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From Bicom Systems Wiki

PBXware Queue system allows you to receive more calls in your PBXware than your staff members are able to answer at the same time.

Queues

They will enable you to deal with your calls more efficiently and your customers will be held in a queue, listening music on hold and receiving information messages about aproximate wait time and/or their position in queue depending on the settings you choose to apply to your PBXware queue environment.

Queues consist of:

- Incoming calls being placed in the queue
- Members that answer the queue (extensions or users that login as agents)
- A strategy for how to handle the queue and divide calls between members
- Music played while waiting in the queue
- Announcements for members and callers

PBXware Queue members types:

- **Agents** are staff members that answer incoming call(s) that have been placed into a specific Queue. An agent logs in indicating that s/he is now ready to take calls. PBXware transfers an inbound call to a queue, which is then distributed to an available agent in order defined by the queue ring strategy.
- **SIP Members** are extensions that are active while answering the Queue calls.

Contents

Queues

This screen lists all system queues with the following details:

- **Name**

Queues

    Queue name
    (ex. Patience)
    (Display)

- **Number**

    Queue network number
    (ex. 1001)
    (Display)
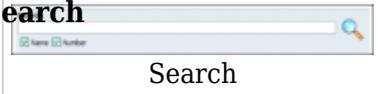
- 📝 Edits the queue configuration

(ex. Click to edit queue configuration)
(Button)

- ❎ Deletes a queue from the system

(ex. Click to delete a queue from the system)
(Button)

Search

By selecting 'Search' Command, search menu will be displayed. Searches can be done by Name and Number

- **Search**

Search

Search phrase
(ex. Provide a search phrase here and hit enter to filter the records)
([a-z][0-9])

- **Name**

Should the search filter be applied to the queue names
(ex. Check the box to search queue names)
(Check box)

- **Number**

Should the search filter be applied to queue numbers
(ex. Check the box to search queue numbers)
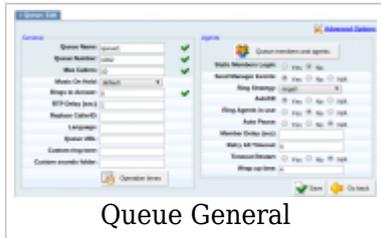(Check box)

Add/Edit Queue

Add/Edit Queue

Clicking on 'Add/Edit' Queue will open standard options shown below

General

- **Queue Name:**

Queue General

Unique queue network name/identifier
(ex. Provide a unique queue identifier/name here)
([a-z][0-9])

- **Queue Number:**

Unique network queue number
(ex. This number is to be dialed in order to access the queue)
([0-9])

- **Max Callers:**

Maximum number of callers allowed to wait in a queue at the same time. This number
should be set in accordance with the number of agents answering the queue calls
(ex. If this field is set to 4, only 4 callers will be allowed to enter the queue. If caller
number 5 tries to enter the queue he will be transferred to PBXware 'Redirect Extension'
number).
([0-9])

- **Music On Hold**

Select MOH (Music On Hold) class name. All sound files belonging to this MOH class will
be played to users in the queue
(ex. User A enters the queue. After the greeting message is heard, all sound files
belonging to the selected MOH class are played in the background)
(Select box)

- **Rings to Answer:**

Number of rings played to caller before entering the queue. Keep the rings between 1 and
3.
(ex. Rather than just 'falling' into a queue and hearing the queue greeting message, play
the ringing sound to caller first).
([0-9])

- **RTP Delay [sec]**

Delay time in seconds inserted before the queue greeting message is played. This solves
the 'half-played' file problem. Keep this value between 1-3
(ex. User A enters the queue and hears '..r call is first in line...' and doesn't understand.
Set this field to 1 so that a 1 second pause is added before the message is played. Now,

when user A enters the queue he will hear 'Your call is first in line...').
([0-9])

- **Replace Caller ID**

    Replace the caller id with the custom value
    (ex. Type 'Lobby - %CALLERID%' to display the caller id information as 'Lobby - 5552879'
    where 5552879 is the actual number calling in)
    ([a-z][0-9])

- **Language**

    Define the custom language for all sound files played by the queue
    (ex. To play Spanish sound files to all users waiting in the queue, type 'es' here. NOTE:
    PBXware comes with English sound files by default. To install sound files in other
    languages, please see 'Settings: Protocols: Sip: Language' for more information)
    ([a-z])

- **Queue URL**

    Send the following URL to the agent's softphone, if it supports that option, and the
    softphone can open that URL so agent can see the caller's additional info if available. This
    option must be supported by softphone for it to be used.
    (ex. Additional info on Queue URL field can be obtained here)
    ([a-z][0-9])

- **Custom ring tone**

    Ring the agent phones with custom ringtone set here
    (ex. <Simple-2>)
    ([0-9][a-z])

- **Custom sounds folder**

    When Queue Callback is turned on, you will be able to add custom queue sounds that will
    be played in that case.
    (ex. Create a new folder for these sounds in
    /home/servers/pbxare/pw/var/lib/asterisk/sounds/ and put your custom queue sounds
    here).
    ([a-z] [A-Z])

Operation Times

Set the queues open/closed times. Depending on the time when the call is received, the call can
be redirected to different PBXware destinations

- **Operation Times**

Operation Times

Enable operation times
(ex. On, Off)
(Option buttons)

- **Default Destination**

  PBXware extension that all calls are redirected to during the closed time hours
  (ex. 1000)
  ([0-9])

- **Greeting**

  Greeting sound file played to callers during the closed times
  (ex. greeting-***)
  (Select box)

Description of destinations follows in this priority order:

- **Open dates:** Sets the working hours during which the Queue is to redirect calls as set in the Queue Add/Edit window. If any call is received during the hours not set here, 'Custom Destination' is checked, and if they do not apply, the call is redirected to 'Default Destination' (Closed dates)

- **Custom Destinations:** Redirects all calls received during set hours to PBXware extension provided here

- **Closed dates**: Sets the specific date when all calls are redirected to 'Default Destination'. If 'Destination' field in the Closed dates is set, call will not go to 'Default Destination' but to this number.

Agents:

- **Queue Members and Agents**

  Pressing button Queue Members and Agents list will open Members and Agents pop up window.

Queue members and agents

This window is divided into two tables:

- Available - which is positioned on the left and shows all the extensions on the system not assigned to this queue

- Members - which is located on the right and shows extensions assigned to this queue

To add a new member to the queue, from this left panel list, select the check box for the queue agent or SIP member that you would like to add to the queue and press 'Add Member' button. This will add the selected agent to the queue member list.

Also, every table has the search ability so you can search for members names, numbers and type.

- **#**

    Checkbox which is used to select extensions for adding or removal from queue
    (ex. Clicking on any checkbox next to an extension will show arrow buttons for adding or removal in the middle which depends on in which table checkbox is selected).
    (Check box)

- **Name**

    Extension name
    (ex. Sales 1)
    ([0-9][a-z])

- **Number**

    Number of the extension on the system
    (ex. 1001)
    ([0-9])

- **Penalty**

    This value can be set per member, so the system can decide which priority to use when sending calls to members
    (ex. Set values between 0 and 10 where 0 is the highest priority and 10 is the lowest priority. If the strategy is defined as 'ringall', then only those available members with the lowest priorities will ring.).
    ([0-10])

NOTE: If extension does not pick up it will not automatically go to the next extension. It will

keep ringing until it is picked up. It will only go to the next extension if the current extension is either busy or unavailable.

- **Type**

  Option used to filter the list by the member type.

    Any - displays all entries
    Agent - displays only agents entries
    SIP - displays only SIP static members (SIP extensions)
    IAX - displays only IAX static members (IAX extensions)

- **Static Members login**

  This option defines whether Extensions set as Static Members have to log in in order to become an active Queue member.
  Options: Yes, No
  Set this option to No in order for Extensions added as Static Members of the Queue to automatically become active Queue member without need to log in.

- **Send Manager events**

  Options: Yes, No
  When this option is set to yes, the following manager events will be generated: AgentCalled, AgentDump, AgentConnect and AgentComplete.

Ring Strategy

Set the way calls are transferred to queue members answering the calls.
Available options:

- **ringall** - Ring all available Members until one answers (default)
- **linear** - When used with static members linear ringing strategy will ring interfaces in the order specified in queues.conf configuration file for that specific queue, always starting at the beginning of the list. If used with dynamic members, the members will be rung in the order in which they were logged in.
- **leastrecent** - Rings the interface that least recently received a call. In a queue where there are many calls of roughly the same duration, this can work. It doesn't work as well if an agent has been on a call for an hour, and their colleagues all got their last call 30 minutes ago, because the agent who just finished the 60-minute call will get the next one.
- **fewestcalls** - Rings the interface that has completed the fewest calls in this queue. This can be unfair if calls are not always of the same duration. An agent could handle three calls of 15 minutes each and her colleague had four 5-second calls; the agent who handled three calls will get the next one.
- **random** - Rings a random interface. This actually can work very well and end up being very fair in terms of evenly distributing calls among agents.

- **rrmemory** - Round robin with memory. rrmemory should pick up at the last interface it was at when the last call came into the queue.
- **rrordered** - Same as rrmemory, except the queue member order from config file is preserved so interfaces will ring in the order specified in this configuration file. If you use dynamic members, the members will be rung in the order in which they were added.
- **wrandom** - Rings random interface, but uses the member's penalty as a weight when calculating their metric. So a member with penalty 0 will have a metric somewhere between 0 and 1000, and a member with penalty 1 will have a metric between 0 and 2000, and a member with penalty 2 will have a metric between 0 and 3000. Please note, if using this strategy, the member penalty is not the same as when using other queue strategies. It is ONLY used as a weight for calculating metric.

(Select box)

- **Autofill**

Should callers be served one by one or in parallel fashion
(ex. With this option turned 'Off', even if there are five agents available, calls will not be transferred to them until the first caller waiting in a queue is connected to an agent. When the first caller gets served, caller number two gets served and all others keep waiting. Obviously it is recommended to keep this feature always turned 'On' so callers can be served in order)
(Option buttons)

- **Ring Agents in Use**

Should agents in use be rung when a new caller comes into the queue
(ex. If the agent is already in active conversation, with this option set to 'Yes' the Agent extension will ring when a new caller enters the queue)
(Option buttons)

- **Auto Pause**

Autopause will pause a queue member if they fail to answer a call.
Options: No - Member will not be paused, Yes - Member will be paused only in the queue where the timeout took place, All - Member will be paused in all queues he/she is a member.

- **Member Delay**

This field is the same as RTP Delay, only this option is set for the agent answering the queue calls. Before the call is transferred, custom queue information can be played to an agent so that the agent knows from which queue the call is coming. This solves the 'half-played' file problem. Keep this value between 1-3
(ex. Agent X is to answer the call coming from the queue. If the 'Queue Announce' is set to play the custom sound file ('This call comes from the Lobby Queue') but only '...s call

comes...' is heard, set this field to 1 so that 1 second pause is added before the message is played and entire message is played 'This call comes from...')
([0-9])

▪ Retry All Timeout

Time interval in seconds, for how long to wait before trying the queue agent again.
(ex. If agent Smith cannot answer the incoming queue call and hangs up the ringing line, the call will not be transferred back to his extension for a time in seconds provided in this field).
([0-9])

▪ Timeout Restart

If this option is set to yes, and a BUSY or CONGESTION signal received on the line, the agent's timeout for answering will be reseted. This can be useful with agents, which has the permission to cancel a call with reject.
(ex. A call enters the queue and is transferred to Agent X. Agent X has a Polycom phone(for example) and send a BUSY signal by hitting the 'Reject' key. This will reset the internal timer. The call will be transferred to other queue agent(s). The original agent will not be contacted until all other agents are tried and the call does not get answered by any of them).
(Option buttons)

▪ Wrap-up Time

After a successful call, this will determine how long to wait (time interval in seconds) before sending a new call to a potentially free agent/member.
(ex. 4)
([0-9])

TIP

Any queue can have 3 types of queue members. They can be: extensions, dynamic agents, or callback agents

1. **Extension**

This member will receive queue calls after it is added to the queue members list.

2. **Dynamic Agents**

This type of queue member can login to a designated queue from any UAD on the network with access code *202. The system will prompt for AGENT NUMBER and AGENT PIN. After that the queue will be sending the calls to the agent

NOTE:

The dynamic agent is "on call" all the time, meaning that the agent's line is always open and receiving calls. Every time the caller hangs up, the agent hears the MOH and then receives the next call when it arrives. The dynamic agent logs out of the queue just by hanging up the line. Agent MUST be created in the 'Agents' menu and assigned to the queue in question.

3. Callback Agents

This type of agent can login to a designated queue by dialing into one of the system extensions with *203. The system will prompt for:AGENT NUMBER, AGENT PIN, and THE NUMBER where the agent is currently at. This number could be a local extension or some other remote destination

NOTE:

The agent MUST be created in the 'Agents' menu and assigned to the queue in question. The call back agent must logout with *203 to stop receiving calls.

Redirect Extension

- **Redirect Extension**
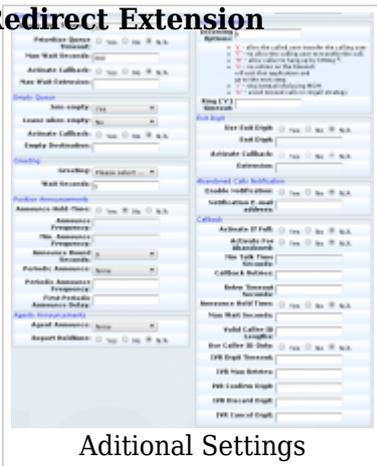
Aditional Settings

> Max callers redirect extension number
> (ex. If queue 2000 accepts a maximum of 4 users waiting at the same time, any new user that enters queue 2000 will be redirected to the extension number provided here)
> ([0-9])

- **Redirect to Voice Mail**

> Choose whether the redirect extension is a voicemail
> (ex. Yes, No, N/A)
> (Option button)

Queue Timers

- **Queue Ring Timeout**

Queue Timers

> Number of seconds during which the Agent(s) will be rung, after what Position

Announcement will be played to caller, if it is enabled
(ex. Agent(s) extensions are ringing for 10 seconds. After that time, Position
Announcement is played to the caller and then Agent(s) are rung again).
([0-9])

- **Prioritize Queue Timeout**

  Used to control the priority of the two possible timeout options specified for a queue.
  Queue Ring Timeout field has a timeout value that can be specified to control the absolute
  time a caller can be in the queue. The timeout value in queues.conf controls the amount of
  time (along with retry) to ring a member for. Sometime these values conflict, so you can
  control which value takes precedence. The default N/A setting will use Queue Ring
  Timeout value, same as setting this to Yes. No will override Queue Ring Timeout field and
  use value from queues.conf.
  Options: Yes, No, N/A

- **Max Wait Seconds**

  Maximum time a caller can wait in a queue. Once this time is exceeded, the caller will be
  redirected to the 'Max Wait Extension' number.
  (ex. User A is waiting 5 minutes already in the queue. If this field is set to 300(300s =
  5min), A will be redirected to 'Max Wait Extension')
 ([0-9])

- **Activate Callback**

  Whether Callback will be activated for calls that were abandoned because call went
  unanswered for too long.
  (Yes, No, N/A)

- **Max Wait Extension**

  This option works along with the 'Max Wait Seconds' field. Provide the extension to which
  the caller will be redirected once the time exceeds 'Max Wait Seconds'.
  (ex. User A is waiting 5 minutes already in the queue. If 'Max Wait Seconds' field is set to
  300 (300s = 5min), A will be redirected to this extension)
  ([0-9])

Empty Queue

- **Join Empty**
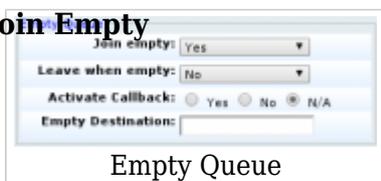
Empty Queue

  Set whether a caller can join a queue if no agent is logged in or unavailable
  ex. It is recommended to set this option to 'No'. Do not allow the user to enter the queue if

the call will not be answered by anyone. The following options are available:

- Yes - Join the queue if no agents or only unavailable agents are in the queue
- No - Do not join the queue if there are no members in queue
- Strict - Do not join queue if no agents or only unavailable agents are in the queue

(Option buttons)

- **Leave when empty**

When there are no agents inside a queue, callers will leave it depending on the setting Example:

- No - This option is disabled
- Yes - If you wish to remove callers from the queue if there are no agents present
- Strict - If there are calls queued, and the last agent logs out, the remaining incoming callers will be removed from the queue immediately

- **Activate Callback**

Whether callback will be activated for calls that were abandoned because there was no agent logged in to queue.
(Yes, No, N/A)

- **Empty Destination**

When the queue doesn't have any agent logged in, redirect callers to the following destination
(ex. 7001)
([0-9])

Greeting

- **Greeting**

Greeting

Select a greeting file played to all callers waiting in a queue.
NOTE: File name has to be in the following format 'queue-greeting-$NAME.gsm':
(ex. Record a custom sound greeting file (e.g. 'All our representatives are busy...') and select that file. This file will be played to all callers once they enter the queue).
(Select box)

- **Wait Seconds**

The time delay in seconds before playing the greeting message. This delay is useful when users do not hear the beginning of the greeting message. Keep this value between 1-3 seconds.

(ex. John enters the sales queue, but cannot hear the beginning of a greeting sound file (e.g. ..our representatives are busy...). Set this option to 1. This will insert one second of silence before the greeting file is played and should fix the partial sound file error. Now, all callers entering the queue should hear the full greeting message (e.g. All our representatives are busy))
([0-9])

Position Announcements

There are two types of position announcements: 'Hold Time' (Tells the queue position) and 'Periodic Announcements' (Plays custom message)

- **Announce Hold-Time**

Position Announcements

Enable callers waiting in a queue to hear the hold-time announcements.
(ex. Setting this option to 'Yes' will enable the hold-time announcements. A single caller waiting in a queue would hear 'Your call is now first in line and will be answered by the next available representative. Thank you for your patience' message).
(Option buttons)

- **Announce Frequency**

How often to play the hold-time announcement message (time in seconds).
NOTE: If you set this option to '0', announce message will not be played.
(ex. If this field is set to 30, a single caller waiting in queue will hear 'Your call is now first in line and will be answered by the next available representative. Thank you for your patience' message every 30 seconds).
([0-9])

- **Min. Announce Frequency**

Specifies the minimum amount of time that must pass before we announce the caller's position in the queue again. This is used when the caller's position may change frequently, to prevent the caller hearing multiple updates in a short period of time.

- **Announce Round Seconds**

Rounding level for hold-time announcements. If is set to 0, only minutes, not seconds, are announced; other possible values are 0, 1, 5, 10, 15, 20 and 30.

(e.g. When set to 30, a wait time of 2:34 will be rounded to 2:30.)

([0-9])

- **Periodic Announce**

  Select the sound file that is played periodically to callers waiting in a queue.
  ([0-9])
  NOTE: The file name has to be in the following format 'periodic-announce-$NAME.gsm'
  (ex. Record a message 'Hang in there buddy!' and set it as a periodic announcement. This message will be played to callers every 'Periodic Announce Frequency' seconds)
  (Select box)

- **Periodic Announce Frequency**

  Time interval in seconds at which the periodic message is to be played.
  (ex. If this field is set to 30, all callers waiting in the queue will hear the 'Periodic Announce' message every 30 seconds, as long as they stay in the queue).
  ([0-9])

- **First Periodic Announce Delay**

  Insert value in seconds after which First Periodic Announcement will be played, each next announcement will be played per Periodic Announce Frequency setting. This value will be available only if Periodic Announce Frequency is set.

TIP

Sounds should be named as follows:

- **queue-youarenext** - Your call is first in line and will be answered by the next available representative)
- **queue-thereare** - You are currently caller number X
- **queue-callswaiting** - Waiting to speak with the representatives
- **queue-holdtime** - The estimated call time is currently
- **queue-minutes** - Minutes
- **queue-seconds** - Seconds
- **queue-lessthan** - Less than
- **queue-thankyou** - Thank you for your patient
- **queue-periodic-announce** - All of our representatives are currently busy. Please stay on line and your call will be answered by the next available representative

Agents Announcement

- **Agent Announce**

  Play a custom message to a queue agent before they answer the call. NOTE: The file name has to be in the following format 'agent-announce-$NAME.gsm'.
  (ex. Record a custom sound file (e.g. This call is coming from Sales Queue). Every time a queue agent answers the call from this queue, the sound file will be played to him before the call is transferred to agent)
  (Select box)

- **Report Holdtime**

Enabling this feature will tell the queue agent how long the calling party has been waiting in the queue.
(ex. John is waiting in a sales queue for two minutes and thirty seconds. Agent Smith picks up his call and hears the message 'Hold time, two minutes').
(Option buttons)
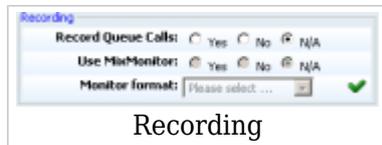
Recording

Recording

- **Record Queue Calls**

  Once this feature is activated, all queue calls will be recorded in the desired sound format.
  (ex. John enters the 'Sales' queue and is transferred to 'Queue Agent Smith'. Their entire conversation is recorded and available for review from 'Reports').
  (Option buttons)

- **Use MixMonitor**

  Select whether to use MixMonitor application which records the current queue call as it takes place and doesn't do it after the call is hang up.
  (ex. When this is turned on, call is recorded "on the fly").
 (Option buttons)

- **Monitor format**

  Select the audio format all queue calls with be recorded in. Available formats: gsm, wav and wav49.
  (ex. John enters the 'Sales' queue and is transferred to 'Queue Agent Smith'. Their entire conversation is recorded and available for review from 'Reports').
  (Option buttons)

Incoming Options

- **Incoming Options** Set the advanced queue call options.

Incoming Options
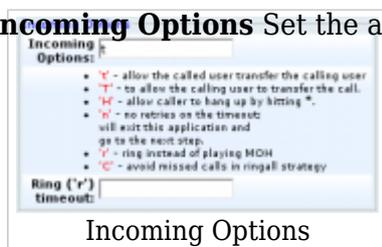
  Available options:

  - **t** - allow the called user to transfer the calling user
  - **T** - allow the calling user to transfer the call

- **H** - allow the caller to hang up by hitting *
- **n** - no retries on the timeout; will exit queues and go to the next step
- **r** - ring instead of playing MOH
- **C** - avoid missed calls in ringall strategy

([a-z])

- **Ring ('r') timeout**

When 'r' is selected as Incoming Options and this timeout is used, queue will first ring entered number of seconds after which MOH will start
(ex. 10)
([0-9])

Exit Digit

- **Use Exit Digit**

Exit Digit

Should users be able to exit the queue by dialing a single digit and be automatically redirected to a preset PBXware destination.
Example:
John enters the sales queue. A greeting message explains that the user may quit the queue by pressing the digit defined under the 'Exit Digit' option, and be transferred directly to the operator or some other destination (set under 'Extension' option).
(Options buttons)

- **Exit Digit**

Define the exit digit here. Once this digit is dialed by the user waiting in queue, it will transfer the call directly to 'Extension' destination
Example:
John enters the sales queue. The greeting message explains thatthe user may quit the queue by pressing the digit defined here (e.g. 9) and is transferred directly to the operator or some other destination (set under 'Extension' option).
([0-9])

- **Activate Callback**

Whether callback will be activated when caller exit the queue by pressing exit digit.
(Yes, No, N/A)

- **Extension**

Local PBXware extension number that is dialed once the 'Exit Digit' is dialed.

(ex. John enters the sales queue. The greeting message explains that the user may quit the queue by pressing the digit defined under the 'Exit Digit' option, and be transferred directly to the PBXware extension defined here).
([0-9])

Abandoned Calls Notification

Here you can set whether there will be any notification when the call inside a queue is abandoned
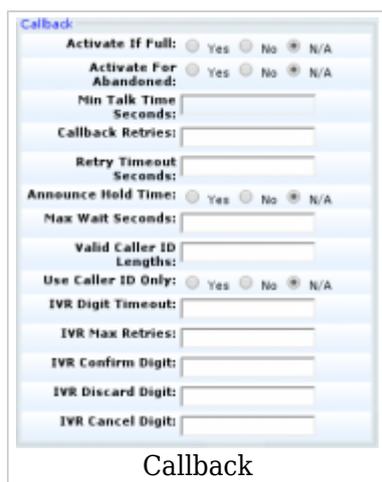
- **Enable Notification**

Abandoned Calls
Notification

Enable or disable Abandoned Calls Notification feature
(ex. Yes, No, N/A)
(Check box)

- **Notification E-mail address**

The e-mail address which will receive notifications of abandoned calls, where an abandoned call is one where the caller hangs up the call while waiting to be answered
(ex. admin@domain.com)
([a-z][0-9])

Callback

Callback

Queue Callback saves customers from long, frustrating waits and brings convenient phone support right to them. With the Queue Callback feature, callers entering a phone queue have the option to request a call back and then just hang up. No more long hold times, no more fighting other callers to get through - customers simply put in a call and then continue going about their work while waiting for the call back. It's a perfect solution for everyone.

This feature is extremely customizable, able to be catered to meet your needs. Things such as

maximum wait time, number of call back retries, and the amount of time to wait in between retries can be customized. The menu has several options for clients to submit their information for a call back.

- **Activate if Full**

    Whether Queue Callback will be activated for calls that were abandoned because queue was full.
    (Yes, No, N/A)

- **Activate For Abandoned**

    Whether Queue Callback will be activated for calls that were abandoned before agent answered.
    (Yes, No, N/A)

- **Min Talk Time Seconds**

    Minimum time call must last after agent answers it in order for callback not to be activated.
    For example, if we set this value to 10, calls that get disconnected in less than ten seconds after call is answered by agent will be called back by the PBXware, assuming that it got disconnected unintentionally.

- **Callback Retried**

    Number of retries callback will try to reach the number of abandoned call.

- **Retry Timeout Seconds**

    Delay between callback retries, in seconds.

- **Announce Hold Time**

    Set this value to yes for system to announce called user for how long he will wait until his call is answered by agent.

- **Max Wait Seconds**

    Maximum time in seconds

- **Agent Answer:**

    Whether to first call agent before the callback tries to reach the number of abondoned call.

- **Valid Caller ID Lengths**

Set value for valid caller ID length, separated with comma.
Example: 6,9,12

- **Use Caller ID only**

  Make a callback using caller ID only, without offering a caller option to enter the number to which he will be called.

- **IVR Digit Timeout**

  After the number is typed in for how long system will wait for # as a confirmation of the entry before it accepts it automatically. Default value 3 seconds.

- **IVR Max Retries**

  Maximum number of wrong entries in IVR before user is disconnected.

- **IVR Confirm Digit**

  Press this number to confirm your entry in callback IVR. Default 1.

- **IVR Discard Digit**

  Press this number to discard your entry in callback IVR. Default 2.

- **IVR Cancel Digit**

  Press this number to cancel your entry in callback IVR. Default 3.
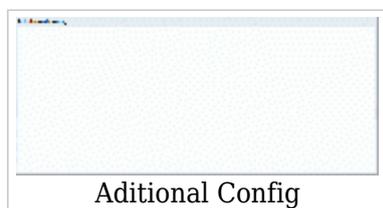
Callback Announcements

- **Caller Announce**

  Play a custom message to a caller before they answer the call.

- **Agent Announce**

  Play a custom message to a queue agent before they answer the call.

Additional Config

Aditional Config

In this section, additional information can be added to be written into the queue configuration file.

Types of Queue Members

Any queue can have 3 types of queue members with two additional variations on the agent types. They can be: extensions, dynamic agents, or callback agents. Additionally, agent can be configured to choose whether they will be Dynamic or Callback, and if they will auto login to the queue.

- **1. Extension - Member**

  If the queue for which extension is added, has Static Member Login option turned on, extension will have to login using *200 access code before it will receive any calls from the queue. To logout of the queue extension will have to use *201 access code.

  If Static Member Login option is not turned on, this member will always receive queue calls after it is added to the queues members list.

- **2. Dynamic Agents**

  This type of queue member can login to a designated queue from any UAD on the network with access code *202. After the agent is logged on, queue will be sending the calls to the agent

  NOTE:

  The dynamic agent is "on call" all the time, meaning that the agent's line is always open and receiving calls. Every time the caller hangs up, the agent hears the MOH and then receives the next call when it arrives. The dynamic agent logs out of the queue by hanging up the line. Agent MUST be created in the 'Agents' menu and assigned to the queue in question.

- **3. Callback Agents**

  This type of agent can login to a designated queue by dialing into one of the system extensions with access code *203. By default, system will prompt for:AGENT NUMBER, AGENT PIN, and THE NUMBER where the agent is currently at. This number could be a local extension or some other remote destination

  NOTE:

  The agent MUST be created in the 'Agents' menu and assigned to the queue in question. The callback agent must logout with *203 to stop receiving calls

Additionally, agents have two more type options for a choice:

- **1. Callback or Dynamic Agents**

    This type of agent is left with the choice of whether it will use *202 access code and be dynamic agent, or it will use *203 access code and be callback agent.

- **2. Auto Login (Callback)**

    Agent with this type is actually callback agent which the system will automatically log into the queue as soon as it is added to the queue. Of course, for this to work, this agent needs to bind to an extension to which system will send the calls.

Statistics

Queue statistics display a wide and detailed array of queue details

- **Queue**
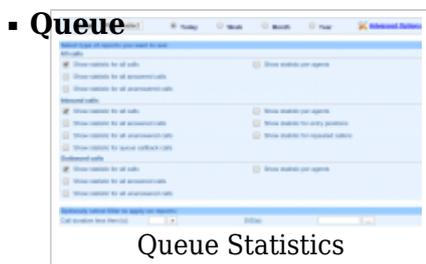
Queue Statistics

    Select the queue for which you'd like to see statistics
    (ex. Click on the 'Please select' button to select 'All' (all queues) or a specific queue name and then click the 'Show' button)
    (Select box button)

- **Today/Week/Month/Year**

    Statistics time period
    Example:
    Select the time period for which statistics are to be displayed. Available options:

    - Today

    - Week

    - Month

    - Year

    (Option buttons)

- **Show statistic for all calls**

All incoming calls summary
(ex. Click on this check box to show statistics for all calls)
(Check box)

- **Show statistic for all answered calls**

  All incoming calls answered by the agents
  (ex. Click on this check box to show statistics for all answered calls)
  (Check box)

- **Show statistic for all unanswered calls**

  All unanswered calls are show in statistics
  (ex. Click on this check box to show statistics for all unanswered calls)
  (Check box)

- **Show statistic for entry position**

  Show entry positions of the calls in queue
  (ex. Click to show entry positions in statistics)
  (Check box)

- **Show statistic per agents**

  Per queue agent call statistics
  (ex. Click to show statistics per queue agent)
  (Check box)

- **Show statistic for repeated callers**

  Show all statistics for callers with repeated calls
  (ex. Click to show statistics with number of repeated calls from one CallerID)
  (Check box)

- **Show statistic for queue callback calls**

  Show all statistics for queue callback calls
  (ex. Click to show statistics with the number of calls in the queue with queue callback)
  (Check box)

- **Show statistic for queue interrupt messages:**

  Show all statistics for queue interrupt messages
  (ex. Show all statistics for calls where someone on the system played an interrupt message
  for callers waiting in the queue)
  (Check box)

- **Call duration less then [s]**

  Show statistics for calls less than the selected number of seconds
  (ex. 30 s)
  ([0-9] Select box)

- **DID(s)**

  Enter or select a DID/range for which the statistics will be shown
  (ex. 065765432)
  ([0-9])

- **Show**

  Display queue statistics
  (ex. A click on this button will open the statistics popup window. Displayed information may vary depending on the options set under basic and advanced options)
  (Button)

Advanced Options

When you click on 'Advanced Options' located in the top right corner, the window will change to allow more detailed date range selection for statistics.

Advanced Queue Statistics

Report Window

Queue Report Window

General Actions:

- **Download Report** - If you choose this action, PBXware will generate a PDF format report and offer it for download or view.
- **Print** - This will print a statistic report on your printer.
- **Email** - This action will generate a PDF report, attach it to message and offer you to email it.
- **Close Window** - This will close the report window.

Call Actions:

- **More**- This will print a statistic report on your printer.
- **Graph** - This action will generate a PDF report, attach it to message, and offer to email it.
- **Get CSV** - If you choose this action, PBXware will generate a CSV format report and offer it for download or view.

All/Answered/Unanswered/Agent Calls:

- **Table Caption** - Displays the total number of all calls made
- **Total** - Total call time including the hold time as well
- **Min** - The minimum/shortest call time
- **Mean** - Average call time for all incoming calls
- **Max** - Max call time.
- **Call Time** - Calls active talk time in a queue
- **Hold Time** - Calls hold time in a queue
- **Entry Position** - Caller position in a queue at a point of entry (Total value always displayed as '-')
- **Answered** - Number & percent of calls that are answered
- **Unanswered** - Number & percent of calls that are unanswered
- **Agent Hangups** - Number of calls ended by queue agents and their percentage compared to all

unanswered calls.

- **Caller Hangups** - Number of calls ended by callers and their percentage compared to all unanswered

calls.

- **Transfered** - Number of calls that are transferred and their percentage, total time of all calls which were transferred from the time the call was answered to hang-up.
- **Service Level** - Percentage of calls answered in the first 60 seconds. (This time period can be changed in queue properties).
- **Abandoned** - Number of calls that are abandoned by callers waiting in a queue and their percentage.
- **Timedout** - Number of calls that were timed out while waiting in a queue and their percentage.
- **No.Of Dumps** - Number of calls that are Dumped by Agents.

NOTE

Service Level and Service Level Inlusive elements are calculated using this formula:

Service level = (Total calls answered within threshold) / (Total calls answered)*100

Service level inclusive = (Total calls answered within threshold) / (Total calls answered + Total calls unanswered)*100

TIP

Answered and Unanswered summary displays SLA (Service Level Agreement) data in percents taken in 10 seconds interval.

Agent Actions:

- **Agent Session**
- **Agent Breakdown**
- **Agent Performance** - Under the agents section you can run agent performance reports for all agents or specific agents for a specific date period and it will list all the agents performances data by day for each agent and needs to be exportable to excel (See attached)
- **Agent Assessment** - This will print a specific agents performance as above for each day for a specific date range
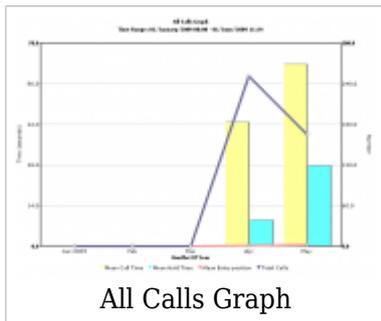
Agents:

- **Calls** - All calls answered by agent
  - **Number** - Number of calls answered by agent
  - **Per min** - Number of calls per minute
  - **Percent** - Percent of all answered calls by the agent
- **Talk Time** - Agent talk time
  - **Total** - Total agent talk time
  - **Mean** - Mean/Average agent talk time
  - **Mean Delay** - Mean/Average caller wait time before answered by the agent
- **Idle Time** - Agent idle time (callback agents only)
  - **Total** - Total agent idle time(when agent is not busy)
- **Not Ready** - Agent not ready (callback agents only)
  - **Total** - Total agent not ready time(when agent is not ready)
  - **Count** - Number of times were agent was not ready
- **Session Time** - Time agent was logged in the queue (callback agents only)
  - **Total** - Total time agent was logged in
  - **Mean** - Mean/Average time agent was logged in
  - **Count** - Number of agent sessions.
- **Hangups** (Agent/Caller[Transfer]) - Hang-ups statistic for agents and callers
  - **Number** - Number of call hang-ups by Agent/Caller[Transfer]
  - **Percent** - Percentages of call hang-ups by Agent/Caller[Transfer]

More

This link lets you dive in to the statistic data, this action will split the time period automatically to the smaller parts (depending on what size of time range you choose at start); that way you can get more detailed view in the periods.

Statistics More

Graph

All Calls Graph

This link will open a pop-up window with a graphical representation of the table

Table Caption

This is link to the call logs of all calls, answered, and unanswered calls and calls handled by an agent. It opens windows like:

All Calls Brakedown

Agent Session

Select the box next to the agent name and click on the 'Sessions' button to view agent sessions(agent login/logoff time)

Agent Sessions

Agent Breakdown

Agent Breakdown

This action opens call logs associated with this agent. Click on the agent name to open this window

Scheduled Reports

Scheduled Reports

Add/Edit Scheduled Reports

Schedule reports to automatically run and email the results on a recurring basis.

General

- **Name:**

   Report name.

- **Active:**

   Whether report is active or not.
   (Yes/No)

- **Start date:**

   Set start date of report.

- **Run time:**

   Set run time.
   (ex. 03:00)

- **Repeat:**

   Select how often you want the set of action(s) to be applied.
   (Daily, Weekly, Monthly, Yearly)

- **Send E-mail:**

   Whether you want the report to be sent on e-mail.

- **E-mail:**

   Provide e-mail address on which you want to receive queue reports.


Report Type

Types

- **Types:**

Here will be listed the report types.
(ex. Statistics for all calls)

- **Types(button)**

  When you click on Types button a new window will open. Here you can choose which queue statistics to include in report. On the left side are available report types and on the right side are selected report types.

Filters

Here you can filter data by queue, DID and call duration.
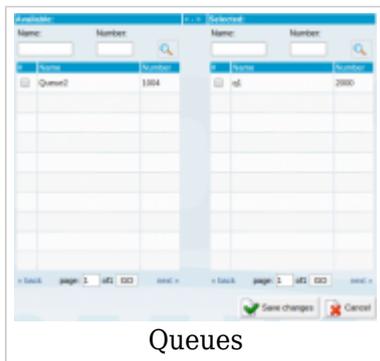
Queues

- **Time period:**

DID

  Select the time period.
  (ex. Last 7 days)

- **Queues:**

  List of queues that are selected for report.

- **Queues(button):**

  When you click on Queues button a new window will open. Here you can select queues for which reports will run.

- **Call duration:**

  Enter call duration in seconds. If you enter 200, only calls that were lasted less than 200 seconds will be taken into account.

- **DID:**

  Filter calls received only on this DID.

- **DID(button):**

  Select DID filter.

CDR

CDR (Call Detail Records) for all queues on the system. In addition to normal operation, an authorized user is able to perform additional actions such as extensive search, listen to recorded queues, call any destinations listed, and access advanced features.

- **From:**

CDR

  Extension number the call was made from
  (ex. If the call was made from extension 1001 to extension 1004, '1001' is displayed here).
  (Display)

- **To:**

  Number the call was made to
  (ex. If the call was made from extension 1001 to 1004, '1004' is displayed here).
  (Display)

- **Date/Time:**

  Date and Time when the call was made
  (ex. 04 Oct 2006 10:44:10)
  (Display)

- **Duration:**

  Call duration time in hh:mm:ss format
  (00:12:45)
  (Display)

- **Billing:**

  Time billed by the system
  (ex. 00:12:45)

- **Cost:**

Total cost of the call calculated through a service plan
(ex. 0.71)
(Display)

- **Status:**

    Displays the call status
    Example:
    Depending on whether a call was answered or not, this field value may have the following content:

    - Answered
    - Not Answered
    - Busy
    - Error

    (Display)

- ▶ This icon is displayed once a call is recorded and 'Delete' or 'Listen' enhanced service is active

- ☐ This is a box used with the CDR commands to select a desired call

Search/Filter

- **Start Date:**

    Search/Filter

    Select a Search/Filter start date
    (ex. Click on the small 'Calendar' icon next to a field and select the desired date)
    (Option button)

- **End Date:**

    Select a Search/Filter end date
    (ex. Click on a small 'Calendar' icon next to a field and select the desired date)
    (Option button)

- **From:**

    Select whether you want to search CDRs by Destination(s) or Trunk from where the call came in
    (ex. Destination(s) or Trunks)
    (Select box)

- **To:**

    This field points to Queue(s) for which you are searching

(ex. Queue(s))
(Select box)

- **ID:**

  ID of the CDR. When a user selects a CDR, the ID field shows that CDR's ID. If there are
  problem on the system, the customer can supply the support team with the problematic
  CDR ID which helps in locating it.
  (ex. 1221447123.66)
  ([0-9] .)

- **Start Time** When searching for CDRs this is the start time in the Start Date

  (ex. Time in hh:mm:ss format like 10:15:30)
  ([0-9] :)

- **End Time**

  When searching for CDRs this is the end time in the End Date
  (ex. Time in hh:mm:ss format like 15:20:30)
  ([0-9] .)

- **From**

  If you chsose Destination(s) in the 'From' Select box, you will enter the extension from
  which the call came to the queue. If your selection was Trunk, you will have a Select box
  in this place where you can choose a trunk on the system from which the call came to the
  queue.
  Example:

  - Destination(s) - 1009
  - Trunk - Sales

  ([0-9] or Select box)

- **To**

  Here you will enter the number of the queue in which the call ended up.
  (ex. 1007)
  ([0-9])

- **Status:**

  Search calls by selecting the desired call status
  Example:
  Click on a 'Please Select' button and select one of the available fields:

  - All
  - Answered

- Not Answered
- Busy
- Error

(Select box)

TIP

After making any changes to the search filter, be sure to click on the search icon

Actions

Listen

- **Listen:**

  Once the 'Listen' icon is displayed next to a call record, it means that the specific call was recorded.
  (ex. To play recorded calls, check the box next to a 'Listen' icon and click 'Listen'. The browser will prompt you to open the sound file in your audio player or to download the sound file).
 (Option button)

TIP

By default, the sound format is available as a .gsm file. To change the recording format, go to: 'Settings: Servers: Edit: Recordings format' and select one of the available sound formats:

- gsm
- wav
- wav49
- ogg

Call

To establish a call between any PBXware extension with a listed extensions, you have to provide two things. The Caller $EXTENSION number and the $DESTINATION extension

- **Caller**
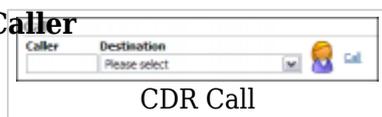
CDR Call

  PBXware extension that will make a call
  (Provide any PBXware extension number here, 1001 for example)
  ([0-9])

- **Destination:**

  Destination extension that will be dialed by the 'Caller' extension
  (ex. To select a destination extension, first check a box next to a CDR record. This field will display two extensions listed under 'From' and 'Destination' selected record)
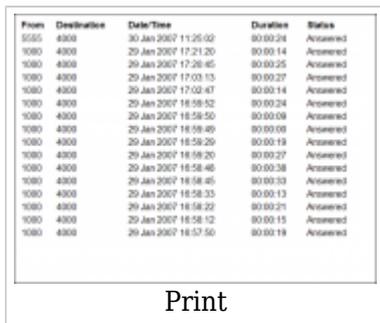
(Select button)

TIP

After setting 'Caller' and 'Destination' extensions click the call icon

Print

Check the box next to a call record and click the 'Print' button. This action will open a new pop-up window with the printing interface.
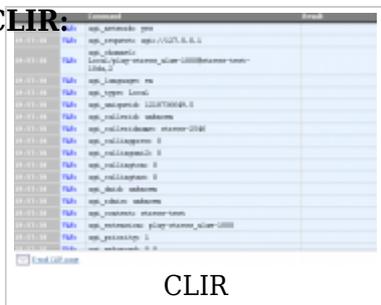

Print

Email

Check the box next to a call record and click the 'Email' button. A small popup dialog will appear. Provide the email address here and click 'OK' button to send the records.

Email
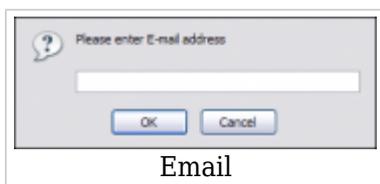
Advanced

Advanced

- **CLIR:**

CLIR

CLIR (Command Line Interface Record) details
(ex. Select a desired call record and click this button to view more technical details about the call. A small pop-up window will open with the data).

NOTE: When experiencing any kind of unexplained problems, this is the data you need to send to the technical support team
(Command Button)

- **Delete Recording:**

Deletes the recorded calls. For this command to be displayed, appropriate enhanced service has to be set.
(ex. Select a recorded call and click this button to delete it from the file system)
(Command Button)

- **Download CSV:**

Download data as the .csv (Comma Separated Value) file
(ex. Click this button to download the .csv file to your desktop)
(Command Button)

Settings

Queues Settings
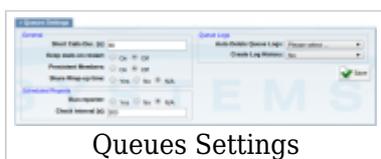
General

- **Short Calls Duration [s]:**

Enter the seconds which determine which calls are treated as Short Calls in agents' stats.
(ex. 30)
([0-9])

- **Keep stats on restart:**

  When PBXware is restarted, queue stats are reset if this option is not turned on.
  (ex. Yes, No, N/A)
  (Option buttons)

- **Persistent Members**

  In case of PBXware restart agents will not log off.
  (ex. Yes, No)

- **Share Wrap-up time:**

  If one agent is a member of more queues, ex. Q1 and Q2, and in Q1 agent's wrap-up time is set to 5s but in Q2 wrap-up time is not set, by turning on this option Q1 and Q2 will share the same wrap-up time for the common agent.

Scheduled Reports

- **Run Reporter:**

  Whether you want to enable scheduled reports.

- **Check interval [s]:**

  How often to check for queue statistics that will be included in report. Default is 300s.

Queue Logs

- **Auto Delete Queue Logs:**

  Delete queue logs after specific amount of time.
  Options: Never, Year, 3 Months, 6 Months, Month, Week.

- **Create log history:**

Next -> 9.Agents

Retrieved from "http://wiki.bicomsystems.com/PBXware_3.8.5_Queues"