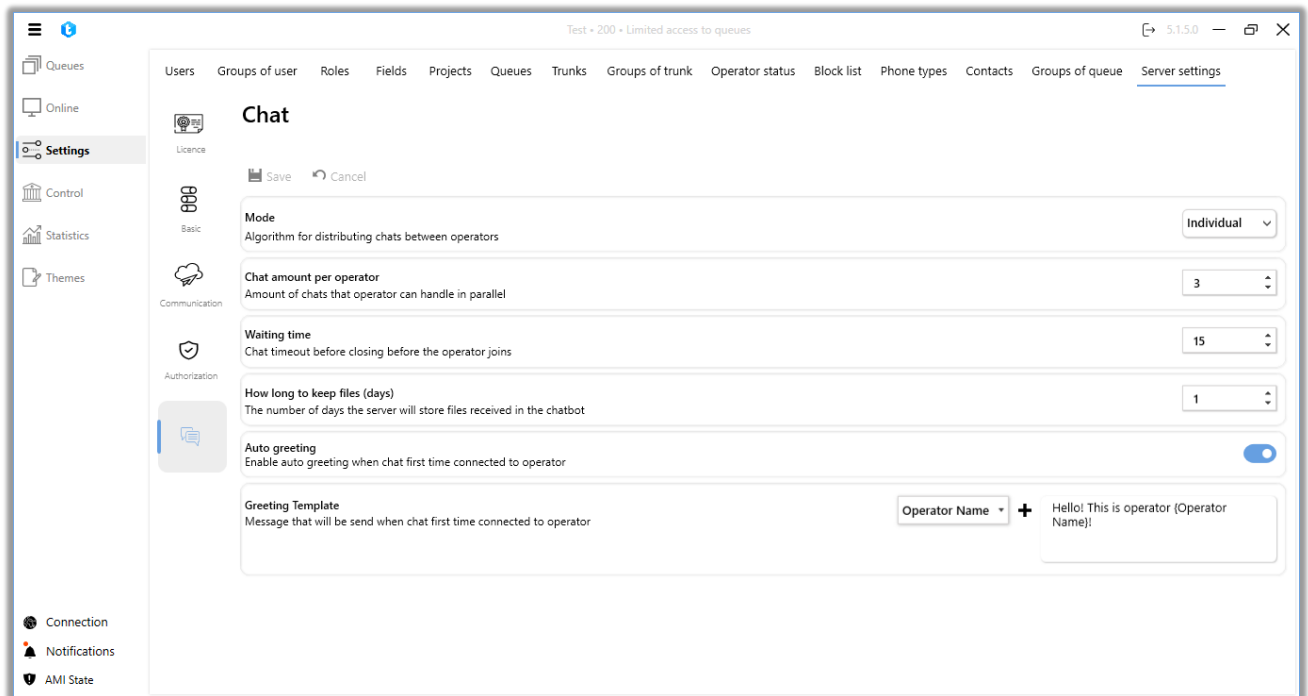
Once AD is enabled, the required domain groups can be set for each role.

After making all the necessary settings and changes, you need to click the "Save" button. To cancel unsaved changes, click the "Cancel" button.

3.3.14.5 Chat

Chats allow operators to communicate with customers in real time in instant messengers using text messages, exchange files, geodata, etc. Chatbots are created by a third-party application that interacts with instant messengers ("Telegram", "Viber", "WhatsApp", etc.)

The "Chat" tab is used to configure the parameters of chat operation and create a template of automatic greeting. To work with chats, an operator must have the "Available for chat" checkbox set in the profile settings. Also, to receive chats, the operator must be in the user status with the "Receive chats" checkbox set or in one of the system statuses: "Chat processing", "Auto pickup", "Online", "Incoming calls".



On this tab, the following options are available for configuration:

"Mode" — select the mode of distribution of clients to operators. Four modes available:

- "MaxLoad" — maximum load.
- "MinLoad" — minimum load.
- "Random" — random distribution.
- "Individual" — the system tries to allocate chats to operators with whom there was a last dialog. If the operator is not available, the system transfers the chat to any available operator.

"Chat amount per operator" — setting the maximum number of chats available for one operator.

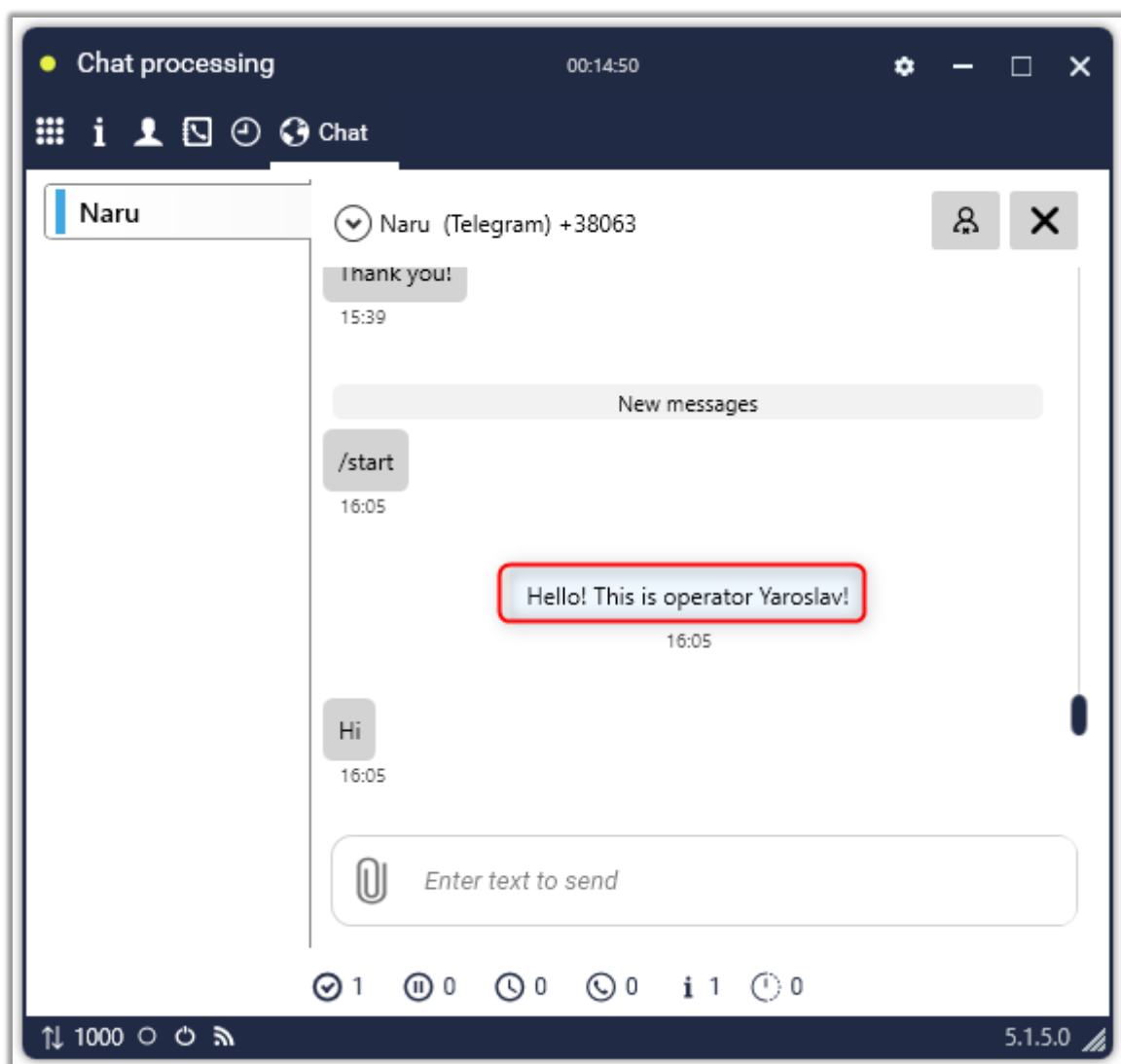
"Waiting time" — setting the time to wait for the operator to connect before ending the chat. The chat can be terminated only in the "Connection" and "Waiting for answer" statuses. The time is set in minutes.

"Duration to keep files (days)" — the duration of storage of files on the server that were sent to the chat.



"Automatic greeting" — turn on the automatic greeting function.

"Greeting Template" — this tool allows you to create and configure an automatic greeting template that will be displayed in the chat when the client connects with the operator for the first time. The drop-down list displays the variables available for use. After selecting a variable, it must be added with the "+" button to the greeting template. For example: "Hello, my name is {Operator name}. How can I help you?". {Operator Name} — the specified operator name in the additional user information in the "Name in chat" parameter.



After making all the necessary settings and changes, you need to click the "Save" button. To cancel unsaved changes, click the "Cancel" button.

3.4 Control

This section consists of six internal tabs: "Call records", "Audio records", "Connected users", "Queue mode history", "Import", "Provider numbers" and "Chat history".

3.4.1 Call records

The functionality of this tab is used to search for and work with recordings of conversations, listen to them and evaluate them. The search for audio recordings of conversations is carried out using flexible filter criteria, combined with the help of logical operators "AND" / "OR".

expertise	Date	Call duration	Type of dial	Updated
	24.04.2023 16:50:41	00:00:05	OutAuto	
	25.04.2023 16:05:00	00:00:03	OutAuto	
	26.04.2023 10:36:58	00:00:26	OutAuto	
	01.05.2023 9:35:43	00:00:38	OutAuto	
	01.05.2023 12:00:00	00:00:08	OutAuto	
	01.05.2023 12:00:10	00:00:25	OutAuto	
	01.05.2023 13:21:00	00:00:25	OutAuto	
	01.05.2023 13:22:20	00:00:23	OutAuto	
	01.05.2023 13:23:46	00:00:11	OutAuto	
	01.05.2023 13:25:31	00:00:10	OutAuto	
	01.05.2023 14:09:44	00:00:33	OutAuto	
	01.05.2023 14:11:35	00:00:07	OutAuto	

1. Button to open/hide the settings window for the global search filter in the database of audio recordings. With this button you need to start working with audio recordings.

2. Inside the global search filter, you can set the conditions by which the search and selection of audio recordings for display will occur.

The principle of operation of the filter itself is similar to setting up a selection of elements, which was discussed earlier in this manual (setting up a selection in queues).

3. Selecting a time period for searching records.
4. Find - button to start searching for conversation records according to the set parameters.

After completing the filter settings and conducting a search in the database of audio recordings, functions for processing them will become available:

The screenshot displays the 'Call records' section of the Delta Tel interface. The interface includes a sidebar with navigation options like 'Queues', 'Online', 'Settings', 'Control', 'Statistics', and 'Themes'. The main area shows a table of call records with columns for 'Phone number', 'Operator sip', 'Operator', 'Group', 'Talk quality', 'Product expertise', 'Date', 'Call duration', 'Type of dial', and 'Updated'. A search filter is applied at the top, showing 'Rate conversation' and 'Client 0636507536 With operator Max Valentinov Product expertise'. A toolbar above the table contains buttons for 'Save selected', 'Remove', 'Download', and 'Download zip'. A playback control bar is visible below the table, featuring a play button and a progress indicator. Red circles with numbers 1 through 6 highlight specific features: 1 points to the 'Call duration' column header, 2 points to the playback button, 3 points to the search filter, 4 points to the playback progress bar, 5 points to the page navigation controls, and 6 points to the 'Download' button.

Phone number	Operator sip	Operator	Group	Talk quality	Product expertise	Date	Call duration	Type of dial	Updated
0636507536	1000	Max Valentinov				24.04.2023 16:50:41	00:00:05	OutAuto	
0636507536	1000	Max Valentinov				25.04.2023 16:05:00	00:00:03	OutAuto	
0636507536	1000	Max Valentinov				26.04.2023 10:36:58	00:00:26	OutAuto	
0636507536	1000	Max Valentinov				01.05.2023 9:35:43	00:00:38	OutAuto	
0636507536	1000	Max Valentinov				01.05.2023 12:00:00	00:00:08	OutAuto	
0636507536	1000	Max Valentinov				01.05.2023 12:00:10	00:00:25	OutAuto	
0636507536	1000	Max Valentinov				01.05.2023 13:21:00	00:00:25	OutAuto	
0636507536	1000	Max Valentinov				01.05.2023 13:22:20	00:00:23	OutAuto	
0636507536	1000	Max Valentinov				01.05.2023 13:23:46	00:00:11	OutAuto	
0636507536	1000	Max Valentinov				01.05.2023 13:25:31	00:00:10	OutAuto	
0636507536	1000	Max Valentinov				01.05.2023 14:09:44	00:00:33	OutAuto	
0636507536	1000	Max Valentinov				01.05.2023 14:11:35	00:00:07	OutAuto	

1. After using the global filter, the user has the opportunity to sort inside the page by the columns of interest, inside the selected page, by clicking on it and grouping it from smaller to larger or from larger to smaller, or by dragging it into the field for grouping by column headings.

2. A panel with an audio playback button — "Play" (triangle) and a button



to stop playing an audio recording — "Stop" (square). Next to these buttons is a strip with audio playback. Before you start listening to the recording, you must select the one of interest from the available list by clicking on it with the right mouse button.

3. Audio recording control panel, where the following functions are available:

- "Save Selected" — saves changes made by the administrator to the Grade Conversation and Product Knowledge fields for selected audio recordings.
- "Remove" — delete selected audio recordings.
- "Export to AMD" — adding an audio recording to the AMD answering machine library.
- "Download" — downloading the selected audio recording to the user's work computer.
- "Download (zip)" — downloading the selected audio recording to the user's work computer in the form of an archive.

4. "Page management" — a navigator for switching between pages with found audio recordings.

5. "Page indicator" — displaying the current page where the user is located and information with the number of available pages according to the search results.

6. A panel with information about the audio recording and functionality for its evaluation, where the following functions are available:

- "Rate the conversation" — the administrator can set the rating of the conversation for the selected audio recording (which can be used, for example, to motivate employees, develop and implement a user training plan).
- "Client *mobile number*" — client number for the selected audio recording.
- "With operator" — operator's full name (username).
- "Product expertise" — administrator can rate operator's product knowledge for the selected record.

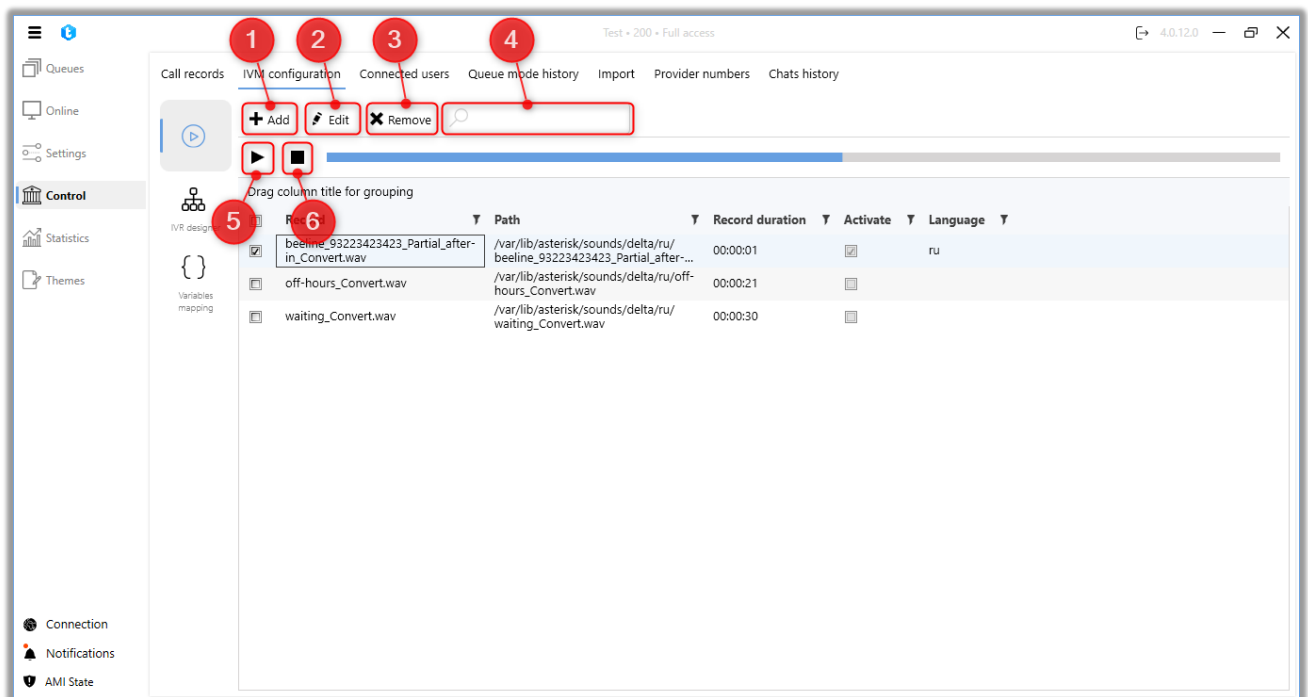
IMPORTANT: only role settings affect access to conversation records.

3.4.2 IVM configuration

The "IVM configuration" tab is used to configure and manage interactive voice messages and responses (IVM and IVR). Here you can upload and listen to clips, create complex customer interaction scenarios, and customize variable mapping.

3.4.2.1. IVM records

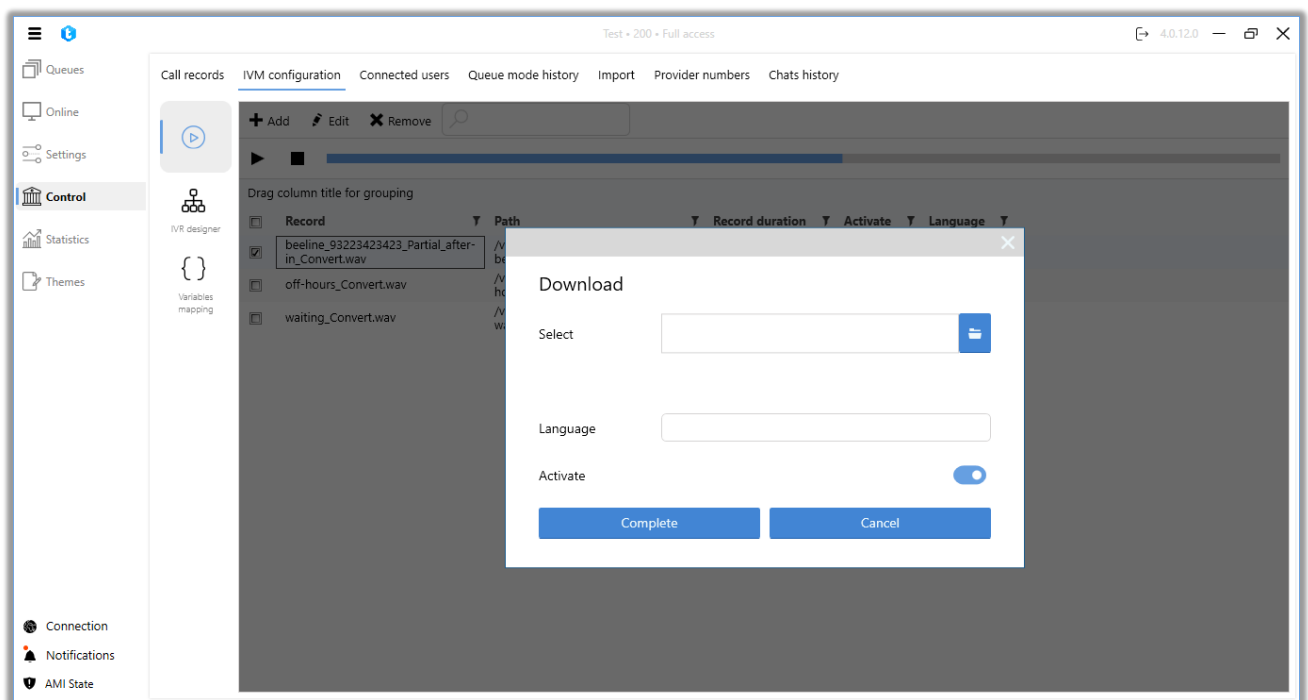
The tab is intended for loading IVM videos or auto greetings into the system, with the ability to listen to them, and is a table with previously added videos. The tab contains all available videos in the form of a table with detailed information about the parameters of the video and the possibility of grouping. The tab contains a search for added videos and buttons: "Add", "Edit" and "Delete".



1. "Add" — uploading a new audio clip;

2. "Edit" — edit the settings of the selected audio clip;
3. "Remove" — delete the selected video;
4. Search by video title;
5. Start listening the selected clip;
6. Stop listening to the video.

After clicking on the "+ Add" button, a dialog box opens for the user to enter data about the video. It is necessary to specify the location of the video file in the system, mark whether the video is IVM, whether it is an auto greeting, select the required operator from the dropdown list (to link the video to this operator) and enter the language of the video being spoken.



"Select" — user must specify the location of the movie file in the system;

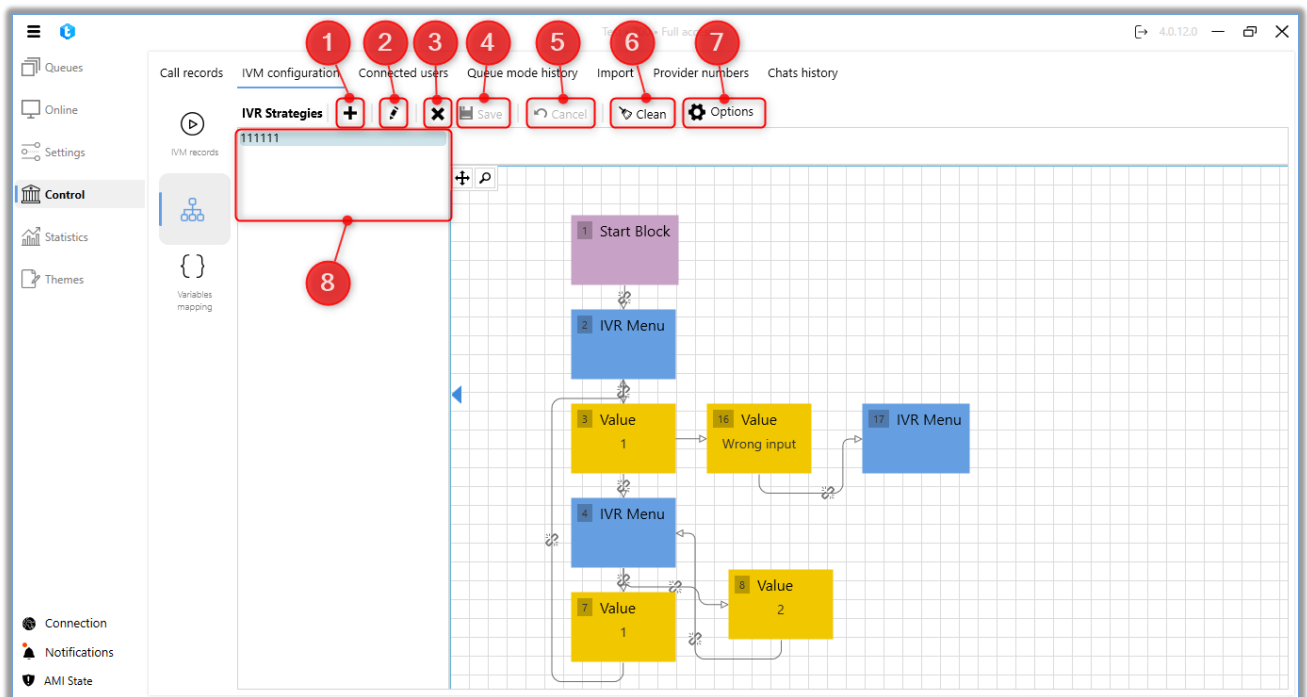
"Language" — enter the language of the video being spoken.

"Activate" — check whether the clip is IVM. If the checkbox is not checked, the clip cannot be used when working with the IVM module. Rollers marked as IVM can be set as queue greeting (in the queue strategy settings).

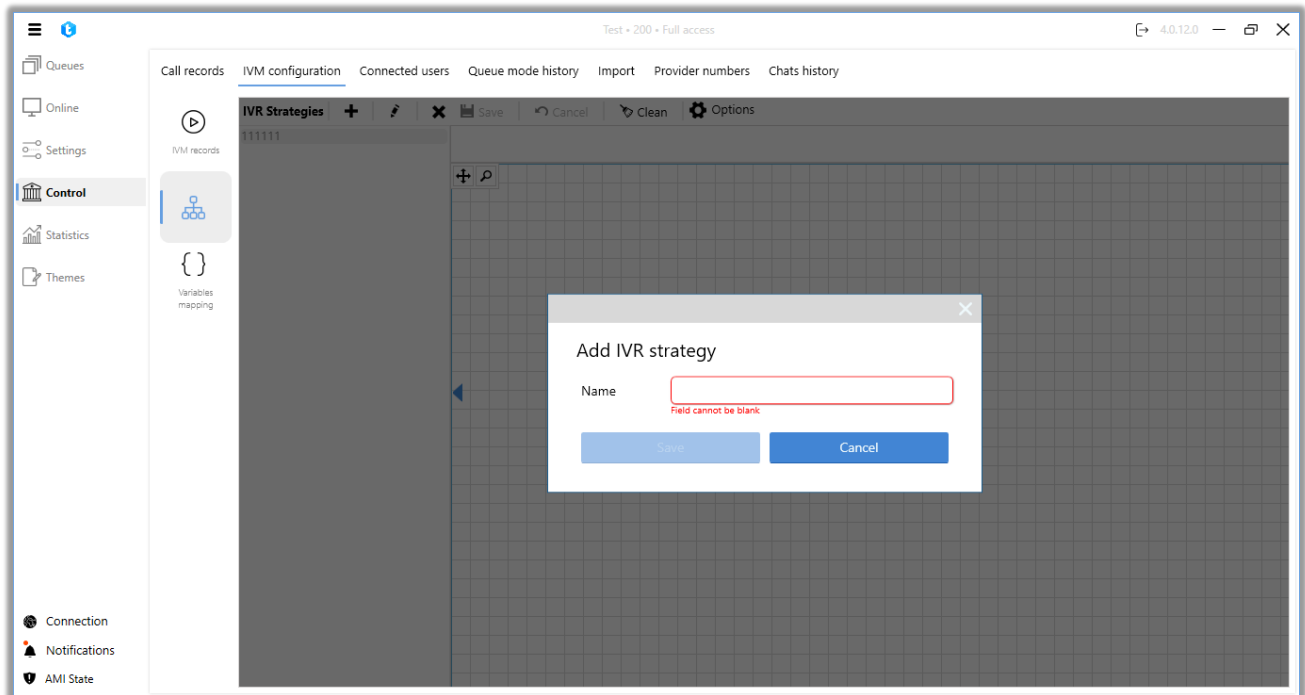
After downloading the video, to save it, you must click the "Add" button (the video is uploaded to the Asterisk server), then "Complete" (the changes in the Delta Tel interface window are applied).

3.4.2.2. IVR designer

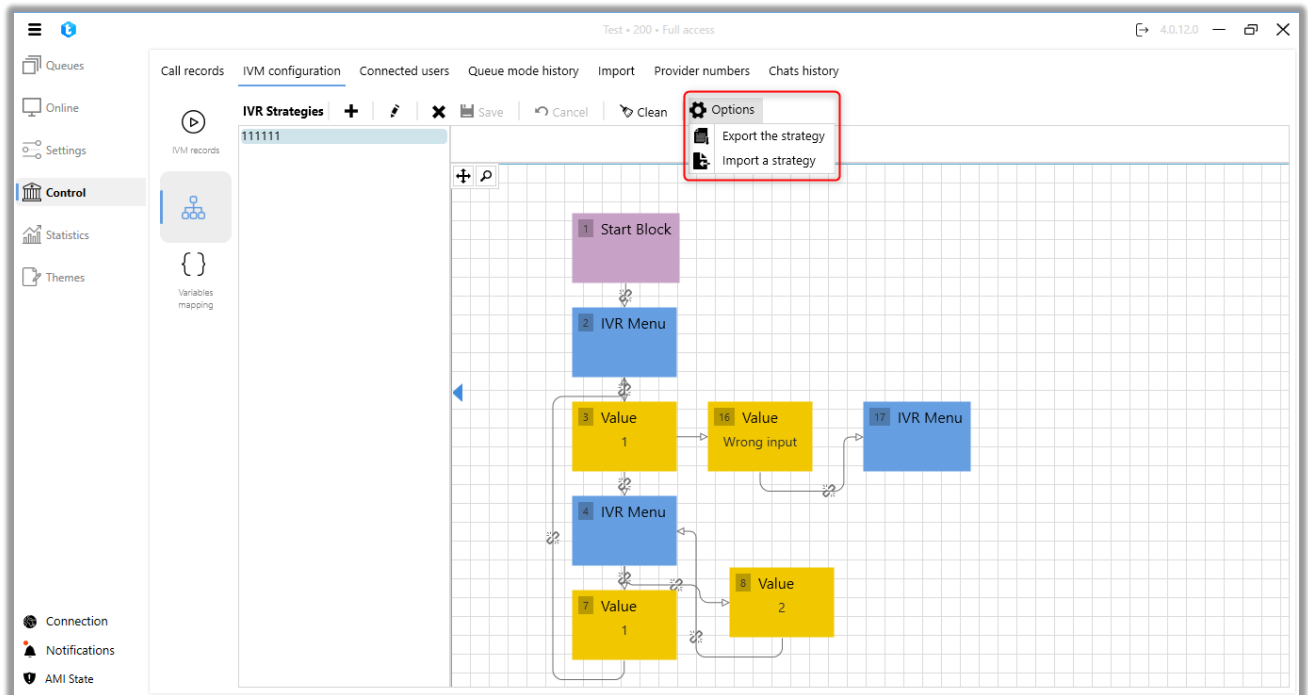
The IVR Builder tab is used to create and customize multi-level IVR (Interactive Voice Response) and IVM (Interactive Voice Messaging) using the strategy. This constructor allows you to create a scheme for interacting with customers through pre-recorded voice messages. IVR can communicate with customers without a live operator and route calls depending on the customer's button presses in the created menu.



1. "+" — create a new IVR strategy. In the opened window you should enter the name of the strategy and click the "Save" button.



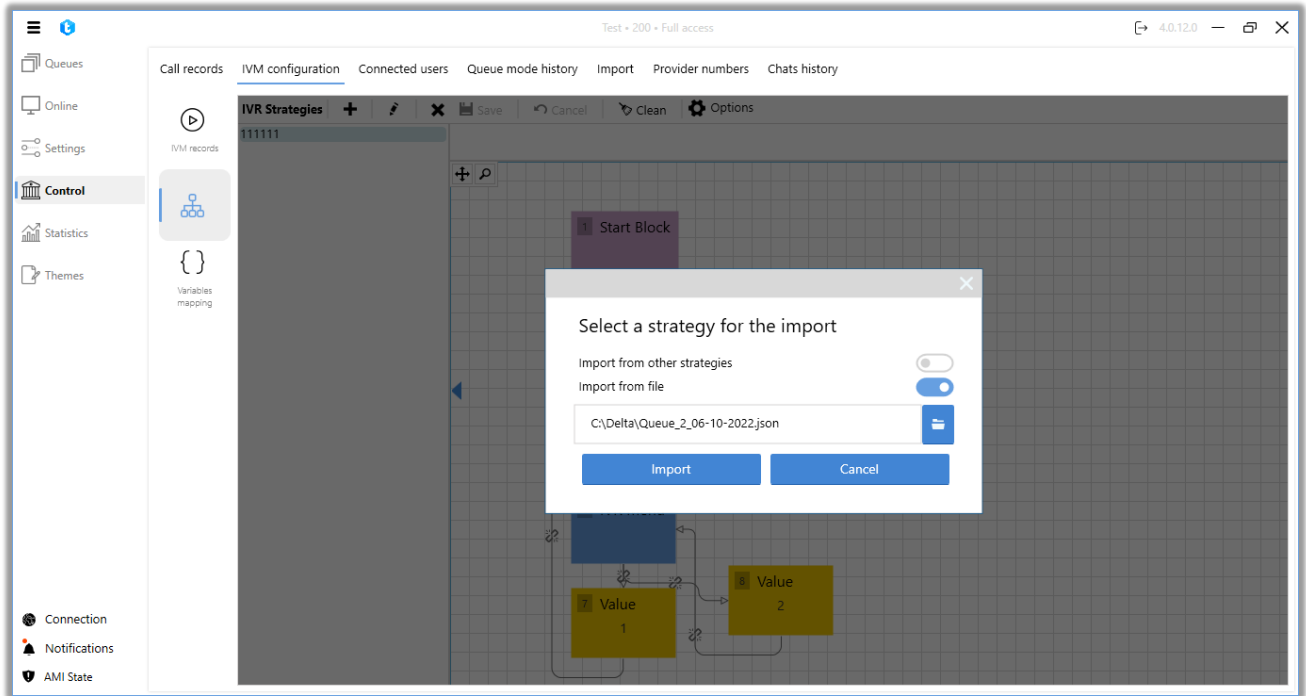
2. "Edit" — edit the selected strategy.
3. "X" — delete the selected IVR strategy.
4. "Save" — save the changes made.
5. "Undo" — cancel the last unsaved changes.
6. "Clear" — delete all added blocks in the strategy.
7. "Options" — import and export functions of IVR strategies.



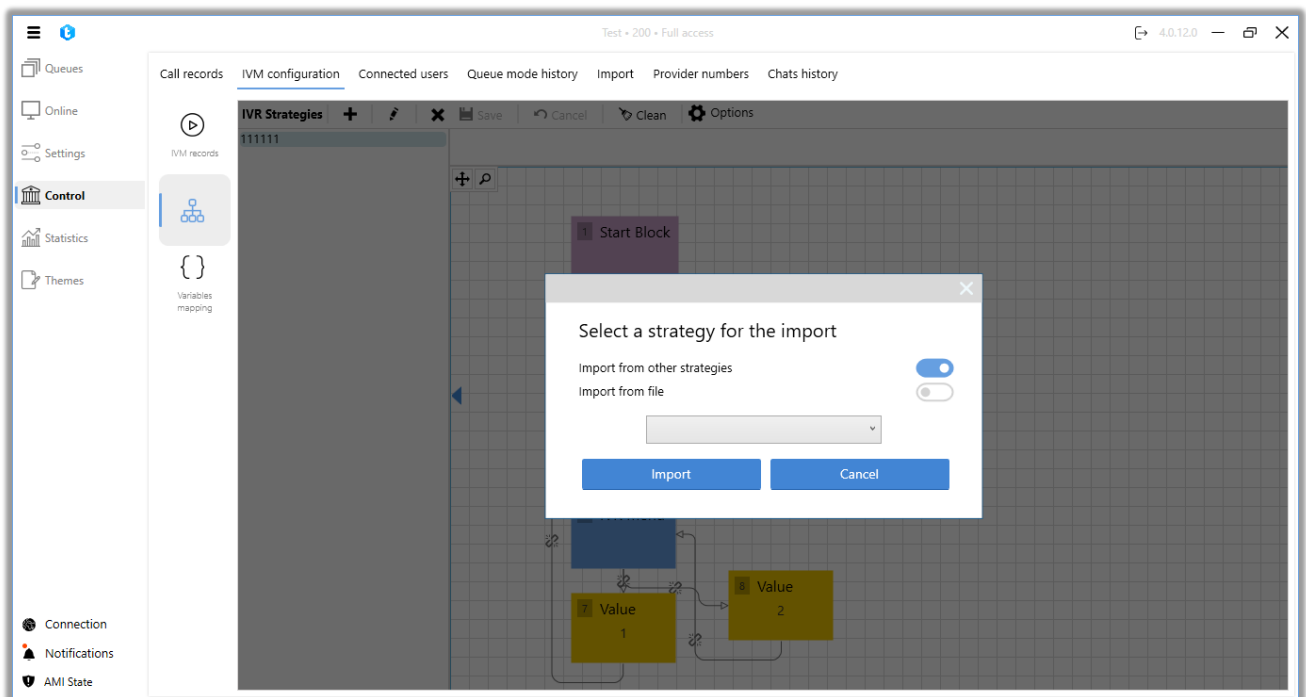
"Export the strategy" — saves the created strategy as a JSON-file with the possibility of its further use during import. After pressing the corresponding button, select the folder where the strategy will be saved.

"Import a strategy" — loading the strategy for the selected IVR strategy. Two types of import are available:

- "Import from file" — import the strategy from an external file in json format. After selecting the required file, click "Import".




- "Import from other strategies" — when this parameter is set, it becomes available to import a strategy from the IVR strategies already created in the system. To do this, select the desired strategy from the drop-down list and click the "Import" button.



8. List of created strategies.

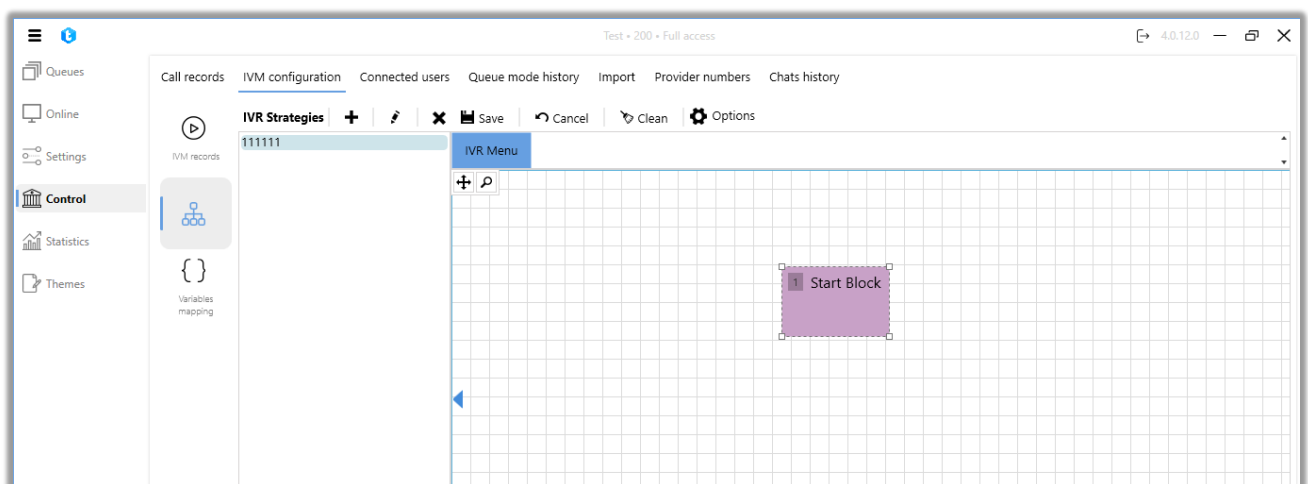
When customizing the IVR strategy, the following strategy elements are available for adding: "Start block", "IVR menu", "Value". When you right-click on a block, a context menu with functions appears:

"Link" — allows to set transition to the selected block. After selecting this option it is necessary to click with the left mouse button on the block to which the transition will be made. Transitions (links) between blocks are displayed as arrows connecting the blocks. If you click on a link, it will be highlighted in bright red color. To delete the created link between strategy elements, you should press the corresponding break icon .

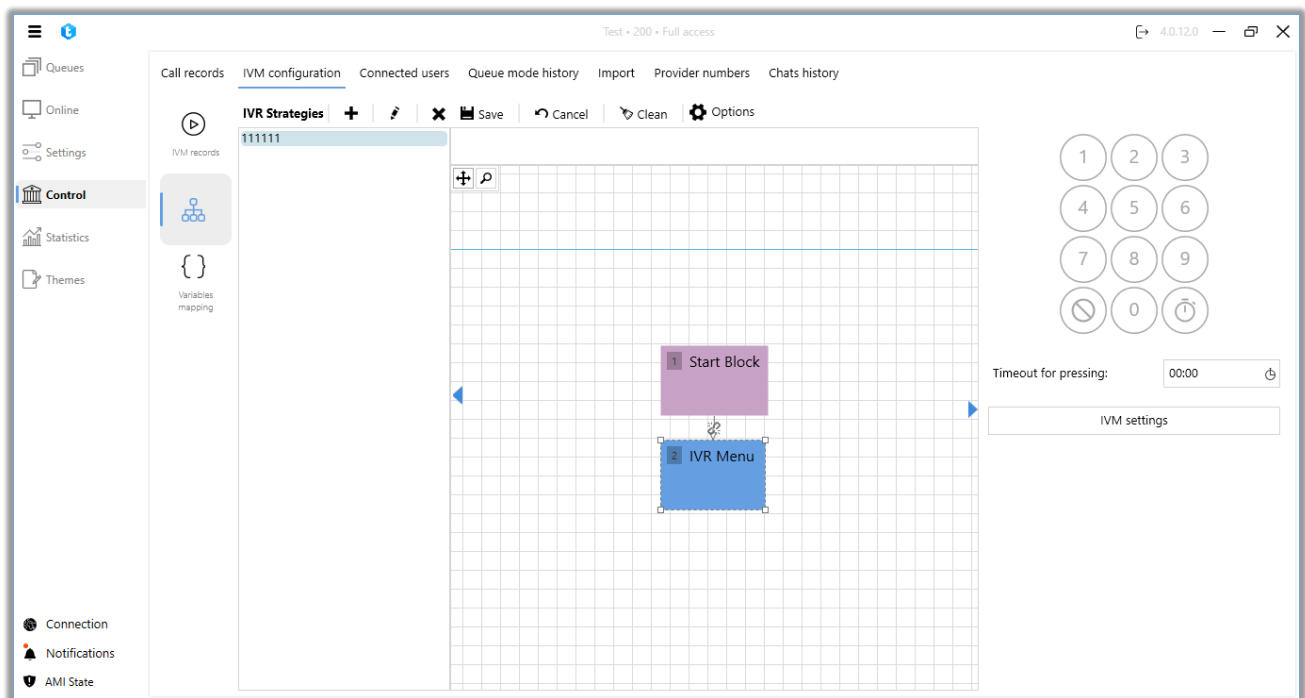
"Delete" — delete the selected block from the strategy.

"Copy" — copy the selected block.

"**Start block**" — mandatory element that does not have any configurable settings. Its primary function is to signify the starting point from which the strategy begins.



The "**IVR Menu**" block allows you to customize the client's interaction with the interactive IVR menu, where you can set your own logic for each button.



The block contains a numeric keypad for setting options available to the client after pressing the corresponding button on the telephone keypad. After pressing any digit, the **"Value"** block will be automatically created. The "Value" block itself does not carry any functionality and is used as a conventional designation of pressing the selected button by the client and moving to the next block "IVR Menu". The "Value" block must have a logical termination, otherwise the system will not allow to save the strategy and display the corresponding error.

The following buttons are located under the numeric keypad:

"Erroneous entry" — adding the corresponding block to the strategy. This block allows you to configure the logic when an unprogrammed button is pressed by the user.

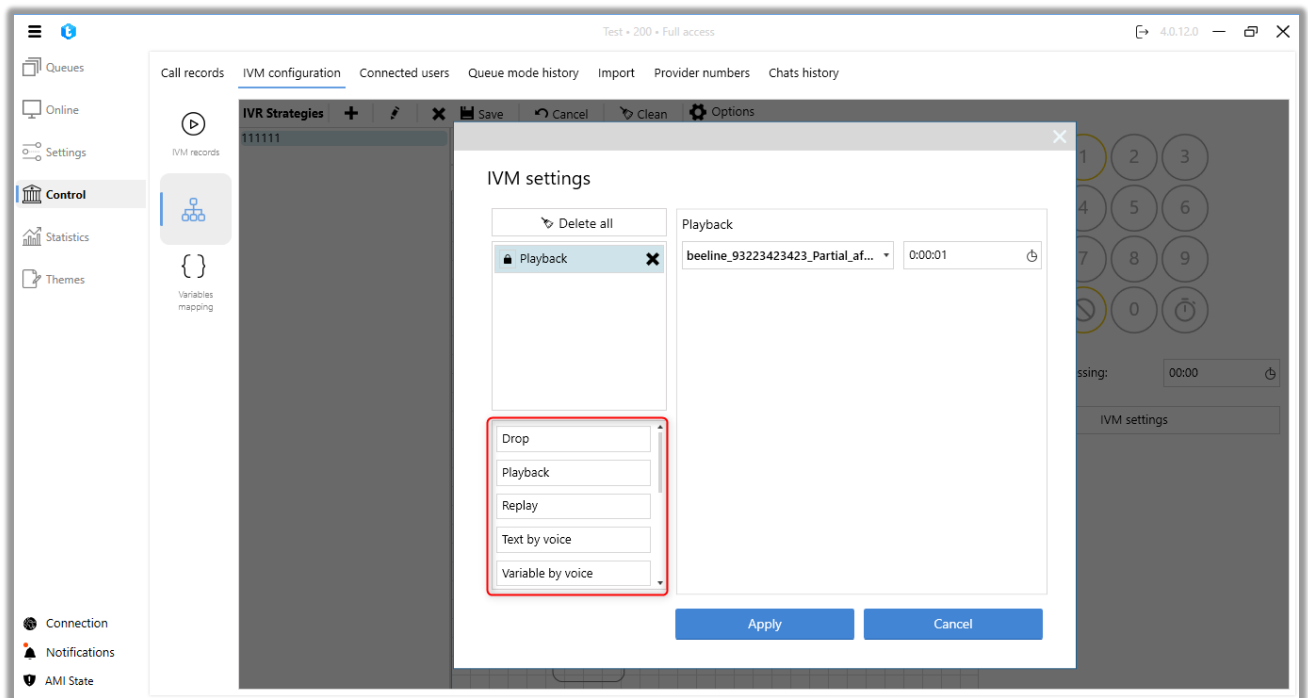
"Timeout" — adding the "Timeout" block. This block allows you to configure the logic when the user does not make an input for a specified time.

In the "Timeout of pressing" parameter you can specify duration the system will wait for the subscriber to press the button (up to a maximum of 30 seconds), after which a reset will occur. The waiting time is added to the time the system needs to



play the clip or text added in the "IVM Setup" block. A maximum of 3 minutes can be set.

Clicking on the "IVM settings" button opens the settings window where the following functions are available:



- "Drop" — end of the call;
- "Playback" — start playback of a pre-recorded audio message to the client;
- "Replay" — replays the most recently played message;
- "Text by voice" — play back written text as audio. Also, it is possible to add a variable value replay by selecting the appropriate project field from the drop-down list and clicking the "Add Variable to Template" ("+") button;



IVM settings

Delete all

Text by voice

Drop

Playback

Replay

Text by voice

Variable by voice

Awaiting

Text by voice

Full_name +

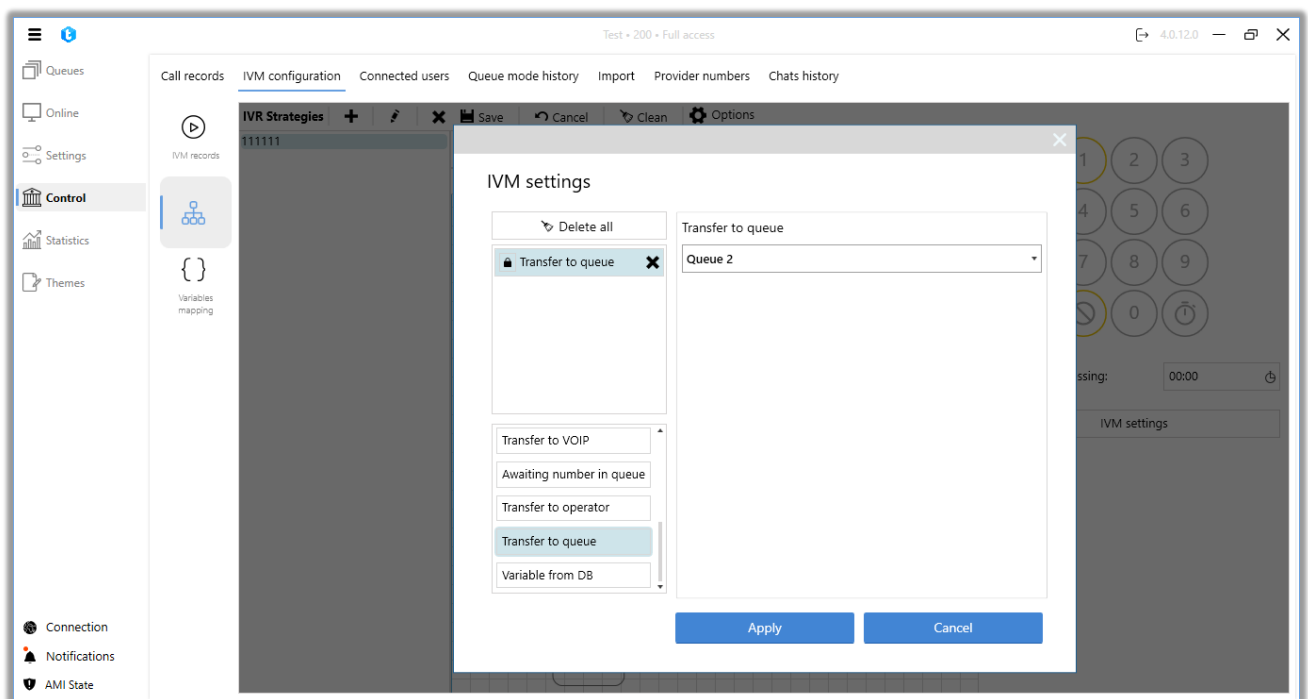
Hello {Full_name}| How are you?

Apply Cancel

- "Variable by voice" — play back the value of the selected field. Only fields that have been created in Delta Tel are available;
- "Awaiting" — keep the subscriber on the line for a specified amount of time;
- "Missed call" — if the subscriber did not wait for connection with the operator, the system assigns `IsCallbackNeeded = true` to the element. After that you can set up the strategy so that the item will be included in the "Missed queue" and then dialed automatically according to the set queue operation settings as soon as the first free operator is available.
- "Transfer to VOIP" — select available contexts from the drop-down list to transfer to certain trunks on the set key. The contexts are created on the Asterisk

server and automatically loaded into the system. For example, this feature can be used to redirect to another queue, if a call from a client came in after hours.

- "Number in the waiting queue" — voice to the subscriber his number in the queue waiting to connect to the operator.
- "Transfer to operator" — this function is used to transfer a call from one operator to another. The unit is assigned to a button, if the client presses this button, the transfer is executed. To enable this functionality, it is necessary to make the appropriate settings on the Asterisk server and in the settings of the Pjphone configuration file of the operator.
- "Transfer to queue" — selection of the queue from the drop-down list to which the call will be transferred.

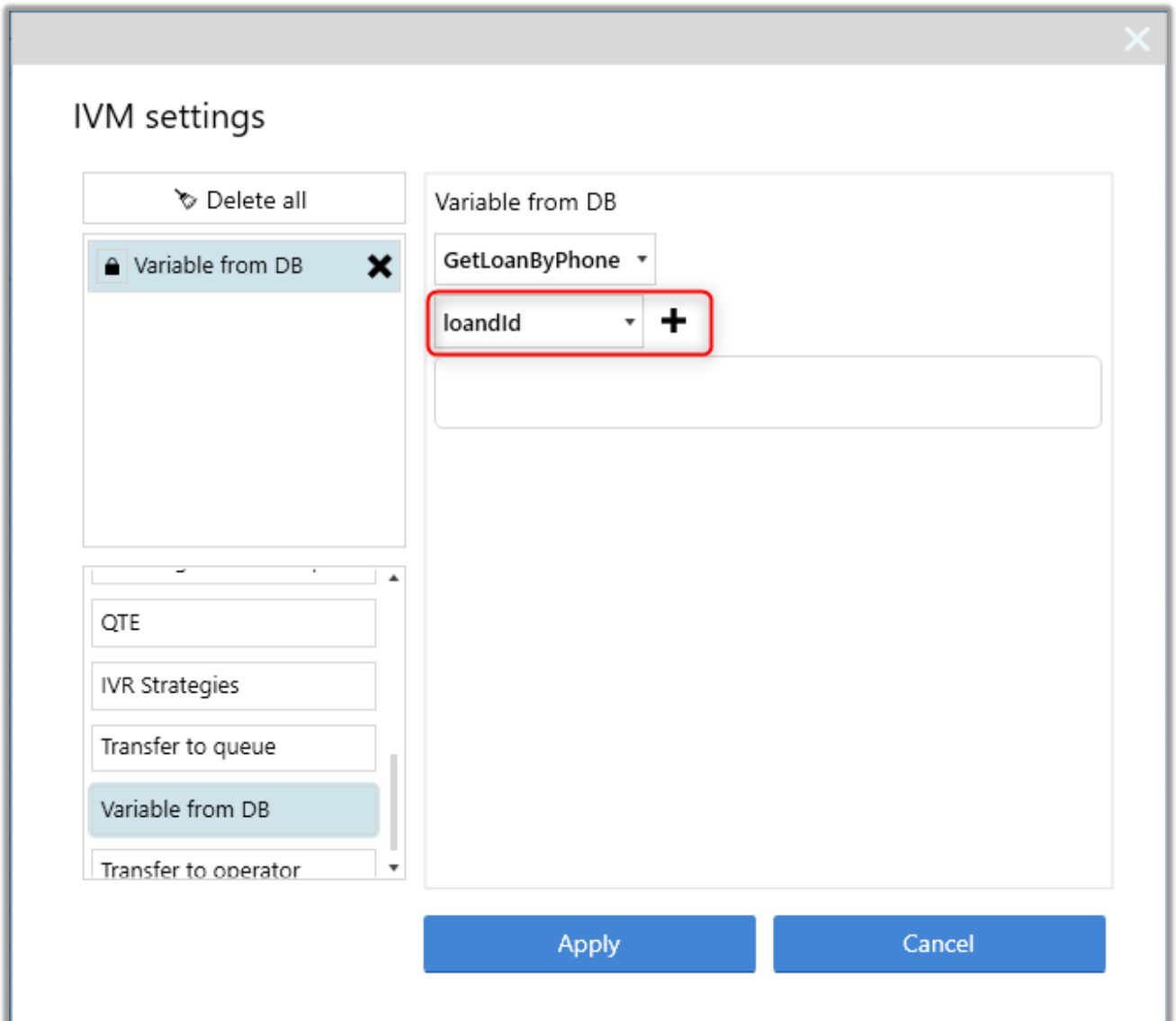


- "Variable from BD" — this function allows you to voice information to the client from variables obtained from the database, when processing incoming calls using IVR.

When working with this functionality it is necessary to select the variable mapping created in the system and add variables by pressing the "+" button, which



will be voiced to the client. For more details on creating and customizing variable mapping see "Variable mapping" section.



The fields that the function returns in the selected variable mapping are used as variables.



IVM settings

Delete all

Variable from DB

QTE

IVR Strategies

Transfer to queue

Variable from DB

Transfer to operator

Variable from DB

GetLoanByPhone

loanId

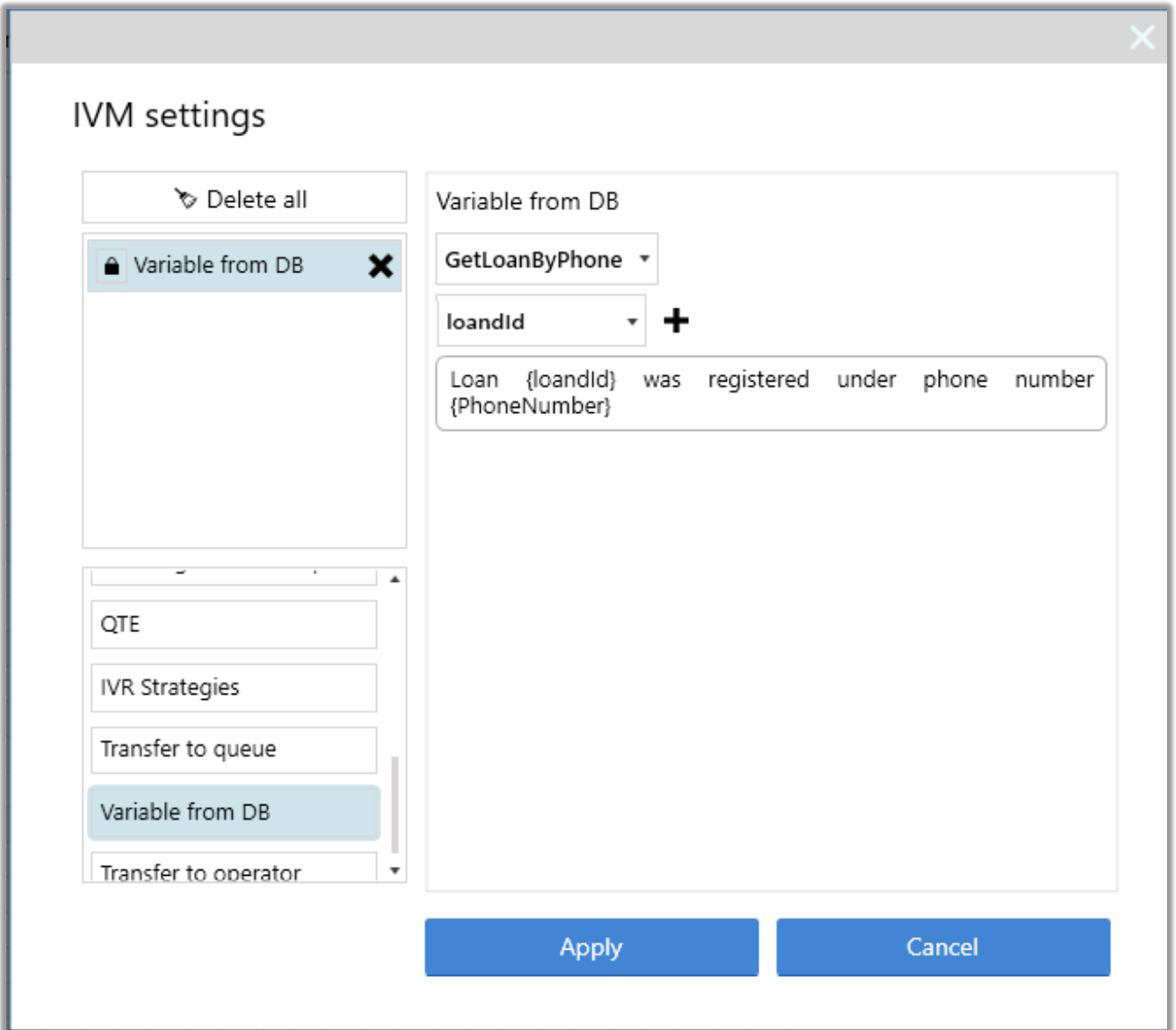
loanId

PhoneNumber

Apply

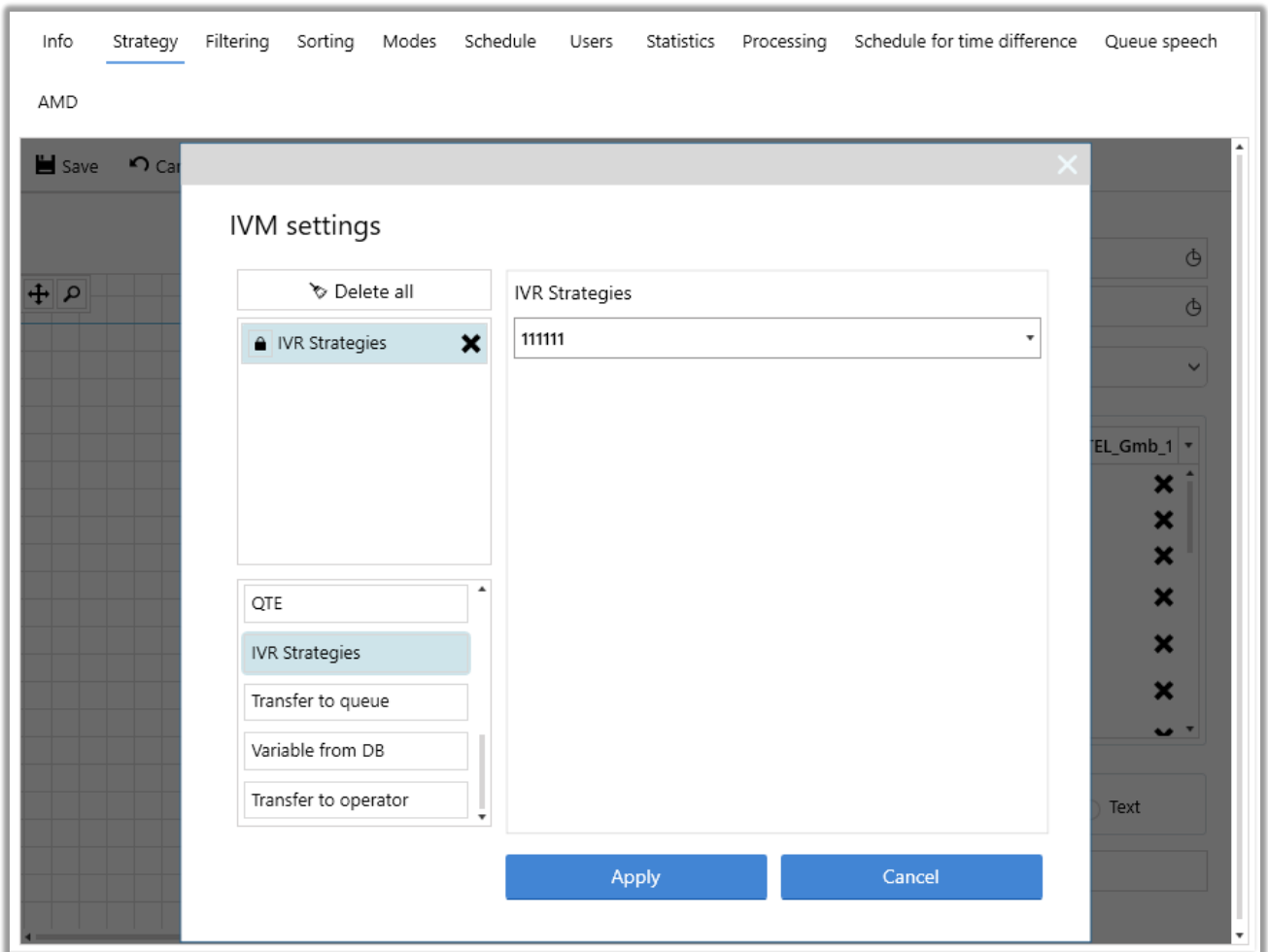
Cancel

In the block below the variable to be selected, a text template is created and customized using the variables. Example of a customized template:



When working with this setting window, you can enable the option to change the order of the selected blocks by pressing the "lock" icon, which is locked by default to prevent accidental movement of blocks during setup. Programmed buttons, where some logic is already laid down, will be highlighted with red light.

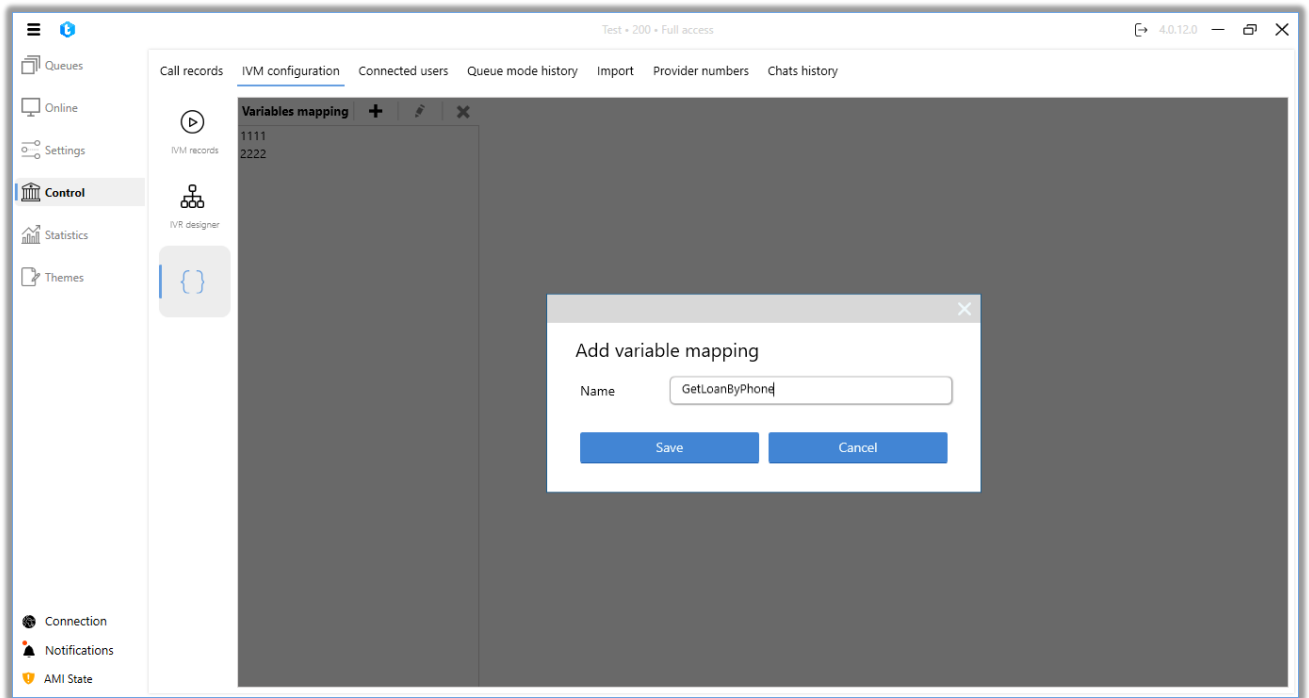
Once an IVR strategy is created, it becomes available for use in queue strategies (IVR Strategies block).



3.4.2.3. Variables mapping

In the "Variable Mapping" section, you can customize data matching between entity fields in Delta Tel and arguments accepted by functions or procedures that are passed to external systems to retrieve information on the fields specified in the function. This functionality provides integration with other systems, allowing you to make API requests, for example, by phone number and receive customer data from third-party systems such as CRM. The obtained data can be used to voice information to the customer when processing incoming calls using IVR.

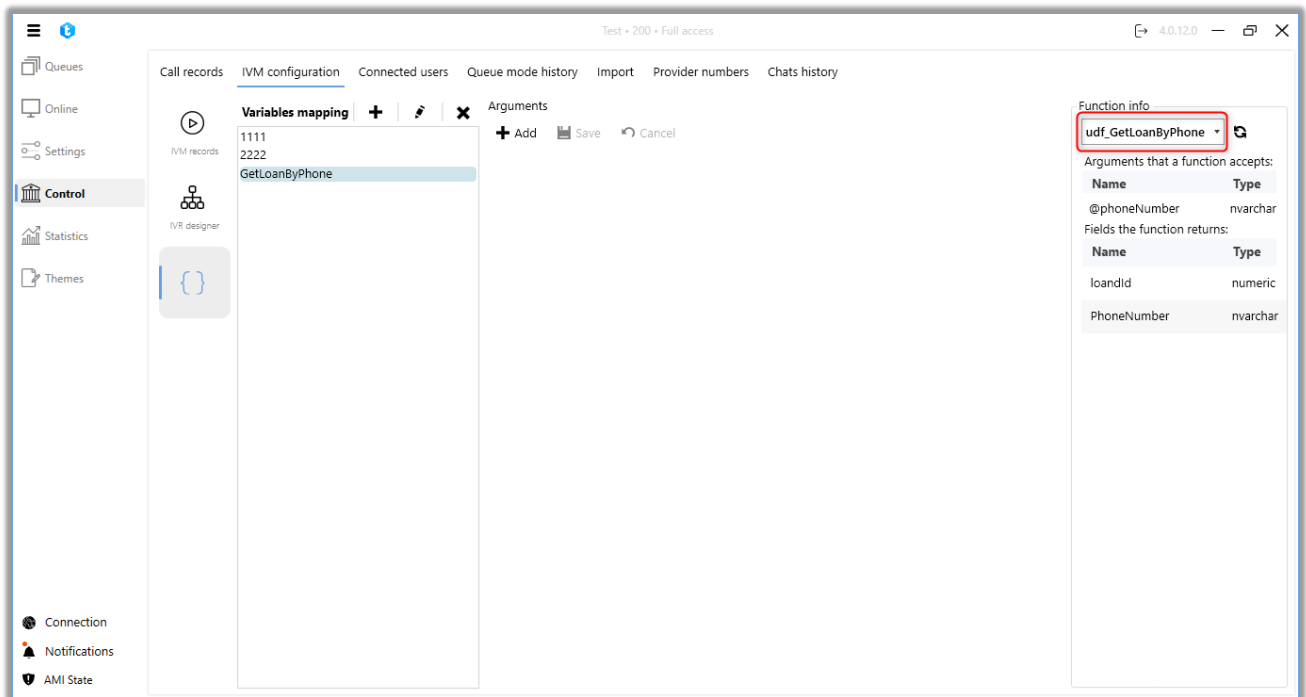
To create variable mapping, you should press the "+" button, then in the dialog box that opens, enter the name of the variable and press the "Save" button. The specified name will be displayed when working with variables in the Delta Tel client.



After creating a variable, you must select the function that it will call. To do this, in the "Function information" block, select the required function from the drop-down list with the list of available functions or procedures created in the database that can request data from a third-party system. Functions are automatically displayed in the list after they are created by a specialist with SQL knowledge. To update the list of available functions, click the corresponding "Update" button located to the right of



the list of functions.



IMPORTANT: to retrieve a variable from the database, you must create a function in SQL Server that will return the table. The function must return only one row; if it returns more, the system will take only the first row. The data that the function will return must not contain commas (Asterisk Agi restriction). If the data may contain a comma, use the REPLACE function in SQL Server to replace it with another character (period, space, etc.). The function must be in the [crm] schema. Functions in other schemas will not be available for use in this functionality. Function example:

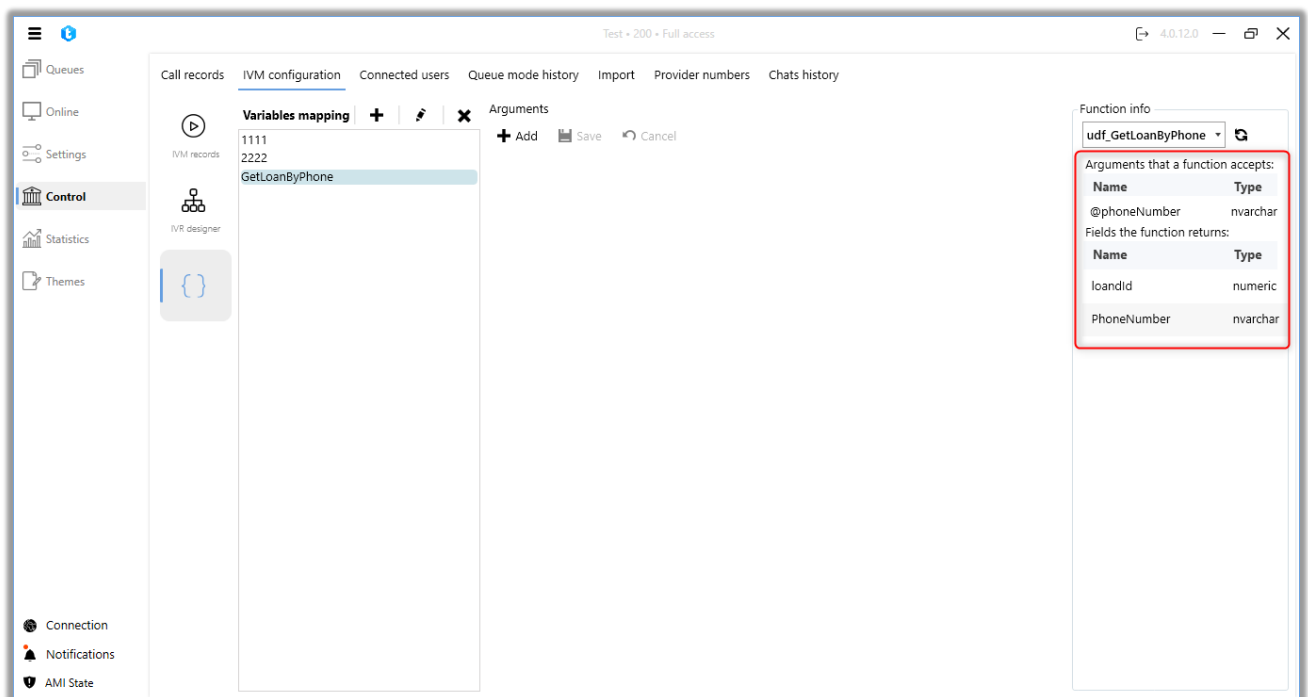


```
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE FUNCTION [crm].[udf_GetLoanByPhone] (
    @phoneNumber NVARCHAR(MAX))
    RETURNS @returned TABLE (loanId NUMERIC, PhoneNumber NVARCHAR(MAX))
AS
BEGIN

    INSERT INTO @returned (loanId, PhoneNumber)
    SELECT l.ID, p.PhoneNumber
    FROM Test.dbo.loans (NOLOCK) l
    JOIN Test.dbo.phones (NOLOCK) p ON p.CID = l.ID
    WHERE p.PhoneNumber = @phoneNumber;

    RETURN;
END
```

After selecting a function, the following function parameters will be displayed:



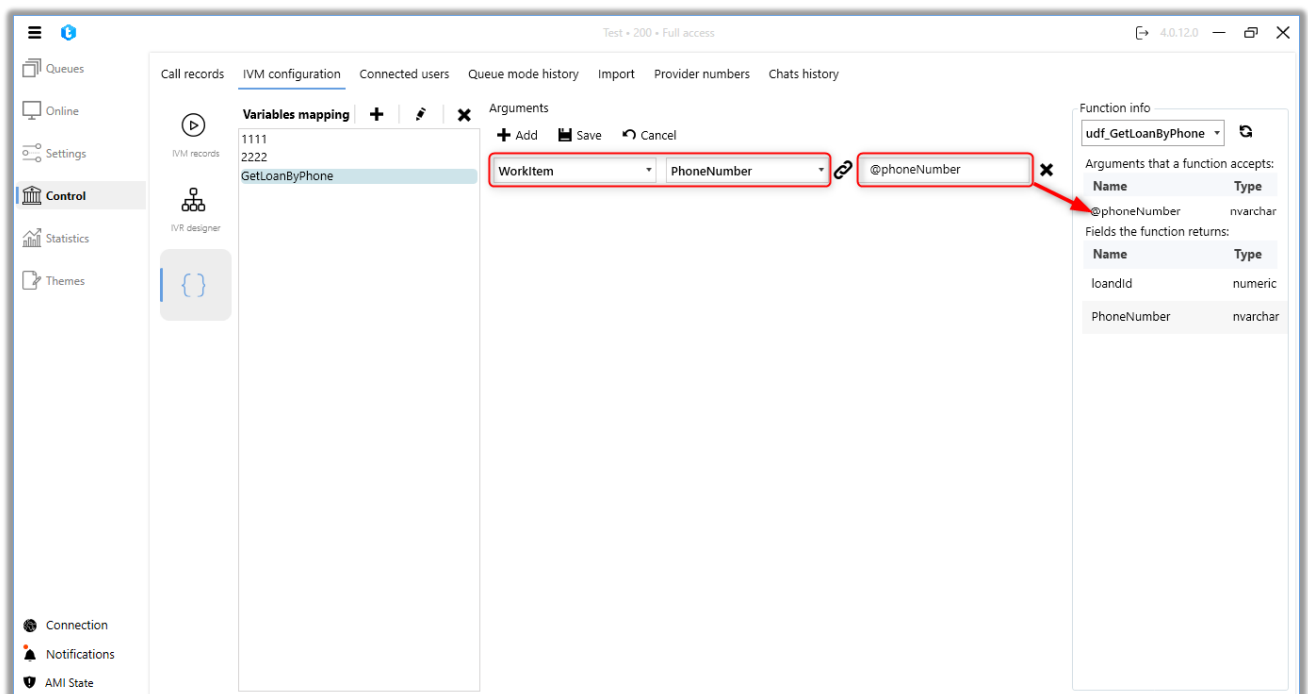
"Arguments that a function accepts" — data that are passed by the function to the third-party system. The block displays the following information about the arguments accepted by the function:

- "Name" — the name of the argument in the selected function;
- "Type" — the type of data the argument can accept.

"Fields the function returns" — the data that will be passed by the third-party system to Delta Tel. These fields will be available for selection when working with variables from the database in the "IVM Setup" functionality. The block displays the following information about the fields that the function returns:

- "Name" — the name of the field;
- "Type" — type of data.

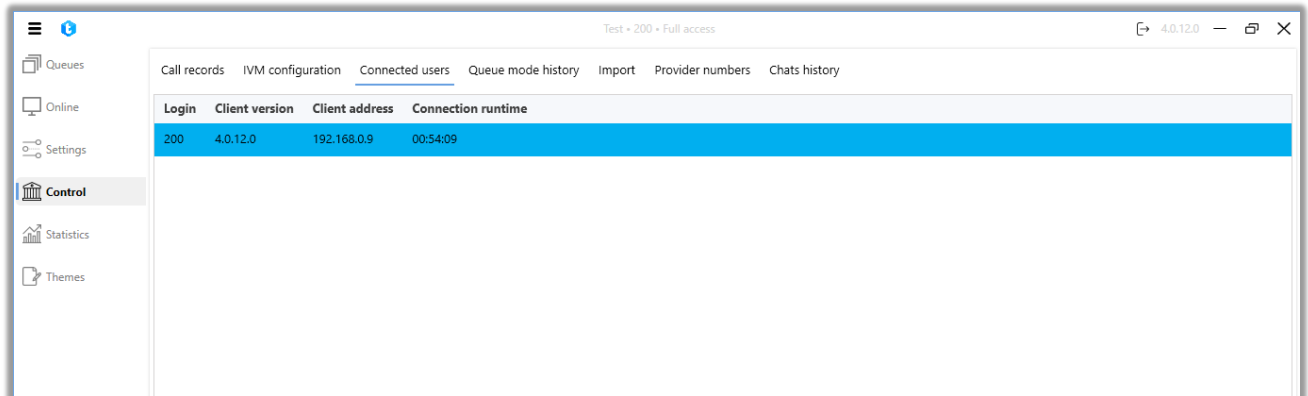
To pass arguments to the selected function, you must create an argument mapping by clicking on the "Add" button. After that, in the "Arguments" block, the correspondence between the selected entity fields in Delta Tel and the specified name of the argument from the function, to which the value from this field will be passed. The name entered must match the names of the arguments accepted by the function. If the function has no arguments, then argument mapping is not required.



After entering all the necessary data, you should press the "Save" button.

3.4.3 Connected users

This tab displays all connected users to the Delta Tel system in real time, their data and time spent in the system. Through this tab, you can monitor connected users in the system, as well as disconnect them from using the system. The tab contains the following columns:



Login	Client version	Client address	Connection runtime
200	4.0.12.0	192.168.0.9	00:54:09

- "Login" — system user login.
- "Client version" — the version of Delta Tel that is installed on the user's work computer.
- "Client address" — IP address of the connected user.
- "Connection runtime" — date and time of user login to the system.

3.4.4 Queue mode history

This tab displays the changes made to the operation of queue modes for the selected period. Information about the changes being made will be presented in the form of a table with created queues, where you can additionally filter the list by the necessary parameters in the columns. A filter for created queues is also available to the user.

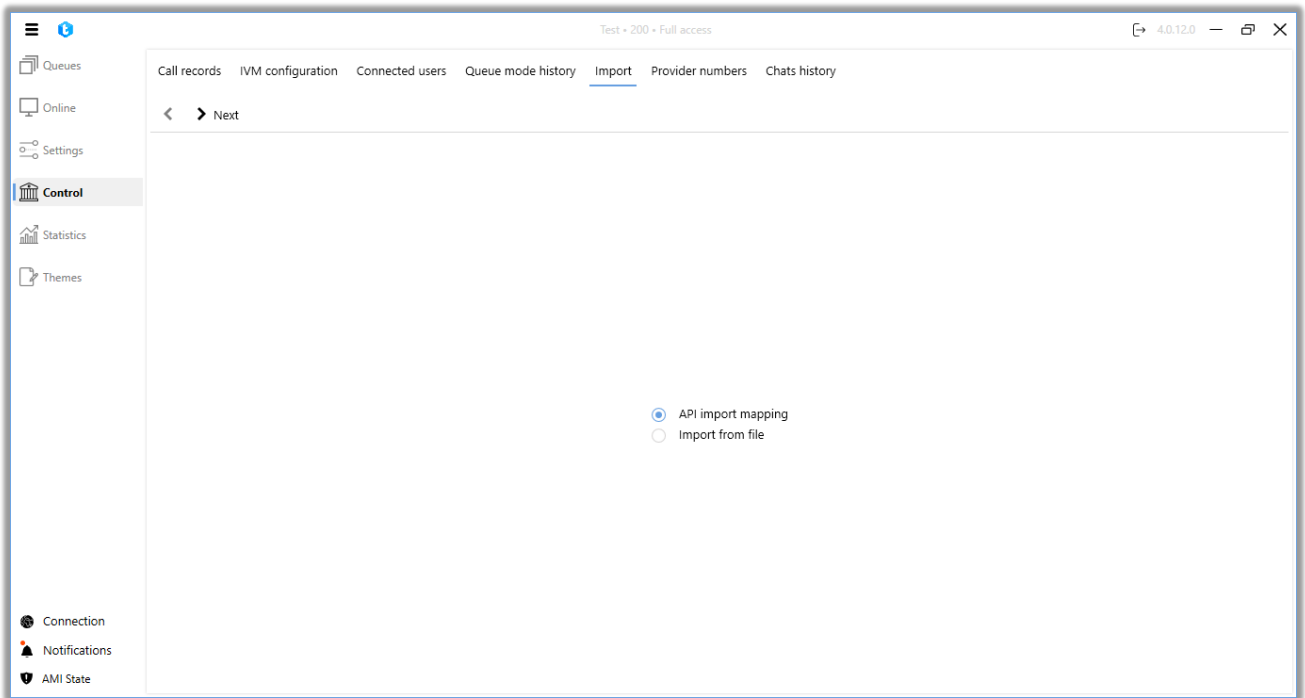


Id	Queue Id	Parameter	Last value	Current value	Modify by	Time
1	2047	AutoStart	False	True	5	20.01.2022 10:16:24
2	2047	AutoStart	True	False	5	20.01.2022 10:16:53
3	2044	AlgorithmMode	ProgressiveAlgorithm	IvmAlgorithm	2009	24.01.2022 13:55:41
4	2044	LinesPerUser	0	5	2009	24.01.2022 13:56:00
5	-1	AlgorithmMode	ProgressiveIncoming	IndividualIncoming	2009	24.01.2022 14:00:41
6	2044	AutoStart	False	True	2009	26.01.2022 15:04:36
7	2044	AlgorithmMode	IvmAlgorithm	ProgressiveAlgorithm	2009	26.01.2022 15:04:36
8	2049	AlgorithmMode	ProgressiveAlgorithm	Predictive	2010	26.01.2022 15:51:05
9	2049	LinesPerUser	1	10	2010	26.01.2022 15:51:16
10	2049	AlgorithmMode	Predictive	ProgressiveAlgorithm	2010	26.01.2022 15:51:16
11	2041	AlgorithmMode	ProgressiveIncoming	IndividualIncoming	2009	26.01.2022 16:56:55
12	2041	AlgorithmMode	IndividualIncoming	ProgressiveIncoming	2009	27.01.2022 13:33:37
13	2051	AutoStart	False	True	2009	27.01.2022 14:03:28
14	2041	AutoStart	False	True	2009	27.01.2022 14:19:21
15	2049	AutoStart	False	True	2009	27.01.2022 17:00:10

3.4.5 Import

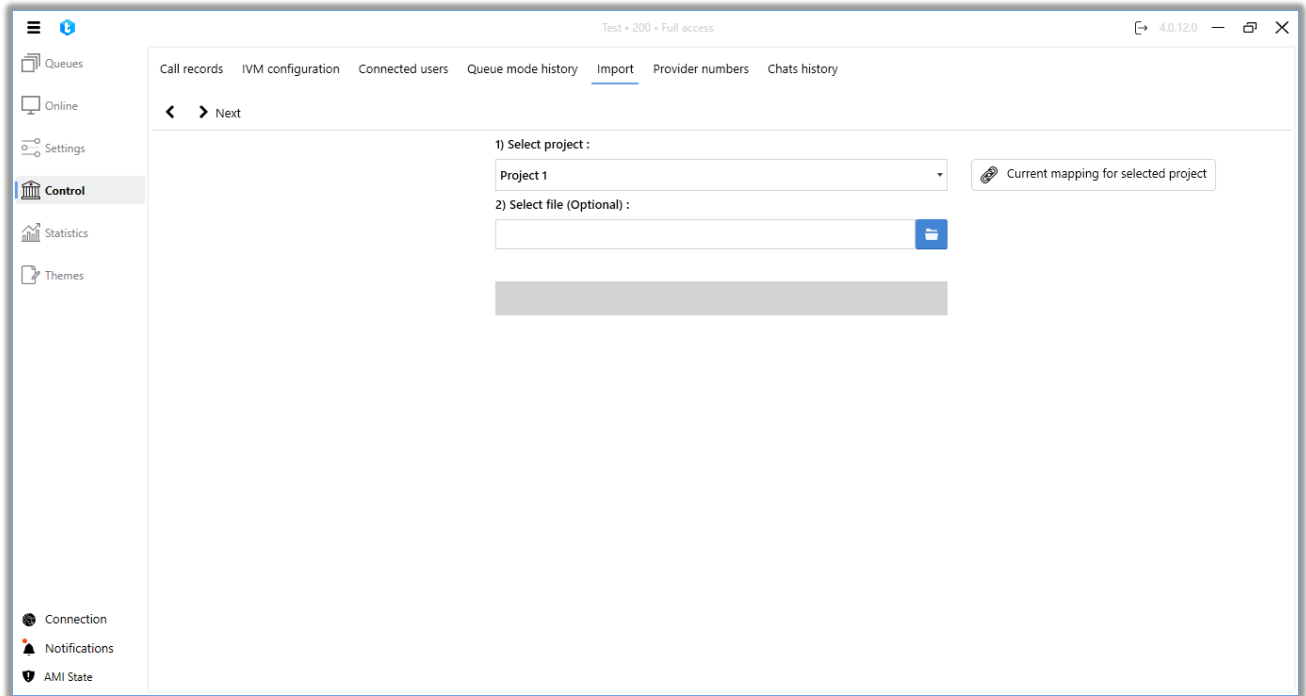
Through this tab, the system is filled with data. Before importing, you must create at least one project. There are two types of import available:

- "API import mapping" — setting up the import of data into the system via API.
- "Import from file" — loading data into the system using an Excel file.

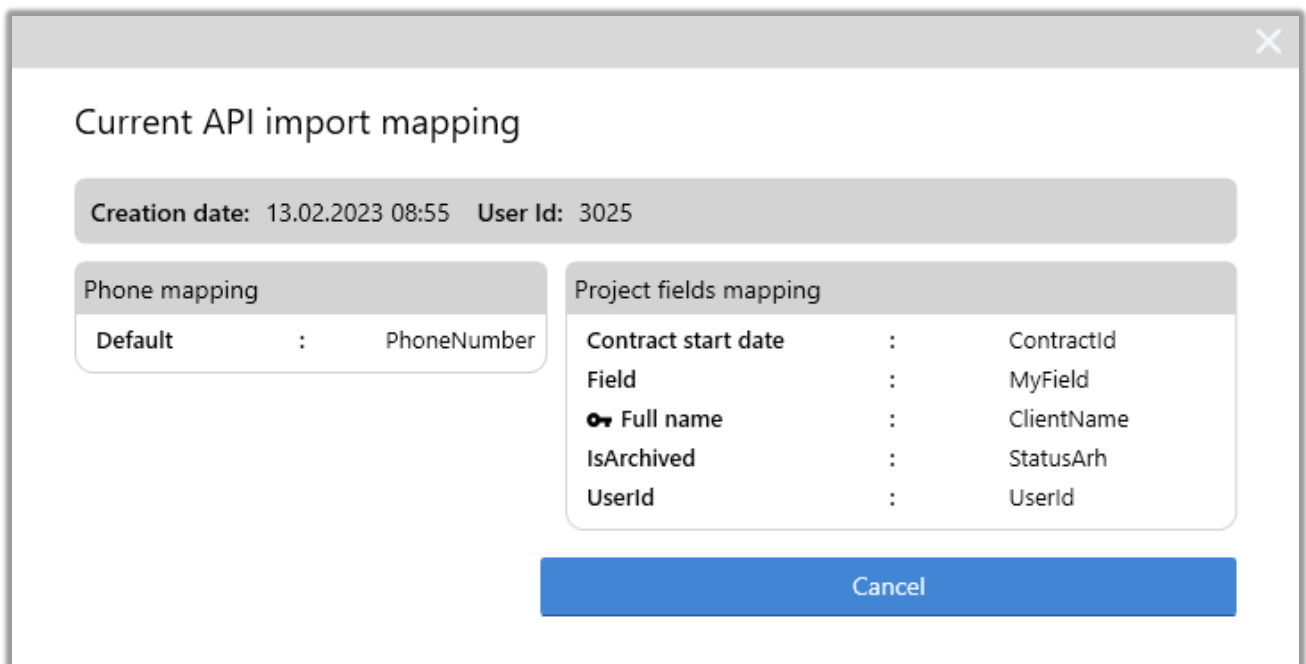


3.4.5.1 API import

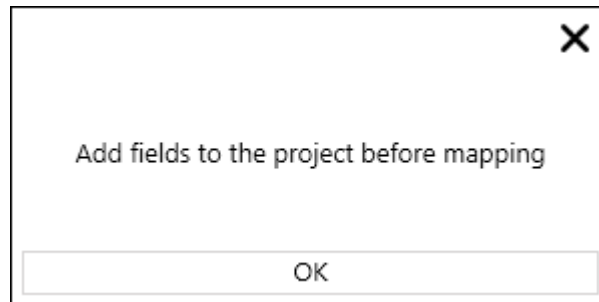
"Import API" allows you to import data via API into Delta Tel from CRM. At the first stage, you need to select a project from the drop-down list into which the import via API will be performed and click "Next". If necessary, you can select a file to upload (files in the ".json" format only).



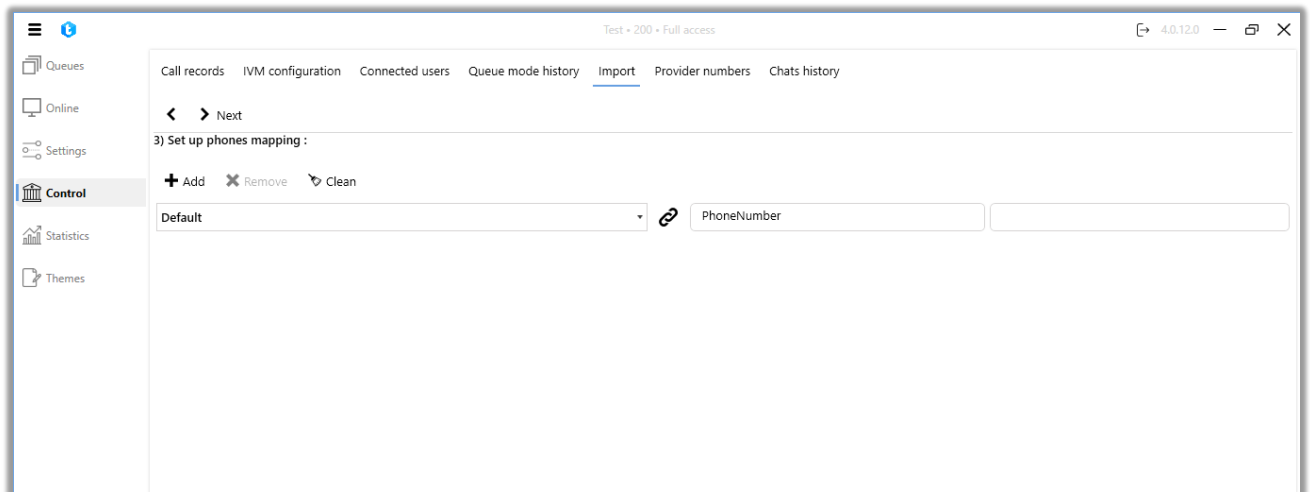
Also at this stage, the user can click the "Current mapping for the selected project" button, after which information about the previous API mapping to the system will be displayed in a separate window. If mapping has not yet been carried out, the window will not open. This window displays the following information: the date the import was created, the id of the user who created it, and the fields used for mapping from the CRM system.



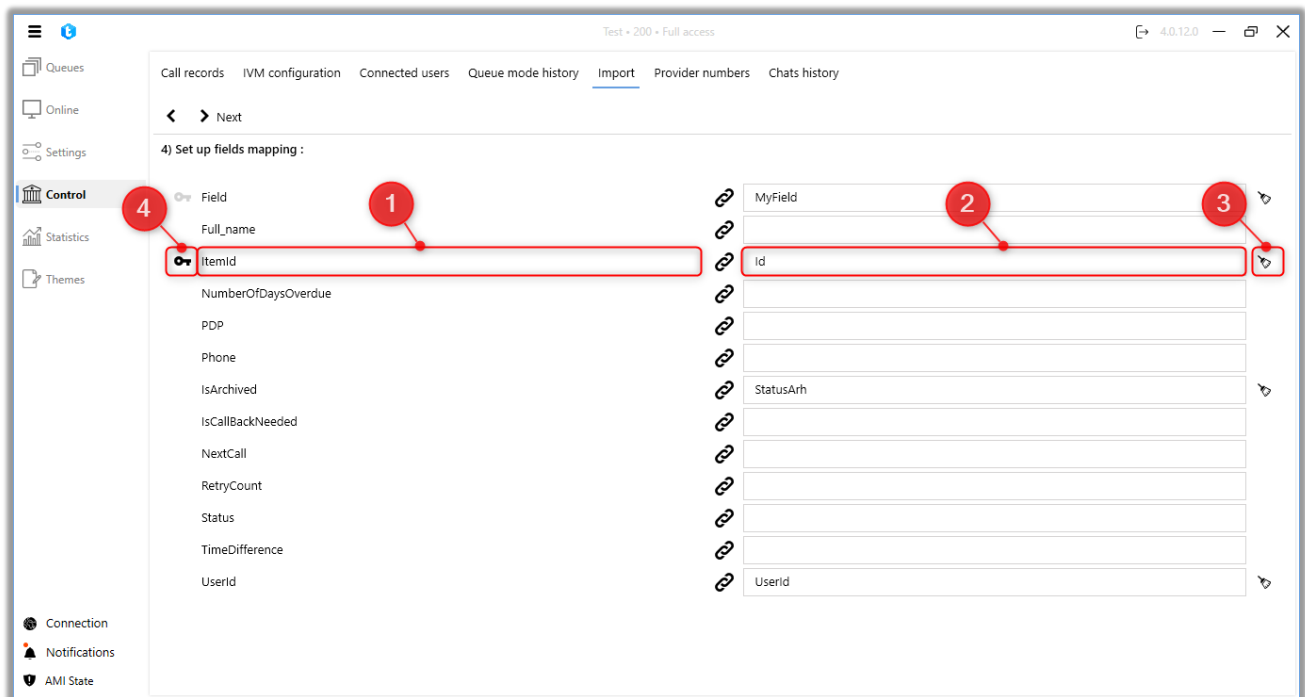
If the error "Add fields to the project before mapping" occurs, you must add at least one field to the selected project (in the project settings) or select another project with already added fields.



At the third stage, the user configures the mapping of phone number formats received from CRM according to the set attribute. After entering all the necessary parameters, click "Next".



At the fourth stage, it is necessary to perform field mapping. Correlating the required fields of the Delta Tel database with the fields from which the filling from the CRM database will take place.



1. Field name in Delta Tel database;
2. json key name;
3. Clear the field.
4. Checkbox showing which field will be a unique identifier (sql key). The

key values are written to the additional KeyId field of the WorkItems table.

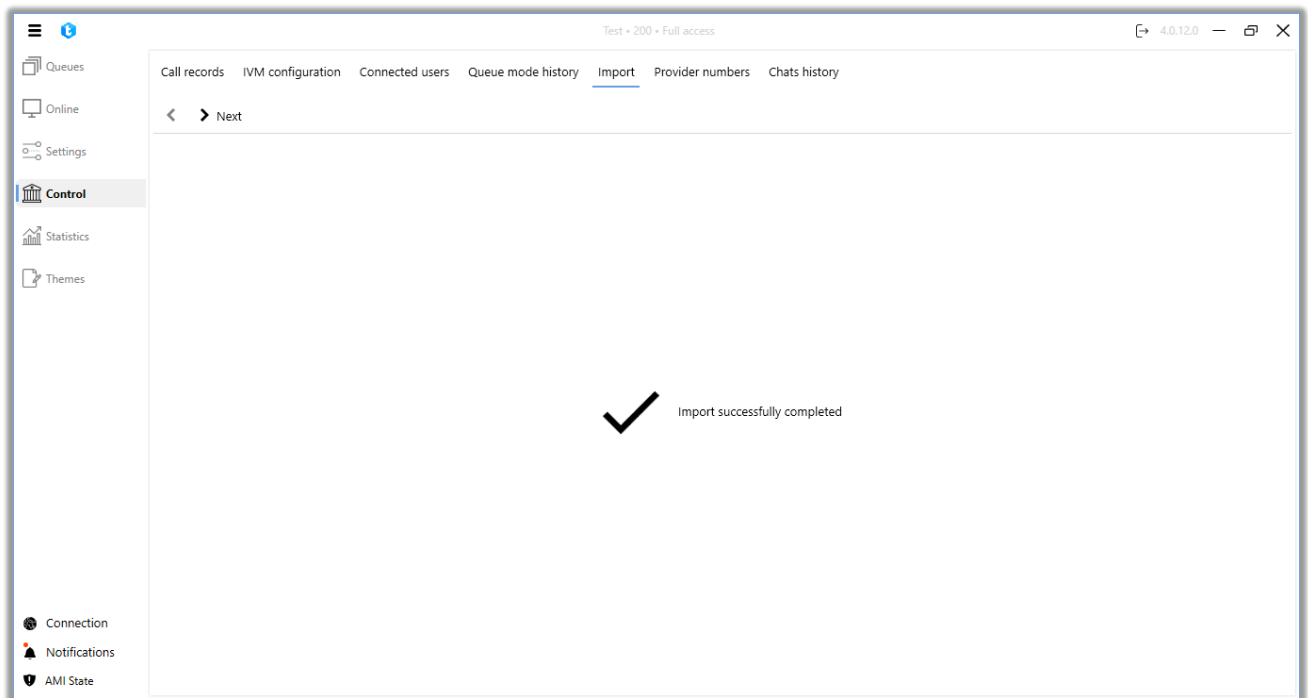
Field mapping is carried out based on the list of fields available for this project, as well as system fields that need to be mapped accordingly with fields from CRM, which are specified in the configuration JSON file "deltaTelBoxConfig.json" (located in CRM along the path ServerService\config). When setting up the deltaTelBoxConfig.json configuration file, the values are written in the json file format, where the json key is first written, and then its value separated by a colon. Pairs of such values are separated by commas (there is no comma after the last pair).

After the mapping has been carried out, it is necessary to set the checkbox, setting the key for MySQL (the column in the rows of which there are no duplicate values, in other words, a unique identifier) to prevent data duplication. System fields cannot be a key, only fields assigned to this project. The essence of this mapping is to



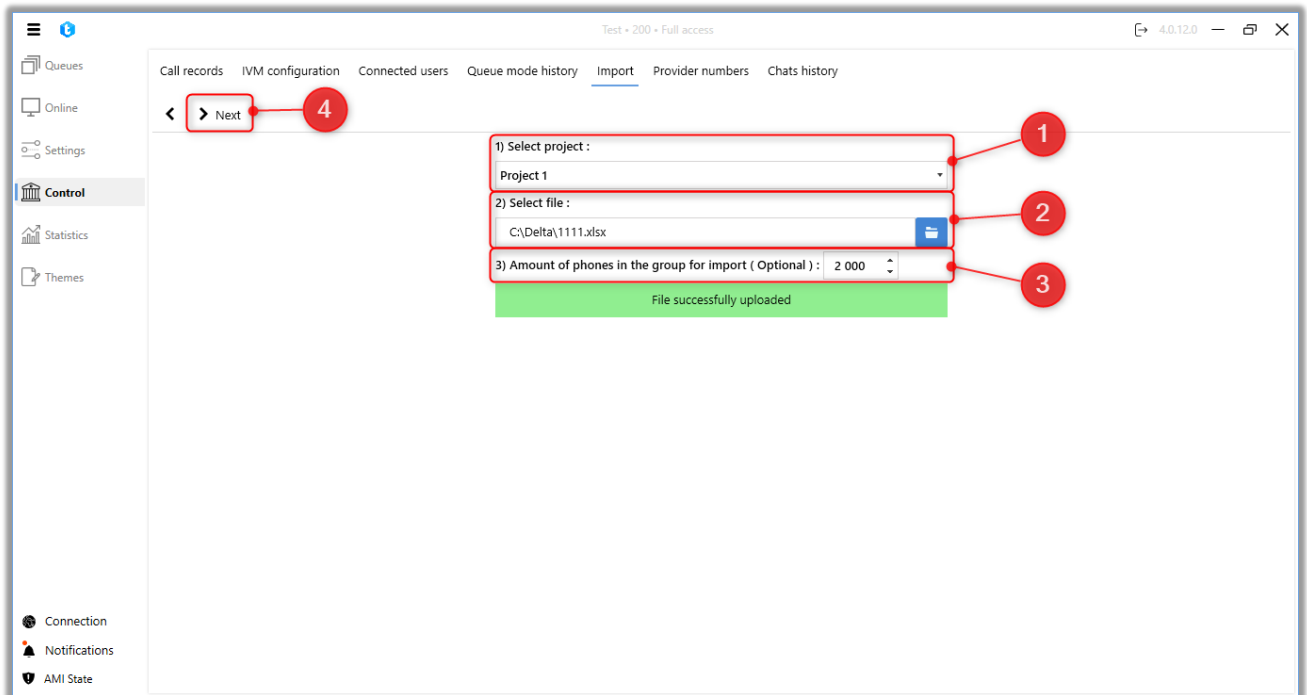
assign the values of the fields from CRM to the Delta Tel fields. After entering all the data, click "Next". Mapping example:

Upon successful import, if the mapping is correct, the system will display the message "Import was completed successfully", if not - "Import error". Upon successful import, the data from the fields of the CRM database will fall into the corresponding fields of the Delt Tel database.

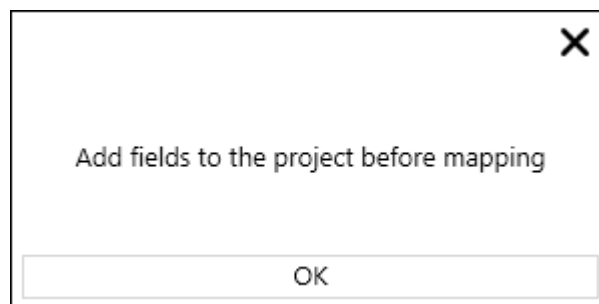


3.4.5.2 Import from file

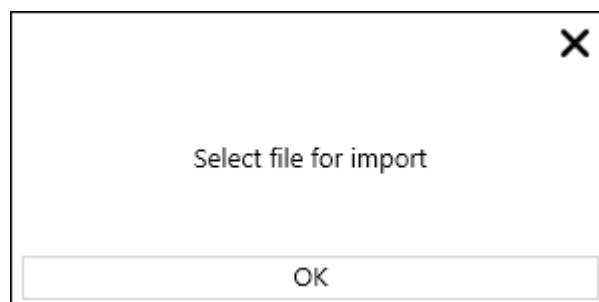
This tab is used to import projects into Delta Tel. With this type of import, data from a file is loaded into the system for a previously created project in accordance with the mapped fields. To set up and import projects into the system, it is necessary at the first stage:



1. Select the project to which the import will be made. The project must have fields (at least one field), otherwise the import will not be carried out, and a corresponding warning will be displayed to the user.



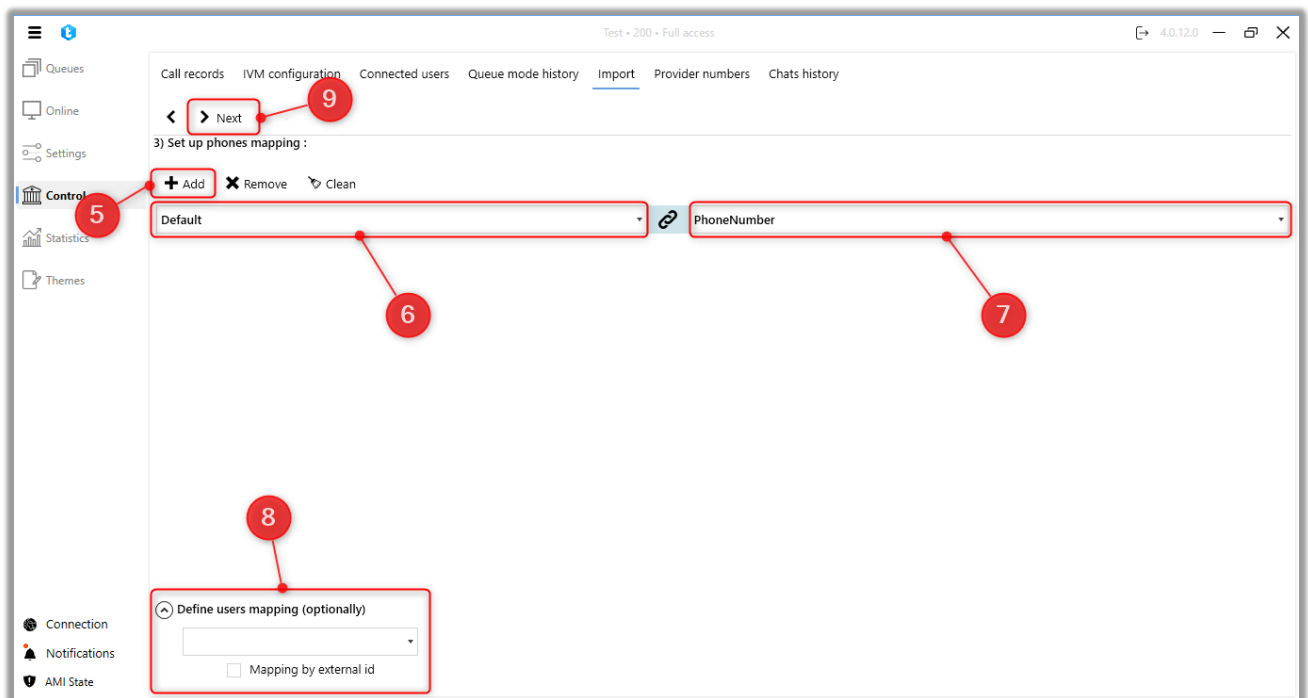
2. Select the import file. If the file is not selected, the user will be notified accordingly.



3. "Amount of phones in the group for import" (Optional) — phones to be imported from the file will be divided into groups according to the specified number. This function is used to reduce the load on the system when importing a large number of phone numbers from a file.

4. Click the "Next" button.

At the second stage, you need to map the corresponding phone types and specify the user mapping. If the phone mapping is not filled in, then the elements will not be assigned to any type and will not be imported into the system.



5. Add a block with mapping fields;

6. Select phone type;

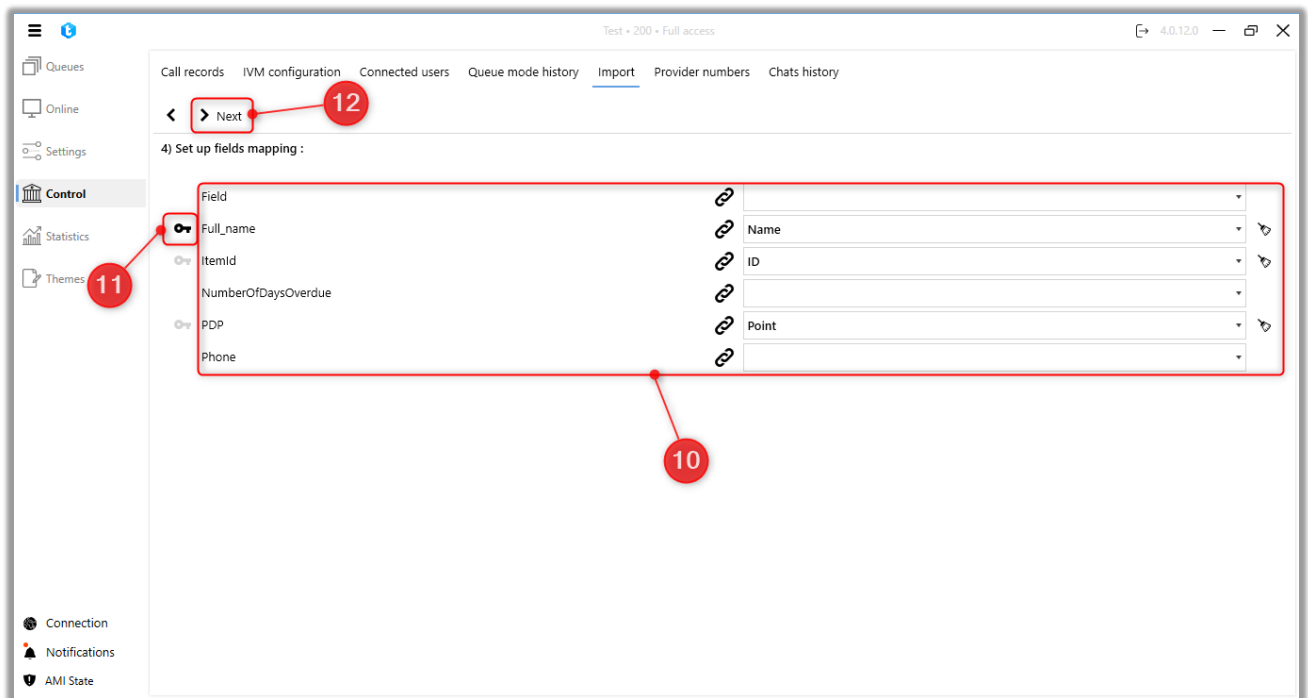
7. Select the appropriate field in the import file;

8. Specify user mapping by selecting the required field, which contains the user's external id from CRM. If no external id is specified, the system will write 0. This setting is intended primarily for projects that use the

"ProgressiveIndividualAlgorithm" mode in their queues;

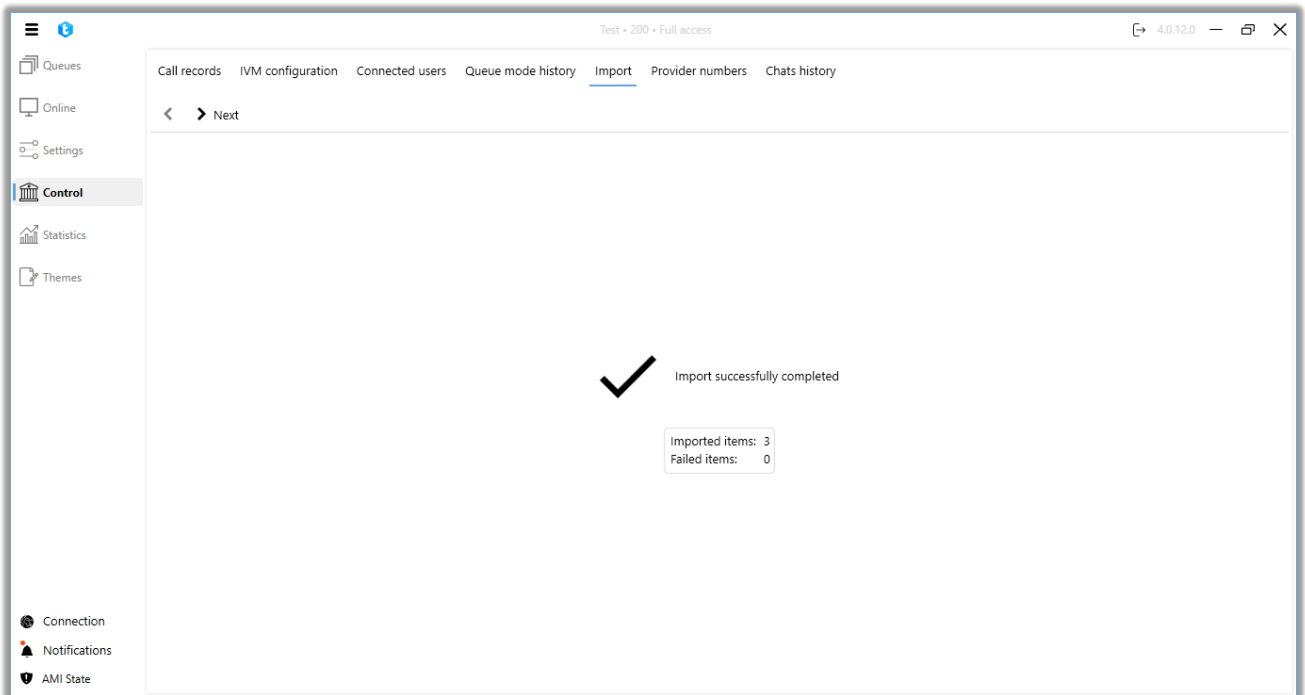
9. Click "Next".

At the third stage, the key field is set and the project fields are mapped to which data with fields from the file will be transferred. Key field — a column in the rows of which there are no duplicate values to prevent data duplication.



10. Map Delta Tel fields with fields from the imported file;
11. Set a key field (otherwise duplicate elements may get into the system);
12. Click "Next".

If the import is successful, the system will display the message "Import was completed successfully", if not - "Import error". The system will also display the number of successfully imported items and the number of items that failed to import. Upon successful import, the data from the file fields will fall into the corresponding fields of the Delta Tel database.



IMPORTANT: If an empty phone number is mapped during import, the system will remove this entry from the import. The import file must be in .xlsx format. When importing, the field names from the project settings must be correctly specified. The system will also ignore empty cells when importing.

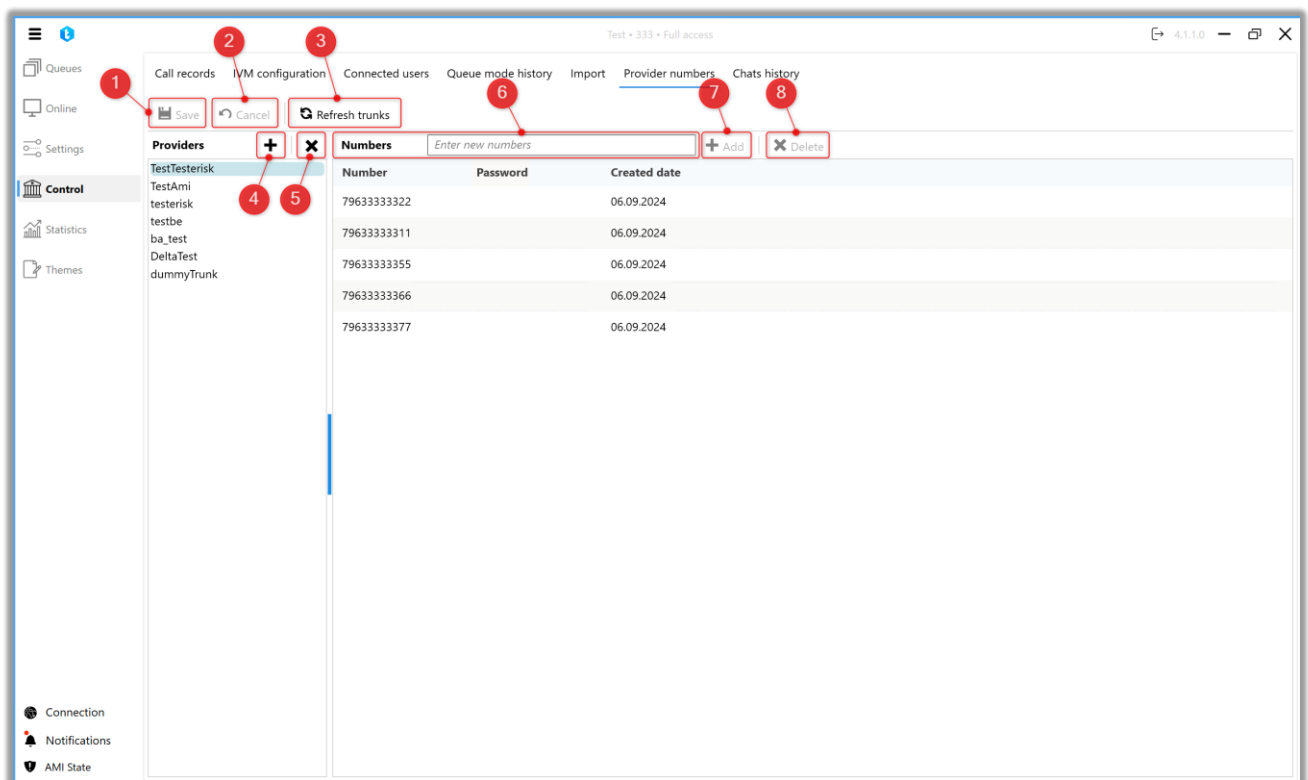
3.4.6 Provider numbers

Using the "Provider numbers" tab, users can independently add and delete phone numbers in trunks from different telephony providers to the Asterisk server, where a special file is created by a telephony specialist, through which new trunks will be added to the PBX. It is also necessary that the added providers have already been entered into a file on the Asterisk server with all the necessary connection parameters. After adding, such numbers become available for editing on the [Trunks] tab (you can specify its mask, prefix, etc.). An SSH/SFTP connection must be active to use this tab.

The tab is a column with a list of created providers, as well as a table with provider numbers, which is divided into three columns:

- [Number] — display the number of the provider.
- [Password] — enter a password, if one is used by the ISP. To change or enter it, double-click on the field.
- [Creation date] — a field that automatically records the date of adding a new provider number.

There are the following buttons in the provider numbers setting window:



1. [Save] — apply the changes made to the edited file with trunks (to the Asterisk server).
2. [Cancel] — undo all unsaved changes.
3. [Refresh trunks] — button for trunks reloading. After adding new provider phones and saving them, you need to reboot the trunks.
4. [+] — button for adding a new provider. In the window that opens, you must enter the name of the provider. This name will be added on the Asterisk server as a prefix to phone numbers. When adding a new provider, you can use numbers,

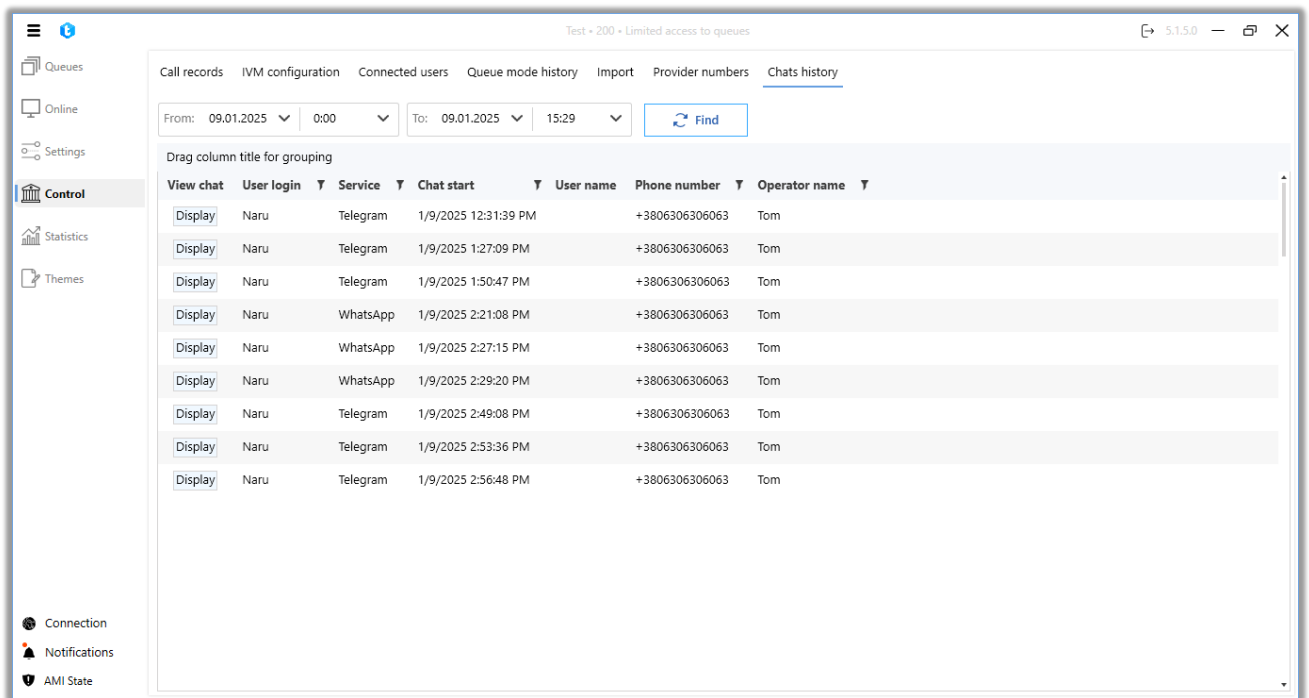


letters, "+" and "_" symbols.

- 5. [X] — delete the selected provider and all its numbers.
- 6. [Numbers] — form for entering a phone number to add. You can specify multiple phone numbers separated by commas. Phone numbers to enter are provided by telephony providers. Can't use the same number
- 7. [Add] — add a new provider phone numbers that was entered in the [Numbers] field. The button is inactive if there are no entered numbers to add.
- 8. [Delete] — delete selected phone numbers. The button is not active if there are no selected numbers.

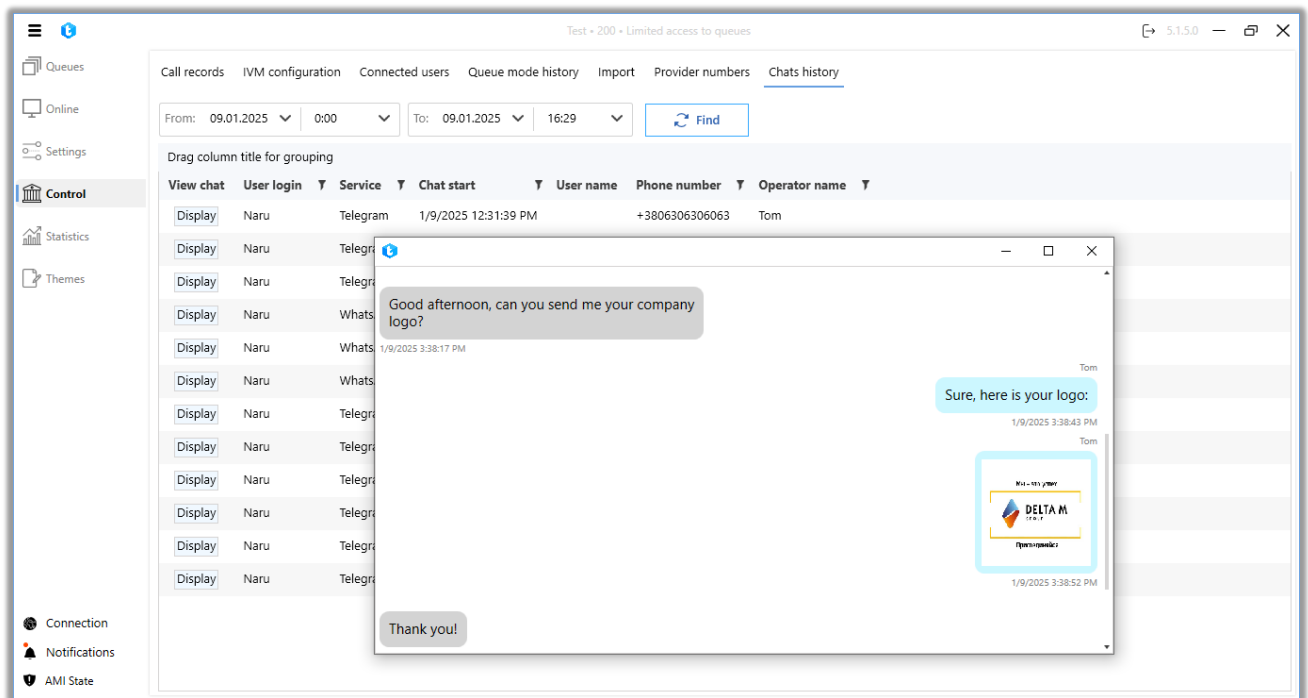
3.4.7 Chat history

On the "Chat History" tab, you can view the history of correspondence in chats for the selected period. Information about chats is presented in a tabular form, where each column will display the corresponding information.



The bars contain the following information:

- "View chat" — after clicking on the 'Display' button, a window with the history of correspondence in the selected chat will open. The operator's and user's messages will be displayed in different colors. The names of sent and received files are specified in the viewing window and saved in the path: "...Service\ReceivedFiles". The user can also view sent images in chat. To do this, just put the mouse cursor over the thumbnail, after which the image will be displayed in full size.



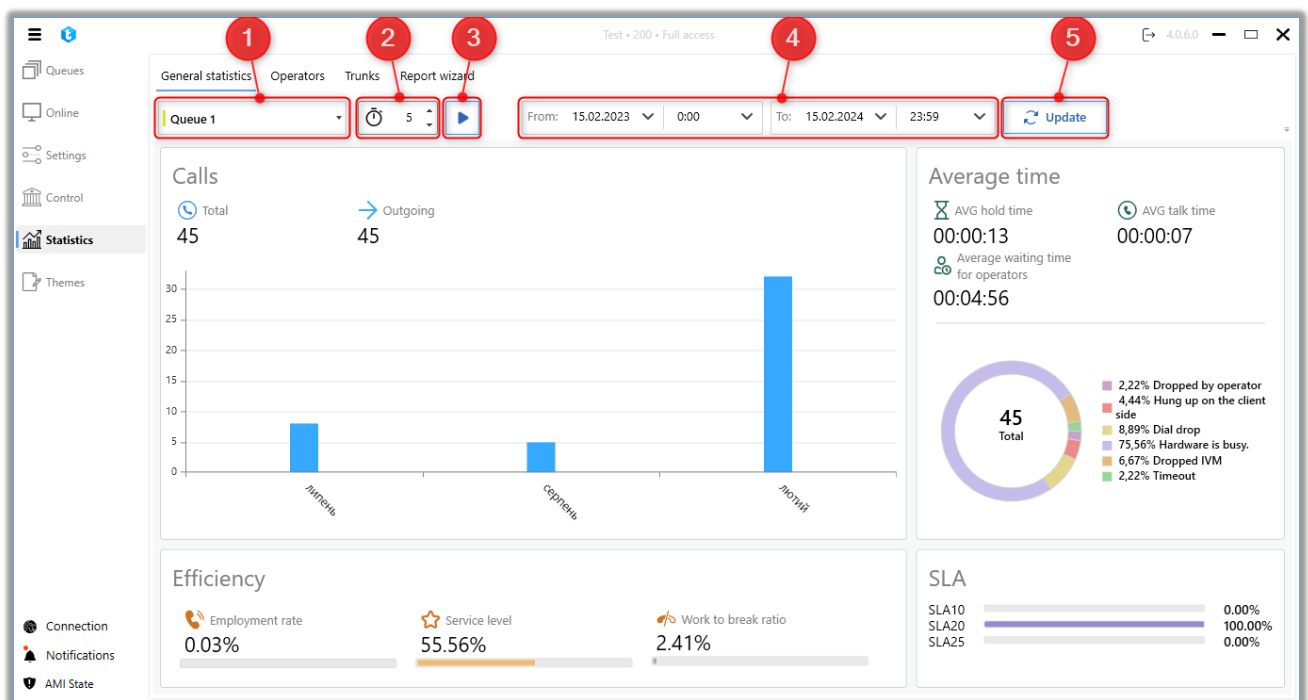
- "User login" — displays the user login used by the user in the messenger.
- "Service" — display the name of the service, which was set in the administrative panel of the chatbot.
- "Chat start" — date and time of chat start.
- "Phone number" — displays the phone number of the client with whom the chat was conducted.
- "Operator's name" — display the name of the operator, which is specified in the user settings.

3.5 Statistics

In this section, users are provided with comprehensive statistics on the system's performance and operators, as well as access to report generation. The section comprises four internal tabs: "General Statistics," "Operators," "Trunks," and "Report Wizard."

3.5.1 General statistics

This tab displays general statistics on the operation of queues created in the system. Information about all queues or groups of queues is displayed only in the context of one day, from 00:00:00 to 23:59:59 server time. If a specific queue is selected, you can set the period for displaying historical data.



In the "General Statistics" window, the following controls are available for managing the displayed information:

1. Selecting a queue to display general statistics for it.
2. Setting a timer to automatically refresh the information on the tab. The



time is set in minutes.

3. Button to initiate automatic updating of general statistics based on the set timer.
4. Setting the time period to display general statistics for the selected queue. This parameter is not available when viewing information for all queues.
5. "Update" — button to refresh the information on the "General Statistics" tab.

The information displayed in the "General Statistics" window is divided into four blocks.

The "**Calls by a day**" block displays the number of completed sets in the form of a histogram for a specific period. The graph can show data by days, weeks, months, or years, depending on the specified time period. This block includes the following elements:

- "Total" — the total number of completed calls from all queues or within the selected queue for the specified period.
- "Outgoing"— the number of all outgoing calls, including automatic and manual calls.
- "Incoming"— the number of incoming calls that were connected to operators.
- "Missed" — the total number of calls that did not reach the operators.

The "**Efficiency**" block displays the main metrics for evaluating the effectiveness of the work of operators, where the following parameters are presented:

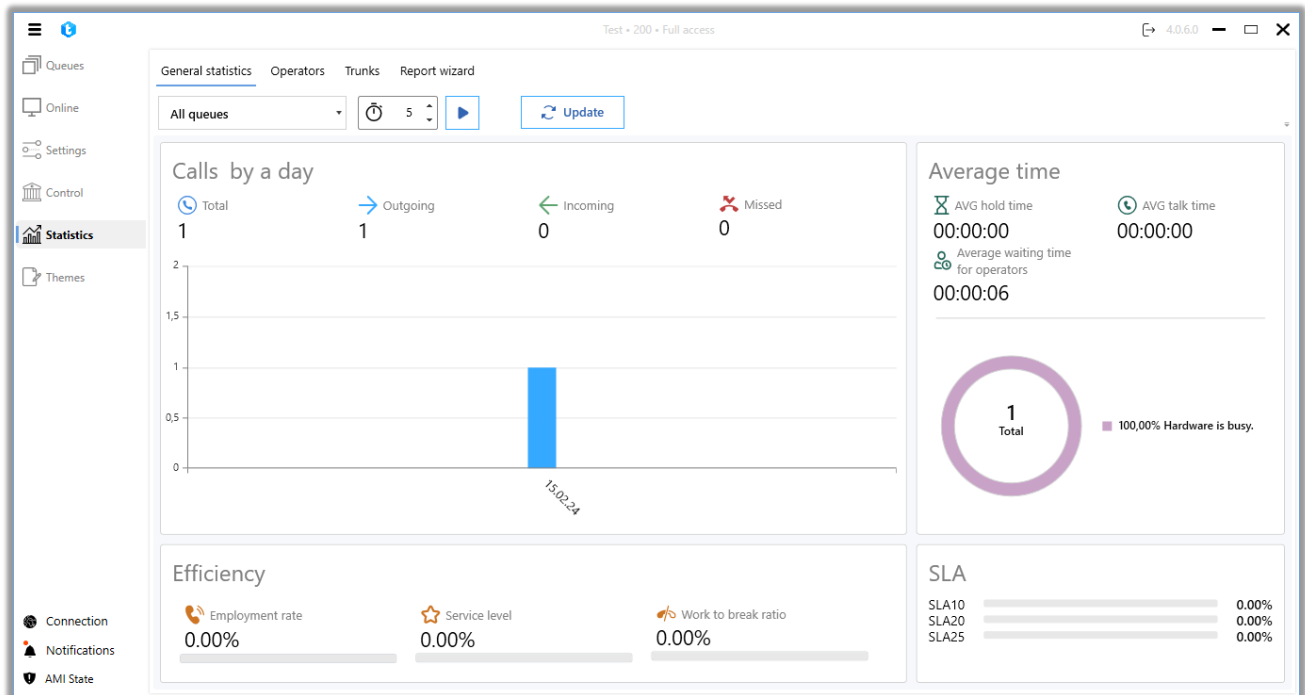
- "Busy Level" — Displays the percentage of time agents spend in a conversation compared to the total time agents are on. This parameter is calculated by dividing the time agents spent on a call by the total time an agent worked and multiplying the result by 100.



- "Service level" — displays the level of quality of customer service by operators. This parameter is calculated as the ratio of the number of calls in which customers picked up the phone to the total number of calls.
- "Work to break ratio" — displays the ratio of the time that agents spend in working statuses to the time spent in non-working statuses (statuses without the "Include during working hours" checkbox). The lower the value of this parameter, the higher the occupancy of agents. This parameter is calculated as the total time spent by agents in non-work statuses divided by the time spent in work statuses.

The "**Average time**" block displays the following information:

- "Wed. waiting time" — the average time that the client spends on the line waiting for a connection with the operator.
- "Wed. talk time" — the average value of the duration of all user conversations for the selected period. It is counted as the difference between the end time and the start time of the call.
- "Average waiting time of operators" — the average time an operator spends waiting for a call. It is calculated as the total time an operator is in the "Waiting" status divided by the number of transitions of the operator to this status. Additionally, you can view statistics on this parameter for each operator on the "Operators" tab.



The "SLA" (Service Level Agreement) block displays the customer service level, where:

- "SLA10" — shows the percentage of the total number of incoming calls that were answered within 0 to 10 seconds.
- "SLA20" — shows the percentage of the total number of incoming calls that were answered within 10 to 20 seconds.
- "SLA25" — shows the percentage of the total number of incoming calls that were answered after 20 seconds or more.


By default, statistics are displayed only after clicking the "Refresh" button or when the timer is set and initiated. This approach helps minimize the server load and ensures accurate data presentation.

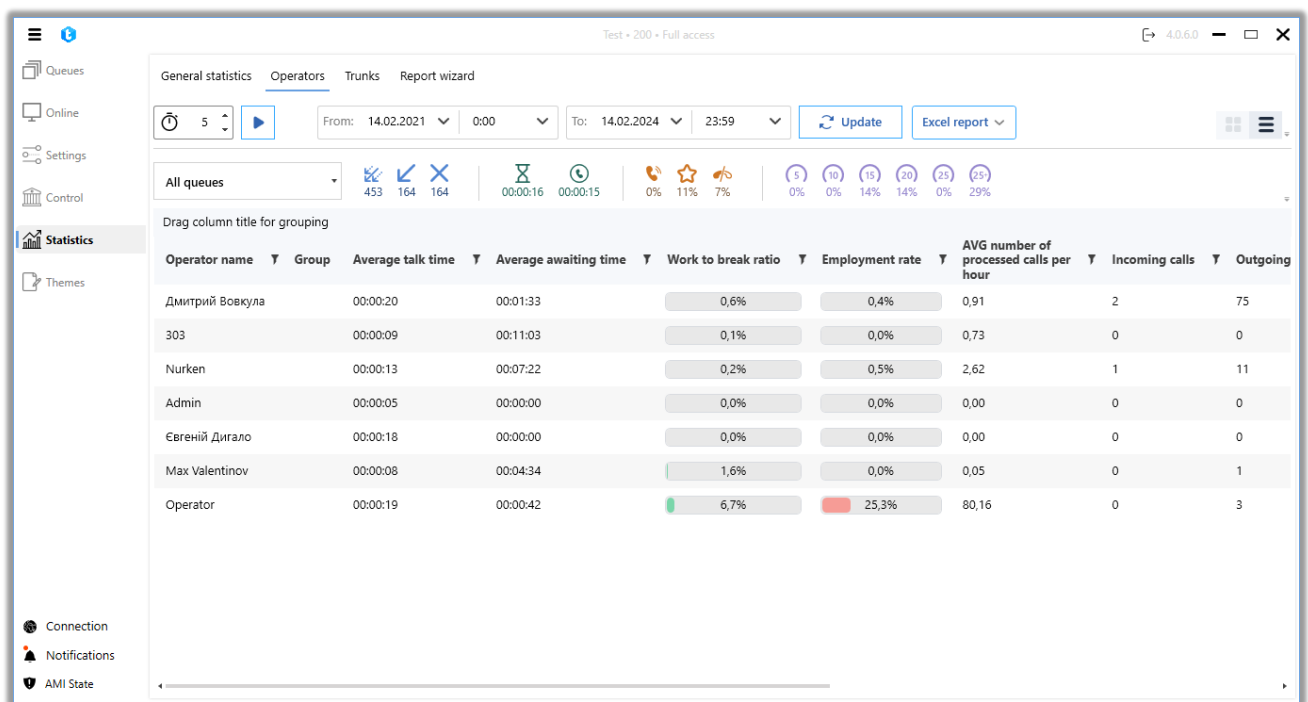
3.5.2 Operators

This tab provides detailed information about operators' performance, including shift start time, average talk time, and time spent in different work statuses. It also



shows the number of calls (total, received, missed) and SLA information (within a specific number of seconds) for the selected time period. The time period is set in the "From" and "To" fields. When selecting a date, the month names are displayed in the language configured in the server's operating system. After selecting the queue and setting the time period, click the "Update" button.




The "Refresh After" function allows for automatic refreshing of the displayed information in the Operators window at a specified time interval. To enable this feature, set the desired time interval in minutes (ranging from 5 to 60) and click the "Start"  button.









The screenshot shows the "Operators" tab in the Delta Tel interface. It displays a table of operator statistics for the selected queue "All queues" and time period from 14.02.2021 0:00 to 14.02.2024 23:59. The table includes columns for Operator name, Group, Average talk time, Average awaiting time, Work to break ratio, Employment rate, AVG number of processed calls per hour, Incoming calls, and Outgoing calls. The "Operator" row is highlighted in green, indicating it is the selected operator.

Operator name	Group	Average talk time	Average awaiting time	Work to break ratio	Employment rate	AVG number of processed calls per hour	Incoming calls	Outgoing
Дмитрий Вовкула		00:00:20	00:01:33	0,6%	0,4%	0,91	2	75
Зоз		00:00:09	00:11:03	0,1%	0,0%	0,73	0	0
Nurken		00:00:13	00:07:22	0,2%	0,5%	2,62	1	11
Admin		00:00:05	00:00:00	0,0%	0,0%	0,00	0	0
Євгеній Дигало		00:00:18	00:00:00	0,0%	0,0%	0,00	0	0
Max Valentinov		00:00:08	00:04:34	1,6%	0,0%	0,05	0	1
Operator		00:00:19	00:00:42	6,7%	25,3%	80,16	0	3

The agent statistics block for all queues displays the following information:

-  "Total number of calls" — the total number of calls for the selected period for the selected queue.
-  "Received calls" — the total number of received calls (there was a connection with the operator) for the selected period.
-  "Missed calls" — the total number of missed calls.

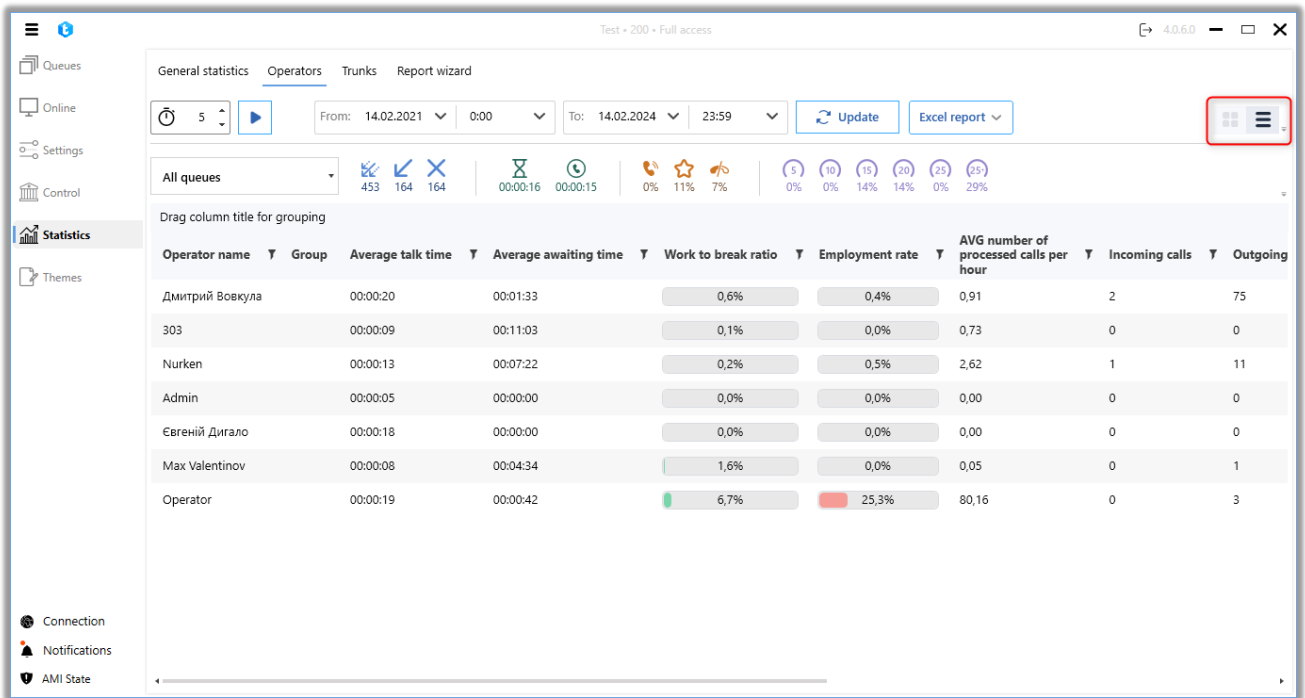


-  "AVG hold time" — the average waiting time that the client spends on the line waiting for a connection with the operator.
-  "AVG talk time" — the average duration of all user conversations (defined as the time the start of the end of the conversation minus the start time of the conversation) for the selected time period.
 -  "Time in work / Talk time" —
 -  "Success dials / All users" —
 -  "Total non-working time / Time in work" —
 -  "Answered in more than X sec / All answered calls" — display as a percentage of the rate of acceptance by operators of calls from the total number of calls made for the selected period (from the moment the call began to the answer). This indicator is calculated as the contact speed of operators (which is equal to one of the intervals: up to 5, from 5 to 10, from 10 to 15, from 15 to 20, from 20 to 25, 25 or more seconds) divided by the total number of conversations and all this multiplied by 100.

The description of the information displayed in each column was previously covered in detail in the "Auto Redial" section.

The system offers two types of operator statistics display: basic and tile. The button to switch the display type is located in the upper right corner of the tab.

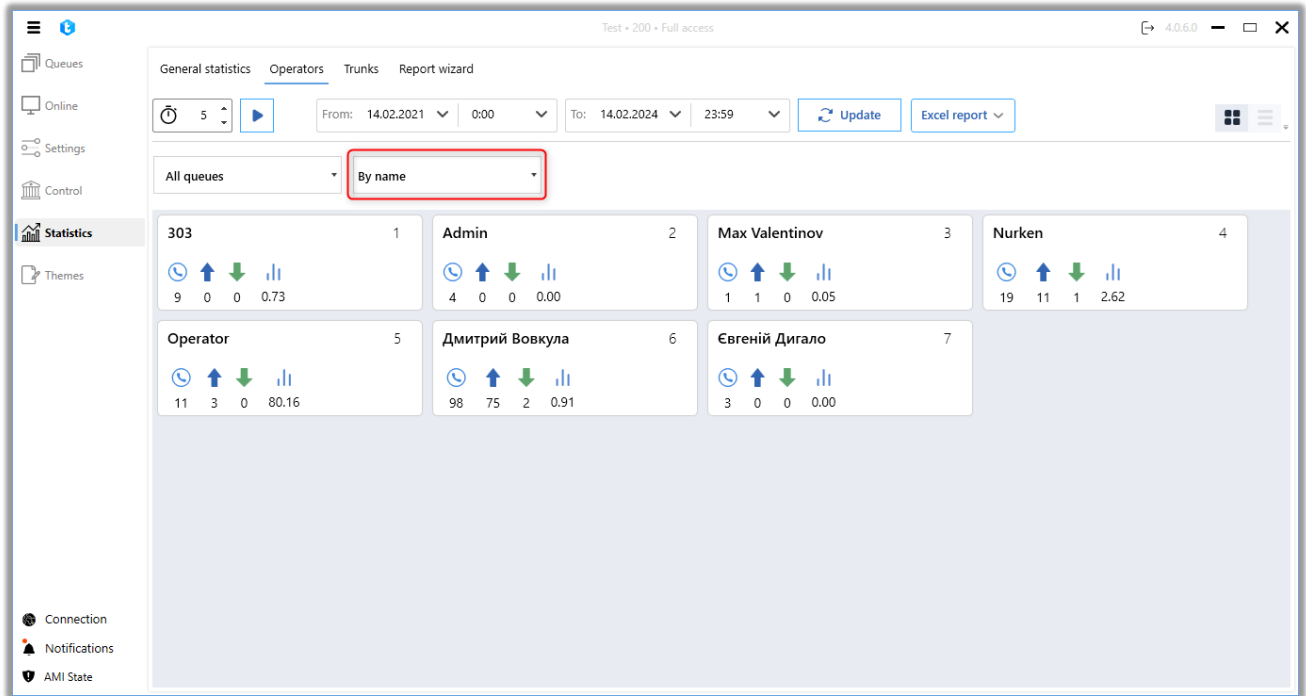
In the basic view, the information on the tab is presented in the form of a table that lists operators and their respective statistics.



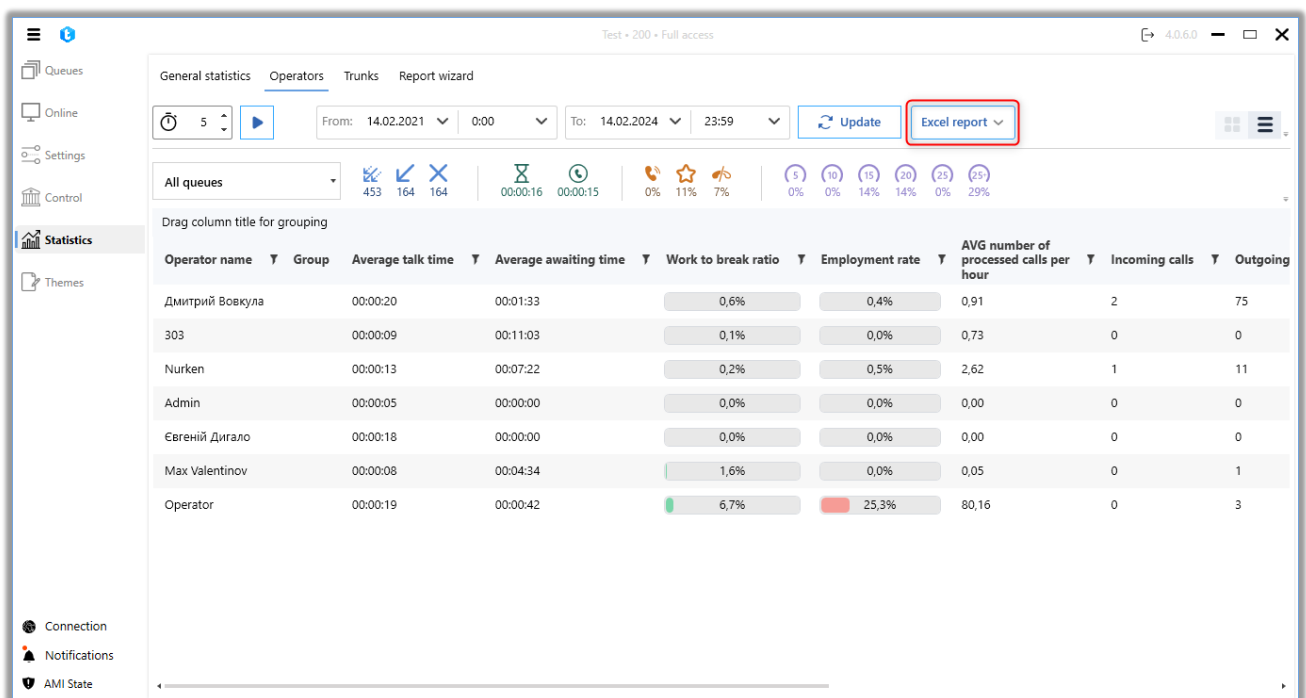
The scales in the "Work to Break Ratio" and "Busy Level" columns change color individually for each operator based on their performance.

IMPORTANT: Statistics are displayed only for operators who were active in the queue during the selected time period.

You can switch to displaying operator statistics as tiles. In addition to selecting a queue, users can be sorted by name, number of outbound calls, number of inbound calls, total number of calls, and average number of calls per hour. As a result, the order of operators on the tab will change based on their performance indicators.



The tab also allows you to generate several types of pre-installed or custom excel reports. To do this, click on the "Excel Report" button and select the desired type of report from the drop-down list, after specifying the queue of interest.



To access custom reports, the user must have the appropriate access rights in



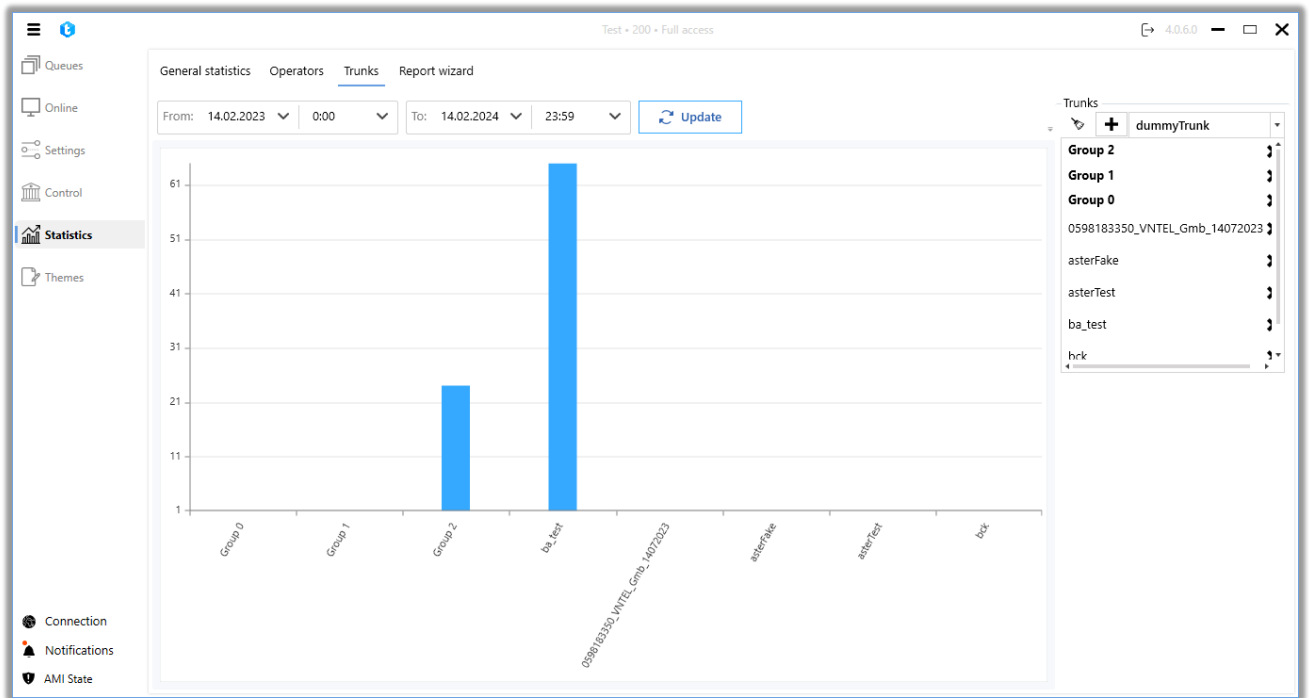
the "Report Wizard" module. In addition to the reports generated by users, the system also includes several pre-installed reports:

- The Upcoming Events report displays call data for a selected queue during a specified time period.
- The IVR Statistics report provides statistics on the performance of the IVR system during the selected period.
- The Agents Statistics report presents data on all agents across all queues for the selected period.
- The Chat Statistics report offers information on chat handling by agents.
- The Transactions Statistics report utilizes data on transaction statistics for selected sequences during a defined period.
- The Inbound Agents Report provides data on agents in inbound queues.
- The Income SLA report showcases agent performance statistics based on their SLA requirements.

3.5.3 Trunks

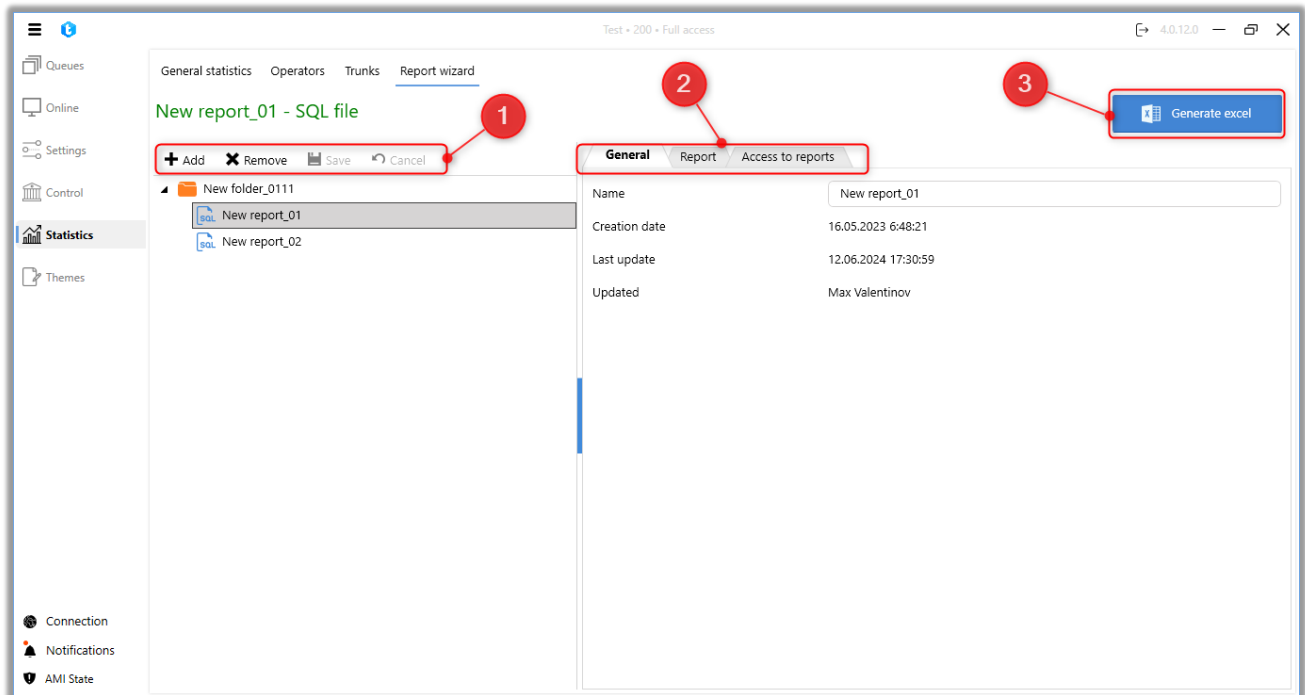
This tab displays the usage of communication lines for all utilized trunks. The usage is presented as the number of dialings made for each trunk during the selected period.

To view information on trunks for a specific period, you need to add the desired trunks or trunk groups to the "Trunks" section, set the time range by specifying the required date and time, and then click the "Refresh" button.



3.5.4 Report Wizard

Report Wizard - allows you to create reports by executing SQL scripts, which can be exported as excel files. For convenience, it is possible to group saved SQL scripts by combining them into folders. The names of folders and report files should not be repeated.



1. Window for managing and grouping reports.

"Add" button — adding a new folder or report file. When you select one of the folders, all subsequent folders / files will be created inside it, which allows you to group them in a form that is convenient for perception.

"Remove" button — deleting a report or folder (all its subfolders and reports will also be deleted). The date and time of deletion of items can be viewed in the database.

"Save" button — saving the changes made.

"Cancel" button — cancels all recent unsaved changes made.

2. Tabs with the settings of the created report.

Before you start working with this window, you must select a folder or report in the "Manage and group reports" window. The tab contains four sub-tabs: General, Report, Access to reports.

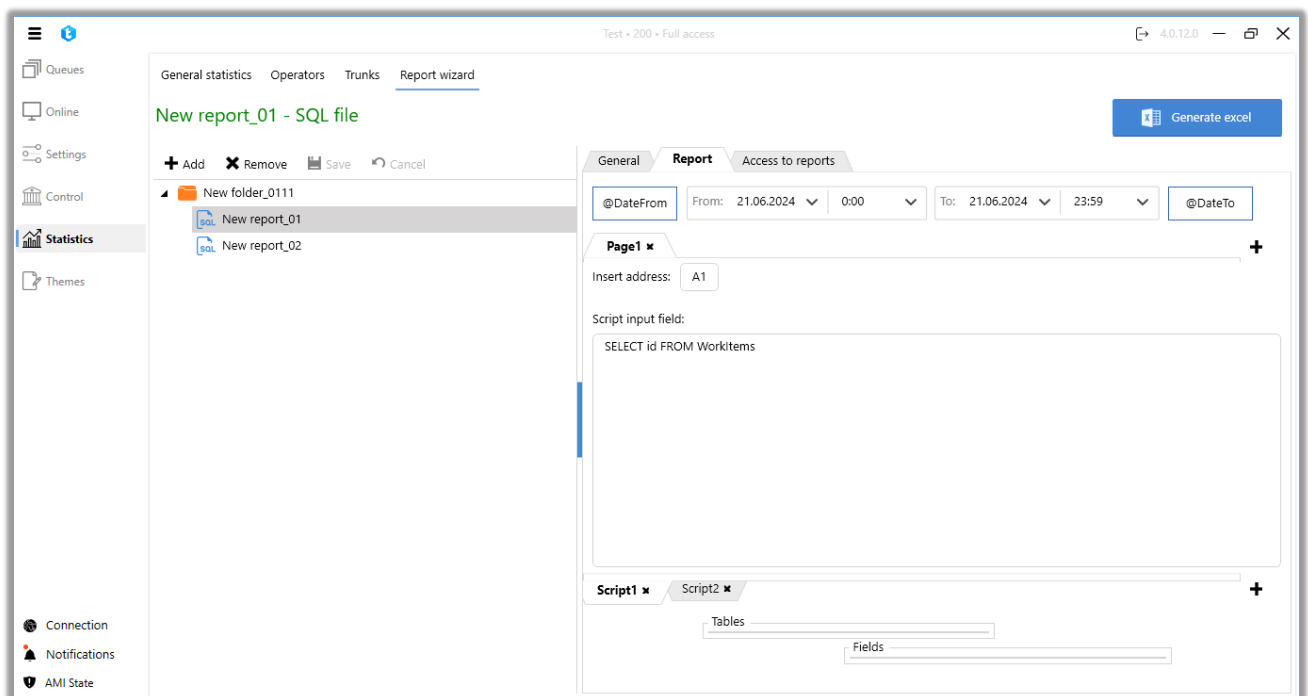
The "**General**" tab contains basic information about the report. This tab allows you to change the name of the report, displays information about the date and time the report was created, the date and time of the last update, as well as by which user it was performed.



The **"Report"** tab is used to create and customize SQL scripts that will be used to generate the selected report. The report will be generated according to the number of added pages and scripts.

The upper panel of the tab contains buttons for adding the "@DateFrom" and "@DateTo" macros, whose values are pulled from the "from" and "to" fields in the "Statistics" tab, "Operators" section by default.

If necessary, by clicking the "+" button on the right side, you can add additional pages to the report. To rename a tab, you should double-click on its name in the title bar. A tab can be deleted by pressing the "x" button in its header.



"Insert address" — selection of a cell in the report, where the result of the created script processing will be inserted.

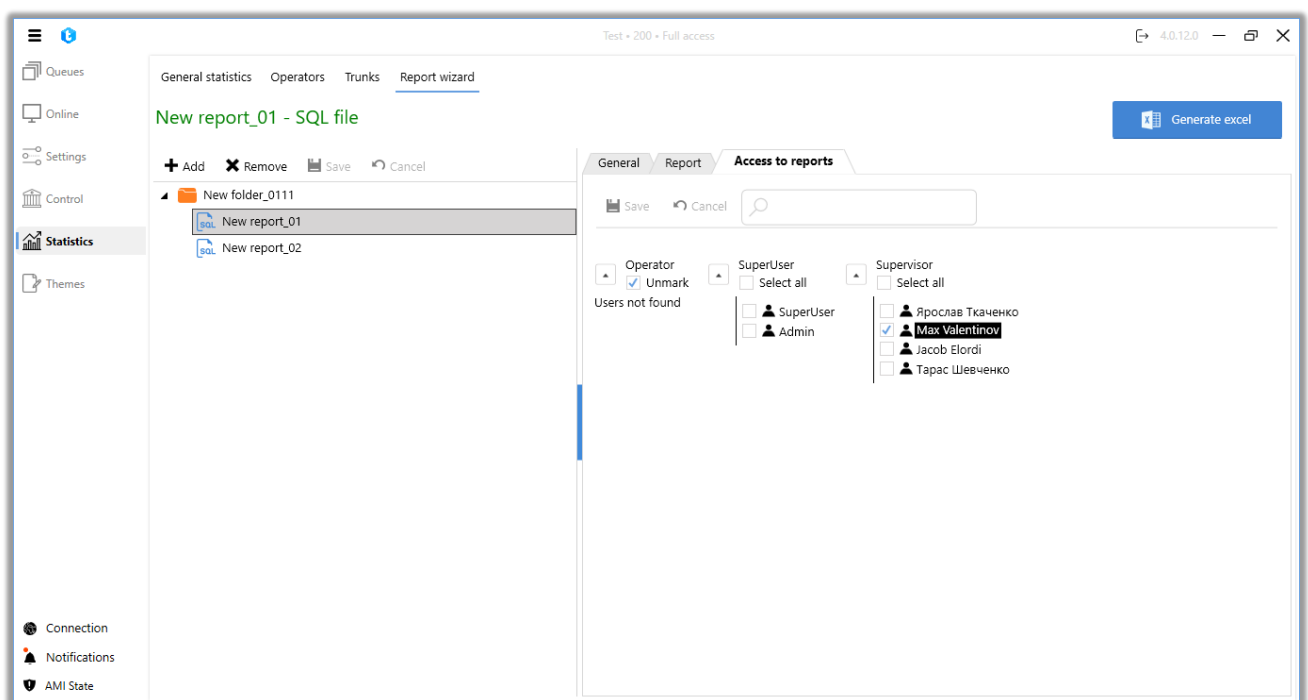
"Script input field" — text field for inserting SQL script for the selected report. SELECT and other commands for selecting and sorting data are available.

A single report can contain multiple Excel pages, and multiple SQL scripts can be created on each page. The result of each of the scripts can be placed in a specified cell in the Insert Address parameter. If necessary, additional scripts can be added to

the report page by clicking the "+" button on the right side.

A tooltip with tables available for work is displayed at the bottom of the tab. The required table can be added to the script by double-clicking the right mouse button.

The **"Report Access"** tab is used to customize the permissions for users to generate the selected report. To open access to reports within a folder, the user must also have access to the folder itself.



3. Generate Excel.

The button to save the generated data output by the script from the "SQL script" tab in the .xlsx report format. After pressing the button, the system prompts you to select a directory to save the report file.

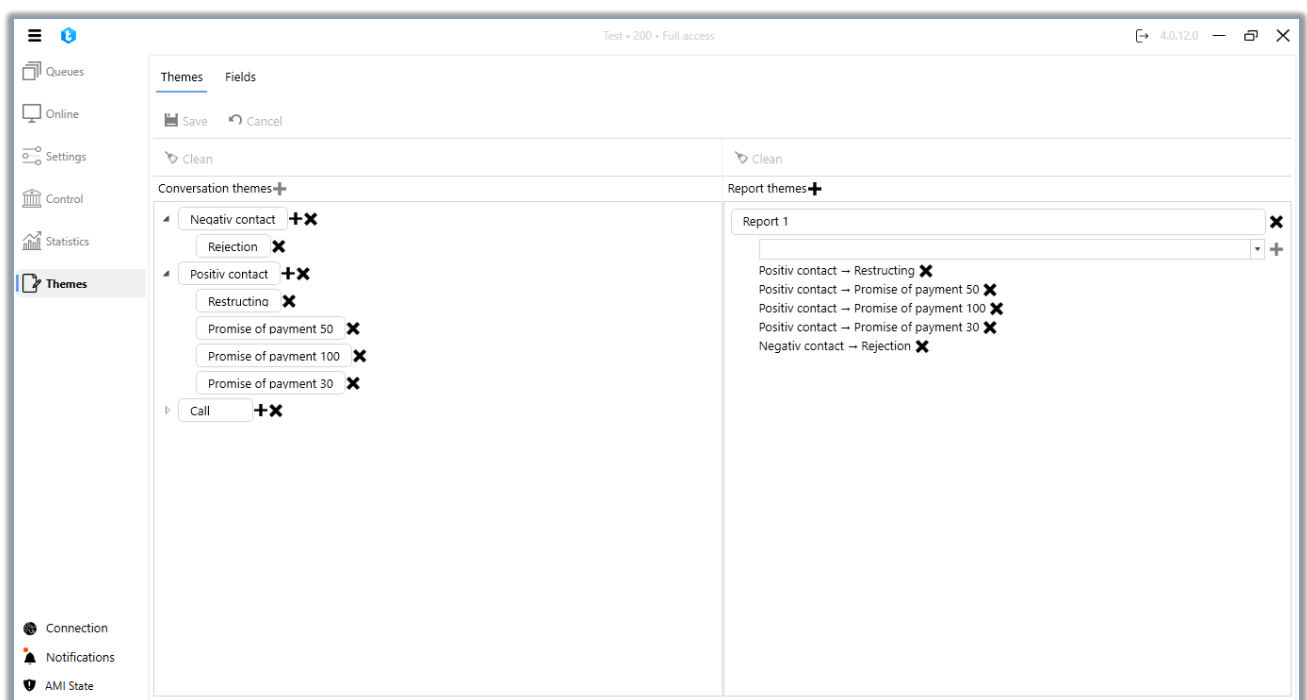
3.6 Themes

Topics are a form in which the operator during a call or after its completion,



until a new call is received, records the subject of the call or the result of contact with the client in the form of an "action tree" (progression according to the created scenario depending on the selected response options). Once the topics are created, the operator can choose topics and their subtopics in the PjPhone window to communicate with the client. They can be used for both incoming and outgoing calls. Themes are stored in the Delta Tel database, table dbo.ConversationThemes.

This toolkit helps, without integration with CRM, to fixate the topics of communication between operators and customers.



The Fields tab is used to create, customize and delete subject fields. Subject fields can be used when processing chats to enter additional information about the subject of the request or the result of the contact. During chat processing, the operator can select and fill these subject fields by entering the information received from the client.



Test • 200 • Full access

4.0.120

Themes **Fields**

+ Add Edit Remove

Drag column title for grouping

Field name ▼
Field 11
Number
Text

Connection

Notifications

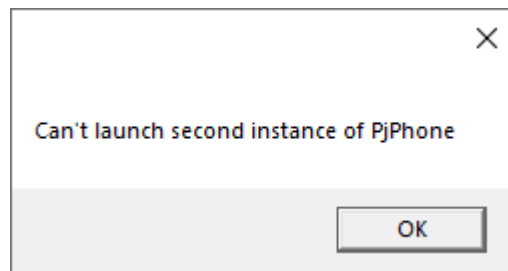
AMI State

4 PjPhone

PjPhone — softphone that is used to make calls from the client application.

There are three versions to choose from depending on your business needs:

- "Portable" — does not require installation of system files on the hard drive, runs directly from the folder. This version uses UDP-TCP connection type. When using a softphone with TCP connection, users are not allowed to run more than one version of PjPhone on the same computer. When trying to open a second instance of the application, the user will see a warning message: "Can't launch second instance of PjPhone".



- "ClickOnce" — when the application is launched by the operator, it will be automatically updated to the latest up-to-date version, without reinstalling the application. This softphone version works with all types of transport protocols.

- "MSI" is a version that installs all the necessary system files for the application on the hard disk when it starts up. But to install a new version, you need to completely update the entire application folder. This version works with all types of connections.

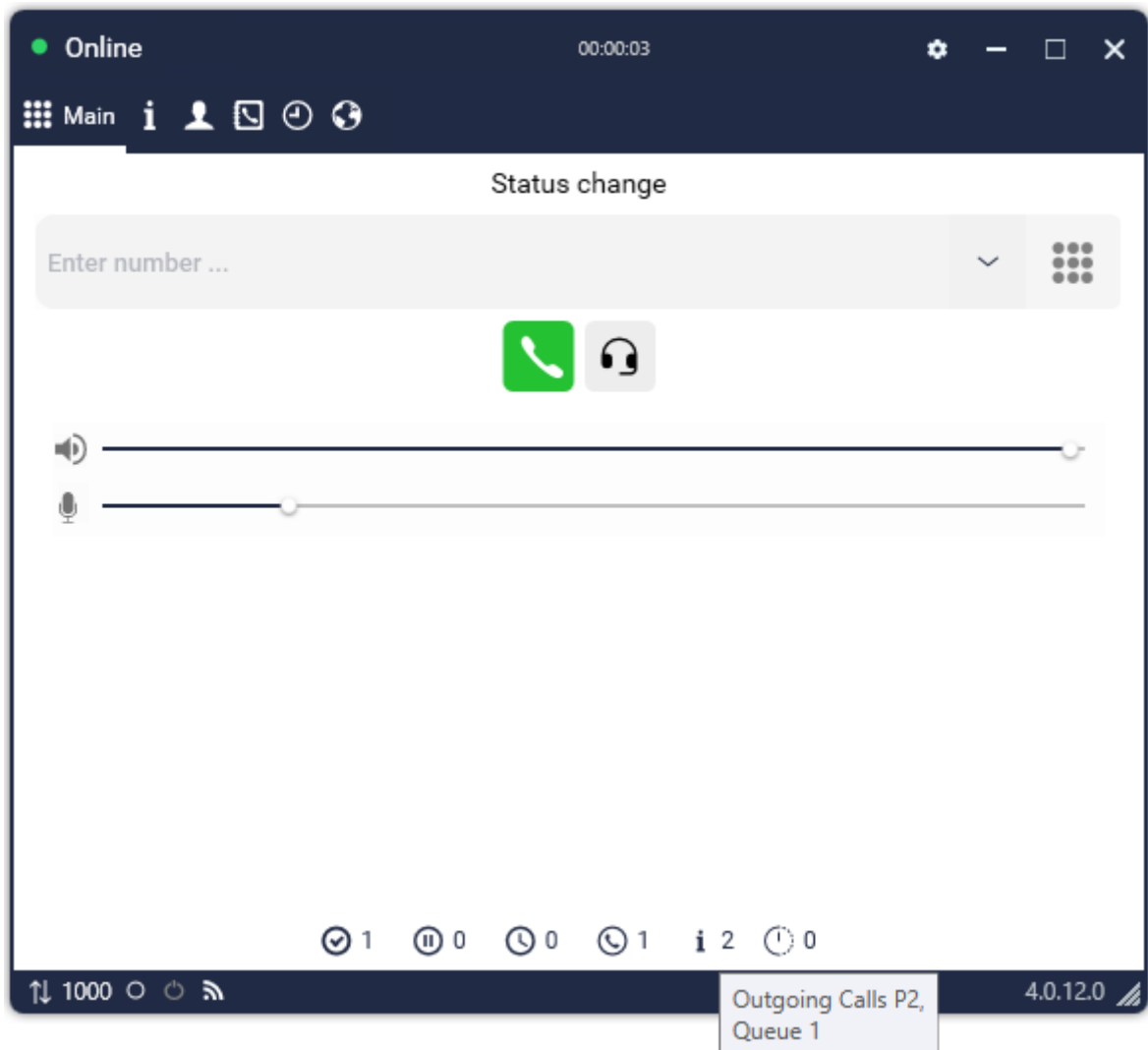
Main functions of the softphone:

- Receive calls;
- Make calls;
- Transfer calls;



- Fixing topics of conversation with subscribers;
- Working with chats;

The following information is displayed on the right side of the PjPhone window:



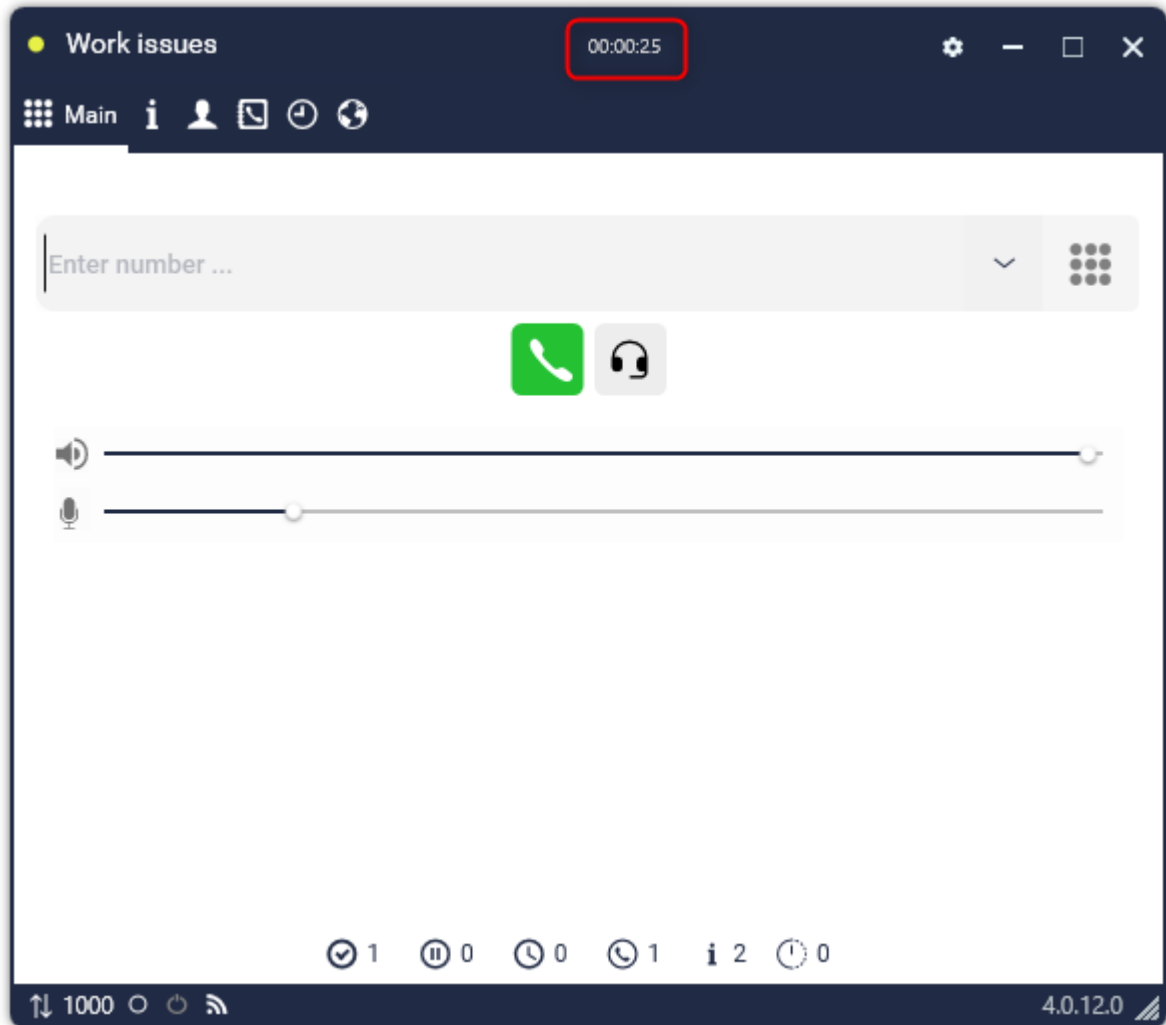
- "Operators in login" — how many operators are currently online;
- "Agents on pause" — how many agents are currently on a break and in the status "Working issues";
 - "Calls on hold" — the number of calls to the IVM that are waiting to be connected to an agent;
 - "Calls handled" — number of calls handled by a certain operator (incoming, outgoing, manual outgoing);




- Queues in which the operator is located;
- "Chats in waiting" — an indicator of the number of clients who are waiting for connection with operators (are in the "Wait" status).

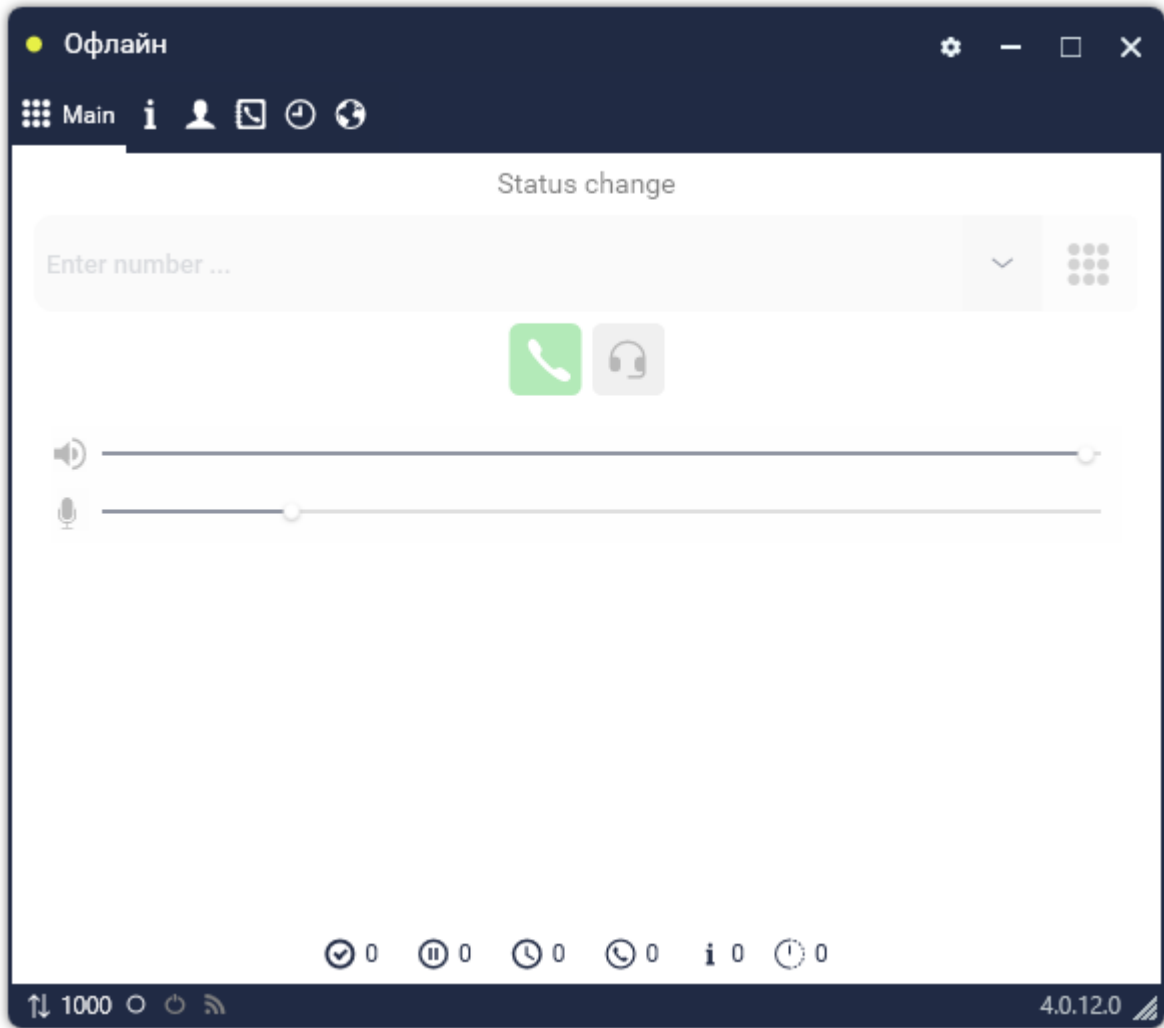
The upper part of the interface window displays the current user status and the main tabs. Next to the status there is an indicator that signals the operator's availability to receive automatic calls: green color indicates the ability to both receive and make calls, and yellow color indicates that the user cannot receive and make automatic calls due to lack of registration.

Also, if the user is not in the "Offline" status, the time of being in automatic and manual statuses is displayed. For automatic statuses, the time in the status is reset after receiving a call, while in manual statuses the time is logged from the moment the user enters the status to the moment the status is changed, regardless of the number of manual calls made.



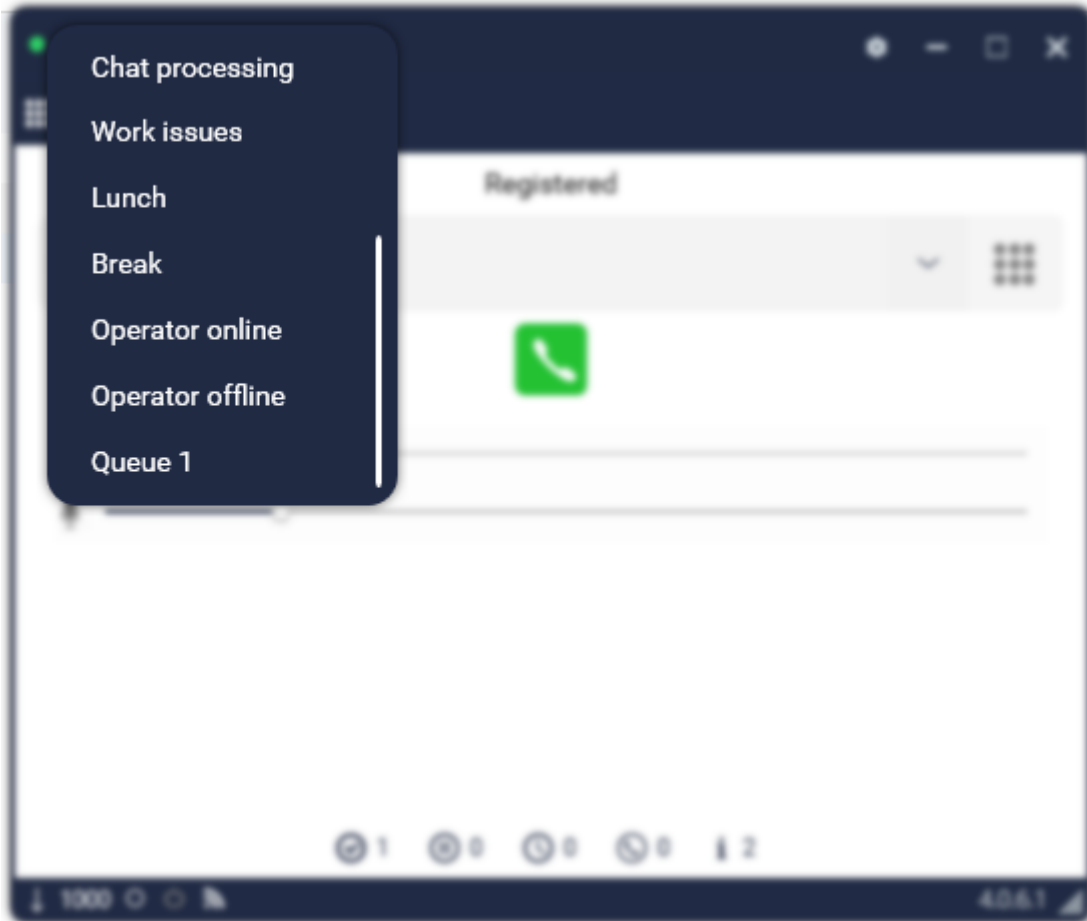
The bottom panel displays:

- The protocol by which the connection is made (TCP or UDP);
-  — communication with the telephony server;
- Is PjPhone connected to DeltaBox;
- What SIP account is being used;
- Date and time of the last launch of PjPhone.



4.1 Setting statuses

PjPhone status is configured in the upper left corner of the program window. There are 7 types of preset statuses, as well as custom:



"Offline" — incoming / outgoing calls are not received.

It should be taken into account that when integrating with CRM-system the operator can be automatically switched to the "Offline" status in the following cases: if the user manually changed his status to "Offline" in CRM (request to change the status "SetStatus:Offline") or when the operator is not active after the set timer expires, provided that the corresponding parameter is enabled in the CRM settings.

"Online" — the phone can accept / reject incoming calls;

"Incoming calls" — when in this status the system will distribute only incoming calls from the autodialer to the user, if it is added to the queues for incoming and outgoing calls. In addition, the operator will be able to make outgoing manual calls.

"Auto-pickup" — incoming calls are answered automatically;

"Break" — technical break, incoming / outgoing calls are not received.

"Lunch" — lunch break, incoming / outgoing calls are not received.

"Working issues" — the phone can make manual outgoing calls.



"Processing chats" — when the operator starts working with the chat. Incoming / outgoing calls are not received (configurable).

For "Online" and "Auto-uplift" statuses, the ability to enter data in the dialing window is blocked.

4.2 PjPhone settings window

To open the settings dialog, you need to click on the button in the form of a gear in the upper right corner of the softphone screen. At the top of the settings window there are 3 tabs:

1. "Account" — which contains the personal settings of the user of the softphone, namely:

The screenshot shows a settings dialog window titled "4.0.6.1 / 192.168.0.9 / UDP" with a close button (X) in the top right corner. The window has three tabs: "Account", "Main settings", and "Devices". The "Account" tab is selected and highlighted with a dark blue underline. Below the tabs, the section "Connection to DeltaTellBox" is visible, containing four input fields: "DeltaTellBox login" with the value "200", "DeltaTellBox password" with masked characters and an eye icon, "Server address" with the value "127.0.0.1", and "Server port" with the value "12004". Below these fields are three radio buttons: "Connection to Asterisk", "PjPhone API", and "Domain", all of which are currently unselected. At the bottom of the dialog are two buttons: "Save" (dark blue) and "Cancel" (grey).

Connecting to Delta Tel:



- "Delta Tel login" — data from the user account in Delta Tel.
- "Delta Tel password" — data from the user account in Delta Tel.
- "Server address" — ip-address of the machine hosting the Delta Tel server.
- "Server port" — port from the user's PC to the application server.
- "Statistics port" — the port through which information is transmitted to the right block of general statistics of the work of operators and the queue and to the "Agent statistics" section.

4.0.6.1 / 192.168.0.9 / UDP

Account Main settings Devices

Server port 12004

⤴ Connection to Asterisk

SIP account 1000

SIP password ●●●●

Server address 192.168.22.57

Server port 5060

⤵ PjPhone API

⤵ Domain

Save Cancel

Connecting to Asterisk:

- "SIP account" — SIP telephony number (registered by the system administrator on the Asterisk server).
- "SIP password" — password for SIP account, which is created on the Asterisk server.



- "Server Address" — IP address of the machine hosting the Asterisk server.
- "Server port" — port from the user's PC to the Asterisk server.

4.0.6.1 / 192.168.0.9 / UDP

Account Main settings Devices

SIP account 1000

SIP password ●●●●

Server address 192.168.22.57

Server port 5060

PjPhone API

Port 17001

Domain

Windows Domain *User Domain*

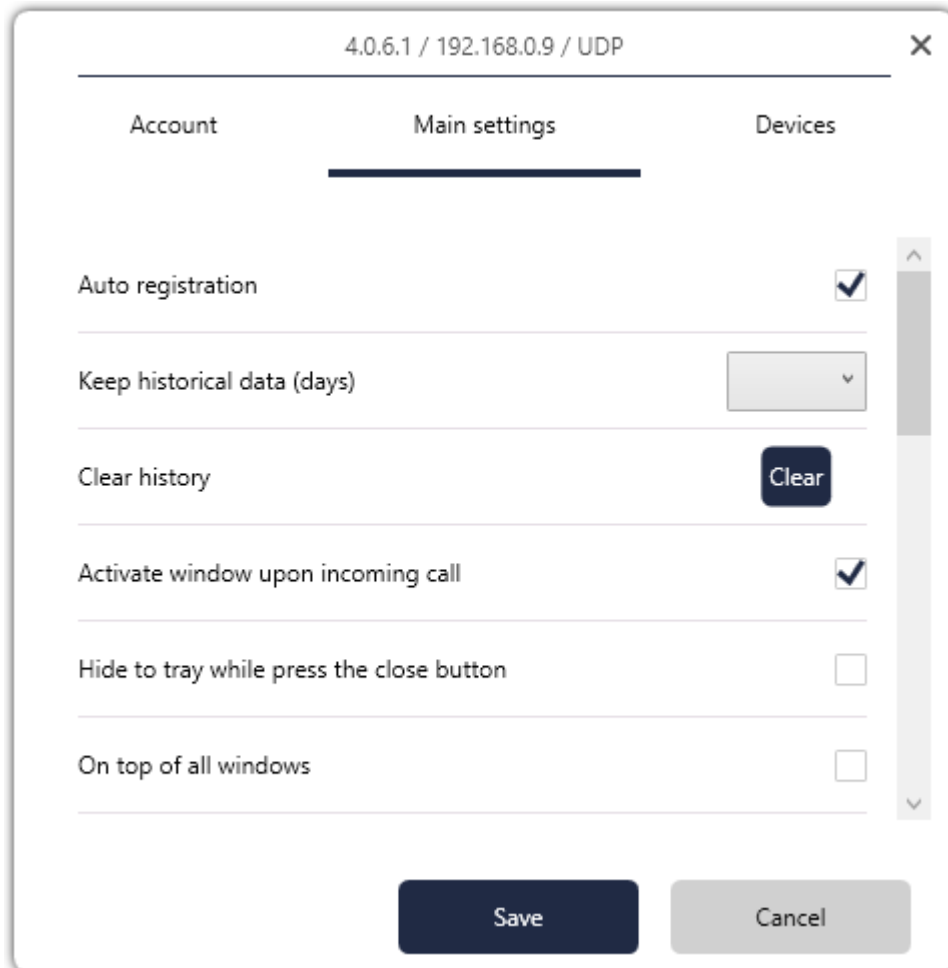
Save Cancel

PjPhone API:

- "Port" — setting the port through which the softphone will connect to the chat module via the API.

Domain:

- "Windows Domain" — enter the name of the domain group.
2. "Basic settings". In this tab, you can change the default settings of the program and configure additional features. The following settings are available:



- "Automatic registration" — automatic authorization when the program starts;
- "Keep historical data (days)" — the period for storing the history of incoming / outgoing calls;
- "Clear history" — manual clearing of call history;
- "Activate window upon incoming call" — activates the window when an incoming call arrives;
- "Hide to tray while press the close button" — minimizes PjPhone to tray when clicking on the "x" (close) icon in the upper right corner;
- "On top of all windows" — puts PjPhone on top of all windows;



4.0.6.1 / 192.168.0.9 / UDP

Account Main settings Devices

Make transparent if not activated

Call end signal

Call start signal

Waiting signal

Auto greeting

Notify when time runs out

Save Cancel

- "Make transparent if not activated" — the window becomes transparent for the visibility of those windows that are behind it;
- "Call end signal" — notifies the user about the end of the call;
- "Call start signal" — notifies the user about the connection with the client;
- "Waiting signal" — when the operator puts the client on hold, then music is played for the latter;
- "Auto greeting" — pronunciation of the welcome video;
- "Notify when time run out" — when the critical call duration is reached, the timer with the call time will be highlighted in red;



4.0.6.1 / 192.168.0.9 / UDP

Account Main settings Devices

Notify when time runs out

Notify in 30

For connection to DeltaBox

Keep files (days) 1

Dynamic content size

Language English

Save Cancel

- "Notify in" — select the period of time when a notification about the critical duration of the call will appear;
- "For connection to Delta Tel" — the system will ignore configuration settings that are related to connecting to Delta Tel;
- "Keep files (days)" — in the chat, between the operator and the client, files can be exchanged. This setting specifies duration these files will be stored. The files themselves are saved on the application server to the system folder;
- "Dynamic content size" — after the end of the call through PjPhone, the application window does not change shape;



4.0.6.1 / 192.168.0.9 / UDP

Account Main settings Devices

For connection to DeltaBox

Keep files (days) 1

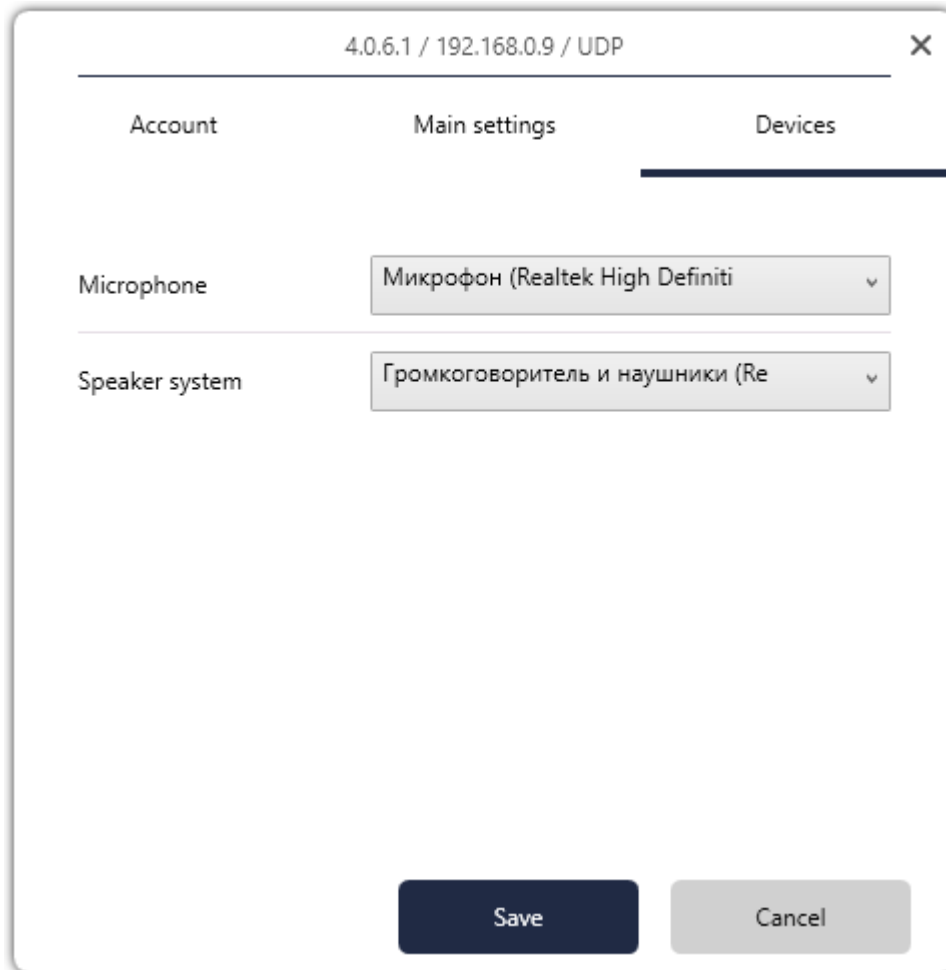
Dynamic content size

Language English

Stay in status when PC goes in Sleep

Save Cancel

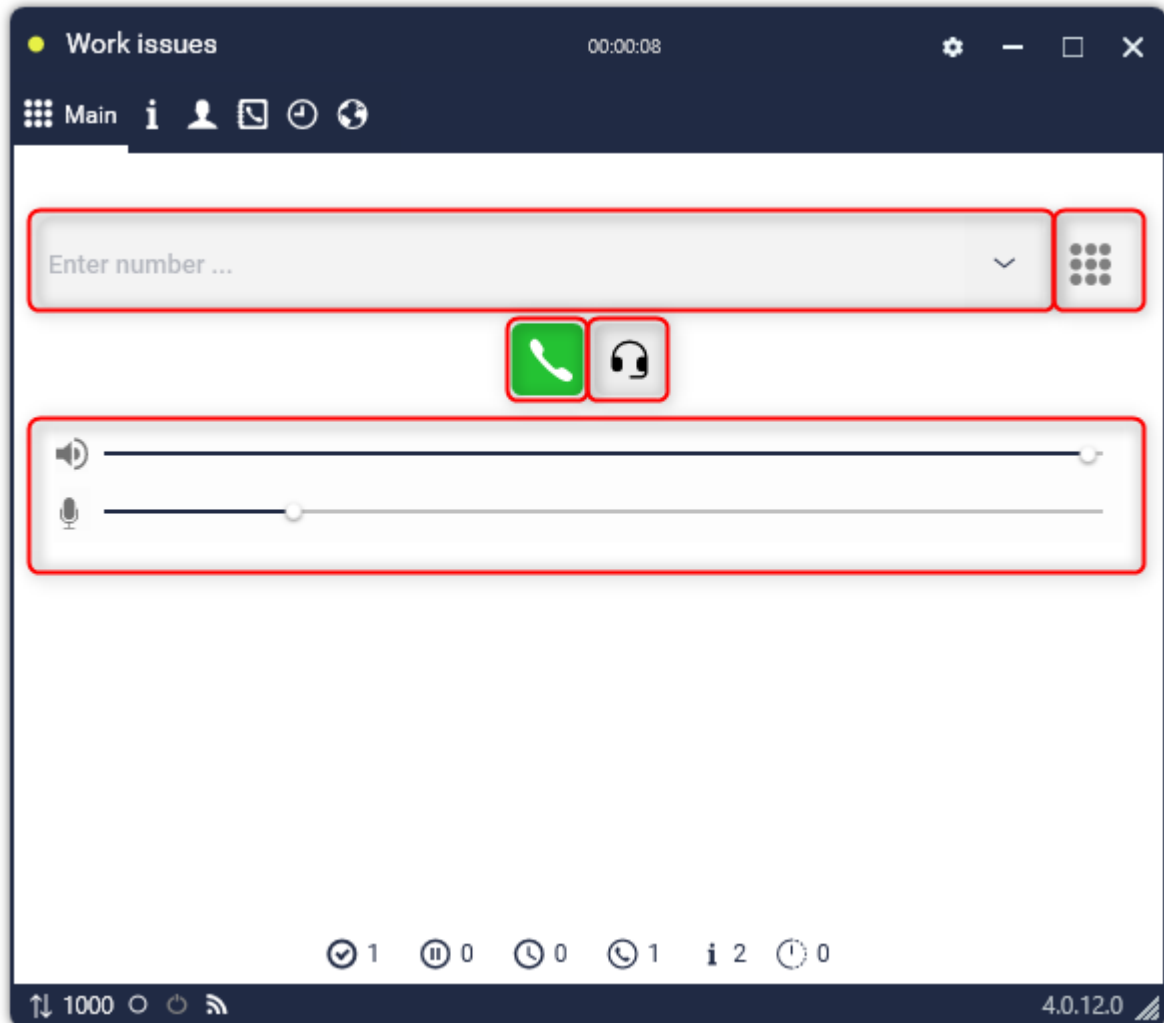
- "Language" — select the interface language for the softphone;
 - "Stay in status when PC goes in Sleep" — when the system is put into sleep mode, PjPhone will remain active in the set status.
 - Selecting the color of the application interface from the list of available.
3. The "Devices" tab allows you to select the microphone and speaker driver that the softphone will work with.



4.3 PjPhone main window tabs

There are 5 tabs on the front window of PjPhone: "Basic", "Info", "Phone Book", "History" and "Agent Statistics".

The "Basic" tab is located on the initial PjPhone window and provides access to:



- Number input line and call button;
- Speaker and microphone volume control panels;
- Numeric keypad expand button;
- Suffix functionality. Clicking this button opens a window with a list of operators whose roles have been selected in the suffix settings and access to the following functions:



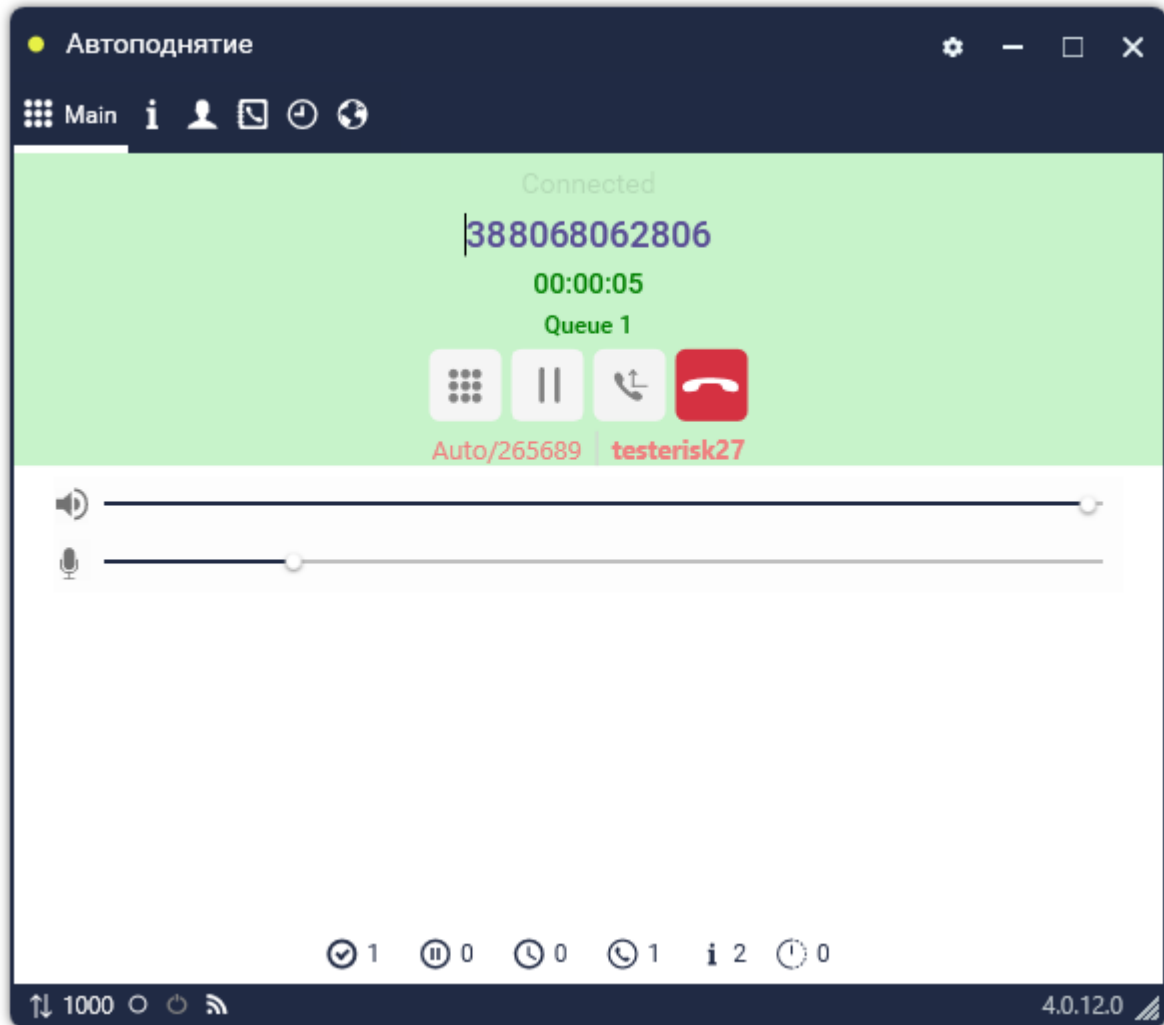
"Eavesdropping" — listening to the conversation between the operator and the client, whereby the user will not be heard by the operator and the client;

"Suflation" — connection to the call as a prompter, when the client will not hear the user, but will hear the operator;

"Polylogue" — connection to the call as a third interlocutor.

To access this functionality, the "Call suffixing available" setting must be active in the role settings of the current user.

During a call, instead of the number entry field:

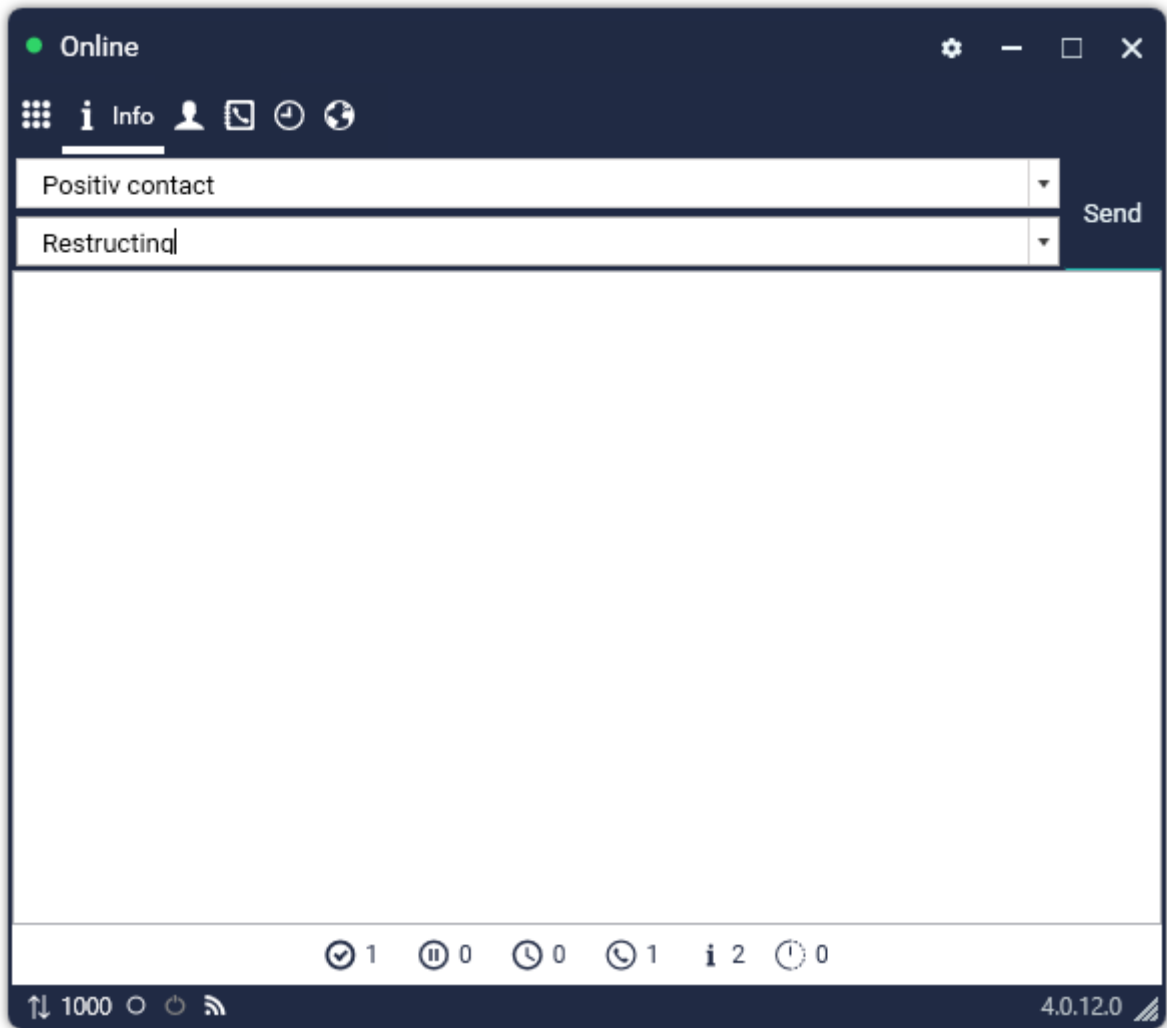


- Call status (Connecting, Connected, Completed...);
- The number of the called subscriber and the duration of the call;
- The queue the current user is in;
- Numeric keypad deployment button;
- Call hold button;
- Call Forward button;
- Call Reset button;
- Call ID (incoming, outgoing);
- Trunk in use.

The second tab "Info" is intended for working with topics. During a call, the operator can select the topic and subtopic of the conversation with the client from the pre-created ones. After selecting a topic and pressing "Send", the information



about the call will be saved in the database. More information about creating and customizing topics in the "Topics" section.



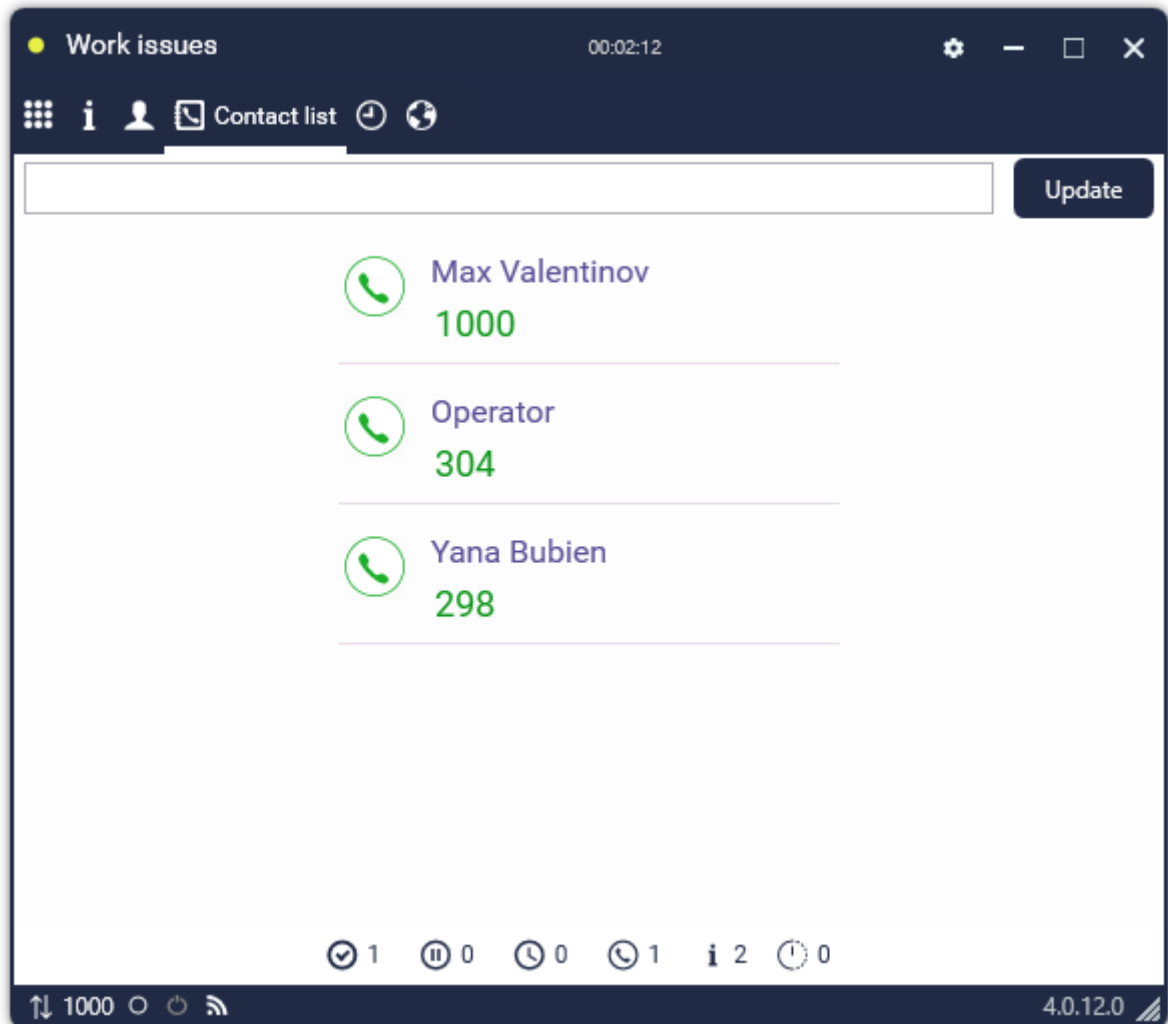
The third tab "Operator statistics" displays detailed information about the user:






Statistic	Value
Start of work	01:38:21
Time in login	00:02:01
Average talk time	00:00:52
Awaiting call time	00:02:02
Time in lunch	00:00:00
Time in break	00:00:00
Time in work pause	00:05:58

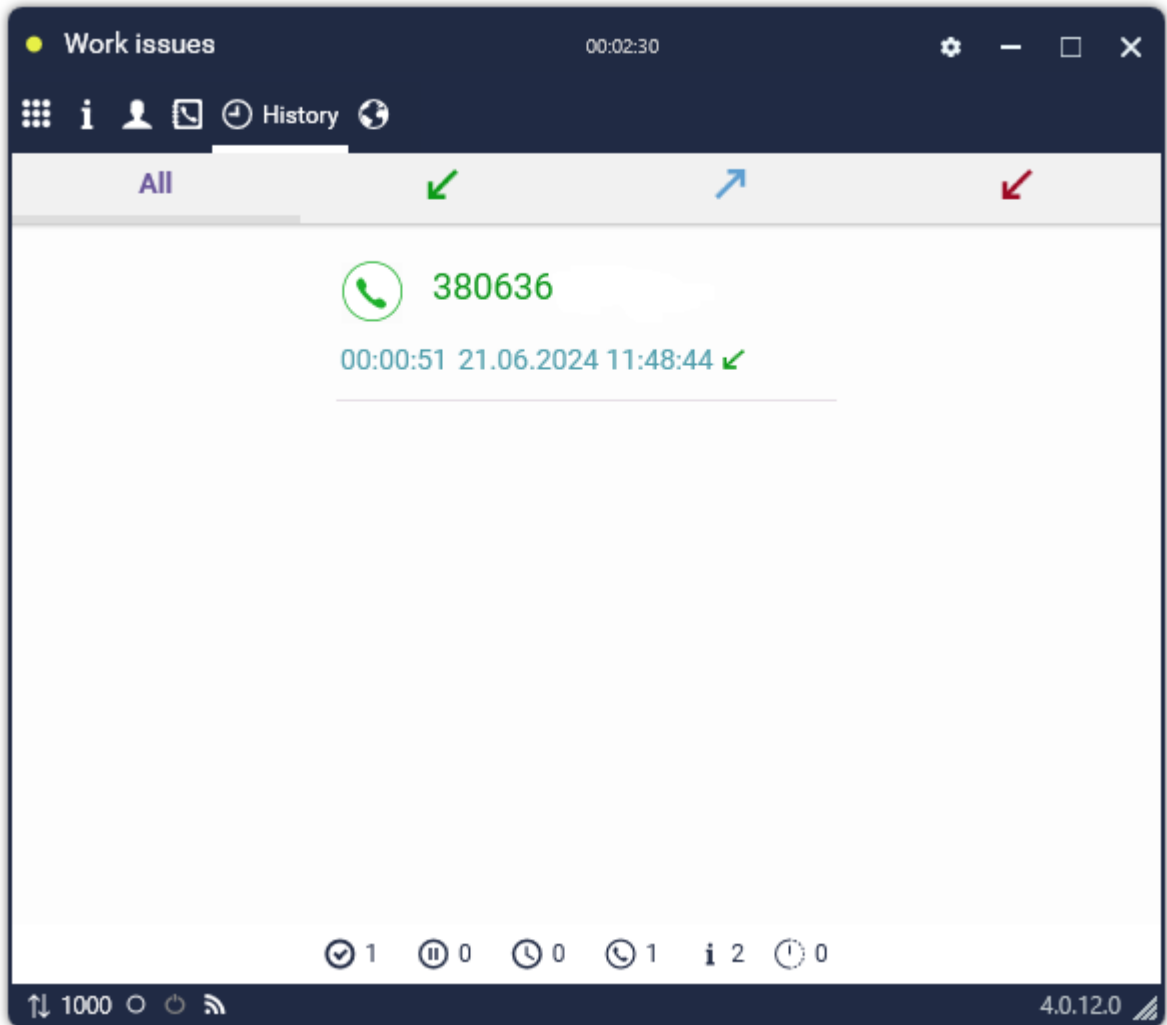
- "Start of work shift" — at what time the operator started work;
- "Time in login" — total time in working statuses;
- "Average talk time" — the average talk time of an agent per work shift;
- "Awaiting call time" — duration the agent was in the "Waiting" status;
- "Time at lunch break" — duration the agent was at lunch. Also, this statistic takes into account user statuses for which the "Include time in status: Lunch" setting is enabled;
 - "Time on break" — duration the agent was on break. Also, this statistic takes into account user statuses for which the "Include time in status: Break" setting is enabled;
 - "Time on working pause" — duration the agent was in the status "Working issues". Also, this statistic takes into account user statuses for which the "Include time in status: Work Issues" setting is enabled.

The fourth tab "Phone book" gives access to viewing phone contacts that were created in the Delta Tel.

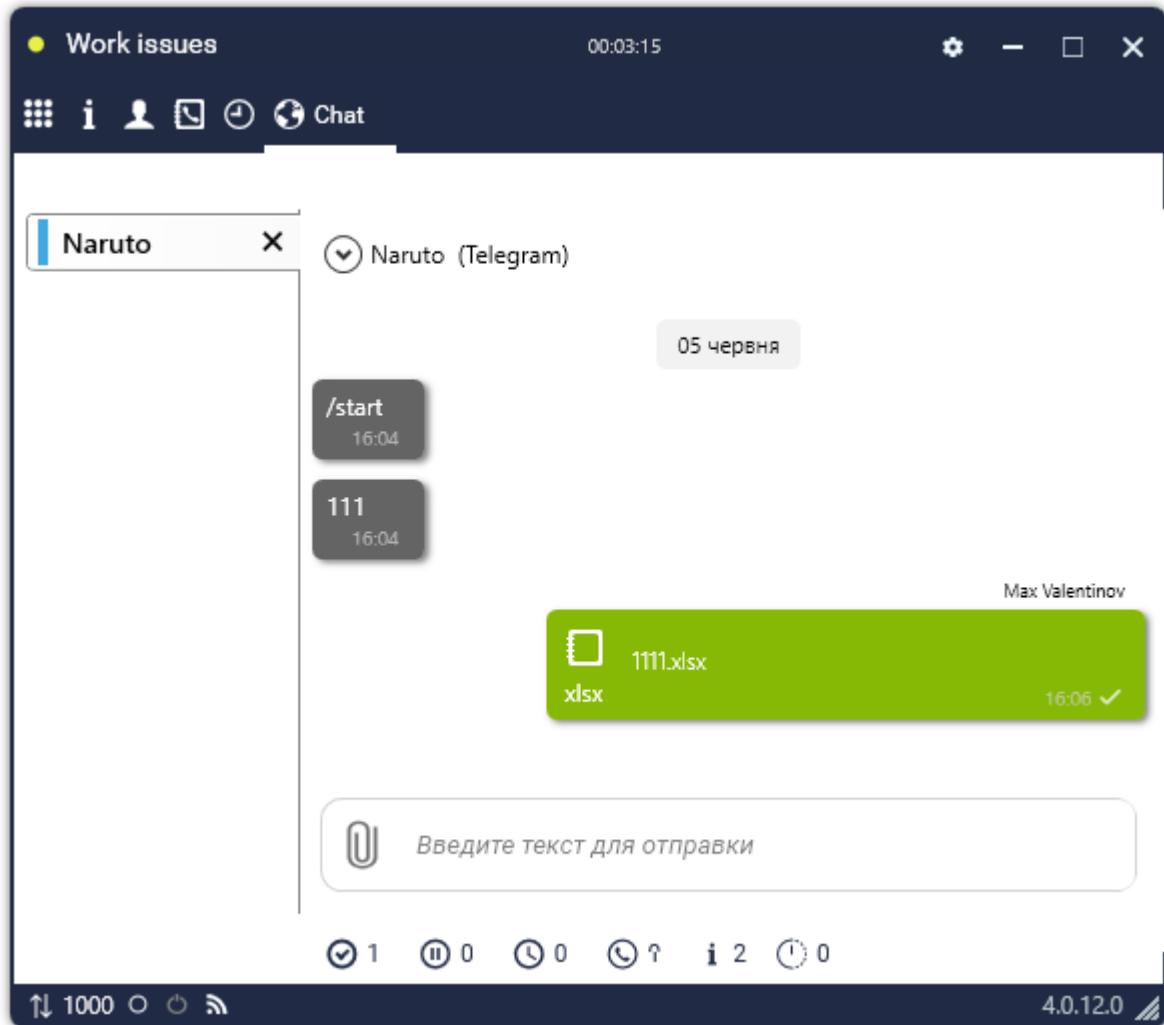


The fifth tab "History" gives access to viewing the history of calls. At the top of the area are filters for displaying calls:

- "All"— all calls
-  — Accepted inbox.
-  — Outgoing.
-  — Missed inbox.



The last tab "Chats" is used for communication with users via chat. The client can communicate with the operator in text format, with the ability to edit messages, receive and send necessary documents and images, set the subject of the chat and view the history of the dialog. The user can also view the correspondence history and download previously sent files. The files will be stored on the APP server until they are manually deleted.



To open the additional menu, the user should press the corresponding icon next to the client's name in the opened chat. Using the functions in this drop-down menu you can clear the chat, view the history of correspondence for the selected period or forward the chat to another operator (the operator must be online and available to receive chats).



Chat processing 00:00:18

Chat

Naru

Naru (Telegram) +38063

Chat subject

Choose a chat topic

16:05

Hello! This is operator Yaroslav!

16:05

Hi

Enter text to send

1 0 0 0 i 1 0

1000 5.1.5.0

5. Frequently asked questions and solutions

This section contains answers to frequently asked questions from users when using Delta Tel and PjPhone products.

5.1 ConnectionError

If this error occurs, you need to open ports between the user's PC and the Delta Tel telephony server in the range 16601-16605.



5.2 Delta Tel connection icon not lit



It is necessary to open port 49813 between the user's PC and the Delta Tel telephony server. You also need to check the correctness of entering the login and password in the settings of PjPhone and Delta Tel.



4.0.6.1 / 192.168.0.9 / UDP

Account Main settings Devices

Connection to DeltaTellBox

DeltaTellBox login: 200

DeltaTellBox password: [masked]

Server address: 127.0.0.1

Server port: 12004

Connection to Asterisk

PjPhone API

Domain

Save Cancel

Test + 200 - Full access 4.0.6.0

Users Groups of user Roles Fields Projects Queues Trunks Groups of trunk Operator status Block list Phone types Contacts Groups of queue Server settings

+ Add Edit Remove + Add to contacts

Drag column title for grouping

Full name	Sip number	Login
Admin	301	333
Jacob Elordi	298	298
Max Valentinov	1000	200

General information

Active user: An active user can receive parking and calls

Full name: Max Valentinov

Login in DeltaBox: 200

Password in DeltaBox: [masked]

Sip number: 1000

SIP password: [masked]

CRM User Id: 6

Role: Supervisor

Save Cancel



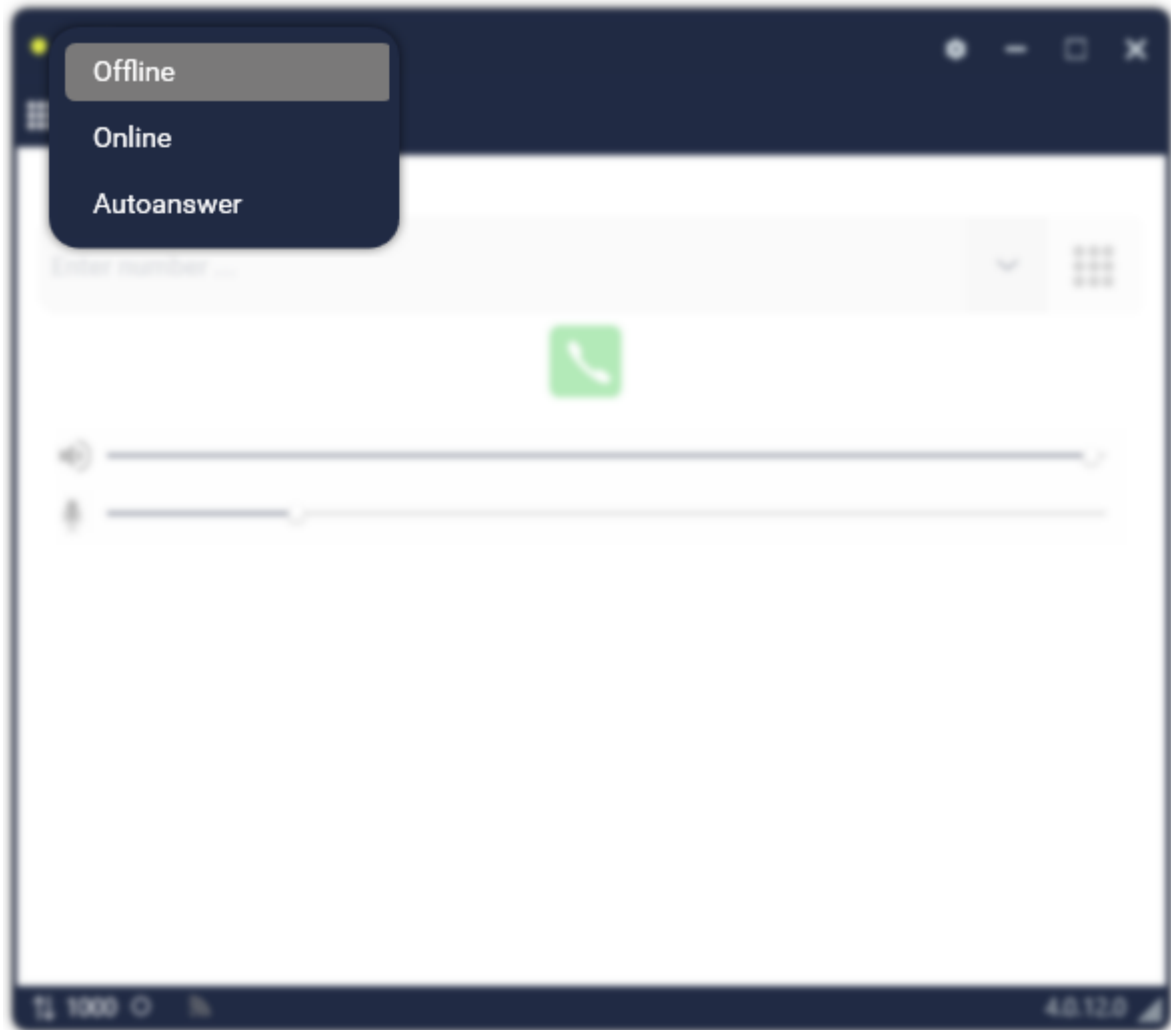
5.3 ERROR is displayed instead of connection type

An "ERROR" error will be displayed on the bottom panel in the PjPhone interface if there is no connection via UDP or TCP (depending on the version of the softphone). If such an error occurs, you need to check the correctness of the connection settings.



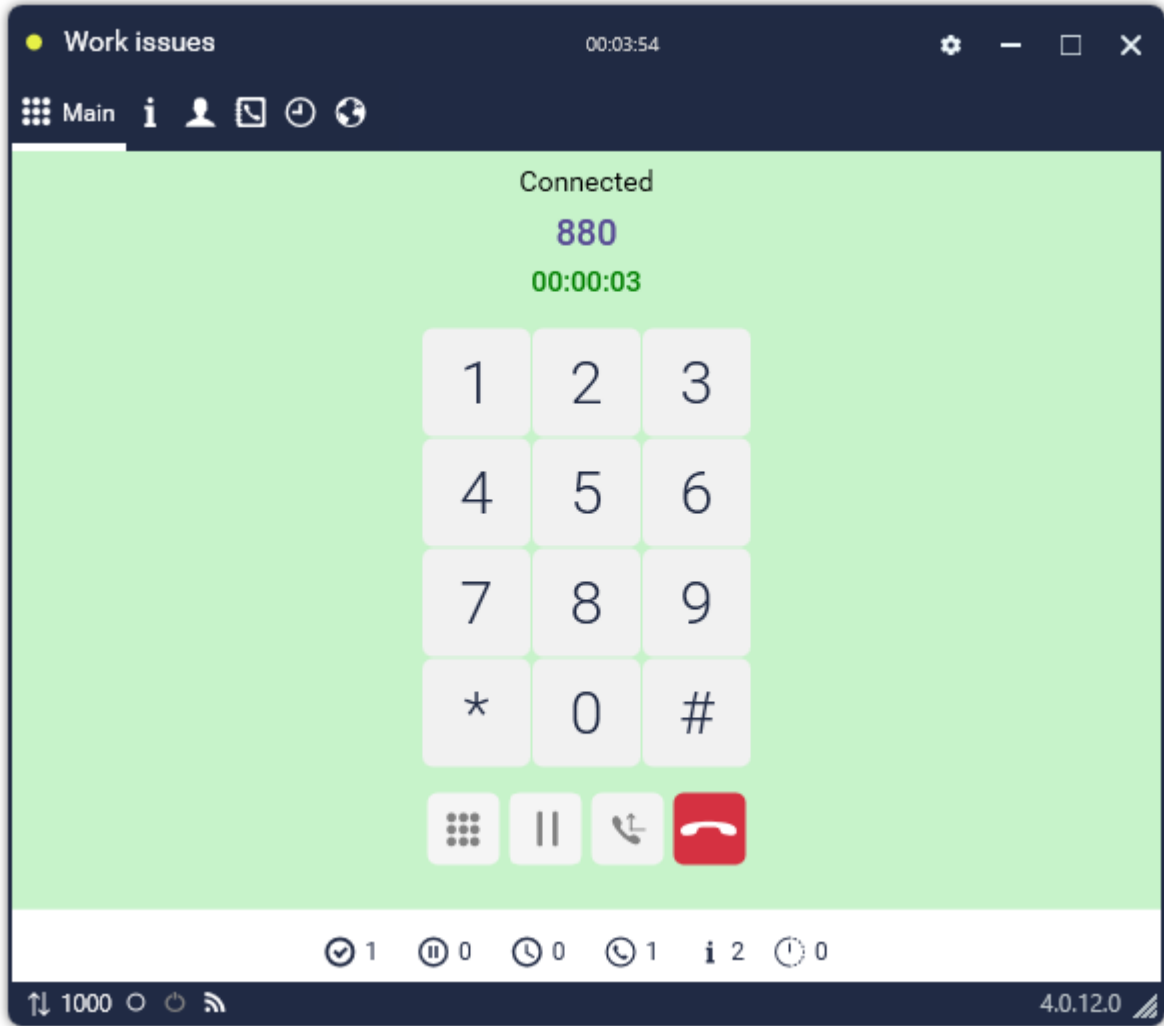
5.4 All working statuses are not pulled up

You need to check the network to which the user is connected. The user's PC does not have a connection to the Delta Tel. After connecting to the desired network, you need to change the status to "Offline", and then again to "Online".



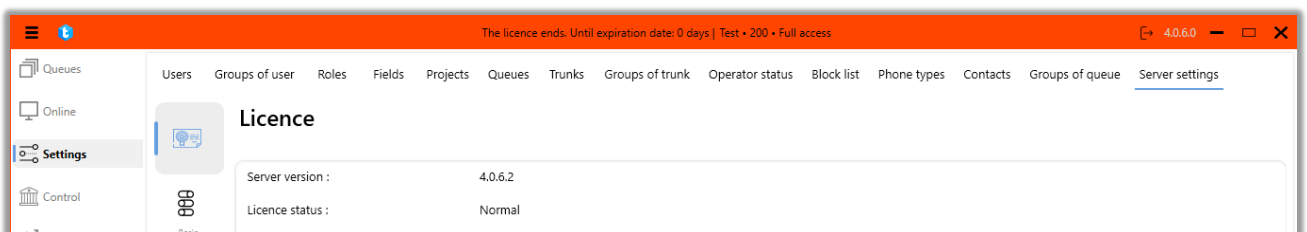
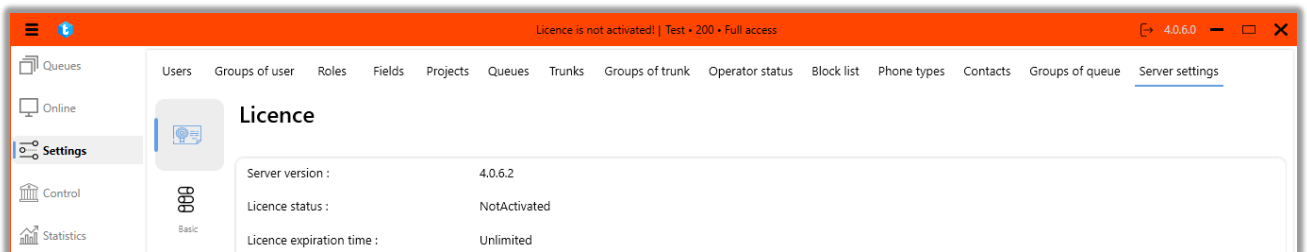
5.5 The operator does not hear the client (or the client does not hear the operator)

The operator needs to make a test call to 880. He must hear himself. If nothing is heard, then this indicates problems with the headset or PC.



5.6 License ends or expired

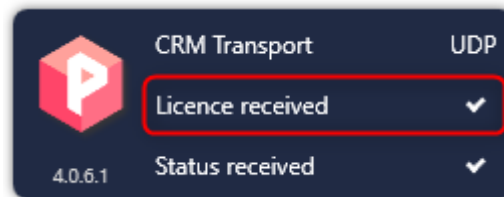
The system notifies users about the expiration of the license or its overdue.





When one of these notifications appears, check the status of your license in the "Server Settings" tab, "License" section. Using the activation server key, generate a new license key and enter it in the "License Key" field, then click the "Apply" button.

The PjPhone softphone license is tied to the Delta Tel license and is obtained automatically when it is launched.



5.7 Client card is not opened

In case, when connecting with a subscriber, his card does not automatically opens, it is necessary to check the correctness of the user data filled in Delta M CRM, Delta Tel and PjPhone. Also check if the following fields match:

- The Full Name field from Delta M CRM (Administration → User Management → Roles and Users) must match the login in Delta Tel ("Settings", section "Users") and with the login in PjPhone (section "Connecting to Delta Tel");
- Telephony code from CRM (Administration → User management → Roles and users) with SIP number in Delta Tel (Settings → Users) and with SIP account in PjPhone (section "Connecting to Asterisk server");
- Telephony password from CRM with Sip account password in PjPhone (section "Connecting to the Asterisk server");
- User ID from CRM (Administration → User Management → Roles and Users) with the "External id" field in Delta Tel (Settings → Users).

It is necessary to check whether port 11007 is open or closed, since the command to open the client card is transmitted through this port. Check if the Web



API service is enabled in WPF. Also see the correctness of the box settings and filling in the configuration files.