



OrderlyStats Server Edition

User Manual

Version 13.6

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1. Installation

The latest version of OrderlyStats Server Edition can be downloaded from:

<http://www.orderlyq.com/orderlystatsse/download.html>

Please follow the instructions on that page to complete the installation process.

To start using OrderlyStats, use your browser to visit:

<http://my.ip.address:8080/orderlystatsse>

Note: By default Tomcat listens on port 8080. If you have installed Tomcat as part of your Linux distribution, the default port may be different (on Debian it is 8180). Sometimes port 80 is used instead. You can change the default port in `$CATALINA_HOME/conf/server.xml` to suit your requirements.

If you are setting up an Asterisk-based call center for the first time, please see the Asterisk Queues Tutorial at <http://www.orderlyq.com/asteriskqueues.html> for useful help and information on how to get things up and running.



1.1 Connecting to Database

The most common problem in installing OrderlyStats SE is that the database connection cannot be established. If this happens, then you will be presented with a Database Helper wizard that looks like this:

Congratulations, you have successfully installed OrderlyStats SE

However, we were unable to connect to your database. This page will help you get connected.

These are the settings currently defined in
C:\eclipse\workspace\OrderlyStatsSE\WEB-INF\OrderlyStatsSE.xml

URL	<input type="text" value="jdbc:mysql://localhost/orderlystats"/> Example: <i>jdbc:mysql://myhost:3306/mydatabase</i>
Driver	<input type="text" value="com.mysql.jdbc.Driver"/> You shouldn't need to change this value.
Username	<input type="text" value="orderlystats"/>
Password	<input type="text" value="orderlystats"/>

The Helper will display the location of your OrderlyStatsSE.xml file, which is where the settings are stored. You can try out different settings using the Try Again button, but when you have successfully connected, you *must* edit the OrderlyStatsSE.xml file manually to contain the correct settings.

Here's some help to diagnose common problems.

1) Connection cannot be established

First, check that you are trying to connect to the correct machine. The default setting is for installations where OrderlyStats is run on the same machine as the database. If this is not the case then you will need to change 'localhost' in the URL to the IP address of the other machine.

If you are sure that the IP address is correct, then use telnet to check the connection to the relevant port on that machine. For MySQL, the default port is 3306. For PostgreSQL, the default port is 5432.



2) Access Denied

First, check that the database name is correct in the URL field (the default is 'orderlystats'). If you created the database with a different name, you will need to change it here.

Second, check that the Username and Password are correct for the database you are trying to access. In MySQL, this must match the username and password you specified with `GRANT ALL PRIVILEGES` when you created the OrderlyStats database.

Updating your Settings

Once the connection has been established, you will be shown the correct entry that needs to go into your OrderlyStatsSE.xml file, replacing the `<DatabaseService name="db" ... />` section that is already there.

Once you have made the changes, OrderlyStats SE must be *RESTARTED* with `/etc/init.d/orderlystatsse restart` for the changes to take effect.





1.2 Getting Started

When you first run OrderlyStats, you will be presented with a Getting Started page that looks like this:

Getting Started	
Now that your database is correctly configured, it's time to create your master account. Please fill in the fields below.	
About Your Company	
Company Domain Name:	<input type="text"/> e.g. mycompany.com
Company Name:	<input type="text"/> e.g. My Company
Time zone:	Europe/London (Greenwich Mean Time) <input type="button" value="v"/>
About you	
Administrator Email Address:	<input type="text"/>
Administrator First Name:	<input type="text"/>
Administrator Last Name:	<input type="text"/>
Choose a Password:	<input type="text"/>
Repeat Password:	<input type="text"/>
<input type="button" value="Create"/>	

This data is used to create the initial OrderlyStats account.

The Company Domain Name should be entered without the preceding 'www', and will form the basis of your Agent Logins for the Agent Toolbar. It should be entered in lower case.

The Administrator Email Address will become the master account holder, with all permissions, and cannot be changed once created, so choose this carefully.



Connecting to Asterisk

OrderlyStats connects to your Asterisk installation over the Asterisk Manager Interface, which is a TCP/IP persistent connection. Once you have entered your account details, you will be shown a Wizard to help you get connected.

If you haven't already enabled Asterisk Manager, then you will need to follow the instructions on this page before proceeding.

You will also need to configure your Asterisk with a Manager username and password for OrderlyStats to use.

The default settings are to connect to Asterisk on the same machine (localhost), on the default port 5038.

The Wizard will help you debug any problems connecting to Asterisk. Once you have successfully connected the settings are stored in the database.

NOTE: If OrderlyStats and asterisk are running on different machines, you may need to add an exception to your firewall to allow inbound traffic on port 5038. If you are using iptables, it will look something like this:

```
-A INPUT -p tcp -m tcp --dport 5038 -j ACCEPT
```

Automatic Self-Configuration

When OrderlyStats SE first connects to your Asterisk installation, it will automatically detect any queues you already have defined, and also the agents that are attached to the queues.

If you need to create new agents or queues later, OrderlyStats SE will detect them automatically too, so you don't have to worry about adding them manually.

You will then be presented with the login screen. Please enter the Admin email address and password you chose in the Getting Started section to continue.





2. Real-Time Control Panel

The Control-Panel view provides information about all your queues at a glance. It is often used as a Wallboard display (see also Custom Wallboards in the Advanced section). Here's an example display for a small call centre:

Control Panel **Control Panel: My Company** [Agent Board](#) [Outbound Board](#) [Mini](#) [Refresh](#)

Agents
Admin
Reports
User Guide
Tutorial
Sign Out

Welcome back, John. Click on the name of any queue for today's report.

Queue	Calls Answered	People Queued	Working / Needed	Pause / Ring / Talk / Wait
CustServ	0 / 0 0.0:0.0	On Hold: 0	0 / 0 Seats	1 / 0 / 0 / 1
Agent	Status	Answered (<i>Talking</i>)	Called (<i>Wait</i>)	Caller ID
SIP/2001	Waiting			
SIP/2002	Paused			

Queue	Calls Answered	People Queued	Working / Needed	Pause / Ring / Talk / Wait
Sales	0 / 0 0.0:0.0	On Hold: 0	0 / 0 Seats	1 / 0 / 0 / 3
Agent	Status	Answered (<i>Talking</i>)	Called (<i>Wait</i>)	Caller ID
SIP/2001	Waiting			
SIP/2002	Paused			
Agent/1001	Waiting			
Local/3001@main	Waiting			

Queue	Calls Answered	People Queued	Working / Needed	Pause / Ring / Talk / Wait
INBOUND	0 / 0 0.0:0.0	On Hold: 0	0 / 0 Seats	0 / 0 / 0 / 1
Agent	Status	Answered (<i>Talking</i>)	Called (<i>Wait</i>)	Caller ID

Queue	Calls Answered	People Queued	Working / Needed	Pause / Ring / Talk / Wait
OUTBOUND	0 / 0 0.0:0.0	On Hold: 0	0 / 0 Seats	0 / 0 / 0 / 1
Agent	Status	Answered (<i>Talking</i>)	Called (<i>Wait</i>)	Caller ID

Your queues and agents are colour coded, so you will see the same colour for them wherever they appear, both in the live Control Panel and in the historical reports.

OrderlyStats is unique in that the Control Panel is *fully Real-Time*. Rather than refresh every 30 seconds, the Control Panel maintains a persistent connection between your browser and the OrderlyStats server, so events at your call centre are displayed *instantly as they happen*.



The persistent connection is run using WebSockets over the main tomcat port (8080 by default). Older browsers are also supported using a Flash plugin on port 8081. Detection of WebSocket support is automatic.

If there is a problem with the WebSocket or Flash live connection, you will see a red WARNING message on the Control Panel after a few seconds. If this happens, you should consult your firewall administrator to get access to the relevant port enabled. If you are running iptables on your OrderlyStats machine, you may need to add a rule like this:

```
-A INPUT -p tcp -m tcp --dport 8081 -j ACCEPT
```

Older browsers also require that Flash is installed for the live feed to work.

Newer browsers use the WebSocket protocol on the default Tomcat port for the live feeds. For call centres with more than 100 agents it may be advisable to increase the maxThreads parameter (default 200) in \$CATALINA_HOME/conf/server.xml if everyone is using the Agent Toolbar.

We do recommend Flash is installed on newer browsers too as this improves the quality of the graphs in the historical reports.

Agent Event Warning

You may also see a yellow WARNING appear when your agents first start answering calls advising that you need to enable Agent Events. OrderlyStats needs these extra events to function properly – so if this appears, you need to edit your queues.conf and add the line:

```
eventwhencalled = yes
```

to *every queue* (not just the globals section). You will then need to *restart asterisk* (a reload won't do). The warning will disappear once the first call to the queue is *answered by an agent*.

The example call centre shown above has two queues defined in /etc/asterisk/queues.conf, CustServ and Sales.

Note: If your queues are instead defined in `astdb`, OrderlyStats will detect these queues automatically when the first call is routed to each queue.





2.1 Queue Agents

Agents are people at your call centre who take calls from Queues. Asterisk supports three types of Agent that may be assigned to take queue calls:

Agent Channels. *Example: Agent/1001*

These are defined in `/etc/asterisk/agents.conf`. Agents log in to your Asterisk on particular extensions, so agents can hotdesk between multiple phones. Agents are associated with individual queues in `/etc/asterisk/agents.conf`, and cannot be dynamically reassigned. The Agent Channel mechanism has been deprecated as of Asterisk 1.4, and are not supported as of Asterisk 1.6, so they are *not* recommended.

All Agents that are not Agent Channels are Interfaces, of which there are two kinds:

Interfaces: Phones *Example: SIP/2001*

Agents of this type correspond to individual phones (hardware devices) in the call centre. The phones are rung directly by the asterisk Queue system, so calls to these Phones do not run through the Dialplan. Permanent Interface agents of your queues are defined in the relevant section of `/etc/asterisk/queues.conf`. Interfaces can also be dynamically assigned to queues through the OrderlyStats Agents page (see below), and can be dynamically reassigned on-the-fly.

Interfaces: Extensions *Example: Local/3001@main*

Agents of this type correspond to extensions in your Asterisk Dialplan (`extensions.conf` or `extensions.ael`). The extension may be configured to ring a specific phone, or may have more complicated logic associated with it. Extensions can also be dynamically reassigned to different queues with the OrderlyStats Agents page.

Note: On some versions of Asterisk, Permanent Agents (i.e. those listed in `/etc/asterisk/queues.conf`) cannot be dynamically removed from queues. To fix this issue, simply remove the entry for the agent from `queues.conf`, and do an asterisk reload. OrderlyStats will remember the association between the queue and the agent for you.





Note: Only Agents that are Logged In and Available (i.e. connected to your Asterisk) are shown in the Control Panel. You can get a snapshot of other agents who may be associated with a queue by running `queue show QUEUENAME` at the Asterisk CLI prompt.

In the display above, we have agents of all three types associated with the Sales queue. The SIP Agents are Phones that take calls from both the Sales and Customer Services queues, which is why they are listed in both sections.

2.2 Agent Status

In the above example, agent SIP/2002 is currently *Paused* (i.e. in wrap-up after taking a call), and can be unpaused by clicking the Play icon .

Dynamic Agents can also be Logged Out of their queues by clicking the Eject button  next to the Agent's name.

NOTE: If you cannot see the Eject button, it means your agents are statically defined in your `queues.conf` file, which means OrderlyStats cannot log them out for you. You will need to remove the lines that look like this:

```
member => SIP/1001
```

and then restart Asterisk, and also restart OrderlyStats, so that the agents can be logged in and out, and dynamically reassigned to different queues on the fly.

Each Agent is assigned their own unique colour automatically by the system, which is used consistently in all reports and displays.

Note: You can change the name displayed for each Agent by editing the Description field for the Agent in the OrderlyStats Agents page (see below). Most call centres edit this to show the agent's full name.



Next to the Agent's name is a status field. This shows one of:

Waiting	The Agent is not in wrap-up, and is waiting for a call to come in.
Ringing	A call has been placed to the Agent's phone, which is ringing.
Talking	The Agent is on a call. Details of the call are also shown.
Paused	The Agent has hit the Pause button in the Agent Toolbar. No more calls will be placed to the agent until they hit Resume.
Busy	The Agent is busy on a call from another queue, or is making an Inbound or Outbound call.
Logged Off	This is shown in the INBOUND and OUTBOUND sections if an Agent that is currently Logged Off is making or receiving a direct call.
Dialling	The Agent is making an Outbound call which has not yet been answered.



2.3 Queue Status

The Control Panel contains a section for each queue. At the top of each section is summary information for each queue.

Queue Name

The name of the Queue. You can click on this link to go direct to today's OrderlyStats Report for the queue.

New in 10.7: You can now also give your queues an Alias. The Alias will be displayed instead of the Queue Name wherever it appears. This is useful for systems like FreePBX and Elastix which give numeric names to your Asterisk Queues. Please see the Admin section for further details.

Calls Answered

The first figure is the number of calls answered so far today. The second figure (in red) is the number of abandoned calls so far today.

The next two figures show the same data expressed as a percentage, so you can keep track of your Answer Rate and Abandonment Rate at a glance.

This information is reset each day just after midnight.

People Queued

This shows the total number of calls currently waiting in the queue.

Working/Needed

The first figure keeps track of the number of agents actually answering calls at the current moment (i.e. the number of agents actually Working). The Needed figure shows the number of agents that would be required to answer all the calls placed to the queue.

These figures are also stored in the historical reports, so you can use the reports to identify 'hot-spots' of caller demand where you would benefit from additional staff.

Pause/Ring/Talk/Wait

This shows the number of agents in each state at a glance.





2.4 Taking a Call

When a call comes in to the queue, the caller is shown straight away:

Agent	Status	Answered (<i>Talking</i>)	Called (<i>Wait</i>)	Caller ID
SIP/2001	<i>Ringing</i>			
SIP/2002	<i>Paused</i>			

16:12:56 (20s)	08450045413 2004
----------------	------------------

The display shows the time the caller joined the queue, the time the caller has been waiting, and the Caller ID Name and Number (where present).

The caller is shown in Green if this is the first call from the caller today, or Yellow if this is a repeat caller.

If there is more than one caller in the queue, then the caller at the top of the list is at the front of the queue. New callers join from the bottom of the list.

When the agent answers the call, the conversation is shown as below:

Agent	Status	Answered (<i>Talking</i>)	Called (<i>Wait</i>)	Caller ID
SIP/2002	<i>Paused</i>			
SIP/2001	<i>Talking</i>	16:23:25 (6s)	16:23:12 (13s)	08450045413 2004

The time of answer and total talk time are now shown. Note that the row for SIP/2001 has moved to the bottom of the display, so your longest-idle agents are always shown at the top.

When the call ends, it is shown in Grey until the agent answers the next call from that queue:

Agent	Status	Answered (<i>Talking</i>)	Called (<i>Wait</i>)	Caller ID
SIP/2002	<i>Paused</i>			
SIP/2001	<i>Waiting</i>	16:23:25 (3m 1s)	16:23:12 (13s)	08450045413 2004

2.5 Inbound and Outbound Calls

OrderlyStats will also automatically keep track of calls made directly to and from your Phones, regardless of whether they happen to be Logged In to your queues.

Calls made by or received by your Agents and/or Extensions are also tracked automatically. OrderlyStats will detect which Phone has been used to answer a call to an Agent or Extension, then automatically associate all future calls to or from that Phone with the corresponding Agent/Extension, until another Agent or Extension uses that Phone.

Internal calls between your Agents are also tracked. An Internal call will show in both the INBOUND and OUTBOUND sections of the Control Panel, but will be listed as INTERNAL in the OrderlyStats Reports (see below).

NOTE: If you want to keep track of calls to additional Phones or Extensions, but don't want to associate them with a Queue, you can do this by adding them in the Agents page (see below).

2.6 Time Warnings

New in OrderlyStats SE 10.7, the Control Panel (and also Agent Board) now automatically shows a red warning whenever a warning threshold has been exceeded.

Three thresholds can be defined:

Wait Warning

The caller will be shown in Red in the Control Panel if the caller has been waiting for longer than the threshold. Default 30 seconds. The number of callers waiting over this time (overdue) is now also shown in the Custom Wallboard

Talk Warning

The caller and agent will be shown in Red in the Control Panel if the caller and agent have been speaking for longer than the threshold. Default 300 seconds (five minutes).



Pause Warning

The Agent will be shown in Red in the Control Panel if the agent has been in wrap up (Pause) for longer than the threshold. Default 60 seconds.

Warning thresholds can be set from the Admin page on a queue-by-queue basis, so you can have different thresholds for different queues.

2.7 Custom Wallboard

In addition to the Control Panel, OrderlyStats also contains a custom Wallboard application, that you can access by clicking the Wall symbol () next to each queue name in the Control Panel.

The Wallboard shows information about a specific queue:

1 Waiting

68	Total Callers
64	Answered Callers
3	Unanswered Callers
4.5%	% Unanswered
15s	Ave Wait Time
2m 5s	Ave Talk Time



The Wallboard supports the following HTTP Parameters:

- scaling

A figure to indicate the desired text size. The default is 100 – bigger values make the text bigger

- bg

By default the Wallboard has the same background colour as the queue it is showing. You can change this by setting the bg parameter. FFFFFFFF is pure white.

- fill

By default the Wallboard will fill the entire page. Set this to false to disable this.

- refresh

The rate at which the Wallboard refreshes, in seconds. The default is 10.

- showAvailable

If set to True, then the Wallboard will also show the number of available agents

- showPaused

If set to True, then the Wallboard will also show the number of paused agents

- showLoggedIn

If set to True, then the Wallboard will also show the number of logged in agents

- showTalking

If set to True, then the Wallboard will also show the number of talking agents

HINT: If you want to show multiple wallboards on a single screen, you can easily do this by writing your own HTML page using IFRAME tags, with the SRC set to the URL of each Wallboard.



2.8 Agent Board and Outbound Board

By clicking the Agent Board link in the Control Panel, you can also get a view of your call centre broken down by Agent instead of queue:

Agent	Status	Queued	Answered	Missed	Contrib	Mean Talk	Mean Ring
Jay	Talking	PG_CS_Queue: 0	11	0	78.6%	54s	0.0s
Jennifer	Waiting	PG_CS_Sales: 0	5	6	45.5%	5m 54s	9.8s
		PG_CS_Queue: 0	2	11	14.3%	5m 54s	
Jim	Talking	SE_CS_Queue: 0	51	30	38.3%	3m 31s	4.9s
Joyce	Paused	PG_CS_Sales: 0	4	3	36.4%	5m 54s	17.4s
		PG_CS_Queue: 0	1	10	7.1%	5m 54s	
Kent	Talking	SE_Sales_Que: 0	31	18	55.4%	5m 54s	2.3s
		SE_Sales_2: 0	3	1	100.0%	5m 54s	
Paul	Talking	SE_CS_Queue: 0	12	15	9.0%	1m 23s	12.7s
Robbie	Waiting	SE_CC_QUE: 0	1	0	100.0%	2m 16s	0.0s

The Agent Board supports the following parameters:

- scaling

A figure to indicate the desired text size. The default is 100 – bigger values make the text bigger

- fill

By default the Wallboard will fill the entire page. Set this to false to disable this.

- refresh

The rate at which the Wallboard refreshes, in seconds. The default is 10.

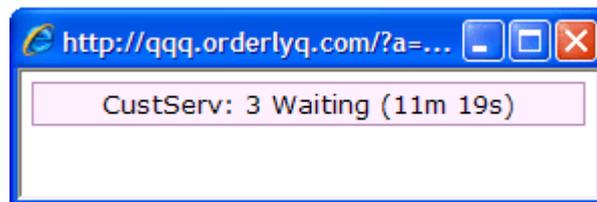
- showTimes

If set to true (default), the Wallboard shows the amount of time each agent has spent in the corresponding state, and alarms are shown if the time exceeds the warning threshold set on the Admin page. Set to false to revert to the pre-10.7 behaviour.

The Outbound Board is similar to the Agent Board, but is focused on Outbound calls specifically.

2.9 Mini Status Tracker

You can click at on the 'Mini' link at the top of the Control Panel to bring up a mini-view of your queues:



The Mini Tracker will scroll through all your queues, showing the number of callers waiting, and the longest time a caller has been waiting. You can use it to keep track of your queues while working on other tasks.

NOTE: The Mini Status Tracker can also be used inside your own web pages – just use an IFRAME with its SRC attribute set to the URL defined in the mini() javascript function in the Control Panel frame.



3. Agents Page

You can reach the Agents page at any time using the link in the left navigation menu. Here's an example:

Agents: My Company

This page allows you to edit agent login and display information.

Agents
Agents are people who answer calls. Agents support session login and logout, and hotdesking from multiple different interfaces (phones).

System ID	Description	Username	Password	Default Login	Auto WrapUp	'#' Ack
▲ Agent/1001	<input type="text"/>	<input type="text"/> @mycompany.com	1001	<input type="text"/>	0 secs.	<input type="checkbox"/>

Save Changes

Interfaces
Interfaces are phones that take calls. Interfaces only support login or logout through the Agent Bar.

System ID	/n	Description	Username	Password	Queues
LINE		<input type="text"/>	<input type="text"/> @mycompany.com	LINE	
▲ Local/3001@main	<input type="checkbox"/>	John Smith	jsmith@mycompany.com	3001	Sales
▲ SIP/2001		<input type="text"/>	<input type="text"/> @mycompany.com	2001	CustServ, Sales
▲ SIP/2002		<input type="text"/>	<input type="text"/> @mycompany.com	2002	CustServ, Sales

Add Interface

Save Changes

The Agents page is where you manage your queue Agents (Agent Channels, Phones and Extensions).

Agent Channels and the other type of Agents are handled differently in Asterisk, so they are shown in two different sections.

NOTE: If you make changes to this page, you must hit the 'Save Changes' button to apply the changes to your system.



In both sections, you can enter the following fields:

Description

A display name for the Agent. This name will be used in the Control Panel and OrderlyStats Reports. Most call centres use the Agent's full name (e.g. John Smith).

Username and Password

If you have set up a Username and Password for an Agent, then the Agent can log in to OrderlyStats at <http://my.ip.address/orderlystatsse/signin.jsp> using these credentials to access the Agent Toolbar (see below).

You can also log dynamic Agents in and out using the  and  buttons respectively.

Agents that are no longer needed can also be deleted with the  button.

3.1 Agent Channels Section

Note: Agent Channels have been deprecated in Asterisk for a long time, and should no longer be used. They remain part of OrderlyStats for legacy Asterisk users only. For further details, including help migrating to the new Local channel format, see the Asterisk Queues Tutorial at:

<http://www.orderlyq.com/asterisk-queues-tutorial>

Default Login

In the Agents Section you can set a default login of the form exten@context to set a default login extension for that agent (please see the Asterisk documentation for further details).

Auto Wrapup

Asterisk Agents also support an automatic default wrap up time, which auto-Pauses your agents after each call. You can set this on an agent-by-agent basis here.

'#' Ack

When checked, Agents must acknowledge each incoming call by pressing the '#' key before the caller is connected (rarely used).





3.2 Interfaces Section

Interfaces are the recommended way of adding agents to channels in all recent versions of Asterisk.

The LINE Agent

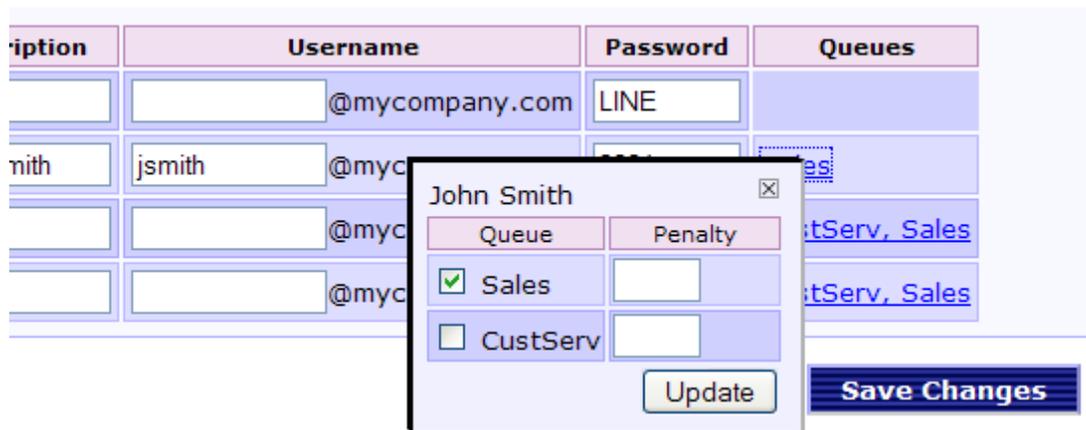
The LINE agent is a catch-all agent that OrderlyStats uses when it cannot identify which Agent answered a particular call.

/n

For Extensions, this specifies whether the Asterisk Queue system should dial the extension with the /n modifier, which prevents Asterisk from native-bridging calls on answer (rarely used – leave unchecked if unsure. Sometimes this column does need to be checked in order for Call Recording to work properly).

Queues

OrderlyStats can dynamically reassign agents on the fly between different queues. The display shows the queues the Agent is currently assigned to. To edit the list, just hit the link:



You can dynamically reassign the Agent to different queues with the check boxes. The changes take place as soon as you hit Update – the Agent does *not* need to log out and log back in again.

You can associate a Agent with multiple queues. In this case, both queues will attempt to route calls to the Agent. You can also associate a Penalty with each Agent of each Queue. Agents with the *lowest* penalty in a particular queue will always be rung by that queue *first*, so you can use this to define multiple overspill groups within your call centre.

Add Interface

This button allows you to manually add a Phone (e.g. SIP/2001) or Extension (e.g. Local/1001@main) to the system. Inbound and Outbound calls to/from this new Agent will then be tracked, even if the Agent is not assigned to any queues.

Easy Hotdesking

OrderlyStats SE version 13.5 adds a new feature to allow easy hotdesking of SIP-based agents. It is enabled by default on new installations – please see `WEB-INF/web.xml` if you are upgrading and wish to enable easy hotdesking.

With Easy Hotdesking enabled, the System ID column becomes editable, so to move an agent to a different phone, simply enter a different System ID for that agent, and hit Save Changes.

For example, if John Smith (entered in the Description column) is currently using phone SIP/1001, to move John to SIP/1002, one just changes this in the System ID column and then hit Save Changes. All future calls to/from SIP/1002 will then appear as John Smith in the historical reports.

NOTE: You should log out John Smith before changing the phone in the System ID column, as otherwise Asterisk will continue to send calls to the old phone.



4. Agent Toolbar

To access the Agent Toolbar, you must first set up a Username and Password for the Agent in the Agents Page (see above).

If you are already logged in to the Control Panel, you should also log out with the 'Sign Out' link in the left navigation menu.

Then, log in with the Username and Password you entered in the Agents page. You should see an Agent Toolbar like this:

Agent	Status	Caller ID	Answered (Talk Time)	Called (Wait)	Queue	Queue Status	Log Out
John Smith	Talking	08450045413 2004	17:24:37 (10s)	17:24:34 (2s)	CustServ	. Sales: Empty	Pause

The Toolbar shows details about the current caller, including the wait time (so your agents can apologise for the wait if it's been a long time). Repeat callers are shown in Yellow.

The Toolbar also shows the Queue the call came from, so agents can greet the caller appropriately if they are members of multiple queues.

There is also a scrolling status display showing how many callers are waiting in each queue.

NOTE: The first time you access the Agent Toolbar, you may need to set your browser to *allow* popups from the OrderlyStats server.

NOTE: The Login/Logout button WILL NOT WORK, and may not be shown, if your agents are listed with 'member =>' in your Asterisk queues.conf. The reason for this is that in Asterisk 1.6+ agents listed in queues.conf are Static and cannot be added or removed on-the-fly. To make your agents Dynamic, remove these lines from queues.conf and restart Asterisk, and then log them in with the toolbar, or the Agents page. You can check to see if your agents are dynamic by running 'queue show' at the asterisk command line – dynamic agents are marked as (dynamic).

HINT: If you do *not* wish your agents to have the ability to enter wrap-up by hitting the Pause button, then this button can be removed entirely from the toolbar by running the following code on your database:

```
update account set hasagents=2;
commit;
```

and then restarting OrderlyStats SE



4.1 Toolbar Functions

A number of functions are accessible through the Toolbar:

- Agents can log in and out of the queues using the Log In/Log Out button, and enter and leave wrap-up using Pause/Resume.
- Agents who are Agent Channels are given the choice of which Extension and Context they would like to use when they log in.
- When an Agent is on a call, the Queue name becomes a link. Clicking on the link pulls up the Agent Transfer pull down (see Advanced Features).
- The Agent Toolbar can also be used to launch Screen Pops for the agent (see Advanced Features).
- The Toolbar is also fully real-time (like the Control Panel), and will instantly respond to changes in agent and queue status.
- If you have Easy Hotdesking enabled for agents (see `WEB-INF/web.xml`), they can also change their System ID to move phones.



5. Admin Page

The Admin Page can be accessed from the left navigation, and looks like this:

My Company Admin

This page allows you to edit control panel users and privileges.

Users

	First Name	Last Name	Email	Password	Admin	Agents	Queues
	<input type="text"/>	<input type="text"/>	user2@mycompany.co	<input type="text" value="pass"/>	<input type="checkbox"/>	<input type="checkbox"/>	All

Add User
Save Changes

Licence

Max Agents	Unlimited
Max Seats	Unlimited
Max Servers	1
Current Licence	Expires: Never
	Auto-Renew: Sat Feb 07 16:57:34 GMT 2009

Renew Now

5.1 Users Section

The first section allows you to create, delete and modify secondary users.

This is useful for creating multiple logins to OrderlyStats for your team leaders. There are currently two privileges you can assign to each user

Admin

This privilege allows the user to access the Admin screen.

Agents

This privilege allows the user to access the Agents screen.



You can also restrict the user to view specific Queues by clicking on the 'All' link. This is useful for creating Wallboard displays, or restricting access to specific teams in both the Control Panel and Reports.

WARNING: If a member of staff is a team leader who *also* takes queue calls, you should *not* use the same email address for the toolbar log in on the Agents page, as the User log in on the Admin page.

5.2 Licence Section

The Licence section helps you manage your OrderlyStats Licence – please contact Orderly Telecoms directly if you need any licence assistance.

5.3 Queues Section

This shows a section for each of the queues defined on your Asterisk, like this:

Sales	Alias: <input type="text" value="NewSales"/>
Transfer Context: <input type="text" value="from-queue"/>	Wait Warning: <input type="text" value="45"/> Seconds
Transfer Extension: <input type="text" value="sales"/>	Talk Warning: <input type="text" value="180"/> Seconds
Auto-Pause: <input type="text" value="30"/> Seconds	Pause Warning: <input type="text" value="45"/> Seconds
	<input type="button" value="Delete"/> <input type="button" value="Update"/>

The Transfer Context and Transfer Extension fields allow you to set an Asterisk context and extension to send calls to in the Queue pulldown on the Agent Toolbar, so agents can transfer callers without touching their phones.

The Alias allows you to enter a human-friendly name for the queue, which will then show throughout the system.

The Auto-Pause feature automatically pauses an agent at the end of every call to that queue. Unlike the Asterisk Auto-Pause feature, the agent is paused for ALL QUEUES, not just the queue they took the last call from, so your agent won't be disturbed by calls from other queues while he/she completes a wrap up task.

Wait Warning, Talk Warning and Pause Warning are as described in Section 2.6.

Deleting Queues

OrderlyStats SE cannot detect when queues have been deleted from your Asterisk (sorry about that!), so *after* you have deleted an Asterisk queue you will need to manually delete the queue from OrderlyStats with the Delete button. Please make sure your queue is no longer appearing in 'queue show' output before hitting Delete, otherwise your queue will be recreated automatically.

You can then choose whether the historical stats are also deleted at the same time as the queue.



6. OrderlyStats Reports

You can access the OrderlyStats historical reports by following the 'Reports' link in the navigation panel.

NOTE: You can also quick-link to today's report for any particular queue by clicking on its name in the Control Panel.

6.1 CSV Export

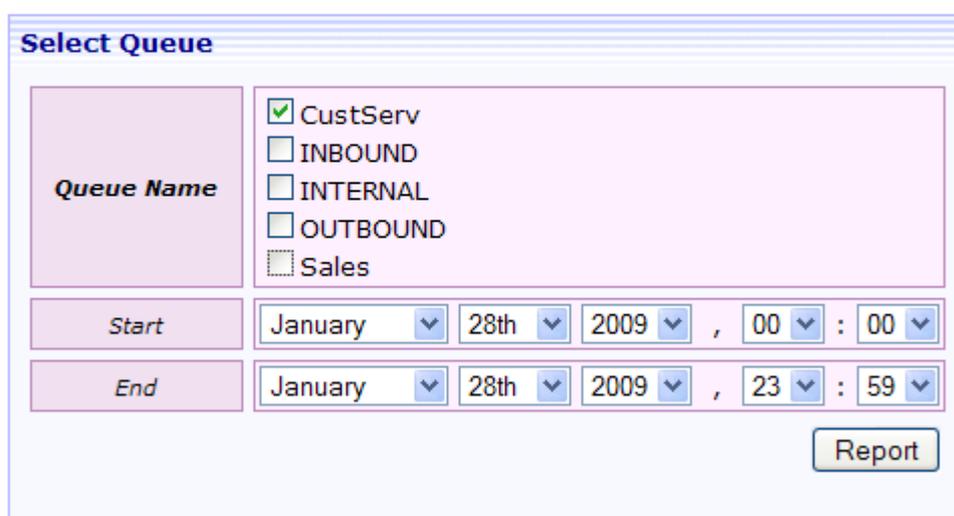
All reports, charts and call logs can be exported in CSV format for use with Excel or other data processing tools.

You can access a CSV export by clicking the Export CSV icon, 

6.2 Selecting Times and Queues

The OrderlyStats start page allows you to select a single, or multiple queues to draw up either an individual or aggregate queue report:

OrderlyStats



Select Queue	
Queue Name	<input checked="" type="checkbox"/> CustServ <input type="checkbox"/> INBOUND <input type="checkbox"/> INTERNAL <input type="checkbox"/> OUTBOUND <input type="checkbox"/> Sales
Start	January 28th 2009, 00:00
End	January 28th 2009, 23:59
<input type="button" value="Report"/>	



Use the select boxes to chose either a single queue, or multiple queues for aggregate reports. OrderlyStats will remember your selection for next time.

You can also set the date/time range to your specification – the default is the whole of today.

OrderlyStats will automatically draw up an hour-by-hour, day-by-day, month-by-month or year-by-year report based on your selection.

Please note that Secondary Users will only have access to the queues listed in the Admin page for that user. INBOUND, INTERNAL and OUTBOUND calls are also restricted to calls made by/to agents who have taken calls in the other assigned queues for Secondary Users, so Secondary Users can concentrate just on the agents within their team(s).

6.3 Summary Tables

The first section of the report contains three tables displaying summary information about your callers.

All Callers Table

The first table contains summary information about *all* callers reaching your queue(s) during the Date/Time period:

<u>All Callers</u>				
	<i>Total</i>	<i>Min</i>	<i>Mean</i>	<i>Max</i>
Call Time	727h 53m 49.1s	3.4s	4m 25.9s	12h 54m 19.6s
Hold Time	305h 38m 33.4s	1.6s	1m 51.6s	52m 3.8s
Seats Working	-	1	3.6	10
Seats Needed	-	1	6.6	18
Entry Position	-	1	3.8	16
	<i>Total</i>	<i>Known Number</i>	<i>Unknown</i>	<i>Jumped Out</i>
Number of Calls	9856	8743 (88.7%)	1113 (11.3%)	0 (0.0%)
Number of Callers	4289	3176 (74.0%)	1113 (26.0%)	0 (0.0%)

NOTE: The All Callers heading will take you to the full call-by-call log for the period.

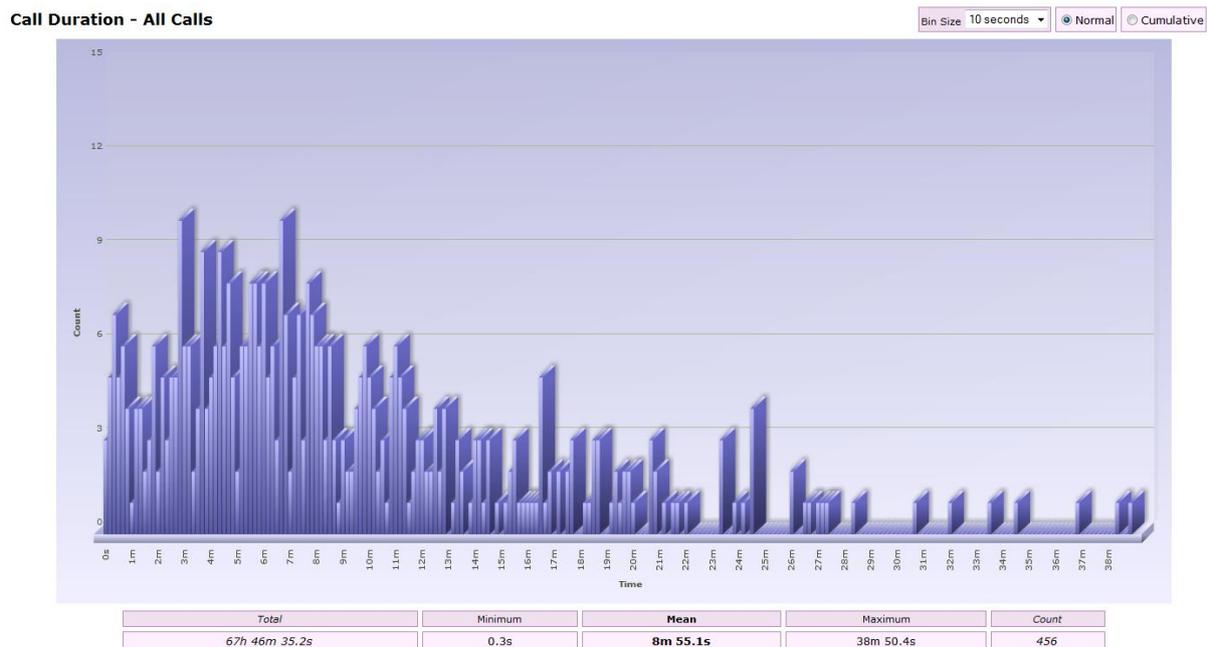


Call Time

The Call Time row shows the total, min mean and max time for each call, from the time each call enters the queue, until the time the call ended.

Call Time Histogram

Clicking on the Mean Call Time link opens the Call Time Histogram:



This shows the distribution of call durations across all the calls, allowing you to visualise the mean, modal and median values

Mean Value

The Mean value is the total call duration divided by the total number of calls, and is calculated for you at 8m 55s in this example. However, you can see from the graph that most calls are shorter than this – the Mean is being skewed by the few calls of over 20 minutes duration.



Modal Value

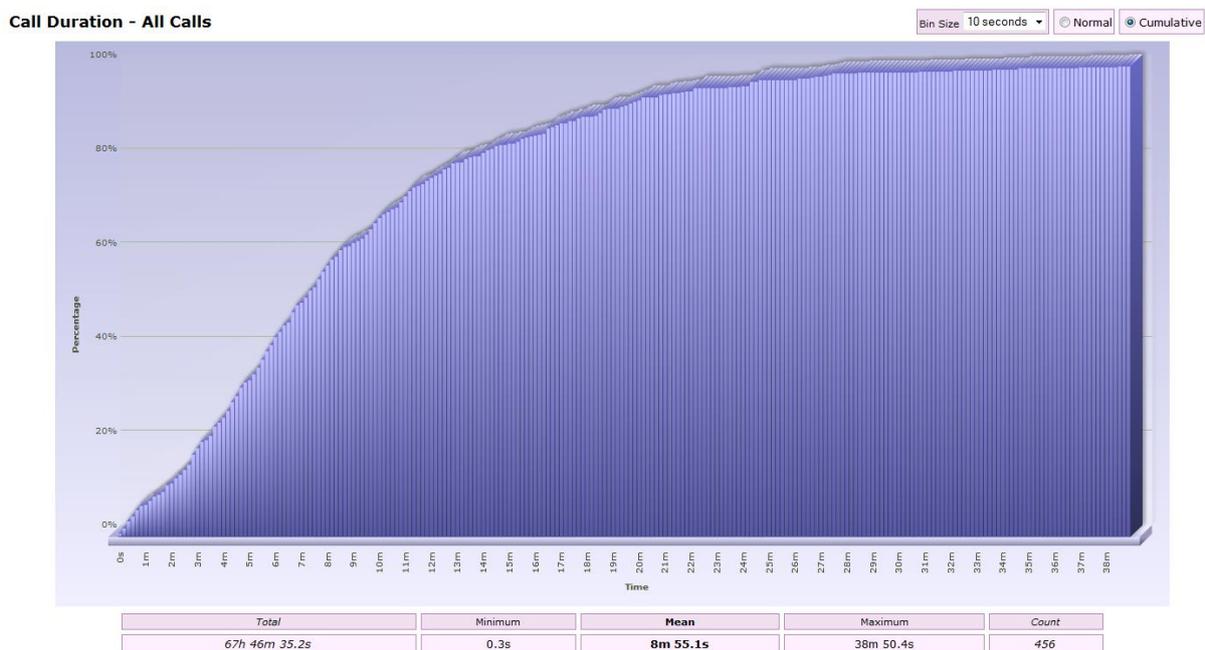
The Mode is the most common call duration, which is the largest bar in the chart. In this example, the mode is just less than 3 minutes (very much shorter than the Mean). You can find out the number of calls in any 'bin' by moving your mouse over the bar associated with that bin.

NOTE: You can change the bin size using the pulldown – the default is 10 seconds.

Median Value

The Median value is the middle value, so half the calls have a longer duration, and half the calls have a shorter duration.

You can find the Median value by switching the histogram from Normal to Cumulative view like this:



Next, move your mouse over the bars until you find the one that reads 50%. This is the Median call duration (7 minutes 30 seconds in this example).

Hold Time

Continuing with the All Callers table, the Hold Time row shows the total, minimum, mean and maximum time spent in the queue(s) by all callers.

Hold Time Histogram

Clicking the Mean Hold Time link displays the Hold Time histogram:



We can see that again although the mean hold time is 1m 29s, most callers do not wait that long.

Seats Working

Every time a call is answered, the number of agents answering calls at that moment is recorded in the database as the Working figure. This row shows the minimum, mean and maximum number of agents working over the Date/Time Period.

NOTE: This row is not available when multiple queues have been selected for an aggregate report.

Seats Needed

Every time a call enters the queue, the number of calls in progress (including queued and answered calls) is written to the database as the Needed figure. It shows the number of agents that would be needed to answer every call as it came in. This row shows the minimum, mean and maximum number of agents needed over the Date/Time Period.

NOTE: This row is not available when multiple queues have been selected for an aggregate report.

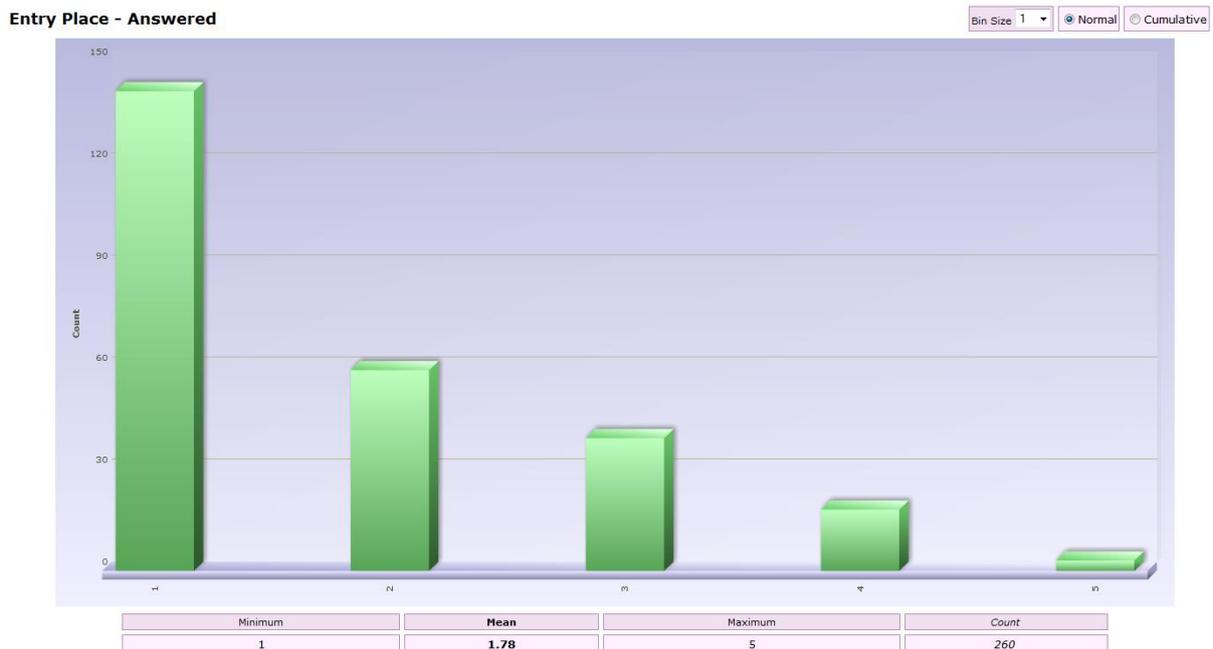


Entry Position

OrderlyStats also records the entry position of every caller that joins the queue. A position of 1 means first in line (i.e. queue is empty when caller joins).

Entry Position Histogram

You can click on the Mean Entry Position link to pull up a Histogram of this data:



Number of Calls

This row shows the total number of calls placed to your queue(s). It is broken down into calls with a presented CallerID ('Known Number'), and calls with no CallerID ('Unknown').

The Jumped Out figure shows the number of calls that left the queue by hitting 1 on the keypad (if you have this feature enabled in your `queues.conf`).

Number of Callers

Uniquely amongst Asterisk statistics packages, OrderlyStats keeps track of your *callers* as well as the calls they make.

In the example above, 4289 callers have made 9856 calls to the queue, so the average caller is calling in at least twice.

NOTE: OrderlyStats tracks callers by their CallerID. Every call from a withheld number is treated as a separate caller.



All Callers Log

Clicking on the 'All Callers' link at the head of the table opens the call-by-call log for all callers:

Call Log: All Calls

Search [Back to Report](#)

Queue: CustServ 15 January 2009 00:00 to 18 January 2009 23:59

Page: 1 2 3 4 5 6 7 8 9 10 11

Queue	Caller ID	Time of Call	Call Num	Hold Time	In/Out	Agent	Talk Time	HangUp	Call Time	Wrap Time	NoteCode
CustServ	unknown	16-Jan-2009 16:55:55	1	4.9s	2	Alicia Barnes	8m 26.1s	Caller	8m 31.0s		
CustServ	02934635946	16-Jan-2009 16:55:01	3	6.3s	2	Jason Earl	1m 5.5s	Caller	1m 11.8s		
CustServ	07715550622	16-Jan-2009 16:50:00	1	10.4s	2	Alicia Barnes	3m 57.9s	Caller	4m 8.4s		
CustServ	01476599564	16-Jan-2009 16:48:33	1	18.8s	3, 3						
CustServ	02162631320	16-Jan-2009 16:48:15	1	1m 29.0s	2	Emily Smith	7m 59.1s	Caller	9m 28.1s		
CustServ	0717156997	16-Jan-2009 16:48:15	3	9m 25.9s	1, 1						
CustServ	02608811705	16-Jan-2009 16:47:54	1	5.8s	1	Alicia Barnes	1m 36.2s	Caller	1m 42.0s		
CustServ	07775722368	16-Jan-2009 16:46:43	2	48.1s	2	Jason Earl	2m 43.8s	Caller	3m 31.9s	3m 11.1s	
CustServ	07625833358	16-Jan-2009 16:46:15	2	1m 31.9s	2	Katy Spears	3m 43.1s	Caller	5m 15.0s		
CustServ	02512923483	16-Jan-2009 16:46:02	1	29.2s	1	Katy Spears	2m 33.9s	Caller	3m 3.1s		
CustServ	unknown	16-Jan-2009 16:45:09	1	26.7s	2	Angela Lamb	6m 45.8s	Caller	7m 12.5s		
CustServ	07754827765	16-Jan-2009 16:45:02	3	25.6s	1	Abbie Beach	2m 30.8s	Caller	2m 56.4s		
CustServ	07595326164	16-Jan-2009 16:43:44	1	5.6s	1	Jason Earl	1m 46.8s	Caller	1m 52.3s	55.1s	
CustServ	01085770877	16-Jan-2009 16:41:26	1	6.7s	1	Emily Smith	5m 14.8s	Caller	5m 21.5s	15.1s	
CustServ	07625833358	16-Jan-2009 16:39:27	1	55.0s	3	Abbie Beach	2m 22.0s	Caller	3m 16.9s	2m 30.0s	
CustServ	07775722368	16-Jan-2009 16:39:22	1	52.9s	2, 1						
CustServ	07754827765	16-Jan-2009 16:37:59	2	36.9s	4, 3						

The log is searchable for particular phone numbers by entering a number in the Search box at the top of the log.

Partial matching is supported – for instance entering 07 in this box would pull up all calls from mobile phones (UK).

Logs for a specific phone or agent can also be generated by clicking on the phone number, or the agent's name.

The log can be sorted by any of the headers using the Sorter buttons: ⚙

The default sort order is in descending order of call (i.e. most recent first).

Abandoned calls are those with no agent associated with the call. If the caller later called back in and got through, the Hold Time and In/Out fields are shown in yellow. If the caller was not answered at all that day, then these fields are shown in red.



The fields available in the All Callers log are:

Queue

This shows the name of the queue that the caller joined, or INBOUND, OUTBOUND or INTERNAL for non-queue calls.

Source

This shows the DDI (Exten) that on which the call originally came to the PBX. For transferred calls, it shows the name of the queue that was the source of the transfer.

Caller ID

This shows the caller's Caller ID, where available. Click on the Caller ID to get a filtered log showing just the calls for that caller.

Time of Call

The date and time the caller joined the queue.

Call Num

Whether this was the first, second, third etc. call of the day from this caller. If this cell is shown in yellow, it means that this is a repeat call.

You may also see:

'T': This indicates that the call Timed Out of the queue (due to a maximum time set your `queues.conf`), and went to another extension.

'J': This indicates that the caller Jumped Out of the queue (usually by pressing a button on their keypad), and went to another extension.

Hold Time

The time spent by the caller waiting in the queue.

In/Out

The position at which the caller joined the queue, and for abandoned calls, the position at which the caller left the queue.

Agent

The name of the Agent that answered the call.

To show real names here, please enter the name in the Description column of the Agents page (see above).



Talk Time

How long the Agent was speaking with the caller.

Hangup

Who hung up the call (Agent, Caller or Transfer).

Call Time

The total call time (= Hold time plus Talk Time).

Wrap Time

Time spent in Pause by the Agent *after* taking this call.

NoteCode

Please see NoteCodes in the Advanced Features section.

WrapCode

Please see WrapCodes in the Advanced Features section.



Answered Callers Table

You can click on the 'Back to Report' link to get back to the master Report screen. The Answered Callers Table is the next section, and looks like this:

<u>Answered Callers</u>				
	Total	Min	Mean	Max
Call Time	659h 44m 12.5s	3.4s	6m 18.1s	12h 54m 19.6s
Hold Time	237h 28m 56.8s	1.6s	2m 16.1s	52m 3.8s
Talk Time	422h 15m 15.7s	0.0s	4m 2.0s	12h 54m 1.9s
Entry Position	-	1	2.6	13
	Total	Known Number	Unknown	
Answered Calls	6281 (63.7%)	5582 (63.8%)	699 (62.8%)	
Answered Callers	3601 (84.0%)	2902 (91.4%)		
Agent Hang-Ups	0 (0.0%)			
Caller Hang-Ups	6281 (100.0%)			

This shows the same information as the All Callers table, but the information is filtered to show just answered calls and callers.

Histograms are also available for the Answered Call Time, Answered Hold Time, Answered Talk Time and Answered Entry Position data points.

Answered Calls

This shows the number of answered calls, as an absolute number and as a percentage of the total number of calls (63.7% in this case). This is the *Call Answer Rate*, an important metric for any call centre, which is why it is shown in **bold**.



Answered Callers

As in the All Callers section, OrderlyStats also keeps track of the *callers* that are answered. A caller is considered answered if a call from that number is answered at any point during the day, so someone who calls in, hangs up, calls back and is answered is counted as an *answered caller*.

In the example above, lots of people are hanging up and calling back and getting answered on the second call, so the *Caller Answer Rate* is much higher. In this case the Caller Answer Rate is between 84.0% and 91.4%. The uncertainty arises because we can't be sure whether a call from an unknown number is a repeat call.

Answered Callers Log

You can click on the 'Answered Callers' link to get to the Answered Callers Log.

This is a filtered version of the All Callers Log in which only answered calls are shown.

Unanswered Callers Table

The Unanswered Callers Table is the next section, and looks like this:

<i>Unanswered Callers</i>				
	<i>Total</i>	<i>Min</i>	<i>Mean</i>	<i>Max</i>
Hold Time	68h 9m 36.6s	0.0s	<u>1m 8.6s</u>	35m 19.5s
Entry Position	-	1	<u>5.9</u>	16
Exit Position	-	1	<u>4.9</u>	15
	<i>Total</i>	<i>Known Number</i>	<i>Unknown</i>	<i>Timed Out</i>
Unanswered Calls	3575 (36.3%)	3161 (36.2%)	414 (37.2%)	0
Unanswered Callers	688 (16.0%)	274 (8.6%)		



As before, Histograms are available for Hold Time, Entry Position and Exit Position (which is the position at which abandoning callers leave the queue).

Abandonment Rate

The Unanswered Calls row shows your *Call Abandonment Rate* (36.3% in this example).

The Unanswered Callers row shows the *Caller Abandonment Rate* (between 8.6% and 16.0% in this example).

A Caller is counted as Unanswered if that caller is not answered *on any call* over the course of the Date/Time period.

Timed Out Calls

If you have set your queue to time out calls after a certain amount of time in your `queues.conf`, then the number of timed out calls is shown here.

Unanswered Callers Log

The Unanswered Callers log is designed to help you keep track of callers that haven't got through.

NOTE: This log is customised to help Call Centre Managers keep track of callers who may benefit from an outbound call back from the call centre.

This log is filtered from the All Callers log. It only shows the *first* call from each caller that hasn't got through on this, *or any other queue during the time period*.

Entries from this log will *disappear*:

If the caller calls back in and is answered through *any* queue

If the caller calls back in directly to one of the agents (INBOUND call)

If the caller has been called back by one of the agents (OUTBOUND call)



Entries that are not listed in the Unanswered Callers Log can still be seen in the All Callers log – they are not deleted from the database.

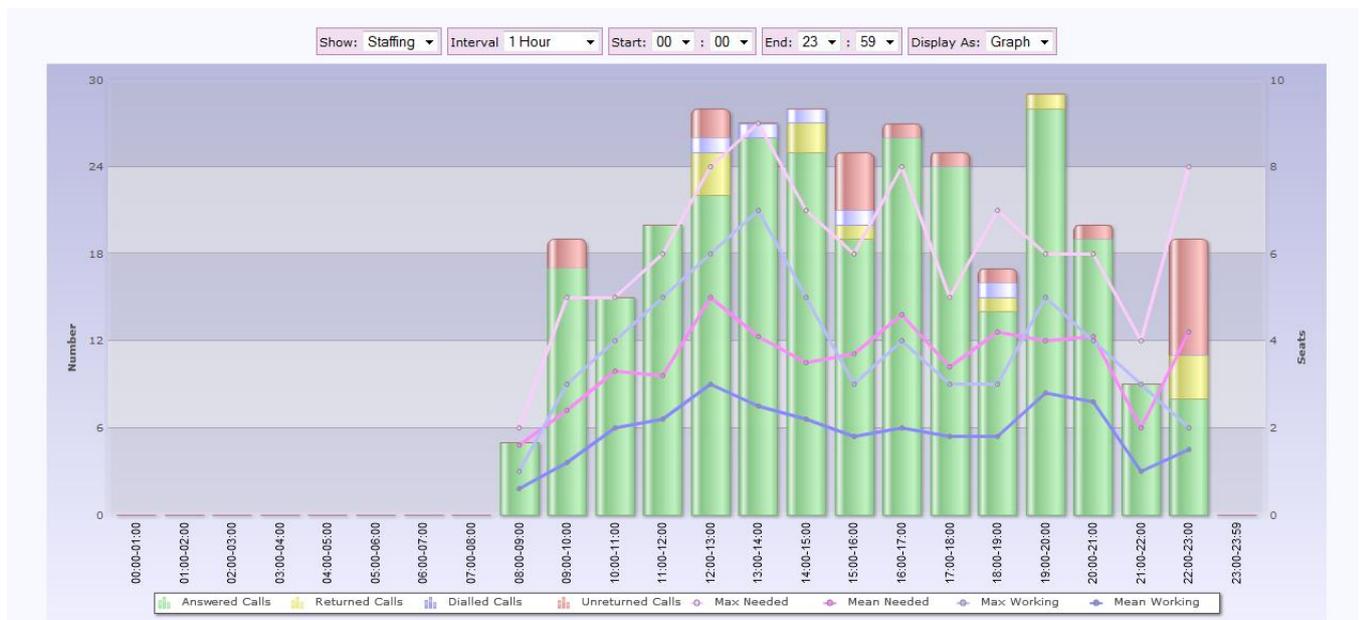
Please see the section on Increasing your Answer Rate below for further details.



6.4 Call Chart

Beneath the Summary Tables section is the Call Chart. This shows the caller profile over the time period.

The Call Chart can show data on an hour-by-hour, day-by-day, month-by-month or year-by-year basis. The type will automatically be selected for you. For a single day's worth of data, the default type is hour-by-hour, and looks like this:



NOTE: You can restrict the time range shown using the Start: and End: pulldown menus.

The bars in the chart convey the following information:

- The Green calls are the Answered Calls
- Yellow calls are calls that were abandoned, but the caller was then answered later that day on a subsequent call (Returned Calls).
- Blue calls are abandoned calls from numbers that were later called back by OrderlyDialler, where available (Dialed Calls).
- Red calls are calls that were abandoned from an Unknown number, or abandoned calls from callers who were not answered later that day.

The scale for the bar charts is on the *left* hand side of the chart.

NOTE: You can mouse-over the bars to find out the count for each bar. You can also mouse over the 'knees' of the overlay lines to find out the values at each point in each overlay.

NOTE: For all OrderlyStats charts, you can show the information as a table by using the Display As: pulldown.

NOTE: You can also export the data in CSV format using the  icon.

Staffing Mode

The above chart is in Staffing mode. This mode is only available when a single queue is selected (in which case it is the default mode). This gives the following overlay:

- Mean and Max Working (Blue). This is the mean and maximum number of Agents answering calls at the same time during the relevant portion of the day.
- Mean and Max Needed (Pink). This is the mean and maximum number of agents that would be needed to answer every call as it came in during the relevant portion of the day.

You can use the Needed and Working figures to make staffing decisions.

For instance, in the above chart, there are two clear peaks of abandoned calls, one centred on midday, the other on 10pm.

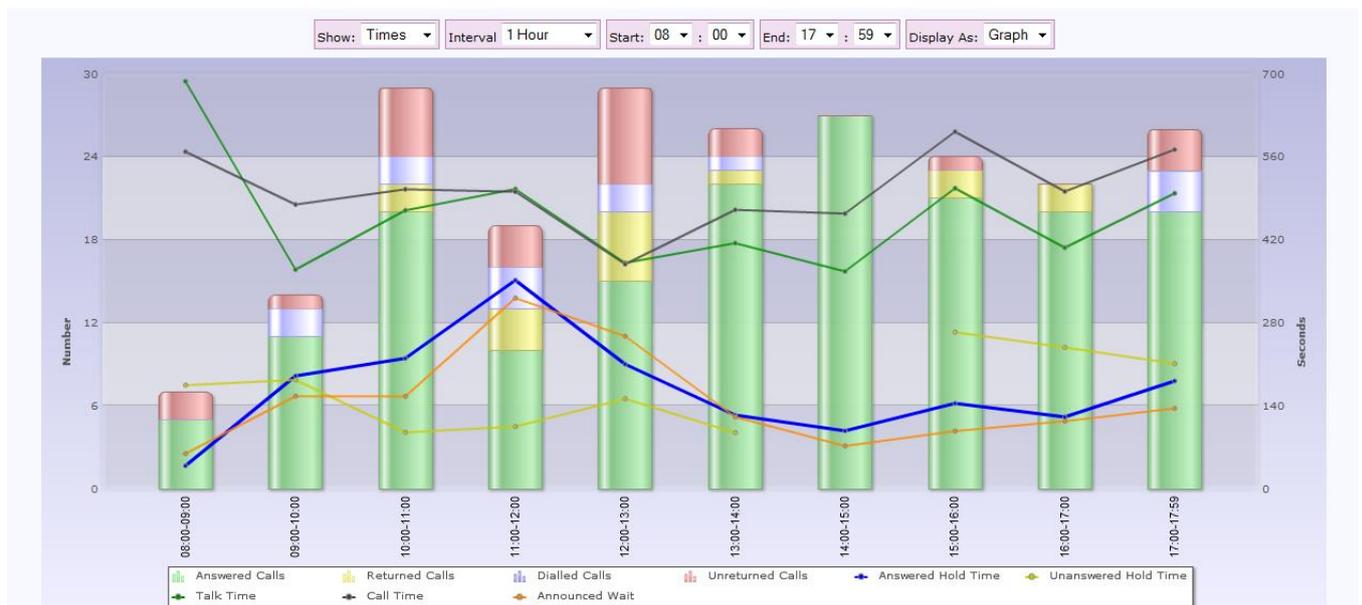
Moving the mouse over the Working and Needed figures reveals this call centre needs an additional 2 agents, more or less throughout the day.

NOTE: The scale for the Staffing overlay is *seats* and is shown on the *right* hand side of the chart.



Times Mode

You can switch any OrderlyStats chart into Staffing Mode by using the Show: pulldown above the chart:



This changes the overlay to show the following information:

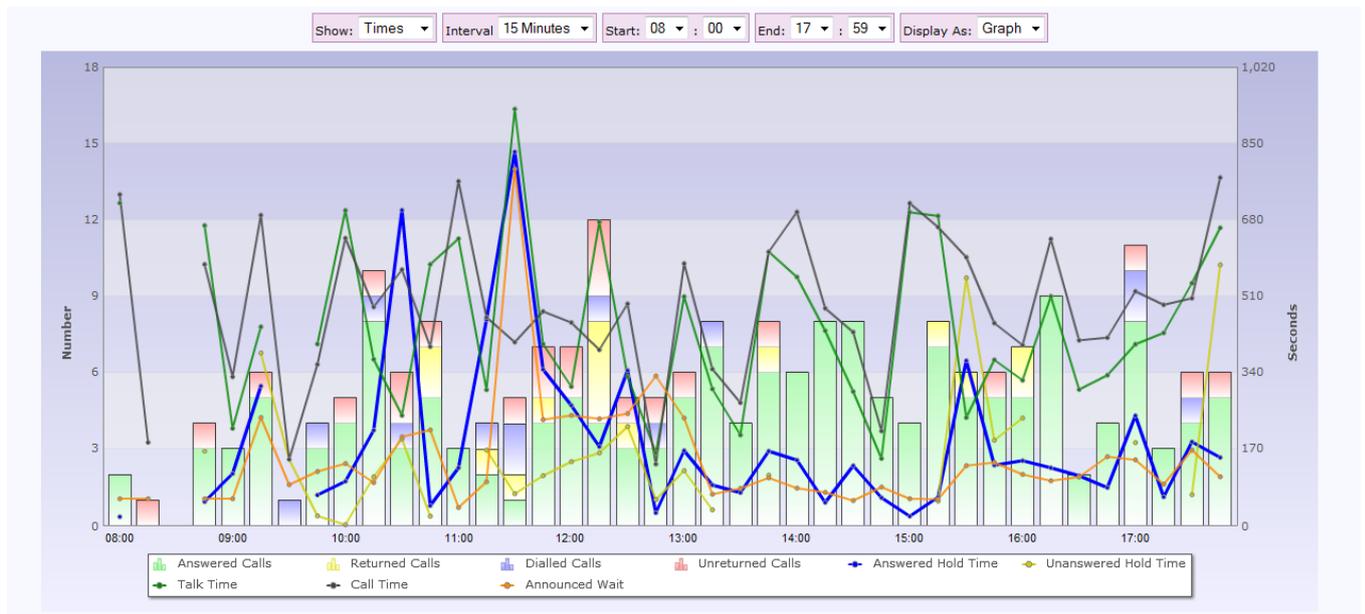
- Answered Hold Time. This shows the mean time answered callers spent waiting to get through to your agents. Higher values correspond to longer queues.
- Unanswered Hold Time. This shows the mean time callers were prepared to wait before they hung up in frustration.
- Talk Time. This shows the mean talk time for answered calls.
- Call Time. This shows the mean call time (hold time plus talk time) for all calls.
- Announced Wait. The mean announced wait time

NOTE: The scale for the Times overlay is shown in *seconds* and is shown on the *right* hand side of the graph.



Changing the Interval

The default interval for each section in the chart is 1 hour. You can change this using the Interval: Pull down. Here's the same information as above with a 15 minute interval:



The finer interval shows more detail of the caller profile.



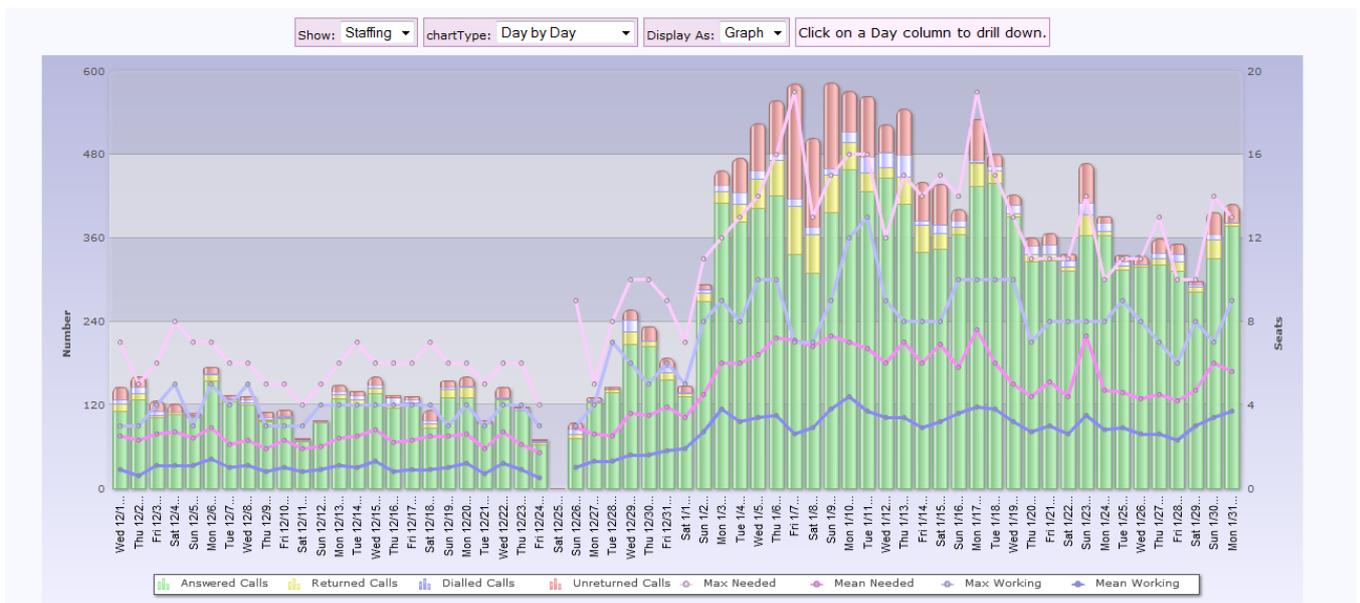
Day-By-Day

There are two ways to change to Day-By-Day mode.

Select a date range containing many days in the OrderlyStats Reports Start page

Use the *Up To <MONTH>* link at the top of the report, which will select the current month.

Here's an example:



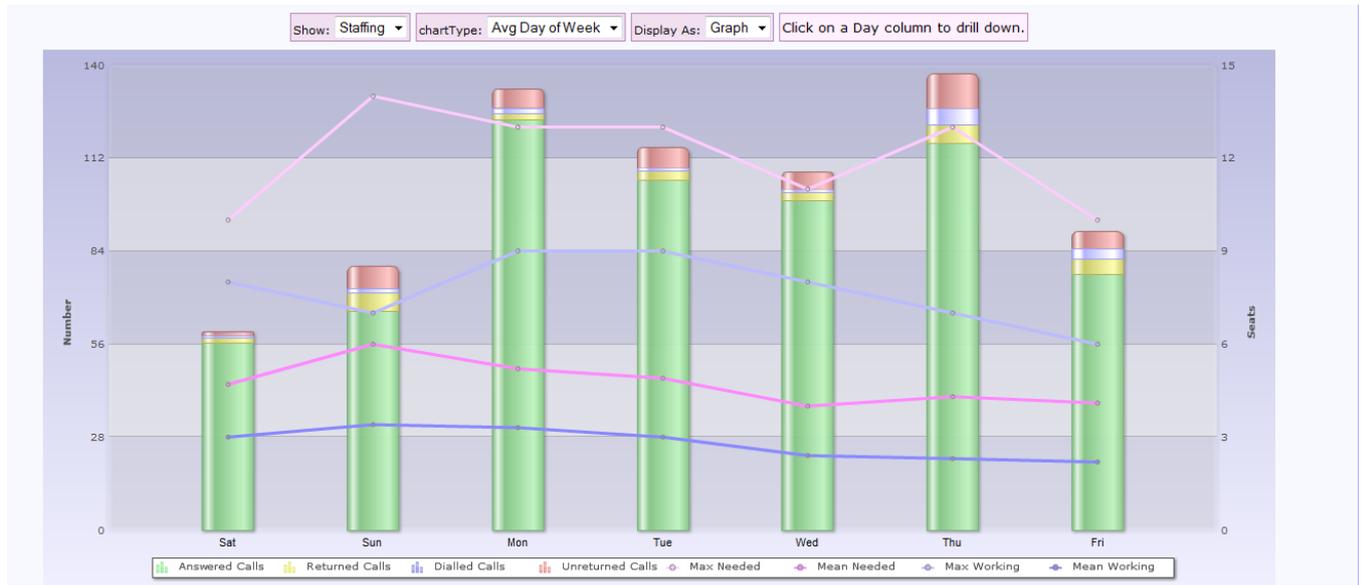
NOTE: You can 'drill down' by clicking on any bar to show the OrderlyStats Report for that day.

As this chart spans multiple days, there is a new pull down, Chart Type, which allows you to choose between Day-By-Day mode, Average Day of Week, and Average Time of Day.



Average Day of Week Chart

This chart shows averaged figures for each day of the week as follows:

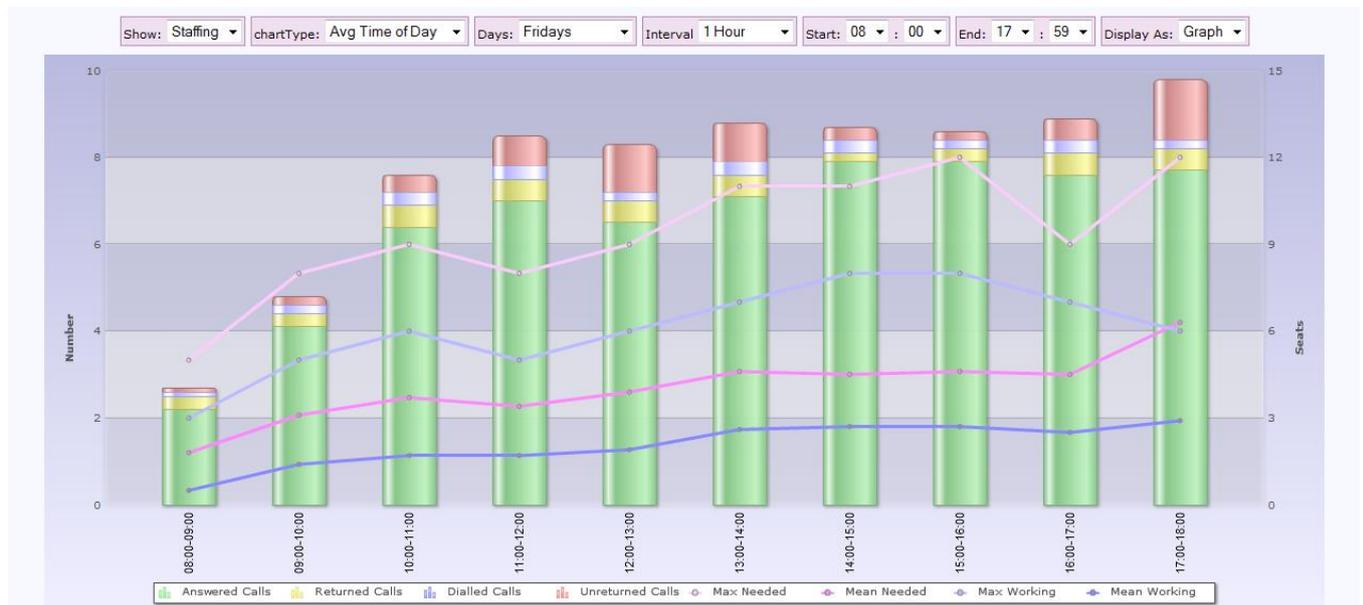


So, this call centre is over twice as busy on Mondays as on Saturdays. The call centre needs an additional three agents on Sundays, on average, to fully cope with the demand.



Average Time of Day Chart

This chart shows the averaged caller profile at different times of day during the period:



The chart can be drawn up for varying selections:

- across all days,
- across individual days of the week,
- across all weekdays, and also
- across weekends.

The example above shows all Fridays in November. The call centre would consistently benefit with extra staff after 17:00, and at around midday.

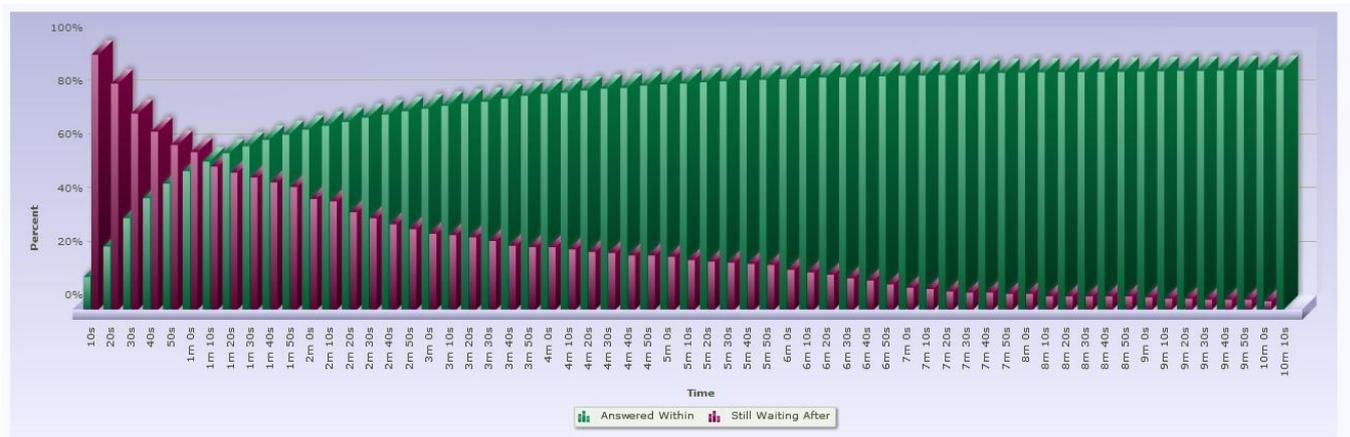
Month-By-Month and Year-By-Year

Depending on the date range chosen, you may also be presented with a Month by Month or Year by Year chart as the default. You can change between different views using the Chart Type: pull-down as before.



6.5 Service Level and Caller Retention

This part of the report shows you how quickly you can answer your callers, and how patient your callers are:



Service Level (Answered Within)

Service Level figures are shown with the green bars. Move your mouse over any green bar to show you the percentage of calls answered within that time. Only calls that get answered are used to generate this series.

For instance, many call centres have an 80/20 service level, which means 80% of callers are answered within 20 seconds. You can find out how many callers were actually answered within 20 seconds by mousing over the second green bar (18% in this case).

The graph does not go up to 100% on the right hand side unless 100% of calls are answered.

Caller Retention (Still Waiting After)

Caller Retention figures are shown with the red bars. Only calls that are abandoned are used to generate this series. The figures show the percentage of calls still waiting on hold after a certain amount of time.

For instance, at 0s, the call centre still has 100% of its calls waiting (as no-one has had a chance to hang up yet).

At 10 seconds, this call centre has 92% of its calls retained, so 8% of calls that are abandoned are abandoned between 0s and 10s.

At 20 seconds, this call centre has 80% of its calls retained, and so on down to 0%. The longer your callers are left waiting, the fewer of them remain.

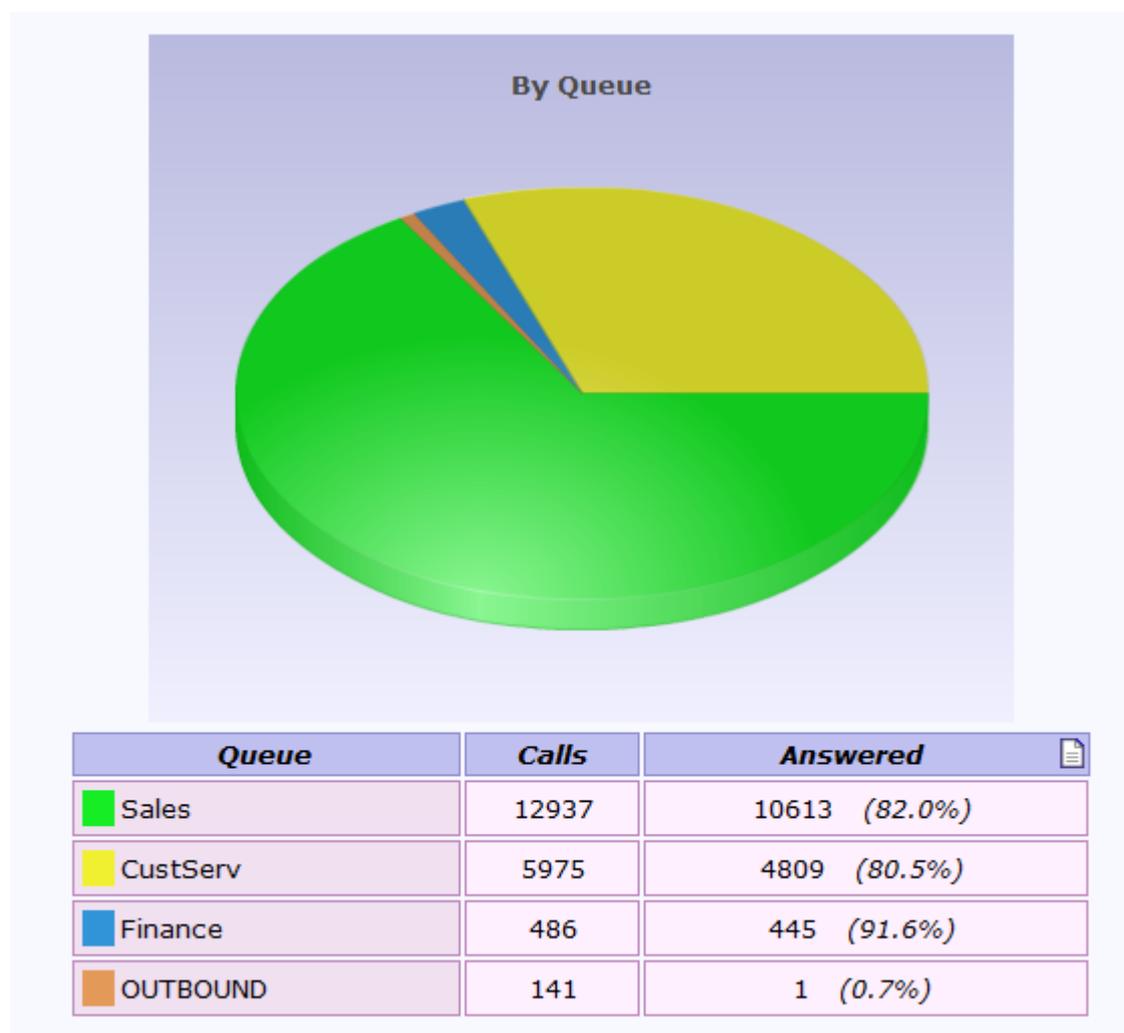
This chart allows you to establish a 'half life' for your callers. The half-life is where the Caller Retention figure crosses 50% (at just over 1m 10 seconds in this case).



6.6 Call Breakdown

This section is only visible if you have selected an aggregate report from multiple queues, or if you are using Groups to further break down your callers (see Advanced Features below).

The Call Breakdown section shows a pie chart and table listing the number of calls and number of answered calls for each of your selected queues:



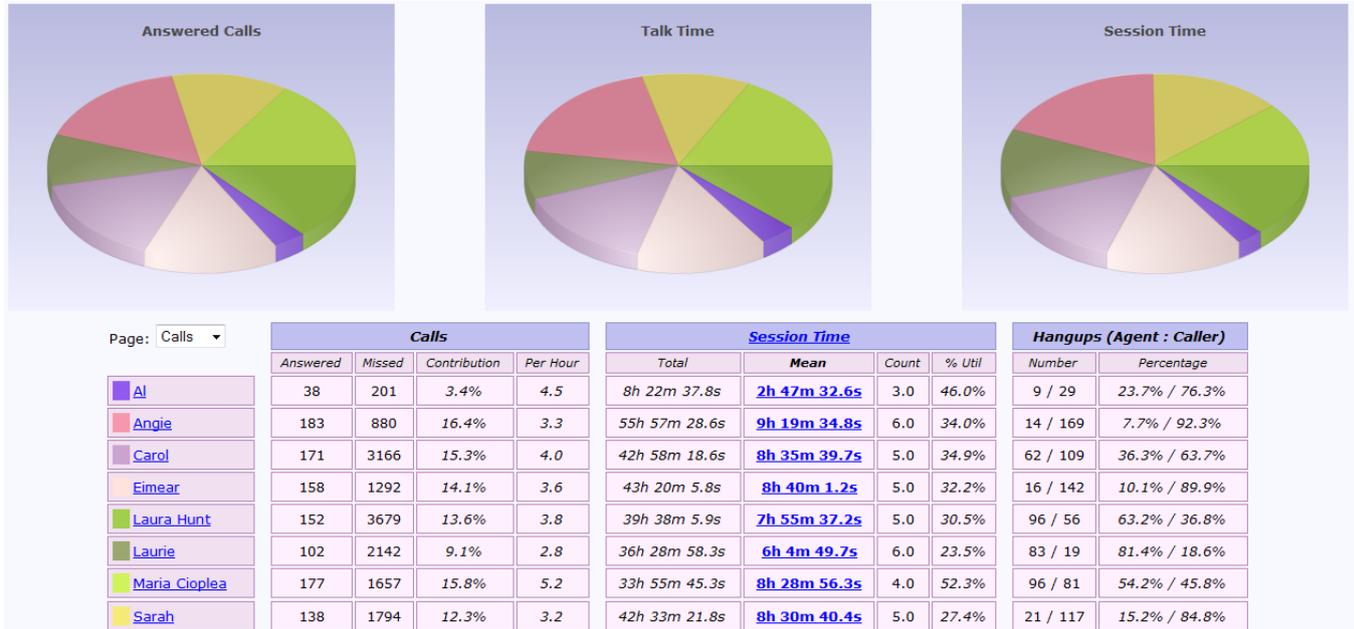
You can mouse over each segment in the pie chart to show the calls taken by that queue.

The number of calls answered is also shown in the Answered column, as a total and percentage (Call Answer Rate).

Like all other OrderlyStats reports, the data is also exportable in CSV format.

6.7 Agents Section

This table contains detailed information about the performance of each of your agents:



The three pie charts show a visual representation of the following information:

Calls Answered

This is a breakdown of how many calls each agent answered.

Talk Time

This is a breakdown of the total time each agent spent talking to callers.

Session Time

This is a breakdown of the total time each agent spent logged in to the system.

Agent Call Log

You can pull up a call-by-call log for each agent by clicking on the agent's name in the Agents Table.

Interval Column

The Agent Call Log has an additional column, Interval, which shows the time the agent waited between hanging up the previous call, and answering the next call.

NOTE: You can use the Interval column to detect when agents are taking unscheduled breaks, but are not using the Log Out or Pause features

Agents Table

The remainder of the Agents section shows the Agents Table. This can be viewed in two modes – 'Calls' and 'Times', that present different information in each case.



6.7.1 Calls View

Calls Section

The Calls section shows the number of calls answered by each agent, as well as the number of calls placed to the agent's phone by the queue system that were not answered:

Page: <input type="text" value="Calls"/>	Calls			
	<i>Answered</i>	<i>Missed</i>	<i>Contribution</i>	<i>Per Hour</i>
AI	38	201	3.4%	4.5
Angie	183	880	16.4%	3.3
Carol	171	3166	15.3%	4.0
Eimear	158	1292	14.1%	3.6
Laura Hunt	152	3679	13.6%	3.8
Laurie	102	2142	9.1%	2.8
Maria Cioplea	177	1657	15.8%	5.2
Sarah	138	1794	12.3%	3.2

This section also shows the contribution each agent made to the queue.

In the above example, Angie has taken the most calls in the queue and is the hardest working agent.

The Missed Calls column shows call attempts that have been placed to agents by the queue system, but have not been answered. If you are using a 'ringall' queue strategy (recommended), then you can ignore this column.

If you are using any other queue strategy, then a high number of Missed calls indicates a problem, as the agent is not Pausing or Logging Off when unavailable. This is a problem as while her phone is ringing, callers cannot be answered by other agents.



NOTE: The Missed column counts call attempts from the Asterisk Queue, not abandoned calls. For instance, if a caller is waiting 5 minutes to get served, and have a queue with a `timeout` setting of 10 seconds, then this single call will result in $5 * 60 / 10 = 30$ counts of Missed calls in the agents table.

The Contribution column shows the percentage of calls that were answered by that agent, and the Per Hour figure shows the average number of calls answered per hour of Session Time.

Session Time Section

This section shows the total time each agent spent logged in to the queues, the total number of sessions logged, and also the mean session time.

	<u>Session Time</u>			
	<i>Total</i>	<i>Mean</i>	<i>Count</i>	<i>% Util</i>
AI	8h 22m 37.8s	2h 47m 32.6s	3.0	46.0%
Angie	55h 57m 28.6s	9h 19m 34.8s	6.0	34.0%
Carol	42h 58m 18.6s	8h 35m 39.7s	5.0	34.9%
Eimear	43h 20m 5.8s	8h 40m 1.2s	5.0	32.2%
Laura Hunt	39h 38m 5.9s	7h 55m 37.2s	5.0	30.5%
Laurie	36h 28m 58.3s	6h 4m 49.7s	6.0	23.5%
Maria Cioplea	33h 55m 45.3s	8h 28m 56.3s	4.0	52.3%
Sarah	42h 33m 21.8s	8h 30m 40.4s	5.0	27.4%

The Percentage Utilisation figure is the percentage of Session Time actually spent talking to callers.



Session Logs

Session-by-session logs are available for each agent by clicking on the Mean Session Time link.

Session logs for all agents can be reached by clicking on the Session Time link at the top of the table:

Page: [1](#) [2](#)

Agent	Start	End	Duration
Jodie	04-Feb-2009 16:55:33	04-Feb-2009 17:02:12	6m 39s
Jodie	04-Feb-2009 15:41:20	04-Feb-2009 16:15:30	34m 9s
Monique	04-Feb-2009 13:21:24	04-Feb-2009 13:23:42	2m 17s
Jodie	04-Feb-2009 12:08:21	04-Feb-2009 14:48:49	2h 40m 28s
Charles	04-Feb-2009 09:50:37	04-Feb-2009 17:03:24	7h 12m 47s
Dionne	04-Feb-2009 09:07:44	04-Feb-2009 17:03:25	7h 55m 41s
Matt	04-Feb-2009 00:03:47	04-Feb-2009 00:04:35	47s
Jodie	03-Feb-2009 16:41:47	03-Feb-2009 16:46:18	4m 31s
Jodie	03-Feb-2009 16:01:34	03-Feb-2009 16:34:57	33m 22s
Jodie	03-Feb-2009 13:38:39	03-Feb-2009 14:06:16	27m 37s
Dionne	03-Feb-2009 11:23:24	03-Feb-2009 17:03:42	5h 40m 17s
Grace	03-Feb-2009 09:51:29	03-Feb-2009 17:03:44	7h 12m 14s
Charles	03-Feb-2009 09:17:04	03-Feb-2009 17:03:43	7h 46m 38s
Cherie	03-Feb-2009 09:00:35	03-Feb-2009 17:03:46	8h 3m 10s
Cherie	02-Feb-2009 09:57:54	02-Feb-2009 10:30:24	32m 29s
Cherie	02-Feb-2009 09:57:08	02-Feb-2009 09:57:26	17s



Hangups Section

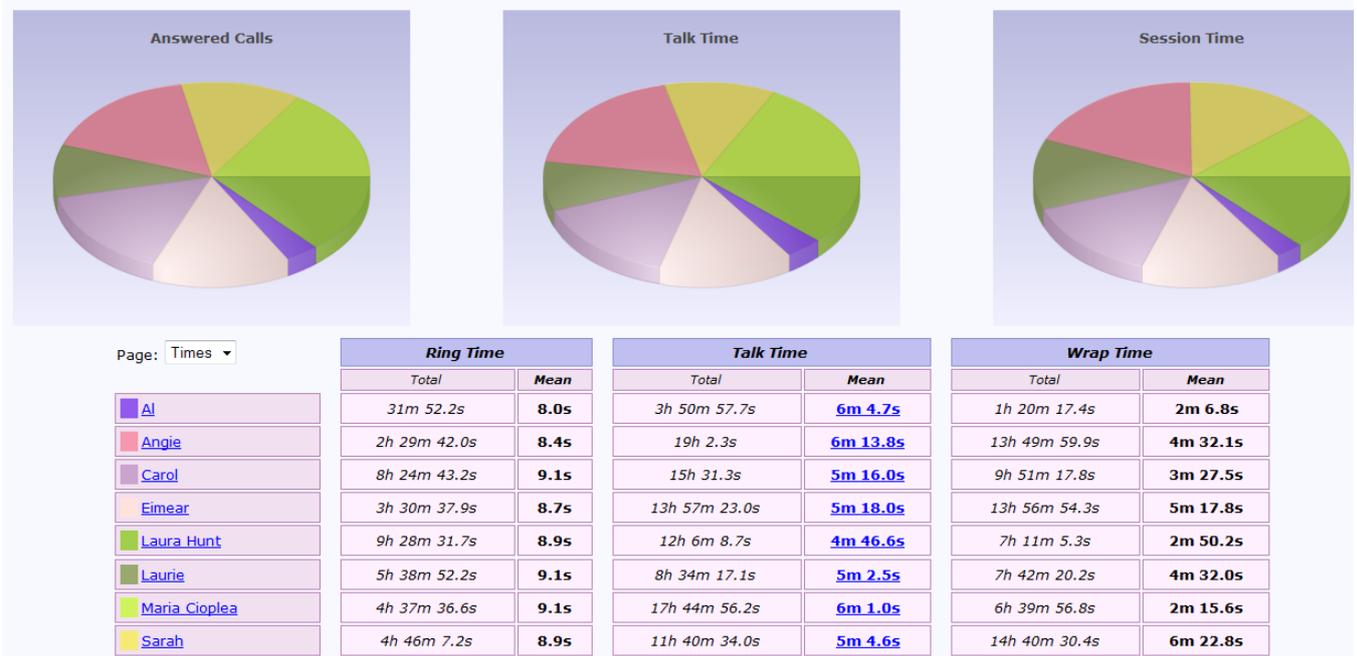
This section of the table shows the proportion of calls that were ended by the agent hanging up, by the caller hanging up, or by transfer.

Hangups (Agent : Caller)		
	<i>Number</i>	<i>Percentage</i>
 Cherie	209 / 557	27.3% / 72.7%
 Michael	377 / 594	38.8% / 61.2%
 Rachel	0 / 569	0.0% / 100.0%
 Charles	121 / 1083	10.0% / 90.0%
 Dionne	338 / 573	37.1% / 62.9%
 Jodie	15 / 90	14.3% / 85.7%
 Claire	42 / 108	28.0% / 72.0%

As a general rule, you should try to ensure that it is the caller that is hanging up first as otherwise the caller may perceive poor customer service (or, worse, your agent may be double-picking). In the above example, Rachel is displaying the ideal behaviour, as it is the caller that is hanging up in 100% of cases. Michael, on the other hand, may be in need of further training as he is hanging up the calls 38.8% of the time.

6.7.2 Times View

By changing the pulldown from 'Calls' to 'Times', the following new information is shown:



Ring Time Section

This section shows the total time each Agent's phone was ringing, and the mean ring time (= total time/number answered calls).



	Ring Time	
	<i>Total</i>	<i>Mean</i>
Cherie	2h 20m 26s	11.0s
Michael	2h 9m 28s	8.0s
Rachel	2hr 25m 6s	15.3s
Charles	1h 24m 16s	4.2s
Dionne	2h 21m 12s	9.3s
Jodie	12m 36s	7.2s
Claire	25m 30s	10.2s

In the above example, Charles was the speediest agent, with a mean time to answer of 4.2 seconds. Rachel was the slowest agent to answer, with a mean time to answer of 15.3 seconds. Rachel may therefore benefit from further training.

Talk Time Section

This section shows the total time each Agent spent talking to callers, and the mean talk time (=total talk time/number answered calls).

	Talk Time	
	<i>Total</i>	<i>Mean</i>
Cherie	59h 57m 15.9s	<u>4m 41.8s</u>
Michael	66h 49m 9.4s	<u>4m 7.7s</u>
Rachel	38h 24m 35.5s	<u>4m 3.0s</u>
Charles	106h 25m 43.4s	<u>5m 18.2s</u>
Dionne	59h 29m 44.9s	<u>3m 55.1s</u>
Jodie	5h 10m 26.4s	<u>2m 57.4s</u>
Claire	10h 26m 11.3s	<u>4m 10.5s</u>



In the above example, Jodie deals with callers in the shortest time, at 2m 57.4s – which is just over half the time Charles spends talking to callers, at 5m 18.2s each.

This may indicate that either Charles or Jodie needs training to spend longer, or shorter with the caller.

A histogram of the talk times for each agent is available by clicking on the link in the Mean Talk Time column.

NOTE: Worried that one of your agents might be Double-Picking? To find out for sure, look at the Talk Time histogram for that agent, and see what proportion of calls are less than 10 seconds in duration. A high number means the agent is Double-Picking.

(Double Picking is a practice some agents adopt to increase their answer rate, in which they will answer the phone, hang up on the caller, and then answer the next caller. This provides very poor service to the callers, but can make the agent's answer figures look good, at least superficially).





Wrap Time Section

This section shows the total time each agent spent in Wrap-Up after each call. The time is counted from the end of the call, to the time the agent hits the 'Resume' button to leave wrap-up. Mean wrap up (=total wrap time/number answered calls) is also shown.

	Wrap Time	
	<i>Total</i>	<i>Mean</i>
Cherie	33h 3m 54.0s	2m 35.4s
Michael	32h 25m 36.2s	2m 0.2s
Rachel	13h 53m 32.8s	1m 27.9s
Charles	30h 41m 15.5s	1m 31.8s
Dionne	33h 14m 35.4s	2m 11.4s
Jodie	6h 51m 31.3s	3m 55.2s
Claire	0.0s	0.0s

In the above example, Jodie is spending almost twice as long in wrap-up than any other agent. She may benefit in training to use the back-office systems more quickly.

7. Increasing your Answer Rate

If you are installing OrderlyStats for the first time, or are setting up a new call centre, then it's likely you are just starting to become aware of the number of unanswered calls coming in to your business.

First, you should be aware that the national average answer rate is 95% calls answered. If you are answering fewer calls than this, you need to take action *now*.

However, even a 95% answer rate is poor because you have 100% failed the customers who are abandoning.

In fact, you should treat every abandoned call as seriously as a written or verbal complaint – your customer is complaining to you by hanging up in frustration.

This section details some strategies you may find helpful in increasing your answer rate.

Lead

Leadership is a very important factor in determining how many calls you answer. If you haven't already, you should assign a Team Leader for each of your queues. You should make the answer rate the primary responsibility of the Team Leader, and set up a reward structure for the Team Leader if service level targets are met.

If your agents are multi-skilled and perform other tasks when not answering the phone (e.g. answering email), you should make it clear to the agents that:

If the phone rings, answering the phone takes priority over *any* other task, and

The Team Leader has the authority to pull agents off other tasks in order to answer phones.

If you have multiple queues, you should assign a Call Centre Manager with overall responsibility for all aspects of your call centre, and have the Team Leaders report to the Call Centre Manager on a *weekly* basis. The number one consideration and priority should always be *answer rate*.

Inform

Your agents want your callers to be happy, so that they themselves have an easier working day. You can therefore gain the greatest improvement in answer rate simply by making sure your agents are fully informed of current performance and demand.



OrderlyStats has two tools to help you do this. The first is the Agent Toolbar, which alerts agents continuously to the size of the queue, so they will know when it's not a good time to take breaks.

Most OrderlyStats users also use the Control Panel as a wallboard display. This then shows the agents their performance so far today, the size of the queue, and also the status of the other agents, so they know who else is taking calls. See also the Custom Wallboard section in Advanced Features, later in this manual.

This also shows the Team Leader any agents who are not answering calls for whatever reason, and allows action to be taken accordingly.

Monitor

Although a significant improvement is possible simply through having your agents fully informed as to the overall performance of the team, agents should also be aware that their individual performance is being constantly assessed.

OrderlyStats provides the Agent Table to help Team Leaders monitor and compare individual agent performance.

Team Leaders should have weekly one-on-one meetings with each agent where the agent's results are analysed and discussed, giving the opportunity for the agent to improve performance or receive additional training where required.

Performance should be compared with the previous week, so that changes in performance as time goes by are also discussed.

Agents should then be fully aware that their performance is being monitored and acted upon on an on-going basis, and will adapt their behaviour accordingly.

Complaints from callers should always be written down and fully addressed. At a minimum, agents should have a Complaints form to fill in whenever a complaint is being made.

Reward

Regular monitoring sessions will improve agent performance, but the best way to get the best out of your agents is to reward them for good performance. This may take the form of weekly prizes, or performance-related pay.



OrderlyStats provides a number of information points that can be used as the basis of a reward system, such as:

- Team bonus for overall Answer Rate or Service Level targets
- Individual bonus for shortest mean talk time
- Bonuses for quickest answer
- Prize for most calls answered
- Agent of the Week award

The bonuses do not have to be of a large monetary value – even a Mars Bar will do. What *is* important is that the prizes are given publicly, so agents are engaging in positive competition to be the best.

Improve

Your agents can only answer calls as fast as their systems will let them. Your agents can therefore help you identify places where your business process can be streamlined.

Once you have your agents performing at peak efficiency, there are still further ways of improving your answer rate:

Reduce Call Volumes. This means taking less calls. You can achieve this by directing callers to your website in your on-hold messages, and by scaling back or staggering your advertising and/or mail shots.

Reduce Talk Time. This may involve upgrading Agent systems so they can deal with customer queries more quickly. Eliminating time spent complaining can also significantly increase answer rate.

Reduce Wrap Time. This may involve upgrading Agent systems so they can perform after-call work more swiftly, or moving more of the after-call fulfilment work to a separate team. Ideally, your agents should be able to answer the next call as soon as the previous one has ended.

Increase Staffing. This is very expensive, and should be considered as a last resort, as there are other technical solutions you can adopt (see below). If you have exhausted all

alternatives, then the OrderlyStats Working and Needed charts will help you identify during which periods of the day you would most benefit from more staff.

7.1 Calling Back your Callers

If a caller has called you and presented their Caller ID, but not got through, then you should make the effort to call back that caller later in the day when your agents have some free time.

The Unanswered Callers Log (see above) in OrderlyStats is tailored to help you do this – entries disappear from this log if the caller calls back in and is answered, or if an outbound call is made to the caller.

However, this is a manual process. Your team leader will need to set aside some time during the day to make the call backs.

7.2 OrderlyQ

OrderlyQ is a queue optimisation system from Orderly Telecoms that works with OrderlyStats to improve your answer rate.

The way OrderlyQ works is as follows.

1. When long queues form, each caller is given an individual estimated wait time, and encouraged to hang up, and then call back in after that time.
2. When the caller calls back in, OrderlyQ recognises the caller's caller ID and put the caller straight to the front of the queue for immediate service.



OrderlyQ is very popular with callers, with 33% of callers preferring to hang up and call back with an announced wait of 2 minutes. At 3 minutes or more, over 80% of callers choose to hang up and call back rather than wait on hold.

This turns the negative experience of hanging up in frustration into the positive experience of having one's place saved. The system eliminates complaints, even with very long wait times. Even the minority of callers that choose to wait on hold do not complain, as they have been given the choice of whether to wait on hold or not.

Callers also get through with much less waiting on hold – in fact the callers that do chose to call back later make the whole queue run more smoothly, so everyone gets through more easily. Average queue size is typically reduced to less than one quarter of its former value.

Because callers get through more easily on their first and second calls, caller churn is eliminated, and abandonment is typically slashed to *less than one third* of its former value.

This also means the call centre is able to answer more callers without hiring additional staff, making the call centre very much more profitable and cost-effective.

OrderlyQ is most suitable for call centres with a 50% to 95% answer rate. OrderlyQ is only available from Orderly Telecoms and its resellers. If you are interested in finding out more, Orderly Telecoms offers a FREE TRIAL of this unique solution.

7.3 OrderlyDialler

If you already have an answer rate of greater than 95%, or if you don't want to encourage your callers to hang up and call back later, then OrderlyDialler may be right for you.

OrderlyDialler automatically calls back callers that haven't got through to your agents at a more convenient time.





OrderlyDialler is also available on a FREE TRIAL basis – please contact your Orderly Telecoms representative for further information.

8. Advanced Features

This section details a number of advanced features of OrderlyStats that may be of use to you.

8.1 Call Variables

OrderlyStats stores several pieces of data in the call logs. These data points are usually generated automatically, but can also be supplemented and/or overridden.

Overriding CallerID

You can override the CallerID that is stored and displayed in the OrderlyStats logs by executing the following in your asterisk Dialplan:

```
exten => myexten,n,Set(statsCallerID=VALUE)
```

Example:

Consider a call centre that has multi-skilled agents. The call centre is using the CallerID display on the agent's phones to tell the agent which queue the caller has come from, like this:

```
exten => myexten,n,Set(CALLERID(num)=MyQueue)
```

```
exten => myexten,n,Queue(MyQueue)
```





This has the benefit of showing the queue name in the CallerID field, but will mean that all CallerID information in OrderlyStats is lost (as the CallerID is captured when the caller joins the queue).

To overcome this limitation, the original CallerID should be stored before it is overwritten, like this:

```
exten => myexten,n,Set(statsCallerID=${CALLERID(all)})
```

```
exten => myexten,n,Set(CALLERID(num)=MyQueue)
```

```
exten => myexten,n,Queue(MyQueue)
```





Overriding Queue Name

NOTE: If you need to change the queue name for ALL callers to a queue, then it is better to use the Alias setting on the Admin page.

You can also override the queue name that is associated with each entry in the logs. You can make up your own queue name if you like, with:

```
exten => myexten,n,Set(statsQueueName=VALUE)
```

Example:

A call centre that wants to list calls during business hours separately from calls outside business hours inside the OrderlyStats reports would implement this with the following dialplan:

```
exten => myexten,1,GotIrfTime(09:00-17:00,mon-fri,*,*?myexten,3)
```

```
exten => myexten,2,Set(statsQueueName=MyQueueOutOfHours)
```

```
exten => myexten,3,Queue(MyQueue)
```

All calls will be shown in the MyQueue section of the Control Panel, however they will now be divided into two 'queues' in OrderlyStats, MyQueue and MyQueueOutOfHours.

The new queue names may not automatically appear in the queue selection page of the Reports section – so if you want them to appear here then run the following:

```
/etc/init.d/orderlystatsse connectdb  
update orderlystats_acdqueue set parentid=null;  
commit;  
\q
```





Using Groups

Calls to a single queue can also be split into multiple Groups inside OrderlyStats. A Breakdown by Group chart will then appear in the OrderlyStats report, and the Group for each call will also be shown in the call-by-call log.

This is typically used when multiple DDIs feed into a single queue, to keep track of which number the caller actually dialled.

```
exten => myexten,n,Set(statsGroupName=VALUE)
```

Example:

A call centre is advertising three different numbers on its website to track caller behaviour. All three numbers are answered by the same queue. The Call Centre Manager wants to be able to check the proportion of callers calling each number.

```
exten => ddi1,1,Set(statsGroupName=Group1)
```

```
exten => ddi1,n,Goto(myexten,1)
```

```
exten => ddi2,1,Set(statsGroupName=Group2)
```

```
exten => ddi2,n,Goto(myexten,1)
```

```
exten => ddi3,1,Set(statsGroupName=Group3)
```

```
exten => ddi3,n,Goto(myexten,1)
```

```
exten => myexten,1,Answer
```

```
exten => myexten,n,Queue(MyQueue)
```





Calls to the MyQueue queue will now be subdivided into three groups, Group1, Group2 and Group3. The different groups will be shown in the Call-By-Call logs, and also the Call Breakdown section of the report.

Outbound Agent

If you are using Local Channels as your queue members (so they appear as Local/XXXX@agentcontext on your Agents page), then OrderlyStats SE will only be able to detect outbound calls by any particular agent once that agent has taken an Inbound or Queued call.

The reason for this is that until this agent receives a call through the dialplan, the system does not know which *phone* the agent is using, so outbound calls from that *phone* cannot be associated with the agent until then.

The associations between Agents and Phones are stored in the database, so even if you restart OrderlyStats SE every night (recommended), the associations will be kept.

You can also directly tell OrderlyStats SE which agent to associate a call with, by adding a line like this to your outbound call flow:

```
exten => _.,n,NoOp(OOOutboundAgent:Local/${agentnum}@agentcontext)
```

You will need to ensure that the agentnum dialplan variable has already been set to the correct identifier for the agent. This is usually done by processing the CallerID, assuming that this has been set to the Agent's identifier already:

```
exten => _.,n,Set(agentnum=${CALLERID(num)})
```





8.2 Transfer Box and Pulldown

When an agent is on a call, the Agent Toolbar can be used to transfer callers by clicking on the name of the Queue the caller has come from:



Agents can type in an extension and hit the Transfer button to transfer the caller to the relevant extension.

NOTE: By default, the caller's current context is used for the transfer. If the target extension is not defined in this context, the call will be hung up, and you will see a message like this in your asterisk output:

```
Channel 'XXXXXXXX' sent into invalid extension 'foo' in context 'bar',  
but no invalid handler.
```

NOTE: You can also set the context that will be used for transfer by setting the TRANSFER_CONTEXT channel variable in your dialplan before the caller enters the queue, like this:

```
[queue-context]  
exten => 1,1,Set(TRANSFER_CONTEXT=some-other-context)  
exten => 1,n,Queue(MyQueue)  
  
[some-other-context]  
Exten => _X.,1,NoOp(The caller will be transferred here)
```

Queue Pulldown

You can also pre-populate the Queue pulldown to instantly transfer callers to different queues. To populate the pulldown, just edit the Queue Settings on the Admin page.



8.3 Agent Pops

You can have the Agent Toolbar automatically open a web page for your agents to deal with the caller when the caller is answered.

There are two ways to do this:

- 1) By setting the URL parameter of the Queue() application in your dialplan, or
- 2) By setting the popurl database field for the queue in the orderlystats_acdqueue database table.

The 'popped' URL will be shown inside the Agent Toolbar window, and will remain in place until the agent answers the next call.

For an example of this in use please see the Notes and NoteCodes section below.

NOTE:

The agent pop will stay visible until the agent answers the next call, by default. If you wish to change this so that the agent pop is only cleared if the next call has its own agent pop, then please add/uncomment the following code in your /usr/share/orderly/tomcat/webapps/orderlystatsse/WEB-INF/web.xml file:

<!-- [Uncomment](#) to keep agent pops open even if the agent has answered a subsequent call with no pop. -->

```
<context-param>
    <param-name>OrderlyStatsKeepPops</param-name>
    <param-value>>true</param-value>
</context-param>
```

Then, restart OrderlyStats SE. The agent pop will no stay visible even if the agent takes, or makes, an INBOUND or OUTBOUND call.



8.4 Hunt Groups and Ring Groups

OrderlyStats was originally designed to handle calls through the Asterisk Queue() function, however as of version 10.7 it can also be used with more simple Hunt Groups.

A Hunt Group is a Dial call to multiple agents, like this:

```
[huntgroups]
```

```
exten => huntgroup,1,NoOp(My Hunt Group)
```

```
exten => huntgroup,n,Dial(SIP/1001&SIP/1002&SIP/1003,10,ro)
```

```
exten => huntgroup,n,Goto(huntgroup,1)
```

In this example, Asterisk is dialling three agents, SIP/1001, SIP/1002 and SIP/1003, any of whom may answer the caller.

If the call is not answered within 10 seconds, the agents are retried in the above example.

To monitor these hunt group calls in OrderlyStats:

First, you must add the agents SIP/1001, SIP/1002 and SIP/1003 using the Add Interface button on the Agents page. OrderlyStats has no way of automatically detecting hunt group agents, so they MUST be added manually.

Add an extra line to your dialplan as follows:

```
[huntgroups]
```

```
exten => huntgroup,1,NoOp(My Hunt Group)
```

```
exten => huntgroup,n,NoOp(OQJoin:MyHuntGroup)
```

```
exten => huntgroup,n,Dial(SIP/1001&SIP/1002&SIP/1003,10,ro)
```

```
exten => huntgroup,n,Goto(huntgroup,1)
```

The extra line is the second one. You can replace 'MyHuntGroup' with any queue name, or even the name of an existing queue – but please use alphanumeric characters with no spaces.

Then, do an Asterisk reload, and place a call to the Hunt Group.

The Control Panel will automatically update to show the new Hunt Group and agents.

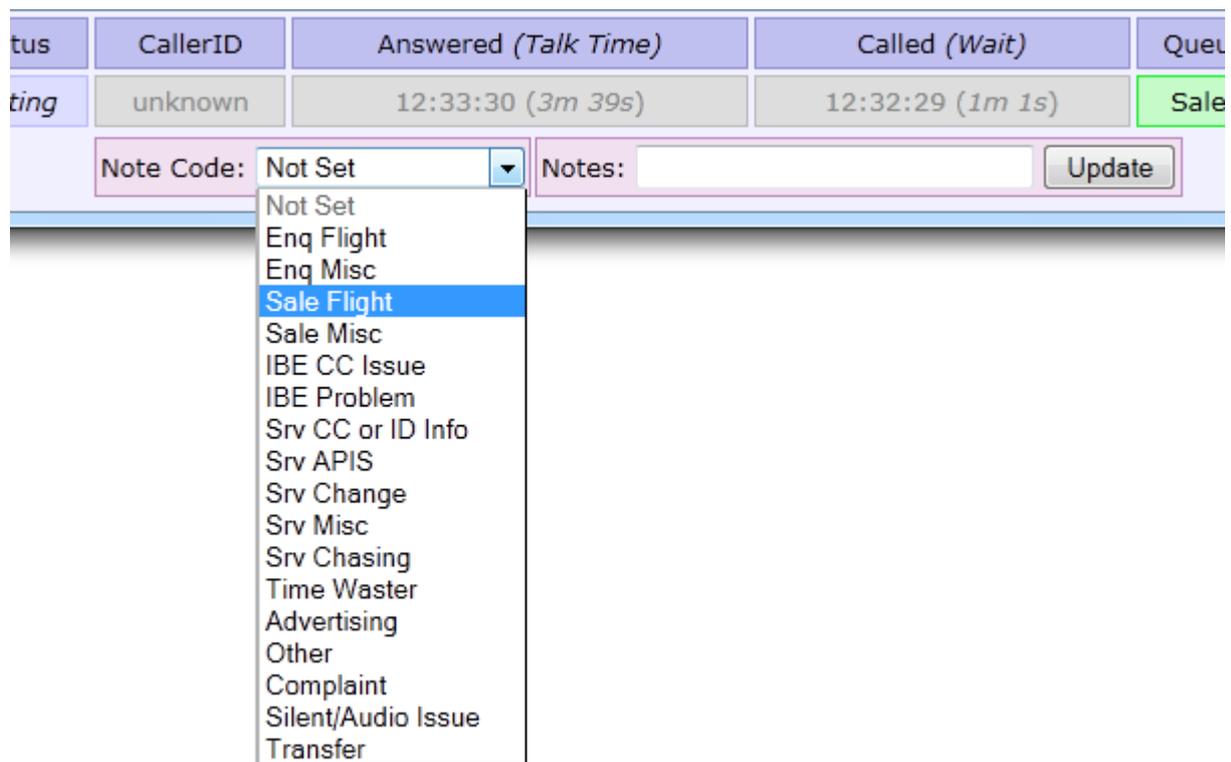




All reporting features are supported for Hunt Groups, however the Logout and Pause functions will not work for Hunt Group agents, as these features are part of the Asterisk Queue() application only.

8.5 Notes and NoteCodes

OrderlyStats supports the storage of notes and note codes for callers, so agents can make notes and enter further information on the fly. This information then appears in the OrderlyStats call logs:



To use this feature, you first need to configure the Agent Toolbar to open the NoteCode editor when the agent answers a call.

You can do this by setting the URL parameter in your dialplan, like this:

```

exten =>
myexten,n,Queue(MyQueue,,http://my.ip.address:8080/orderlystatsse/realtime/note\_code.jsp)

```



This will open the notecode editor in the Agent Toolbar (see above). You also need to prepopulate the orderlystats_notecode table in the database using SQL commands like the following:

```
/etc/init.d/orderlystats connectdb  
  
insert into orderlystats_notecode (accountid, id, label) values (1, 10, 'My Notecode ');  
  
commit;
```

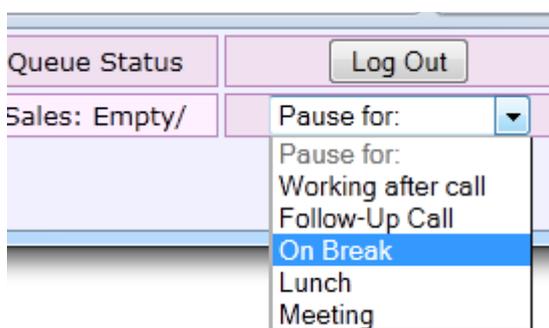
The NoteCodes will be shown in the numerical order of the id's in this table. You will need to restart OrderlyStats SE for these changes to become active.

8.6 WrapCodes

Although Asterisk only supports one state for wrap-up ('Pause'), your agents may have multiple reasons for going on pause (Wrap-up after call, Follow-up call, Contact warehouse etc.)

NOTE: Wrap Codes should only be used for wrap up reasons that are specific to the previous call. For things like 'Break', 'Lunch' etc. which are *not* related to the previous call, LogoutCodes should be used instead (see next section).

If you wish to track these pause reasons, then you will need to enable the WrapCode feature:



This changes the Pause button in the Agent Toolbar to a pull-down. Selecting an entry from the list puts the Agent on Pause with the specified reason. Selecting 'Resume' from the pull-down takes the agent off-pause.



First, activate the feature by editing the `/usr/share/orderly/tomcat/webapps/orderlystatsse/WEB-INF/web.xml` file and uncomment (or add) the `OrderlyStatsWrapCodes` section:

`<!-- Uncomment to enable OrderlyStats Wrap Code support in toolbar and reports. -->`

```
<context-param>  
    <param-name>OrderlyStatsWrapCodes</param-name>  
    <param-value>>true</param-value>  
</context-param>
```

Then, to create your wrap codes:

```
insert into orderlystats_notecode (accountid, id, label, type) values (1, 10, 'My WrapCode', 1);
```

commit;

The `WrapCodes` will be shown in the numerical order of the id's in this table.

You will need to restart OrderlyStats SE for these changes to become active.





8.7 LogoutCodes

You can also track the reasons why your agents are not taking calls with Logout Codes, which indicates why an agent has logged out in the Session Log for the agent.

Logout Codes should be used for things like Break, Lunch etc. where the reason the agent is not taking a call is not dependent on the previous call.

To enable the Logout Code feature:

First activate the feature by editing the

`/usr/share/orderly/tomcat/webapps/orderlystatsse/WEB-INF/web.xml` file and uncomment (or add) the `OrderlyStatsLogoutCodes` section:

```
<!-- Uncomment to enable OrderlyStats Logout Code support in toolbar and reports. -->
```

```
  <context-param>
```

```
    <param-name>OrderlyStatsLogoutCodes</param-name>
```

```
    <param-value>>true</param-value>
```

```
  </context-param>
```

The Logout Codes themselves are stored in the `orderlystats_notecode` table. To create your logout codes:

```
insert into orderlystats_notecode (accountid, id, label, type) values (1, 10, 'My Logout Code ', 2);
```

```
commit;
```

The LogoutCodes will be shown in the numerical order of the id's in this table.

Call centres using Logout Codes get an additional Logged Out display in the Control Panel, showing the reason why agents are logged out.

You will need to restart OrderlyStats SE for these changes to become active.





8.8 Hold Music Tracking

If you have Asterisk 1.4 or greater, and are using SIP phones, then OrderlyStats SE may be able to track the time your agents place callers on hold for during calls.

To enable this feature, you must uncomment the following stanza in your `/usr/share/orderly/tomcat/webapps/orderlystatsse/WEB-INF/web.xml` file:

`<!-- Uncomment to enable MusicOnHold logging for answered calls -->`

```
<context-param>
    <param-name>OrderlyStatsTrackMusic</param-name>
    <param-value>true</param-value>
</context-param>
```

Next, restart OrderlyStats SE.

Calls with music on hold after answer will then show Music time in the call logs. You will also be able to see total and mean music times in the Agents section of the main report, when the Times pulldown has been selected.

If you are upgrading from an earlier version of OrderlyStats SE, you may need to copy-and-paste the above stanza into your web.xml file.



8.9 Daily Update Emails

OrderlyStats SE can also send you daily updates on the performance of your queues.

To activate this feature, you will first need to add the JavaMail API classes to your Tomcat installation. You can do this by visiting <http://java.sun.com/products/javamail> and downloading the latest release as a zip file.

Unzip the file, and find the mail.jar file in the resulting folder.

This mail.jar file must then be copied to your \$CATALINA_HOME/lib folder.

You will then need to edit your tomcat \$CATALINA_HOME/conf/server.xml file, adding the following section just before the closing </Host> tag:

```
<Context path="/orderlystatsse" reloadable="true"
docBase="/usr/share/orderly/tomcat/webapps/orderlystatsse"
workDir="/usr/share/orderly/tomcat/work" >
  <Resource name="mail/Session" auth="Container"
    type="javax.mail.Session"
    mail.smtp.host="localhost"/>
</Context>
</Host>
```

You may need to edit this configuration – it is assumed you have an SMTP mail server running on localhost to deliver the mail. The mail will be sent with a 'from' address of reports@orderlyq.com, and

the 'to' address will be your master account sign-in email.

Finally, you will need to enable updates in the database by setting the hasupdates field for your account in the account table to 1. The updates will be sent to your master account email address.

When you've finished making your changes, restart Tomcat to put them into effect.



8.10 Translating OrderlyStats SE

You can translate OrderlyStats SE into any language. Simply translate the files in the WEB-INF/classes/intl folders, and rename your translated files to match the Locale displayed on the OrderlyStats SE Login page.

You can also enable Translation mode to find out which prompts are shown where from within the web.xml file by uncommenting the relevant section.

If you send us your translated files, we will incorporate them into future releases so you won't lose your translations when you update to newer versions of the software.

8.11 Hunt Groups

In addition to monitoring Queued calls, OrderlyStats SE 10.7 can be used to monitor calls to Hunt Groups.

Instead of the Queue() dialplan application, hunt groups call multiple phones simultaneously like this:

```
exten => huntgroup,n,Dial(SIP/1001&SIP/1002&SIP/1003)
```

To track these calls, just add the following line to your dialplan, just before the Hunt Group dial:

```
exten => huntgroup,n,NoOp(OQJoin:HuntGroupName)
```

```
exten => huntgroup,n,Dial(SIP/1001&SIP/1002&SIP/1003)
```

The calls will now be tracked in the Control Panel and OrderlyStats reports, just like queued calls.



8.12 Remote Gateway

Version 10.7 of OrderlyStats includes a new feature – an Http gateway that allows you to notify OrderlyStats of events that it cannot otherwise pick up.

You can use the Gateway to notify OrderlyStats of events on remote Asterisk servers to which OrderlyStats is not directly connected, for instance outbound calls made by agents on secondary Asterisk servers.

You can also use the Gateway to populate the stats reports, for instance if you are running a call centre simulator.

To use the gateway, simply send an HTTP request of the following form to OrderlyStats:

<http://my.ip.address:8080/orderlystatsse/realtime/gateway.jsp?PARAMETERS>

where Parameters is a list of HTTP parameters (param1=value1¶m2=value2...)

The following GET and POST parameters are supported:

action: Mandatory for all requests. Allowed values are:

- JOIN for queue join
- ANSWER for agent answer
- HANGUP for caller hang up without answer
- CALLEND for end of answered call

queue: the name of the queue being joined, or INBOUND/OUTBOUND for non-queued calls. Mandatory for all requests.

agentid: The System ID of the agent/interface concerned (from the agents page). This parameter must be included for ANSWER and CALLEND, and also JOIN if the queue name is INBOUND or OUTBOUND.

callerid: The CallerID of the caller. Defaults to 'unknown' if absent.

identifier: A unique identifier for the caller. This must be a valid Asterisk channel descriptor (e.g. SIP/1001-0001). Mandatory for all actions.

reason: For CALLEND events only. Specifies the reason for the end of the call. May be CALLER (when the caller has hung up), AGENT (when the agent has hung up) or TRANSFER (for transferred calls). Defaults to CALLER if absent.

accountid: Must always be supplied, and is normally 1 for OrderlyStats SE users.



phash: Your password hash. Mandatory. You can find this out by looking at the URL for the Mini report (see section 2).

when: A Java timestamp value (number of seconds since January 1st 1970). Defaults to the current time if absent.

NOTE: If using the Gateway as part of a call centre model with the 'when' parameter, please ensure that events arrive in the correct order, otherwise the results may be unpredictable.

The page returned will either contain 'OK' if the request is successfully processed, or 'Error: error message' if an error is encountered.





8.13 Status AGI Gateway and Follow Me

OrderlyStats SE contains a Status AGI Gateway that allows your dialplan to programmatically determine agent statuses.

To activate the Status AGI Gateway, you must edit your OrderlyStatsSE.xml file as follows

Inside the <Definitions> tag, you must add the following at the end:

```
<DefineService
  tag="AGIServer"
  class="com.orderlysoftware.orderlycalls.asterisk.agi.AGIServer"
  settings="com.orderlysoftware.orderlycalls.asterisk.agi.AGISettings" />
</Definitions>
```

Just before the <ActiveServer> tag, add the following:

```
<AGIServer
  name="status"
  processorClass="com.orderlysoftware.orderlyq.main.StatusAGI">
  <Bind port="4573" />
</AGIServer>
<ActiveServer
```

Next, Restart OrderlyStats SE

To use the gateway, add the following code in your dialplan:

```
exten => s,n,AGI(agi://127.0.0.1/?accountID=1&name=Local/XXX@YYYY)
exten => s,n,NoOp(${STATUSRESULT} ${AGENTSTATUS} ${AGENTLOGGEDIN}
${AGENTPAUSED} ${AGENTREADY})
```

The channel variables shown in the second line are all set by the StatusAGI call in the first line. AccountID is always 1 for OrderlyStats SE installs. Name should be set to the name of the agent as shown on the Agents page.





An example usage of StatusAGI would be as follows:

Many call centres give individual agents DDIs. If a caller rings the DDI for a specific agent, and the agent does not pick up, then the caller is sent to a queue for answer (Follow Me), like this:

```
exten => s,n,Dial(SIP/XXX,10) ;dial phone for 10 seconds
exten => s,n,Gotolf(["${DIALSTATUS}" != "ANSWER"]?queue,1)
exten => s,n,Hangup
```

This is poor practice, as the caller has to wait at least 10 seconds to get answered if the agent is not picking up.

A better solution is to check the agent status before the dial, like this:

```
exten => s,n,AGI(agi://127.0.0.1/?accountID=1&name=SIP/XXX)
exten => s,n,Gotolf(["{AGENTREADY}" == "false"]?queue,1)
exten => s,n,Gotolf(["{DEVICE_STATE(SIP/XXX}" != "NOT_INUSE"]?queue,1)
exten => s,n,Dial(SIP/XXX,10) ;dial phone for 10 seconds
exten => s,n,Gotolf(["${DIALSTATUS}" != "ANSWER"]?queue,1)
exten => s,n,Hangup
```

The above steps will check the agent status and also the phone status, and only send the call to the agent if he/she is ready, and his/her phone is not in use.

AGENTREADY will be 'false' if the agent is

- not logged in, or
- paused, or
- already talking, or
- already dialling.

In addition to helping callers get through more quickly and easily, this can also be used to eliminate initial Follow Me calls from appearing in the INBOUND log.





8.14 Debug level logging

OrderlyStats SE can be set to debug level logging by editing the `$CATALINA_HOME/webapps/orderlystatsse/web.xml` file.

OrderlyStats SE can be set to debug level logging by editing the

Find the stanza that looks like this:

```
<!-- Uncomment to enable debug-level logging. -->
<!--
  <context-param>
    <param-name>OrderlyStatsDebug</param-name>
    <param-value>true</param-value>
  </context-param>
-->
```

Then, modify it so it looks like this:

```
<!-- Uncomment to enable debug-level logging. -->
  <context-param>
    <param-name>OrderlyStatsDebug</param-name>
    <param-value>true</param-value>
  </context-param>
```

Save your changes, then RESTART OrderlyStats SE.

Debug level logging can generate large files very quickly, so please keep an eye on your disk usage and make sure you disable debug logging once the required information has been retrieved.

The debug level logging messages can be found in `$CATALINA_HOME/logs/catalina.out`





8.15 StateInterface Management (for ringinuse = no)

Local/XXXX@YYYY members (Extension based interfaces) are the recommended way of achieving Hot Desking, as Agent/XXXX members are deprecated by Digium. If you Need help converting to this type of ACD model, please see <http://www.orderlyq.com/asteriskqueues.html>

One drawback of using this type of member is that the queue module may not be able to track which phone the agent is actually using.

For instance, let's say you have an agent Local/jane@agents, who is using phone SIP/1001 to take calls. If Jane picks up the phone and makes an outbound call, then although Asterisk knows that phone SIP/1001 is in use, it does not know that Local/jane@agents is in use, so running queue show at the asterisk command line will show Local/jane@agents as "Not in use".

This means that Asterisk will continue to send queued calls to Jane, even if *ringinuse=no* is present in your queues.conf.

OrderlyStats is able to keep track of which phone Jane is using, however, and we can tell Asterisk that Jane is using SIP/1001. That's what this feature is for.

So, with StateInterface Management enabled, once OrderlyStats knows that Jane is using phone SIP/1001, Jane will be silently logged out and logged back in again with the StateInterface parameter set to SIP/1001.

OrderlyStats discovers that Jane is using SIP/1001 when:

Jane's phone rings with a Queued call, or

Jane's phone rings with an Inbound call, or any call routed through extension jane in context agents.

Running queue show will then show Local/jane@agents as "In use" whenever Jane uses the phone, and not just on calls that have come from the queue.

These system-generated logins and logouts will not be displayed in your Control Panel or OrderlyStats reports.

This feature is only available for SIP phones, and Local/XXXX@YYYY queue members. If it is causing any kind of problem, please do let us know straight away, as it is enabled by default for OrderlyStats SE versions 11.7b and later.





By default the State Interface does NOT persist between sessions (in case someone else starts using SIP/1001), so if Jane logs out and logs back in again, OrderlyStats will not set the StateInterface on Asterisk until another call makes her phone ring. This behaviour can be overridden using 'memory' mode (see below).

You can DISABLE this feature entirely by uncommenting the OrderlyStatsManagedStateInterface stanza in

```
$CATALINA_HOME/webapps/orderlystatsse/web.xml
```

Valid values are 'Off' for off, 'On' for on (the default), and 'Memory', in which case OrderlyStats SE will use stored device information whenever logging an agent in from the Control Panel or Agent Toolbar.

Use 'Memory' if your agents change desks infrequently and/or have their own phones that no-one else uses.

Please do not use this feature in conjunction with the legacy OrderlyStatsDoInUse setting.





8.16 Resetting Master Account Email or Password

Just in case you ever need to do this, you can do it with:

```
/etc/init.d/orderlystatsse stop
/etc/init.d/orderlystatsse startdb
/etc/init.d/orderlystatsse connectdb
update account set email='NEW@EMAIL.ADDRESS', password='NEWPASSWORD';
commit;
\q
/etc/init.d/orderlystatsse start
```

All other passwords can be set by the master account user.

Please don't create a secondary User on the Admin page with the same email address as the Master Account User, as this can cause conflicts within the system.

Please note that if you change the Master Account Email address, we may need to reissue your licence, which carries a small admin fee.

You can safely change your password without invalidating the licence.

