

## Grandstream Networks, Inc.

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UCM6510/UCM62xx Series

### QueueMetrics Integration Guide

**QueueMetrics**  
call center solution



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## SUPPORTED DEVICES

The following table shows devices supporting QueueMetrics feature:

**Table 1: Supported devices**

Model	Supported	Firmware
UCM6200 series	Yes	1.0.20.17 or higher
UCM6510	Yes	1.0.20.17 or higher



## INTRODUCTION

UCM6510/UCM62xx series have integrated QueueMetrics which is a highly scalable monitoring and reporting suite that addresses the needs of thousands of contact centers worldwide and offers a broad range of integrated benefits.

This guide contains step-by-step configuration needed to set up QueueMetrics with the UCM6510/UCM62xx explaining the integration and providing a level of insight a user can obtain over his call-center system using QueueMetrics as a tool to deliver a powerful call center solution that allows call center managers to monitor and manage call center with a simple and easy to use interface.

UCM6510/UCM62xx are currently supporting the following features with QueueMetrics: Agent login, Agent Logoff, Realtime Monitoring-Pausing, Realtime Monitoring-Barging, Realtime Monitoring-Transferring, Realtime Monitoring-End calls, Generating Performance Report-Quick and Agent today.

## SUPPORTED FEATURES

The UCM6510/UCM62xx supports the following features using QueueMetrics. Each option will be explained and detailed in sections below.

Table 2: Supported operations

Operations
Agent logon
Agent logout
Realtime Monitoring – Pausing
Realtime Monitoring-Barging
Realtime Monitoring-Transferring
Realtime Monitoring-Hangup
Generating Performance Report



# UCM CONFIGURATION FOR QUEUEMETRICS

## Prerequisites

### On the UCM6510/UCM62xx:

- Queue previously created.
- Extensions created and registered to serve as Dynamic agents.

### On the QueueMetrics:

- Active account provided from QueueMetrics.

## Configuration

After getting the account from QueueMetrics, The UCM6510/UCM62xx needs to be publicly accessible and configured under **Value-Added Features** → **QueueMetrics** following the steps below:

**Note:** The following applies to “Single” mode. For cluster mode, please refer to [PARTITION] section.

1. Toggle on Enable QueueMetrics Integration.
2. Enter the QueueMetrics URL, Username and account code configured in QueueMetrics.

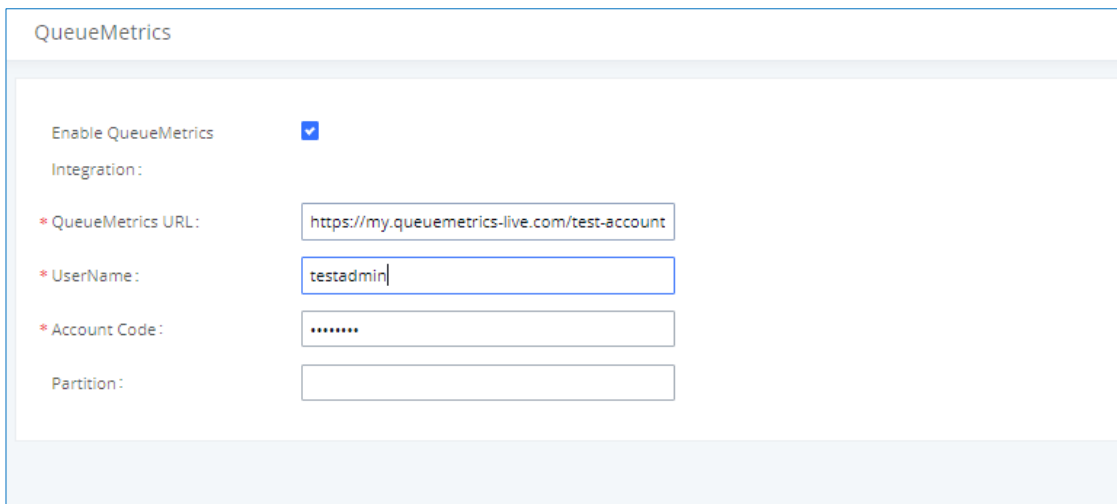


Figure 1: QueueMetrics Integration

3. Navigate to **Value-Added Features** → **AMI** and create a new AMI user. The information below is just an example to show how the configuration is made:





Edit AMI User: amitest123

\* Username:

\* Password:

Privilege:

☒ All
 ☒ Originate
 ☒ Call
 ☒ CDR
 ☒ Queue
 ☒ CC

☒ DTMF
 ☒ Dialplan
 ☒ Reporting
 ☒ User Events

☒ Security Events
 ☒ Special Command

Permitted IP (s):  /

- a. Username: amitest123
  - b. Password: test123
  - c. Permitted IP(s): 127.0.0.1 / 255.255.255.0
4. Create and configure user extensions(agents) and a call queue on the UCM6xxx:
    - a. Make sure that Enable Agent Login is not enabled to avoid agent login issues.
    - b. Do not assign any extensions to be static agents.

In our example we choose to create Queue 6500 and name it as **QM\_test** and create two extensions 1000 and 1001 without adding them to **QM\_test**.

**Figure 2: AMI account**

Call Queue

[Call Queue](#) [Queue Recordings](#)

[+ Add](#)
[Switchboard](#)
[Call Queue Statistics](#)
[Call Queue Common Settings](#)

EXTENSION	NAME	STRATEGY	QUEUE CHAIRMAN	MEMBERS	OPTIONS
6500	QM_test	Ring All			<a href="#">Edit</a> <a href="#">Delete</a>

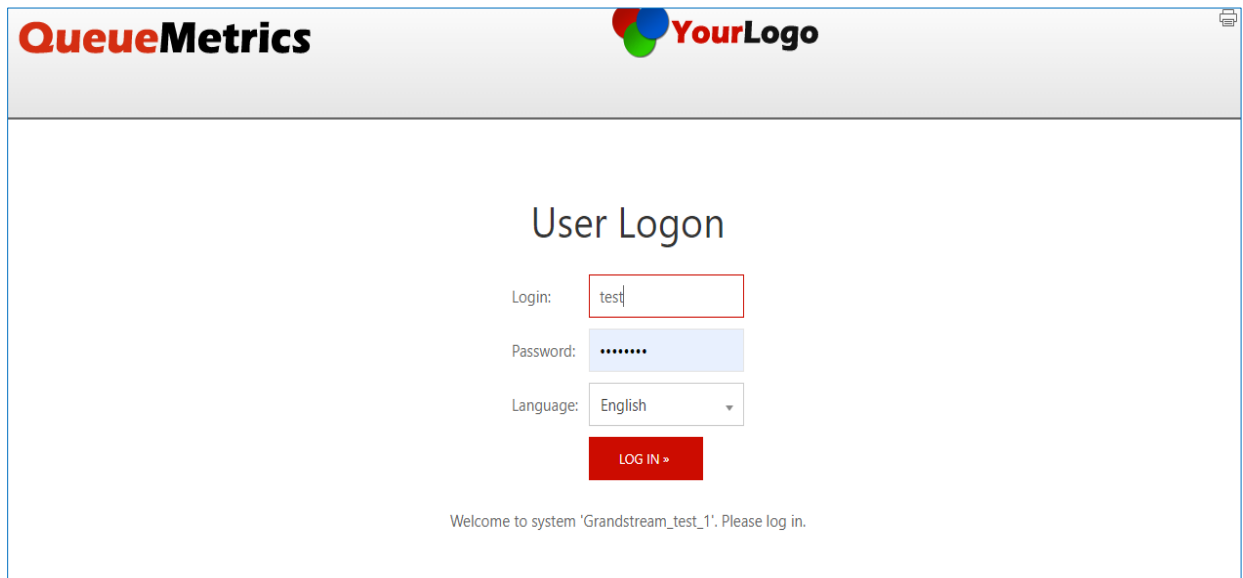
**Figure 3: Queue creation on UCM**



# QUEUEMETRICS CONFIGURATION

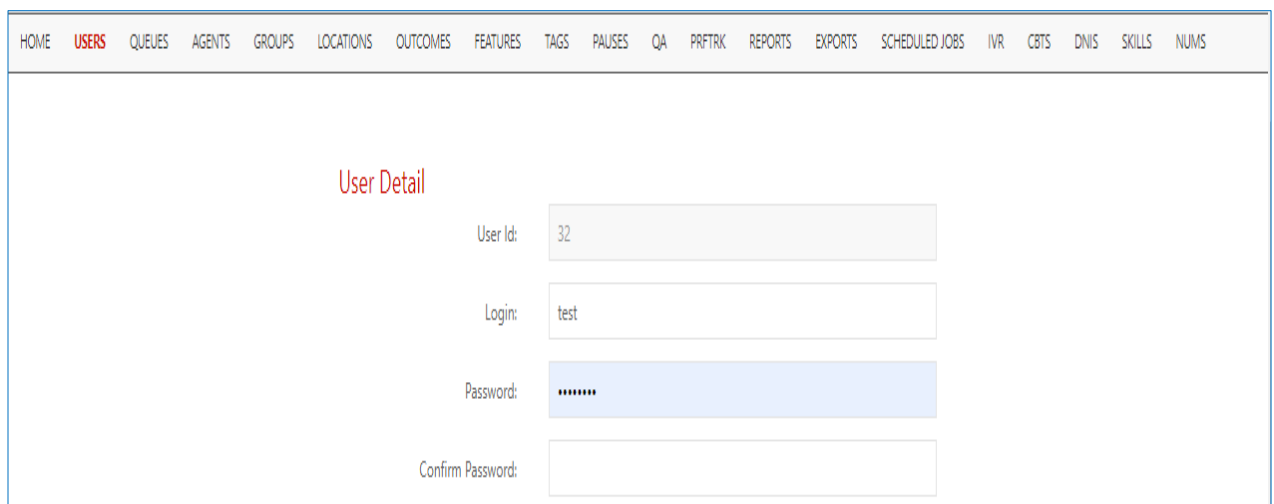
## Authentication

1. Navigate to QueueMetrics web portal, for example: <https://my.queuemetrics-live.com/test-account>.
2. Enter the admin login credentials assigned from QM on the authentication page as shown below:



**Figure 4: QueueMetrics Web Portal**

3. User can change the password for the account provided from QueueMetrics on web portal under Settings→Users.



**Figure 5: Password modification**



## Configuration

### Configure AMI connection

In order for the UCM to communicate with QueueMetrics, the user needs to configure on QueueMetrics the same account for AMI that has been configured previously in the UCM, make sure to choose DirectAMI\_Live as the PBX platform and specify the type of Channels as PJSIP. To do so please follow the steps below:

1. Login in QueueMetrics.
2. Navigate to the Edit QueueMetrics system parameters page under **Home → Administrative Tools**.

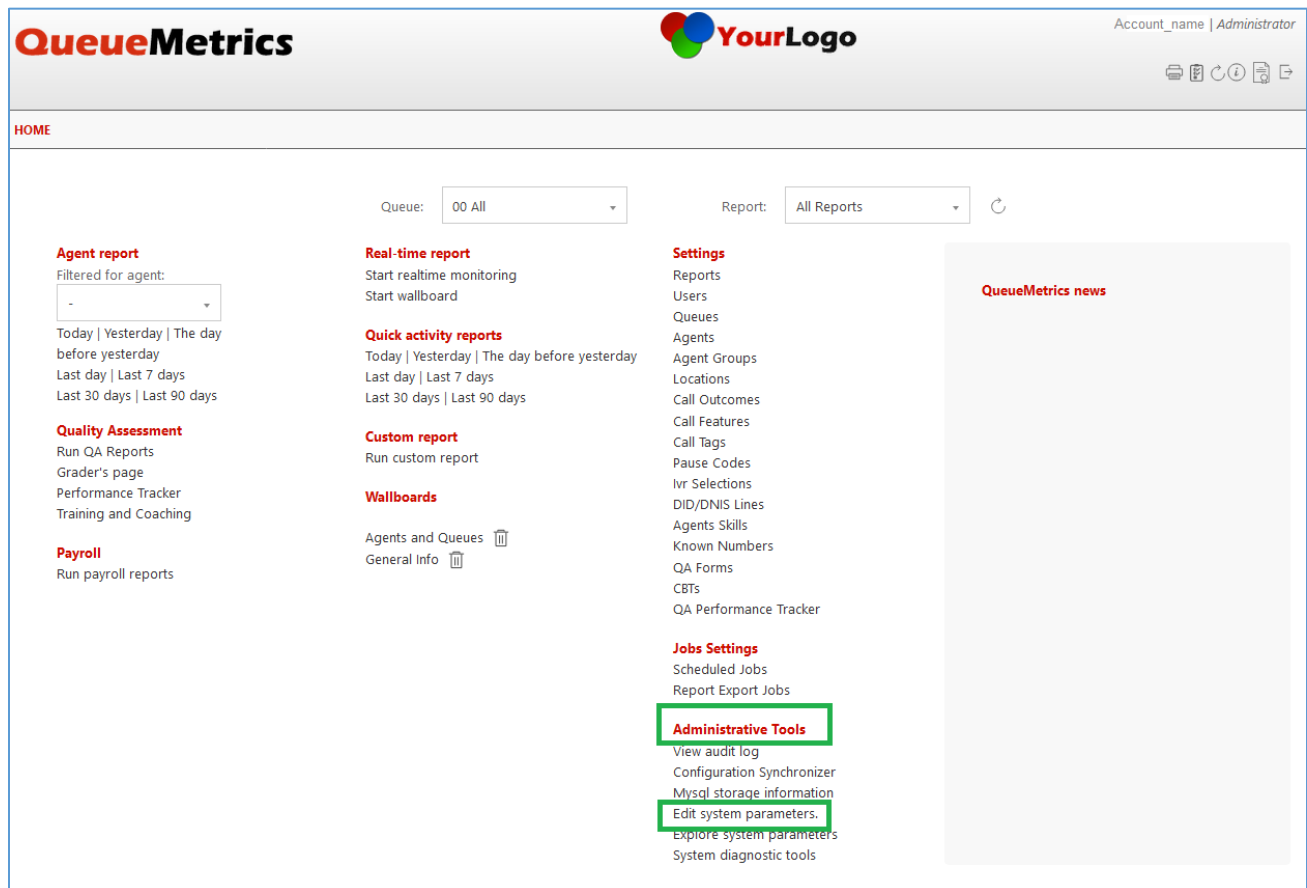


Figure 6: QueueMetrics - Administrative Tools - Edit System Parameters

3. Choose the type of PBX platform to be used which is in our case DirectAMI by editing the following line: `platform.pbx=DirectAMI_Live`
4. Uncomment and edit the following lines:

```
callfile.dir=tcp:{AMIUsername}:{AMIPassword}@{allowedIPaddress}:{AMIport}
```

In our case, to match the AMI credentials the line needs to be set to:

```
callfile.dir=tcp:amitest123:test123@127.0.0.1:7777
```



```
platform.directami.extension=PJSIP/${num}
```

```
platform.directami.localext=PJSIP/${num}
```

## Creation of Agents

Same Agents that were created on the UCM need to be added on QueueMetrics in order to manipulate manage them.

To configure Agents, follow the steps below:

1. Login in QueueMetrics.
2. Navigate to the Agents page and create new agents for both extensions created on the UCM.

### Agent Detail

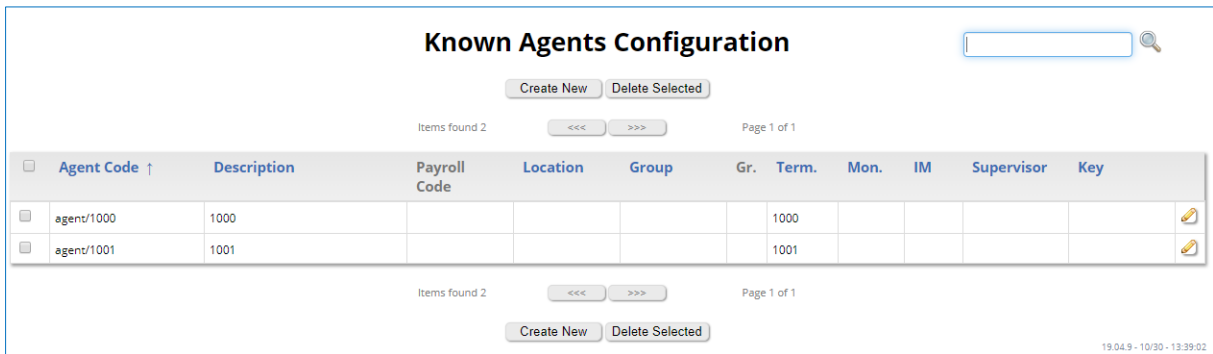
Asterisk agent code: <small>E.g.: Agent/101</small>	<input type="text" value="agent/1000"/>		
Agent description:	<input type="text" value="1000"/>		
Asterisk aliases: <small>Separate multiple aliases with a " " symbol</small>	<input type="text"/>		
Server	<div style="border: 1px solid #ccc; padding: 2px; text-align: center;">-</div>		
Agent location:	<div style="border: 1px solid #ccc; padding: 2px; text-align: center;">-</div>		
Agent group:	<div style="border: 1px solid #ccc; padding: 2px; text-align: center;">-</div>		
VNC monitoring URL:	<input type="text"/>	<input type="button" value="Test"/>	
Current terminal:	<input style="border: 2px solid #add8e6;" type="text" value="1000"/>		
Instant messenger address:	<input type="text"/>	<input type="button" value="Test"/>	
WebPhone Username:	<input type="text"/>		
WebPhone Password:	<input type="text"/>		
WebPhone Realm:	<input type="text"/>		
WebPhone SIP Uri:	<input type="text"/>		
Supervisor:	<div style="border: 1px solid #ccc; padding: 2px; text-align: center;">-</div>		
Agent Keys:	<input type="text"/>		
Payroll Code:	<input type="text"/>		

Figure 7: Agent creation on QueueMetrics


3. Set Current terminal field to the extension number created on the UCM.



- Do the same config for the second agent 1001 as well.





**Known Agents Configuration**

Search:  

Create New Delete Selected

Items found 2 <<< >>> Page 1 of 1

<input type="checkbox"/>	Agent Code ↑	Description	Payroll Code	Location	Group	Gr.	Term.	Mon.	IM	Supervisor	Key
<input type="checkbox"/>	agent/1000	1000					1000				
<input type="checkbox"/>	agent/1001	1001					1001				

Items found 2 <<< >>> Page 1 of 1

Create New Delete Selected

19.04.9 - 10/30 - 13:39:02

**Figure 8: Known Agents Configuration**

## Creation of Users

User account needs to be created for each agent so that they can use their user credentials to log into the web portal to manage queues and calls they are in.

To configure user account, follow the steps below:

- Navigate to the User page and click on create new user.
- Set Login field to the same previous agent code configured for each agent.
- Set Class field to AGENTS.



**User Detail**

User Id:

Login:

agent/1001

Password:

....

Confirm Password:

....

Real name:

agent/1001

Enabled:

Yes

E-mail:

Masterkey:

No

Class:

AGENTS

User keys:

Number of logons:

**Figure 9: User Creation on QueueMetrics**

## Creation of the Queue

Same Queue number created on UCM6xxx needs to be created on QueueMetrics following the steps below:

1. Navigate to the Queue page and click on create new.
2. Set Queue alias to any name desired.
3. Set Queue(s): to the extension number of the queue configured on UCM, in our example it is 6500.



### Queue Detail

Queue alias:	6500
Queue(s): <small>Separate with ' '</small>	6500
Visibility key:	
Call flow:	Any call
Shown on front page:	Yes
Chat group:	
Default queue URL:	
External Reference ID:	
Main agents:	
Wrap agents:	
Spill agents:	

**Figure 10: Queue Creation on QueueMetrics**

- Once the queue is created, on the main **Queues** page, edit the agents of queue 6500 and add the two newly created agents to this queue like shown below.



**Figure 11: Edit agents**

### Agents for queue: 6500

Agent code	Description	Main	Wrap	Spill
agent/1000	Agent/1000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
agent/2000	agent/2000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
agent/101	John Doe (101)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
agent/102	Mike Boo (102)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SAVE
BACK TO ALL QUEUES

**Figure 12: Queues Configuration**

**Note:** Once all above configuration is done, agents can use their user credentials to log into the web portal to manage queues and calls they are in.

## SUPPORTED OPERATIONS

### Agent login

To log into a queue from the user portal, please follow the steps below:

1. Login using User credentials “login” and password created on **User page**.
2. Go to the drop-down menu and select “agent login”.
3. Select the desired queues to log into and click on the [>] button.

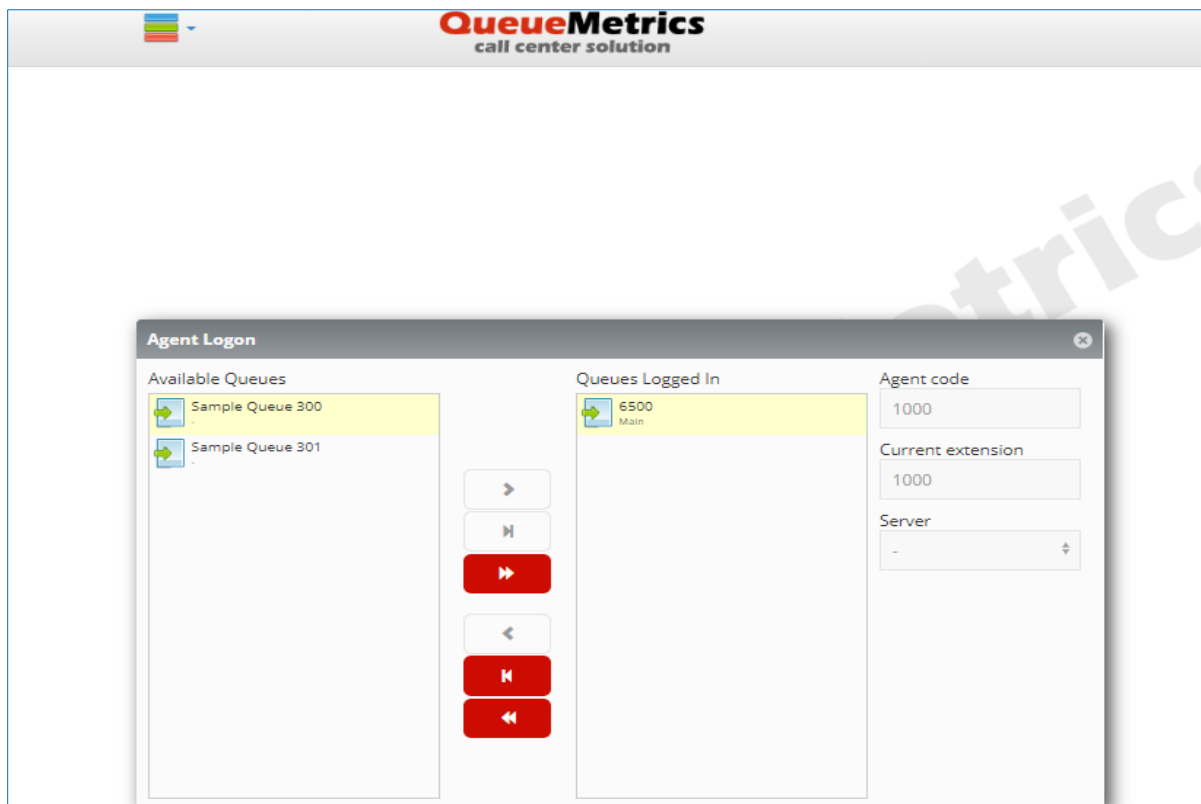


Figure 13: Login into queue

**Note:** Logging into the queue(s) successfully on QueueMetrics will also log the UCM extension into the UCM queue like shown below.

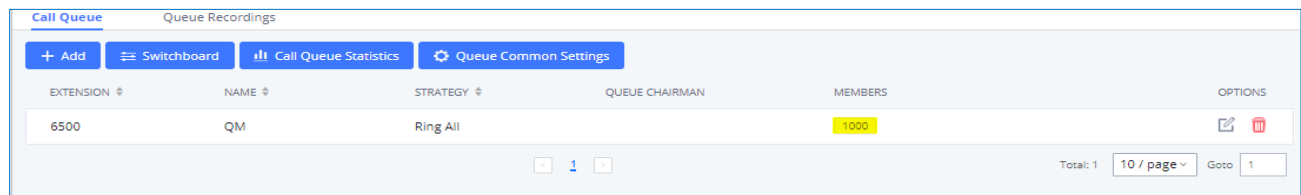


Figure 14: Agent login in UCM





## Agent logout

logging out from the QueueMetrics user portal will remove the UCM extension from the UCM queue and it can be done by following the steps below:

1. Login using User credentials “login” and “password” created on **User page**
2. select again the desired queues and click this time on the [<] button.

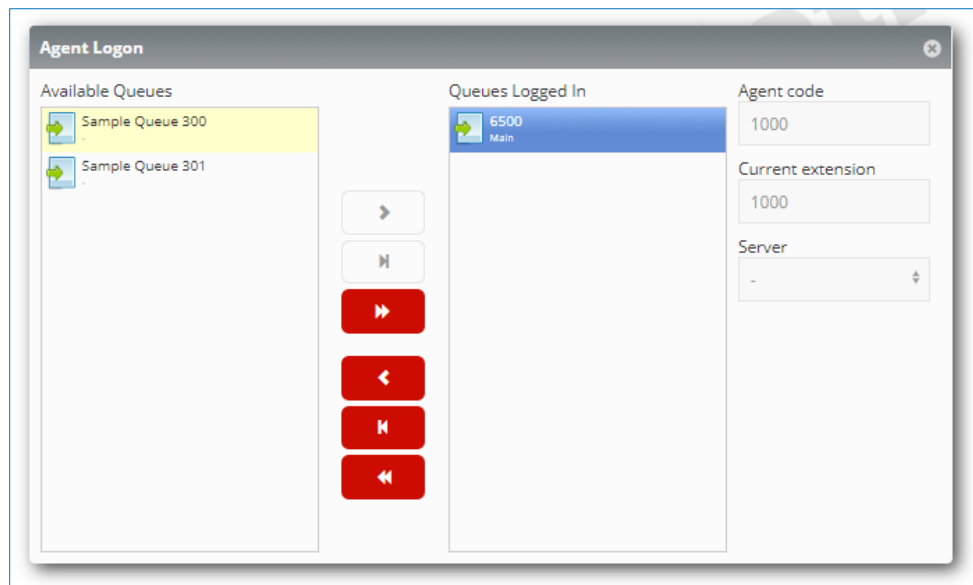


Figure 15: Logout from selected Queue

The extension will not be seen as part of the queue on UCM as shown below.

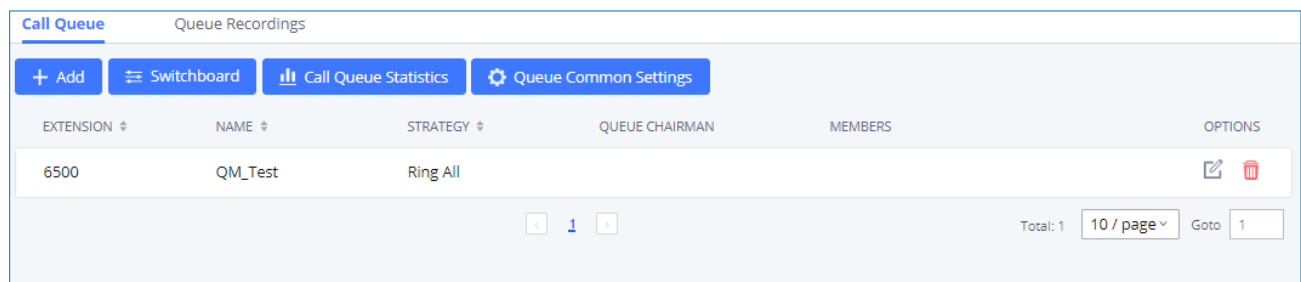


Figure 16: Agent logout in UCM

**Note:** Logging in/out Dynamically agents on the UCM using Code suffix will also result in logging in/out the agent in QueueMetrics.

## Realtime Monitoring

Realtime monitoring allows administrators to have an overview of queue agents and call activity and it can be accessed by clicking the "Start real-time monitoring" label from the home page. It will show a page similar to the one below:

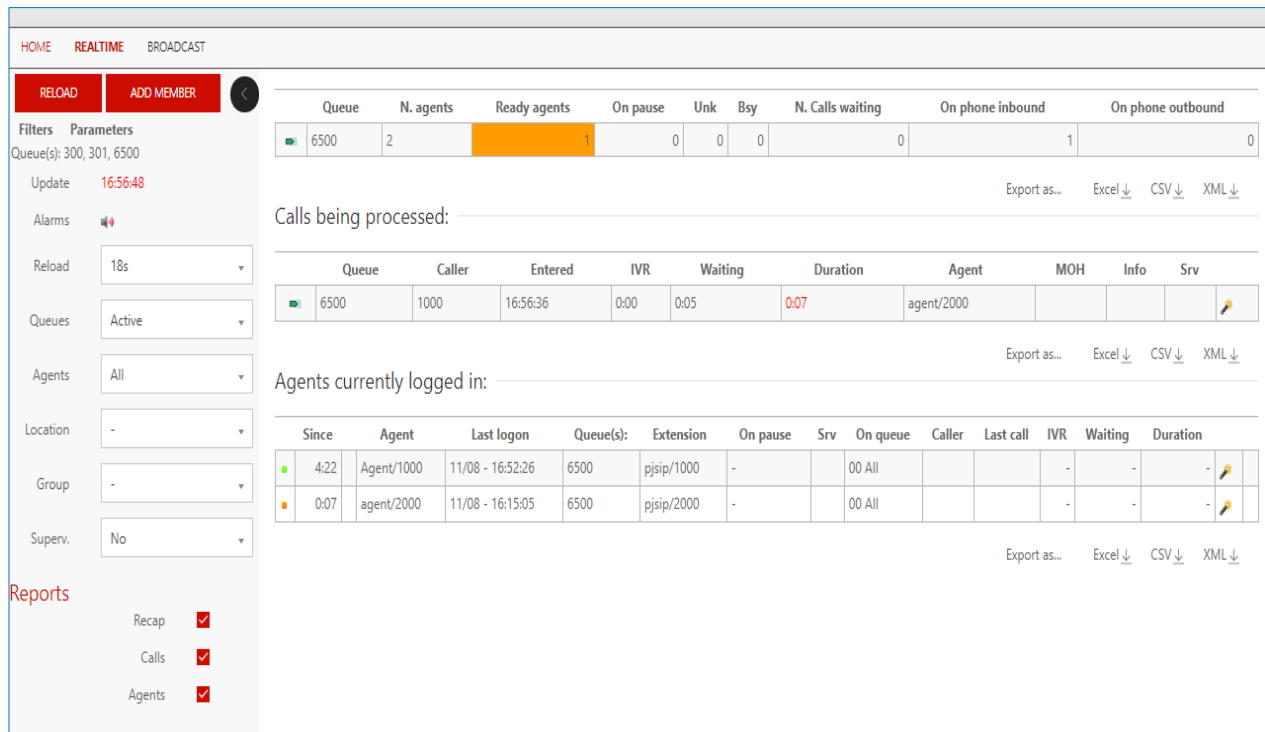


Figure 17: Realtime monitoring

On the top of the page there is a control table showing the last update timestamp and other dropdown selectors as specified below:

- **Reload:** It defines the update period will be used to refresh the shown data
- **Queues:** Shows all queues or only active queues
- **Agents:** Toggle between all agents or *members only* agents
- **Location:** If granted by user permissions, defines which location is shown
- **Group:** Defines which agent group is shown
- **Superv.:** Filter out agents not supervised by current user
- **Reports:** Displays Recap, Calls being processed, and Agents logged in when the options are toggled on.




**Note:** The page is able to auto-refresh in background at the period specified in the first dropdown, but you can anyway force a faster reload by clicking the "Reload" button.

Active calls will be displayed under the **Calls being processed** section and logged-in agents will be shown under the **Agents currently logged in** section. If this page does not display anything, please check your UCM configuration and make sure the **Account Code** is correct.

In addition to monitoring agent activity, administrators can also barge into calls, pause/unpause agents and close calls like detailed in the below sections.

## Realtime Monitoring – Pausing

Agents can be paused so that they will not receive calls and the administrator can control that by following the steps below:

1. Click on the icon  next to the agent.
2. Click on Pause agent and select the pause reason (Lunch, Hourly break, Email, Backoffice, Wrap).
3. Click on "RUN" button.

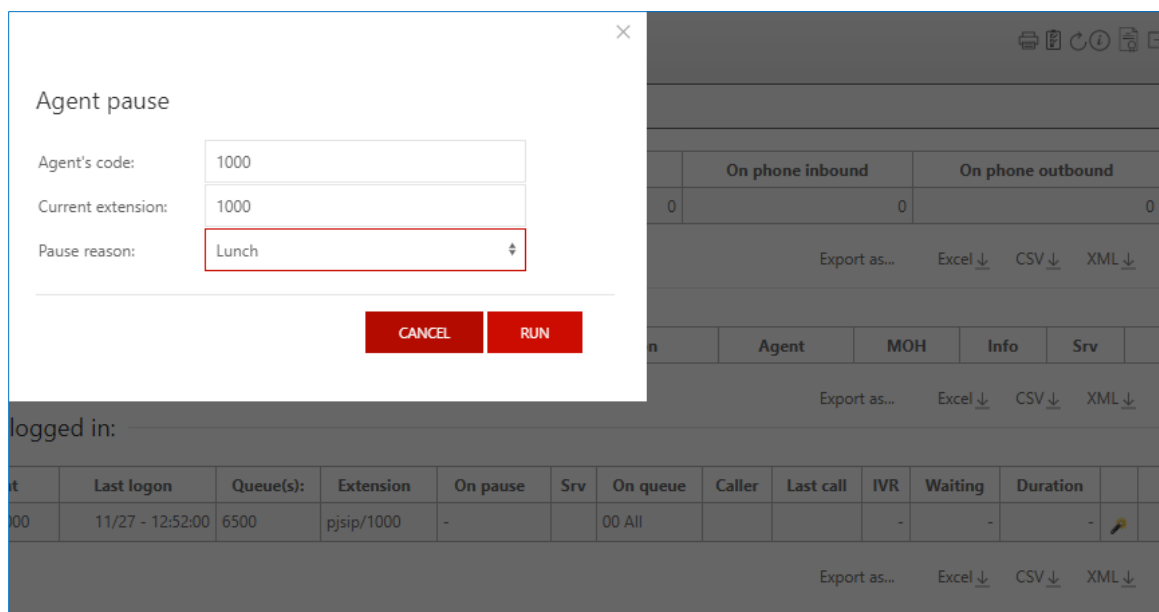


Figure 18: Pause agent

Once the agent is paused, Field “on pause” on the recap will be updated with the number of agents actually being paused.

Queue	N. agents	Ready agents	On pause	Unk	Bsy	N. Calls waiting	On phone inbound	On phone outbound
00 All	2	1	1	0	0	0	0	0

Calls being processed:

Queue	Caller	Entered	IVR	Waiting	Duration	Agent	MOH	Info	Srv
-------	--------	---------	-----	---------	----------	-------	-----	------	-----

Agents currently logged in:

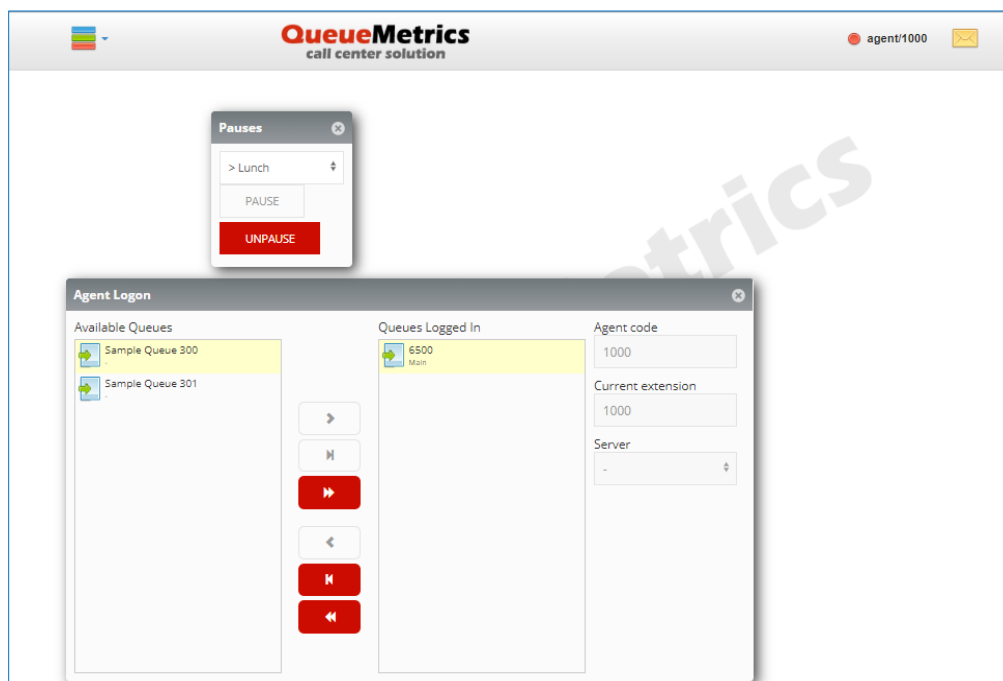
Since	Agent	Last logon	Queue(s)	Extension	On pause	Srv	On queue	Caller	Last call	IVR	Waiting	Duration
28:08	Agent/1000	11/08 - 16:52:26	6500	pjsip/1000	17:14 Lunch		00 All				-	-
8:51	agent/2000	11/08 - 16:15:05	6500	pjsip/2000	-		6500	1000	17:09:07		0:07	1:51

Export as... VNC IM Remove Member Pause Agent Unpause Agent

**Figure 19: On Pause agents**

**Note:** Like the administrator can control pausing agents, agents themselves can do the same operation when they login on QueueMetrics user portal by following the steps below:

1. Login using User credentials “login” and password created on **User page**.
2. Go to the drop-down menu and select “**Pauses**”.
3. Select the desired pause reason and click on **pause**.




**Figure 20: Agent pausing**

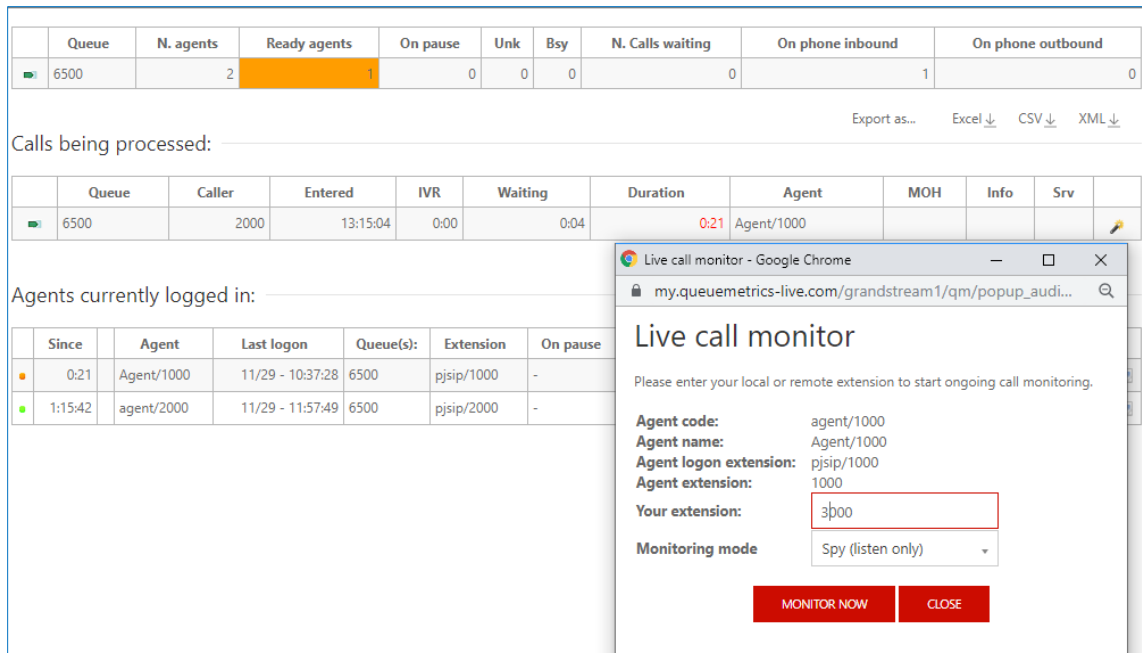
Agent Status will move now from green to led like shown on the top left corner.

## Realtime Monitoring-Barging

When there is an active call between an agent and an external number showing under **Realtime monitoring> Calls being processed**, other station like the extension of the supervisor can monitor and join the call to spy on it.

To spy on agent call, follow the steps below:

1. Access **Start realtime monitoring** page.
2. Under call being processed, look for the call you want to spy on it.
3. Click on  on the left corner and choose option **Monitor now**.
4. Set the field “**Your extension**” to the extension number of the Spy station.
5. Click on “**Monitor now**”.



The screenshot displays the 'Realtime monitoring' interface. At the top, a summary table shows system metrics. Below it, the 'Calls being processed' section lists active calls. A 'Live call monitor' popup window is open, allowing a supervisor to monitor an ongoing call by entering their extension (3000) and selecting 'Spy (listen only)' as the monitoring mode.

	Queue	N. agents	Ready agents	On pause	Unk	Bsy	N. Calls waiting	On phone inbound	On phone outbound
	6500	2	1	0	0	0	0	1	0

Export as... Excel CSV XML

Calls being processed:

	Queue	Caller	Entered	IVR	Waiting	Duration	Agent	MOH	Info	Srv
	6500	2000	13:15:04	0:00	0:04	0:21	Agent/1000			

Agents currently logged in:

	Since	Agent	Last logon	Queue(s)	Extension	On pause
	0:21	Agent/1000	11/29 - 10:37:28	6500	pjsip/1000	-
	1:15:42	agent/2000	11/29 - 11:57:49	6500	pjsip/2000	-

**Live call monitor**

Please enter your local or remote extension to start ongoing call monitoring.

Agent code: agent/1000  
 Agent name: Agent/1000  
 Agent logon extension: pjsip/1000  
 Agent extension: 1000  
 Your extension:   
 Monitoring mode: Spy (listen only)

**MONITOR NOW** **CLOSE**


Figure 21: Spy-Realtime monitoring

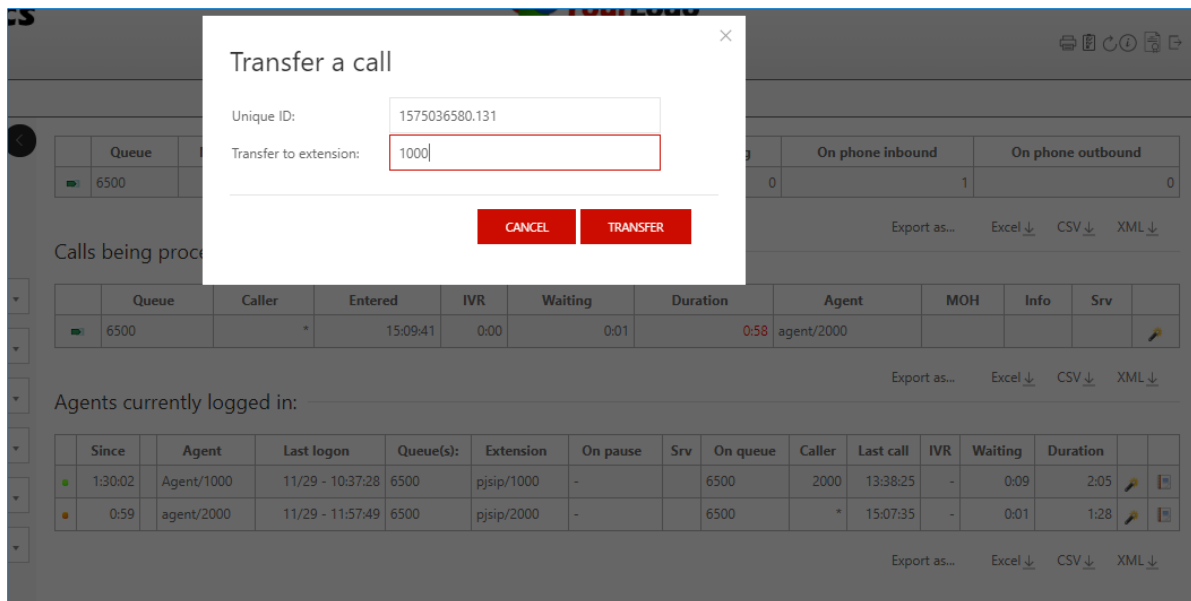
Once you click on the option “Monitor now”, a call will be sent to Station having extension 3000 and answering that call will allow this station to spy on the agent call and hear the conversation between him and the external number.

## Realtime Monitoring-Transferring

This feature allows to transfer calls to other agents if necessary when they are available under **Realtime monitoring> Calls being processed**.

To transfer an ongoing call, follow the steps below:

1. Access **Start realtime monitoring** page.
2. Under call being processed, look for the call you want to transfer it.
3. Click  on the left corner and choose option **Transfer**.
4. Set the field “**Transfer to extension**” to the extension number where you want to transfer the call.
5. Click on “**Transfer**” Button.




**Figure 22: Call transfer**

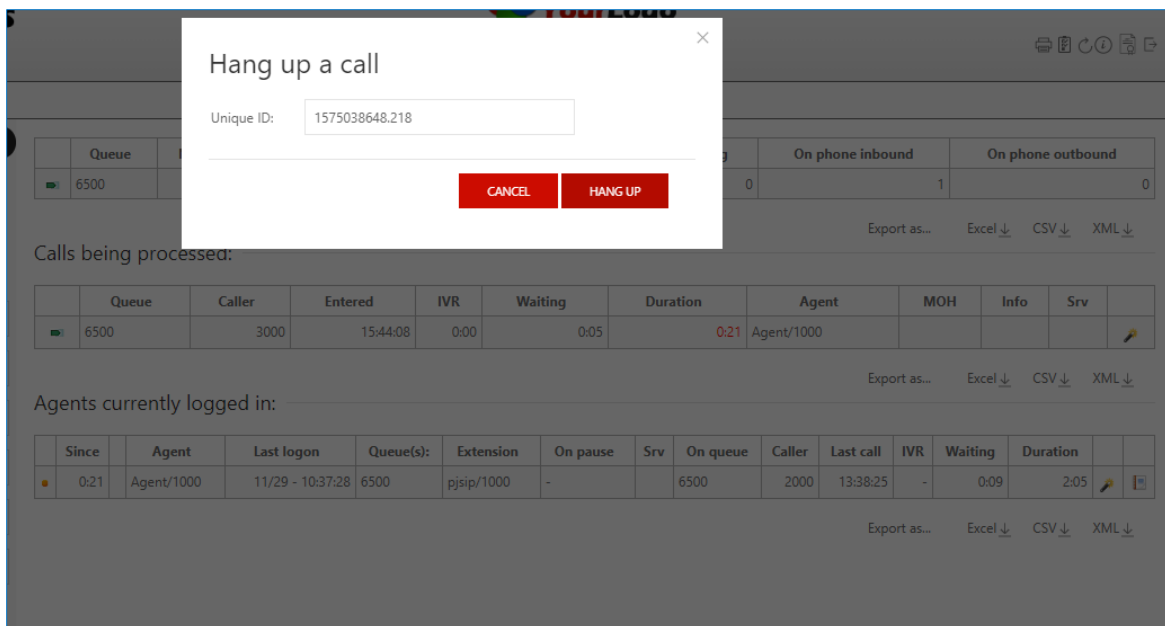
Once you click on Transfer button, the call will be blind transferred to the extension number set on the field “Transfer to extension”.

## Realtime Monitoring-Hangup

Supervisor can force to end a call on behalf of the agent when necessary.

To hang-up an ongoing call, follow the steps below:

1. Access **Start realtime monitoring** page.
2. Under call being processed, look for the call you want to end.
3. Click  on the left corner and choose option **Hangup**.
4. Click on **“Hang up”** button.



**Figure 23: Realtime monitoring-Hangup**

Once done the action Hang up will be performed but it may take a few seconds to take place.

## Generating Performance Report

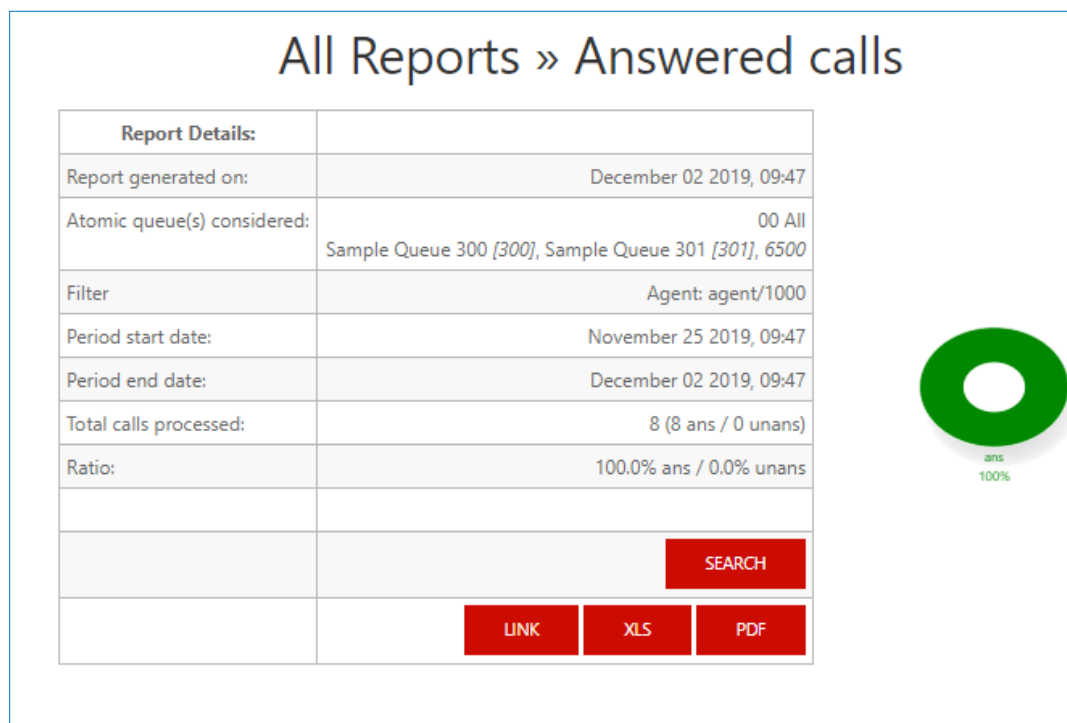
One of the main functions of the Integration of QueueMetrics is getting and generating call center performance reports: answered/unanswered call details, agent session details, call breakdown for a time period, etc.

This section is accessible either by accessing Agent report on the home page or under **Realtime monitoring>**

**Agents currently logged in** by clicking on the icon  next to the agent.

Once there, the top panel will show the following:

- Time when the report is generated
- Automatic queue(s) generated which is the queue or composite queue you want to analyze
- Filter is the call filtering criteria which can be specified by clicking on the button “Search”
- Start and end date let you select the period you want to analyze, which can be defined also by clicking on “Search”.
- Total calls processed gives the amount of the answered and unanswered calls.
- Ratio is the percentage of the answered and unanswered calls with a graph presentation next to it.



**Figure 24: All reports**

Users could export the whole analysis to a PDF or XLS files by clicking on two buttons located on the report header.





## All calls report

The answered calls section deals with calls that were correctly handled by agents.

All calls	
All calls:	
N. calls answered by operators:	8
Average call length:	157.2 s.
Min call length:	0:00
Max call length:	11:05
Total call length:	0.3 H
Average call waiting time:	5.9 s.
Min waiting time:	0:01
Max waiting time:	0:13
Total waiting time:	0.0 H
Average initial position	1.0
Min initial position	1
Max initial position	1
Coverage	87.5%

Export as... [Excel](#) [CSV](#) [XML](#)

**Figure 25: All calls report**

The top panel shows:

- How many calls were handled.
- The average call length which is the time the caller spends talking to an operator).
- The maximum and minimum call lengths recorded for the given time period.
- The total call length (for all calls on all operators).
- The average call waiting time (i.e. the time a caller was waiting on a queue before being connected to an operator).
- The minimum and maximum call waiting times on record.
- The total waiting time for all handled calls.
- The average initial position of the call in the queue.
- The minimum and maximum initial queue positions that have been detected.
- The queue position coverage: as this information is not tracked for all calls, this ratio shows the average number of calls that had queue position record.



## Calls fully within the given time interval

The answered completed calls section deals with calls that were correctly handled by agents. This is similar to what is reported on previous panel but may exclude calls that were started before or terminated after the given time frame.

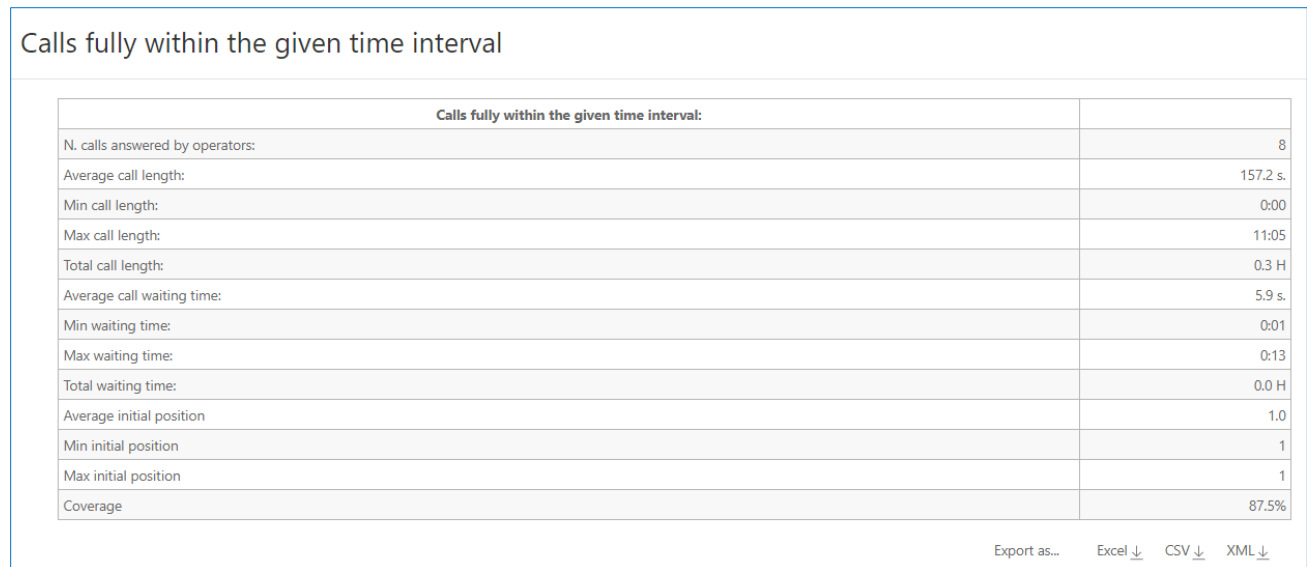


Figure 26: Calls fully within the given time interval

## Agents on queue

This report shows which agents have been available for the given queue, how many calls each one handled and the percentage of all calls that each one handled.

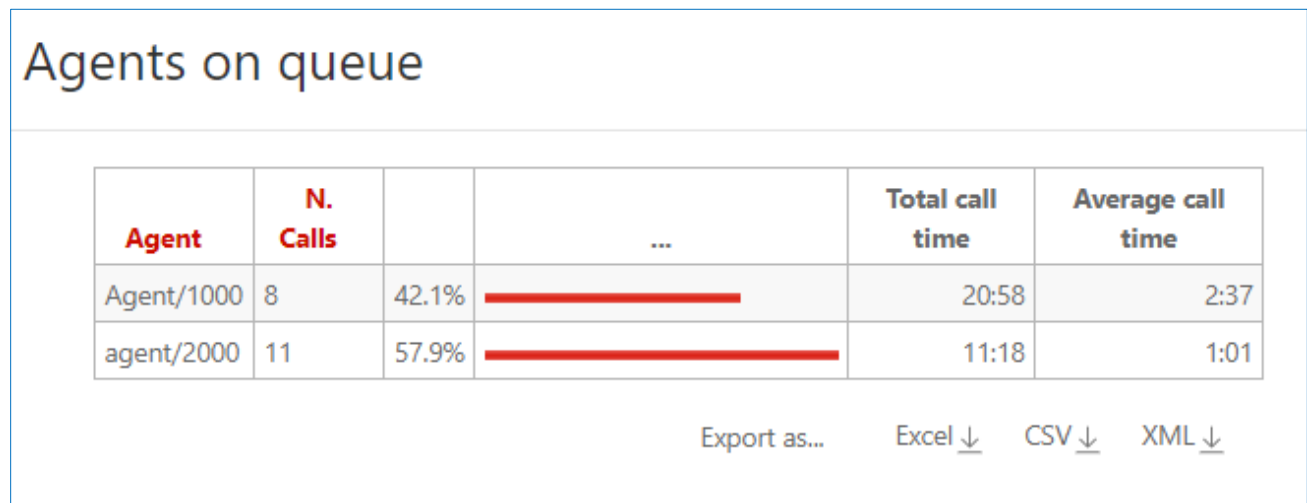


Figure 27: Agents on queue report

The graph below shows which agents have been available for the given queue representing the percentage of all calls that each one handled.

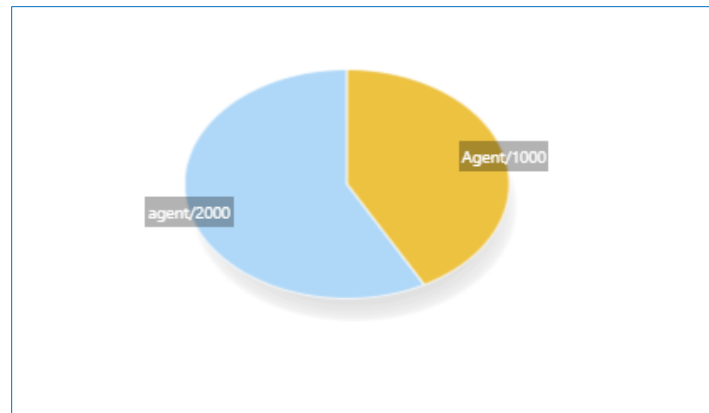


Figure 28: Graph for agents on queue

## Service level agreement report

This report shows the distribution of call waiting times. It shows how many calls were answered within a given time frame, usually 120 seconds in 10 second.

This graph will provide a percentage of how many calls were answered within X seconds; the percentage includes calls answered in a shorter time frame and therefore grows with time. The "**delta**" value you see is the absolute increment, expressed in number of calls, between each time frame, while the "**Offered**" column displays the result of the taken calls divided by the total taken plus the total lost. This metric is computed only on answered calls, ignoring lost calls.

Service level agreement					
Answer	N. Calls	Delta	Percent	Of Offered	...
Within 5 seconds:	15		78.9%	42.9%	<div></div>
Within 10 seconds:	18	+ 3	94.7%	51.4%	<div></div>
Within 15 seconds:	19	+ 1	100.0%	54.3%	<div></div>
Within 20 seconds:	19	0	100.0%	54.3%	<div></div>
Within 30 seconds:	19	0	100.0%	54.3%	<div></div>
Within 40 seconds:	19	0	100.0%	54.3%	<div></div>
Within 50 seconds:	19	0	100.0%	54.3%	<div></div>
Within 60 seconds:	19	0	100.0%	54.3%	<div></div>
Within 70 seconds:	19	0	100.0%	54.3%	<div></div>
Within 80 seconds:	19	0	100.0%	54.3%	<div></div>
Within 90 seconds:	19	0	100.0%	54.3%	<div></div>
Within 100 seconds:	19	0	100.0%	54.3%	<div></div>
Within 110 seconds:	19	0	100.0%	54.3%	<div></div>
Within 120 seconds:	19	0	100.0%	54.3%	<div></div>

Export as... [Excel](#) [CSV](#) [XML](#)

Figure 29: Service level agreement report

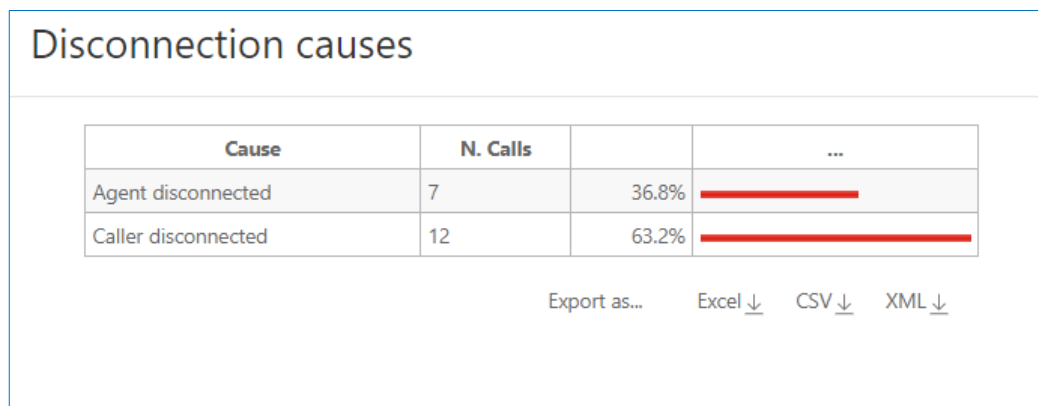


## Disconnection causes report

This report shows the reason calls were terminated.

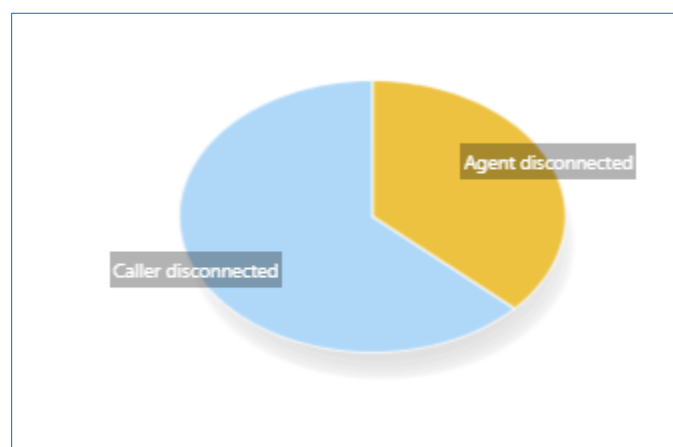
The supported reasons are:

- The agent hung up
- The caller hung up,
- The call was transferred outside the queue and the agent was freed again.
- The call was ongoing at the time the report was run.



**Figure 30: Disconnection causes report**

The graph reports the percentage values associated to the reason of why calls were terminated, as calculated in the table.



**Figure 31: Disconnection causes graph**

**Note:** For more details please refer to the QueueMetrics User Manual guide:

[https://downloads.loway.ch/qm/QM\\_UserManual\\_19.10.pdf](https://downloads.loway.ch/qm/QM_UserManual_19.10.pdf)

## PARTITION

QueueMetrics is able to monitor clusters of Asterisk servers, in order to monitor large call centers that are spread over a number of physical machines. This setting is often used for large deployments of UCM6510/UCM62xx, as it leads to a number of advantages:

- The overall call center is safer, as the failure of one single UCM leads to a down of only part of the call center and not its entirety.
- The call center can easily grow to hundreds of seats simply by adding more UCMs, without special optimizations or configurations.
- Ability to have multiple UCMs working together as if they were one single box.

## Setup and Configuration

In our Scenario we are going to use a cluster of two UCMs that will be monitored with the same account provided by QueueMetrics.

### Configuration on QueueMetrics

In our case, we have a cluster of two UCMs, so the below configuration needs to be done and executed on QueueMetrics settings Under Home → Edit System Parameters:

1. The value **default.queue\_log\_file** needs to be set to cluster:\*
2. The Value **cluster.servers** needs to be set to the servers names separated by a pipe.  
Example: **cluster.servers=UCMA|UCMB**, For each of them put these values, replacing 'servername' with the name you have chosen.
3. Set **cluster.servername.manager=tcp:user:pass@serverhost**, where user:pass are the credentials for the Asterisk's AMI interface configured on the UCM.
4. **cluster.servername.queuelog=sql:partition-name**, in our case the partition name is UCMA and UCMB.



To summarize, this what the configuration in QueueMetrics should looks like:

```
default.queue_log_file=cluster:*

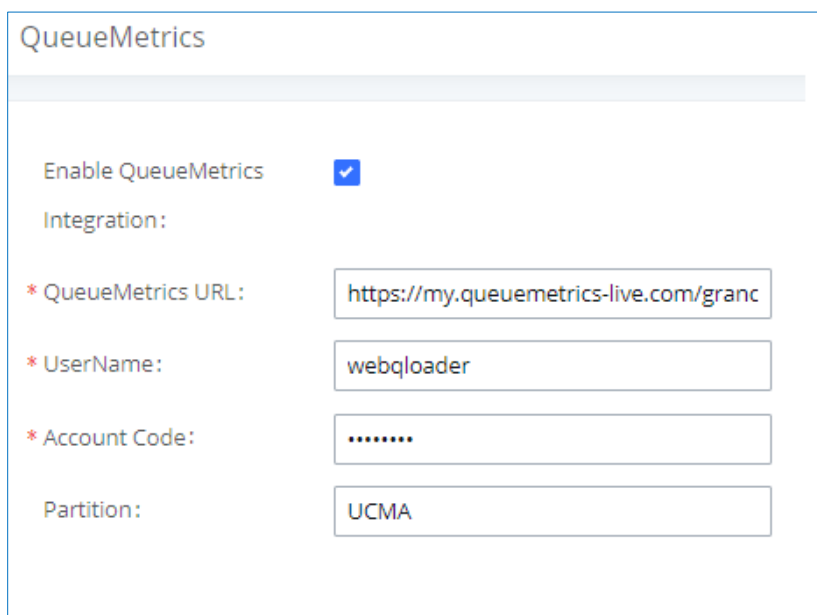
cluster.servers=UCMA|UCMB

cluster.UCMA.manager=tcp:amitest123:test123@127.0.0.1:7777
cluster.UCMA.queue_log=sql:UCMA
cluster.UCMA.monitored_calls=z:/qm_streamcall/server_aleph
cluster.UCMA.callfilesdir=
cluster.UCMA.audioRpcServer=
cluster.UCMA.agentSecurityKey=
cluster.UCMA.websocketurl=ws://10.10.3.5:8088/ws
cluster.UCMA.rtcWebBreaker=false

cluster.UCMB.manager=tcp:amitest456:test456@127.0.0.1:7777
cluster.UCMB.queue_log=sql:UCMB
cluster.UCMB.monitored_calls=z:/qm_streamcall/server_trix
cluster.UCMB.callfilesdir=
cluster.UCMB.audioRpcServer=
cluster.UCMB.agentSecurityKey=
cluster.UCMB.websocketurl=ws://127.0.0.1:8088/ws
cluster.UCMB.rtcWebBreaker=false
```

## Configuration on UCMs

Under Value-added Feature → QueueMetrics on each UCM, set the Partition field to the same value as the servername configured on QueueMetrics, then disable/enable the configuration to take effect.



QueueMetrics

Enable QueueMetrics ☒

Integration:

\* QueueMetrics URL:

\* UserName:

\* Account Code:

Partition:

Figure 32: UCMA Partition Configuration



### QueueMetrics

Enable QueueMetrics

☒

Integration:

\* QueueMetrics URL:

\* UserName:

\* Account Code:

Partition:

**Figure 33: UCMB Partition Configuration**

