CX Monitoring

Training Course

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Course Objectives

By the end of this course, each student will understand:

- The Contact Center Operations Environment
- Different strategies to proactively monitor a Contact Center platform
- How to plan, create and execute Campaigns using Cyara Pulse
- How to set up Pulse Schedules
- How to view and administer the Pulse Dashboard
- How to view and interpret Pulse Reports
- How to set up Alarm Profiles
- How to set up Alarm Notifications

Course Outline

Topics covered in this course include:

- Unit 1: Planning
- Unit 2: Campaigns
- Unit 3: Pulse Dashboard Overview
- Unit 4: Pulse Dashboard Administration
- Unit 5: Reporting and Analysis
- Unit 6: Alarm Notification

Glossary

General terms that may be covered during this course include:

Term	Description
(Cyara) Web Portal	This is the browser-based application used to configure and validate test cases, create and execute campaigns and view reports.
Platform Level Users	These are User accounts created with higher privileges that can access all platform accounts on the Cyara platform. Platform level access is determined by associating various platform level roles to that user.
Account Level Users	These are User accounts created with privileges to access various menus / features within one (or more) platform accounts. Access to various menus / features is determined by associating various account level roles to that user.
Roles	These enable access to web portal features (e.g. to view reports or create user accounts)

Glossary

General acronyms that may be covered during this course include:

Acronym	Description	Acronym	Description
ANI	Automatic Number Identification (US)	MPSR	Multi Pass Speech Recognition
CLI	Calling Line Indicator (UK/Australia)	PSST	Post Speech Silence Timeout
CTI	Computer Telephony Integration	PSTN	Public Switched Telephony Network
DNIS	Dialed Number Identification Service	SaaS	Software as a Service
DTMF	Dual Tone Multi Frequency	SIT	System Integration Testing
IVR	Interactive Voice Response	UAT	User Acceptance Testing
MOS	Mean Opinion Score	UC	Unified Communications

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Unit 1: Planning

Contact Center Operations

General roles of a Contact Center Operations team may include (but are not limited to):

- Systems Monitoring. Including ensuring health checks are in place to catch errors
- Systems Maintenance e.g. Operating System patches
- System changes e.g. implementation of a new database or IVR application
- Fault triage, service remediation, fault analysis and problem resolution

Potential areas of failure in Contact Center technologies include (but are not limited to):

- Telephony / UC / IVR / CTI configuration
  - Hardware failure
  - Configuration issues e.g. lack of available licenses
  - Call routing design

- Network issues
  - Hardware failures
  - Bandwidth limitations
  - Load balancing configurations

- Servers / Database
  - Access
  - Logging / Disk space

Contact Center Operations

How can contact centers be monitored effectively?

- How can you determine that various touch points of telephony infrastructure are working as designed?
- What tests could you perform to proactively mitigate potential points of failure? How long would this take?
- What tests could you perform after a production change has been implemented?

This course will concentrate on the management of associated technologies and how this can improve customer experience.

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Planning

Operational monitoring strategies to improve Customer Experience (CX) should include:

- Infrastructure
  - To ensure indials are configured and working correctly (e.g. do you hear the correct prompt or phrases?) they should be called at the start of each day. They can also be randomly or systematically tested at any time.

- Call routing
  - To ensure calls are being routed to the correct agent group or specific agents, data should be attached to calls and checked

- Voice quality
  - To ensure voice quality doesn’t degrade during peaks periods or when calls are routed to outsourced (and potentially overseas) Contact Centers, periodic calls should be placed on specific call paths to monitor voice quality and overall customer experience

- Special cases
  - To ensure correct prompts are being played for after-hours or public holiday calls, specific test cases should be created and tested on staging platforms, then scheduled to run on specific days

- Notifications
  - To ensure Operations teams are notified if a call flow has failed, thresholds and alarms should be setup and tested e.g. Email, SMS, SNMP traps to a Network Management System

Planning

Cyara can be used to implement these monitoring strategies and improve Customer Experience (CX):

- Infrastructure
  - Short data driven test cases to test all production indials
    - Test cases only need to be 2-3 steps (enough to identify if the correct prompts are recognized). These test cases can then be applied to a campaign that runs at the start of each day or any other appropriate time.

- Call routing and voice quality
  - End to end call flow test cases with attached data and voice quality if required
    - Test cases can terminate within the IVR for self-service applications or transfer to agents depending on requirements
    - Call routing, attached data and uni-directional or bi-directional voice quality can be checked
    - Dedicated agents or endpoints can be configured
    - Can be combined with Cyara Virtual Agents, Audio Generation Devices and Endpoint solutions

- Special cases
  - End to end call flow test cases with attached data and voice quality if required
    - Campaigns can be configured to run at specific times and on specific dates

- Notifications
  - Alarm notifications can be set up to generate alarms on any test case failures

Planning

The group of test cases that are created should become the Operations Regression Test Suite.

This suite can be run daily within a Cyara Campaign to ensure systems are configured correctly and to assist in identifying any customer experience issues in production.

The same regression test suite can be used as part of a Change Implementation Plan (CIP) in a production environment. The Regression Test Suite effectively acts as a pre-implementation benchmark to be run prior to the change(s).

When a change is implemented, the same Test Suite should be re-run to ensure no failures have been introduced due to the change(s).

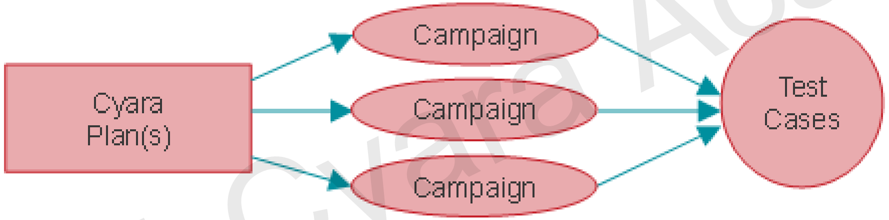
Cyara Campaign reports provide valuable data that can be used in a Change Implementation Report.

Unit 2: Campaigns

Campaigns

A Campaign is a collection of one or more test cases designed to run at a specific time/schedule for a specified number of ports and call distribution profile.

Campaigns are associated with a Cyara Plan such as Cruncher, Velocity, Pulse or Virtual Agent Plans. Plans must be active to run an associated Campaign.



For CX Monitoring, you'll be utilizing Cyara Pulse Campaigns. Pulse Campaigns provide monitoring of end-to-end availability and performance of a system. They can be run continuously or at scheduled intervals, capturing trending data for capacity and problem management to ensure a consistent Customer Experience.

Calls can be placed at specific time intervals up to 24/7 or scheduled for various test cases.

If any failures are detected, notifications can be sent to the Pulse Dashboard, Cyara Mobile App or to you via email.

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Campaigns

To create a Campaign, select New Campaign from the Campaigns menu.

Pulse Campaign Parameters

Enter a unique **Campaign Name**, select the Voice Channel and Pulse as the Associated Plan.

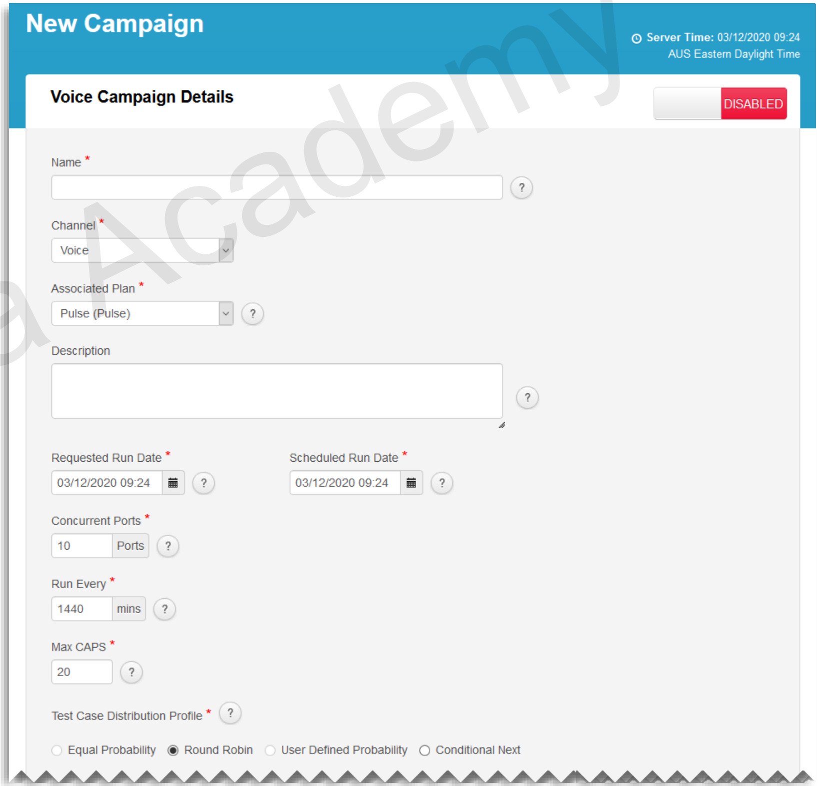
Enter a **Description** (optional) and then select the **Requested Run Date** (leave at default to run the Campaign as soon as possible).

Set the number of **Concurrent Ports** and Maximum Call Attempts Per Second (**Max CAPS**) to use. These parameters are limited by the maximum number defined within the Pulse Plan settings.

- Max CAPS - The maximum CAPS that a Campaign is limited to

Define how often the Campaign should run in the **Run Every** field. This should be set to a time greater than the duration of the Campaign e.g. if the Campaign's duration is 10 minutes, **Run Every** should be set to at least 11 minutes.

The **Test Case Distribution Profile** is set to Round Robin by default (each test case is cycled through once per data scenario) but can be changed to Conditional Next where test cases are executed conditionally starting from the top. Each subsequent test case will execute only if the previous test case failed or achieved a satisfactory result. Equal Probability and User Defined Probability are not available for Pulse Campaigns.



Pulse Campaign Parameters

Not all Contact Centers / IVRs are operational 24 x 7, and therefore, may not require constant monitoring.

A schedule can be defined by changing the **Schedule** option to YES then entering days and time periods when calls should be placed.

Multiple time periods for the same day can be defined but must **not** overlap.

Pulse Campaign Parameters

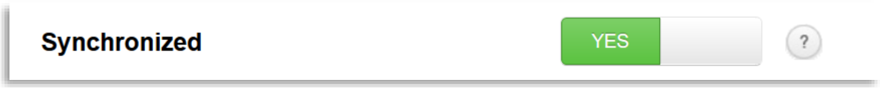
To avoid generating and receiving alerts during a planned maintenance window or other planned downtime, Pulse Campaigns can be scheduled to be paused.

Pulse Campaigns will not start during the specified pause window, however, Campaigns that are already running when the pause window begins, will keep running. Campaigns will re-schedule themselves after the pause windows ends.

Add Pause ?

From (Date & Time)	To (Date & Time)	Note
04/06/2018 18:00	04/06/2018 20:00	Maintenance
05/06/2018 18:00	05/06/2018 20:00	Maintenance

Set the Synchronized option to Yes if you wish to provide information to an Agent Campaign and allow data to be compared between the Customer (Voice) Call and the Agent.



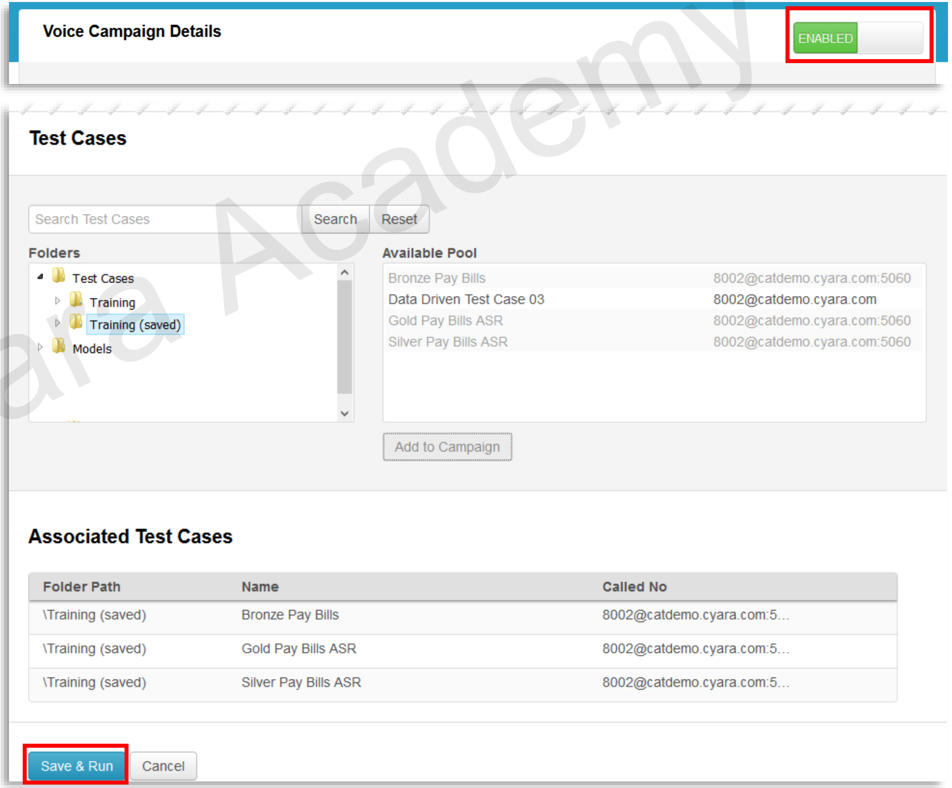
Pulse Campaign Parameters

Associate test cases to the Pulse Campaign using the Test Cases section. Browse the folder structure on the left-hand side or use the search field to find the test case(s) you wish to associate, then select the test cases(s) in the Available Pool on the right-hand side and click the **Add To Campaign** button.

To revert to the full list of Test Cases after using the Search field, click the **Reset** button.

Click the **Save Details** button to save your Pulse Campaign or (if you wish to run the Campaign straight away) use the slide button at the top right to enable the Campaign and then click the **Save & Run** button.

Campaigns are disabled by default to stop users accidentally starting them.



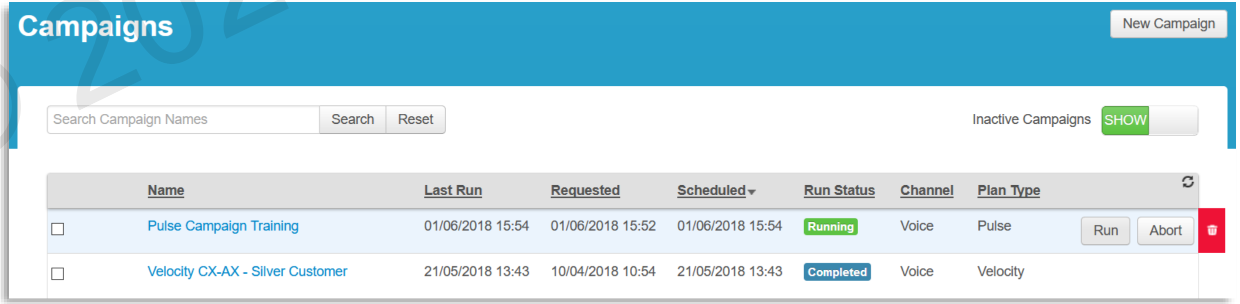
Campaign Management

To view the status of Campaigns, select **Campaigns** from the Campaigns menu.
Previously executed Campaigns can be re-run by hovering your mouse cursor over the Campaign and clicking the **Run** button.
Clicking the **Abort** button will stop Campaigns that are currently running. Choose **Hard Abort** to abort current calls without finishing or **Soft Abort** to allow current calls to finish.

To delete a Campaign, ensure it is in a completed or aborted state and then hover your mouse cursor over the Campaign and click the trash bin icon.

These actions can be performed on multiple Campaigns at once by selecting the check boxes and then choosing the desired action from the **Action** button.

Pulse Campaigns can only be disabled when they are in a queued (not running) or aborted state. To disable a Pulse Campaign, wait for the Campaign to enter a queued state or abort the Campaign, then edit the Campaign and set the slide button to DISABLED.



Campaigns with Data Driven Test Cases

If data driven test cases have been associated with the Pulse Campaign, test cases will be executed using a breadth first approach. If the example test cases and data scenarios shown below were associated to a Pulse Campaign, they would be executed in the following order:

- Call 1 = Test Case 1 (Scenario 1)
- Call 2 = Test Case 2
- Call 3 = Test Case 3 (Scenario 1)
- Call 4 = Test Case 1 (Scenario 2)
- Call 5 = Test Case 3 (Scenario 2)
- Call 6 = Test Case 1 (Scenario 3)

	Test Case 1		**Test Case 2**	**Test Case 3**	
	Account	Password		Account	Password
Scenario 1	888965	5785	(No Data Scenarios)	123456	1234
Scenario 2	889545	3356		654321	4321
Scenario 3	134756	3636			

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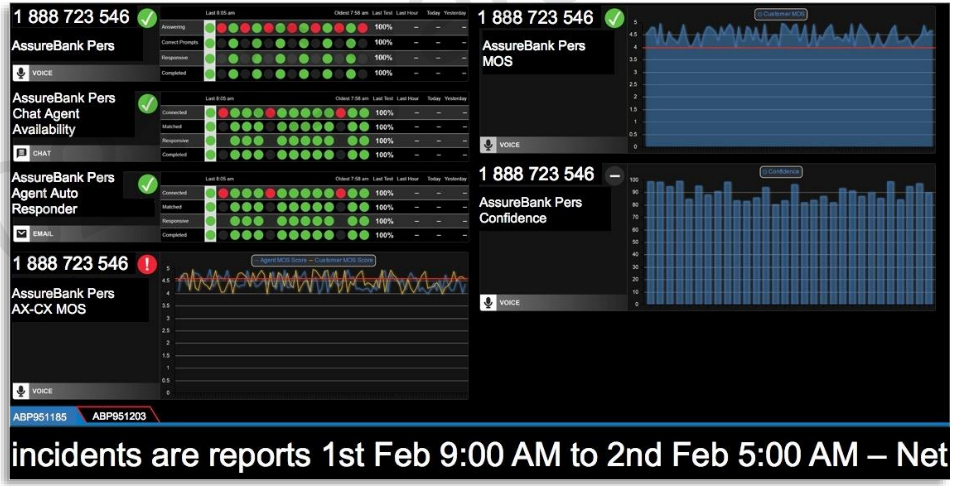
Unit 3: Pulse Dashboard Overview

Pulse Dashboard Overview

The Pulse Dashboard is an extension of the CX Monitoring solution. It enables you to monitor your customer journeys in production by engaging with them just as a customer would.

- Visualize journeys across channels in real-time
- Customize views for different audiences, business units, channels or roles
- Color coded dots provide at-a-glance visibility of performance
- Click any dot to drill down to detailed results
- Trend analysis shows voice quality score over time
- Get alerts when something goes wrong



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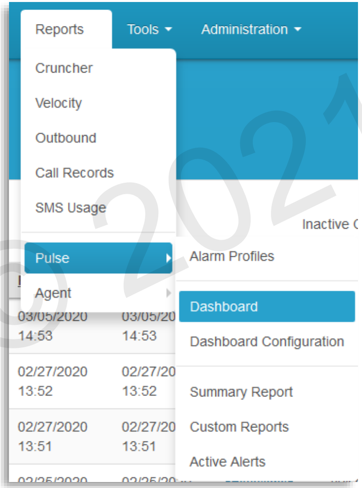
Pulse Dashboard Overview

The Dashboard interface has been designed to run on large Contact Centre screens and provide an easy to read, visual representation of test case results from a current Pulse campaign.

All Cyara accounts are provisioned with a default Global Dashboard that displays the results of all Test Cases assigned to a running Pulse Campaign.

Additional custom Dashboards can also be created (discussed in the Dashboard Administration unit of this course).

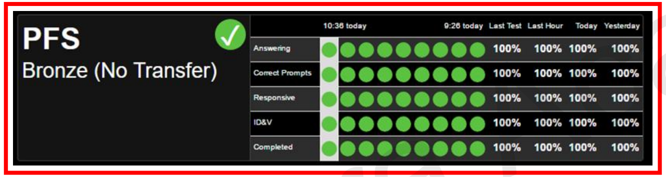
To view a Dashboard, select **Pulse > Dashboard** from the **Reports** Menu.



Dashboard Overview - Service Groups

Each display of results is based on a **Service Group** (which is linked to one or more Test Cases in a Pulse campaign).

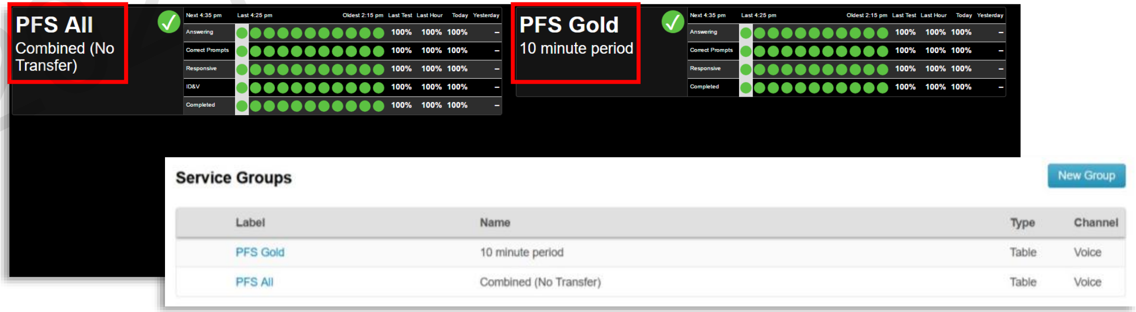
Service Group



One or more Service Groups can be displayed on the Dashboard. When configuring Service Groups, labels must be unique. Test Cases can be displayed in multiple Service Groups, even if they're running in a single Pulse Campaign.

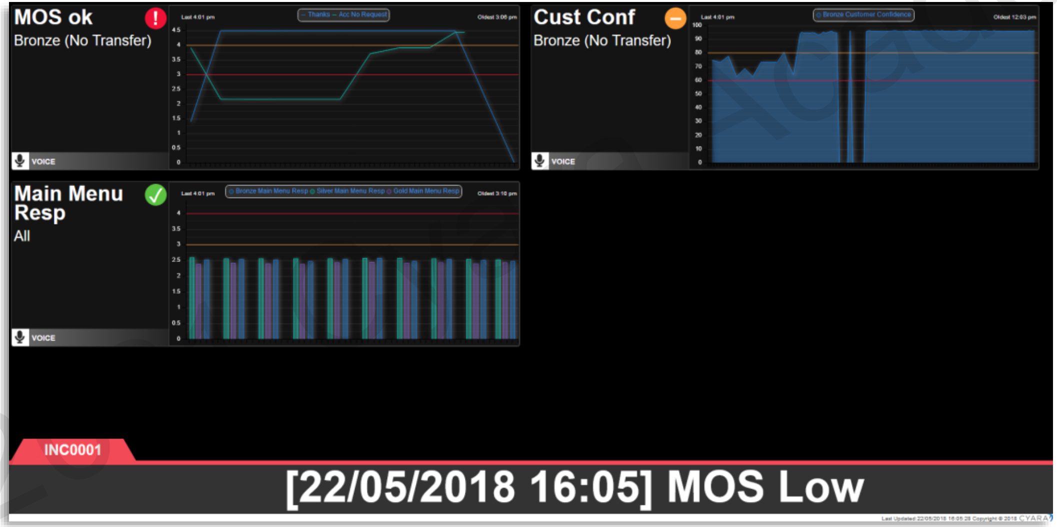
Service Group Label

Service Group Label



Dashboard Overview - Service Groups

In addition to the default **Table** Type of display (as seen on the previous slide), Service Groups can also be setup to display **Charts** on the Dashboard.
Chat Types include Area, Column and Line.



Service Groups

Label	Name	Type	Channel
MOS ok	Bronze (No Transfer)	Chart	Voice
Cust Conf	Bronze (No Transfer)	Chart	Voice
Main Menu Resp	All	Chart	Voice

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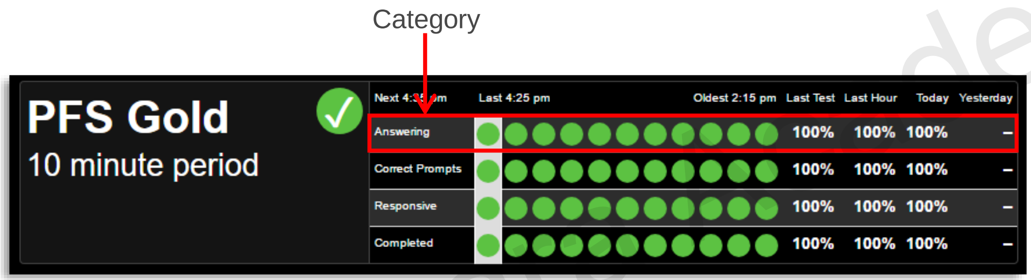
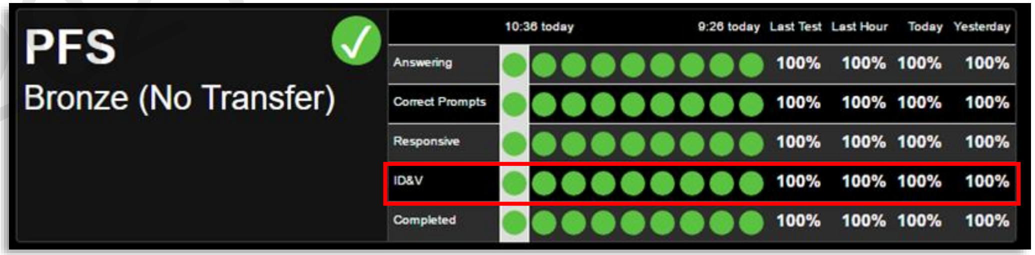
Dashboard Overview - Categories

Each Service Group is comprised of **Categories** which display various aspects of Test Case results.



Default Categories are pre-defined, but you can also create additional Custom Categories to monitor specific step(s) within Test Cases (e.g. ID Verification Steps)



Dashboard Overview - Categories

The default **Categories** include:

Answering
- green dot = the call was answered correctly (i.e. Step 0 was successful)
- red dot = the call was not answered correctly (i.e. Step 0 was unsuccessful)

Correctness
- green dot = the speech recognition results in all test case steps were above the minor confidence threshold
- red dot = the speech recognition result in a test case step was below the major confidence threshold
- orange dot = the speech recognition result in a test case step was within the satisfactory range as defined by the major / minor confidence threshold

Responsive
- green dot = the response time for (post Step 0) prompts within a test case step were less than the minor threshold value
- red dot = the response time for a (post Step 0) prompt within a test case step was greater than the major threshold value
- orange dot = the response time for a (post Step 0) prompt within a test case step was between the minor and major threshold values

Completed
- green dot = a test case that has completed as expected (note: test step failures may still be reported)
- red dot = a test case that failed with one of the following detailed errors:
  - Expected # of steps but got # (e.g. Expected 10 steps but got 3)
  - Hang Up during Ignore Period
  - MaxAudioLength (time period) exceeded

or if a failed step result has occurred when using the {End Call} tag

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Dashboard Overview

Each dot represents the result of one or more Test Cases.

- **Green** dot = Successful
- ***Orange** dot = Satisfactory
- **Red** dot = Failure

*For the **Any**, **Correct Prompts** and **Responsive** monitor options only (discussed later)

The number of dots to be displayed is configurable and you can define whether each dot represents the results of each Test Case execution or the results of Test Case executions performed within a specific time period (specified in minutes).

An overall percentage of Pulse Campaign results is displayed for:

- The last test
- The last hour
- Today (from 00:00 to the last test)
- Yesterday (00:00 to 23:59 of the previous calendar day)

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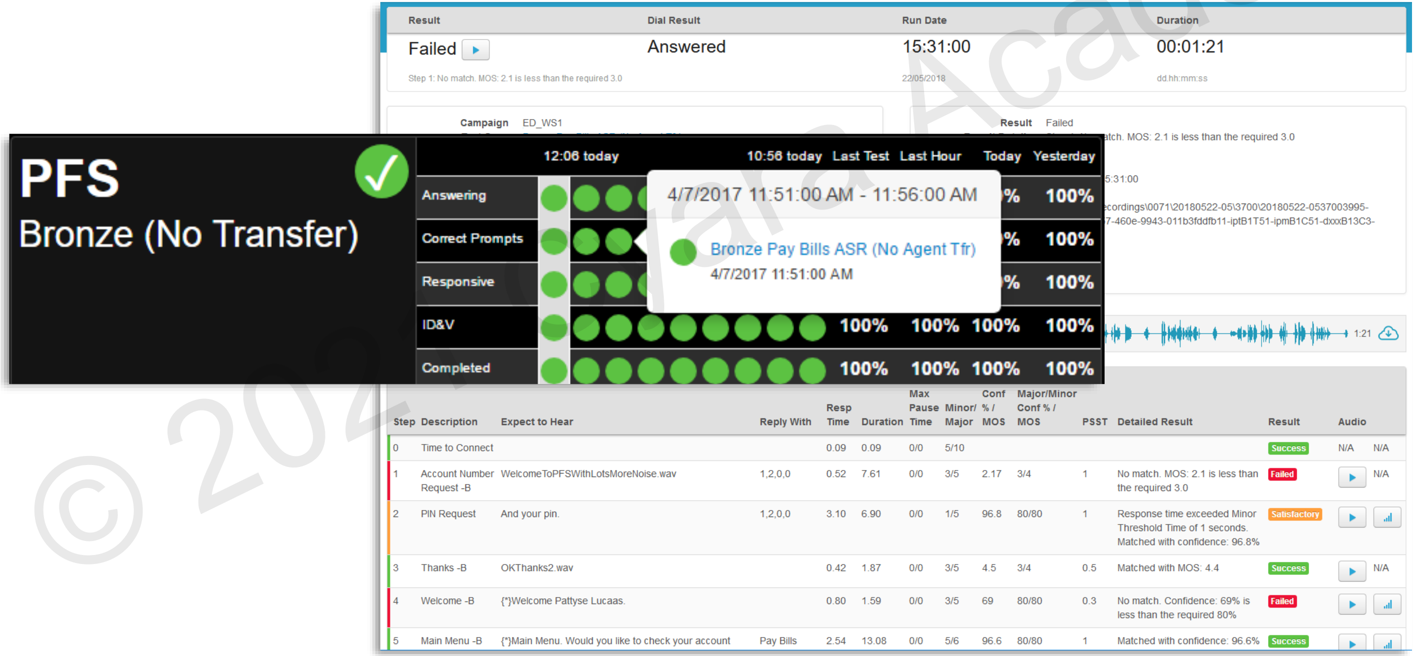
Dashboard Overview

When a dot is selected, the test case result is displayed, as well as a timestamp indicating when the campaign was run.

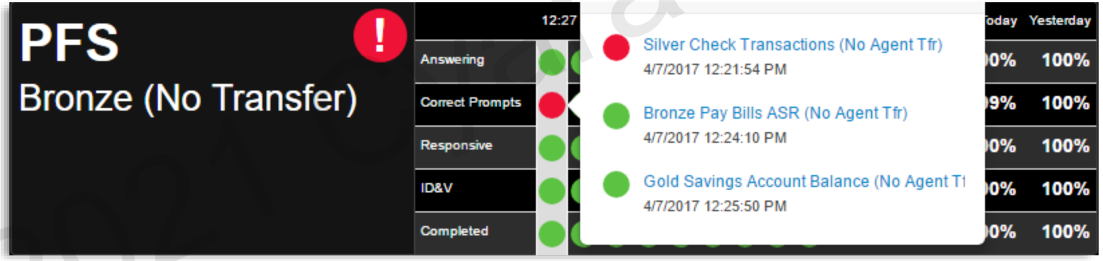
Clicking on the test case link will open the test case validation results page in a separate web browser tab.



Dashboard Overview

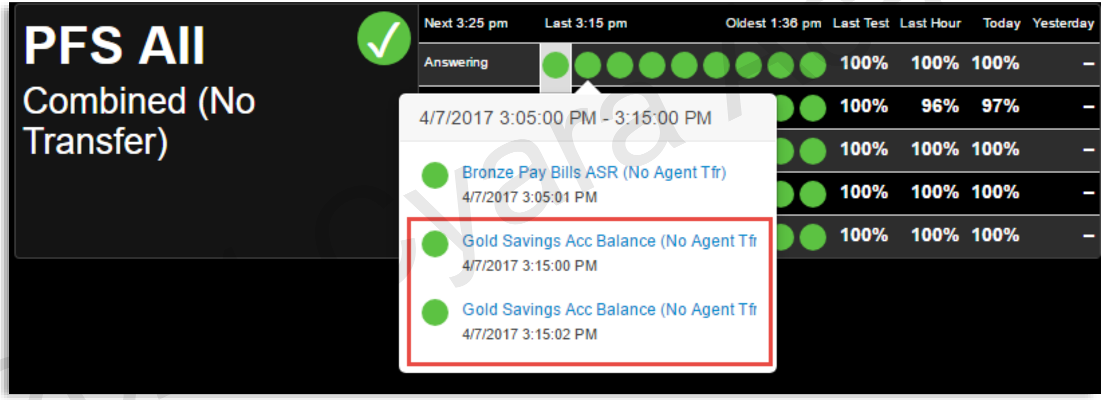
Service Groups can be setup with one or more Test Cases. A Service Group with multiple Test Cases can be configured to show the aggregated results in one dot (as seen below) or as separate dots per Test Case.

For aggregated results in one dot, the highest severity Test Case result will always be displayed. For example (as seen below), the Bronze and Gold Test Cases were successful, but the Silver Test Case that was unsuccessful takes precedence in the display.



Dashboard Overview

If a Test Case is being used in multiple running Pulse Campaigns, you will see duplicate entries per dot.



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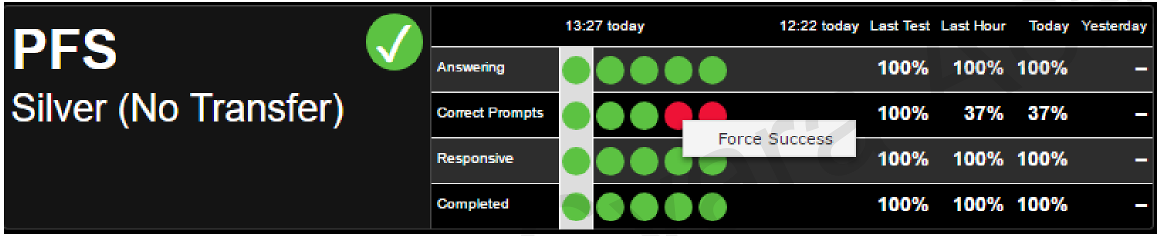
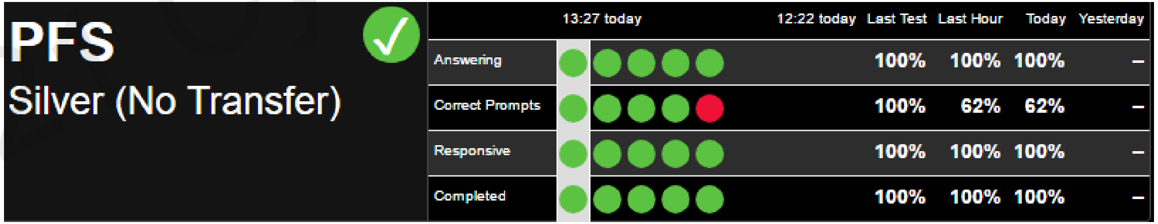
Dashboard Overview

Unsuccessful results (dots) can* be modified on the display e.g. for results diagnosed as being false negative.

To modify a result, right click on a red or orange dot and select **Force Success.**

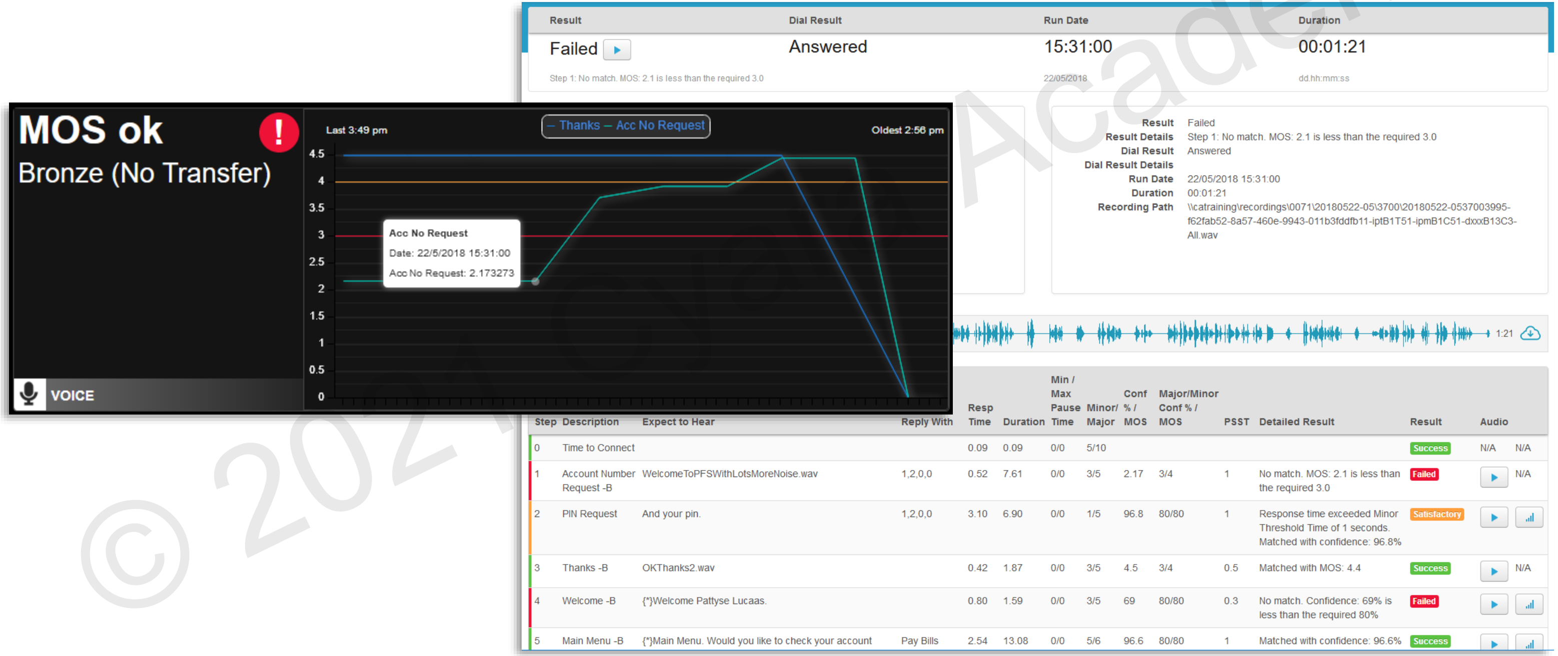




* Only users with the Dashboard and Dashboard Admin roles can modify results
* The success % will be altered on the Dashboard
* The original result will still be stored in the Cyara database

Dashboard Overview

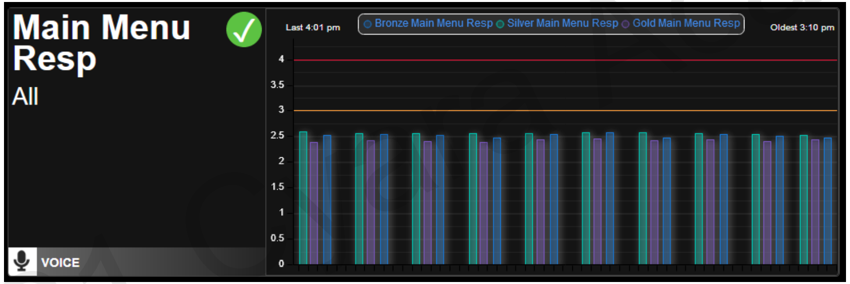
Clicking on Chart data points will open the relevant test case validation results page in a separate web browser tab.

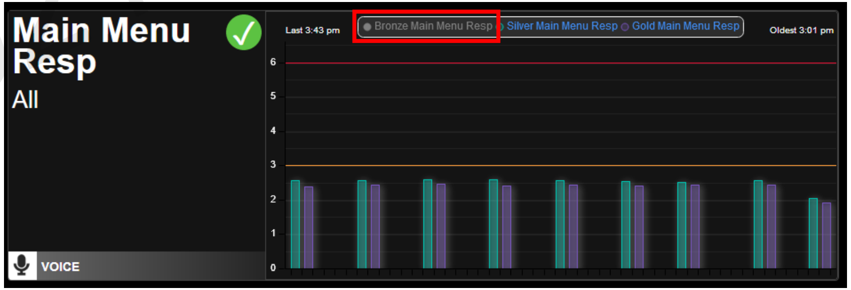


Dashboard Overview

Chart Series Labels are shown at the top of each Chart. You can click these to turn them on or off.

In the example below, three Chart Series are being monitored. Turning one of them off temporarily removes the corresponding results from the Chart.





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Dashboard Overview

The Dashboard Ticker can be used to post Outage and Information messages at the bottom of the Dashboard. For Outages, an additional incident number and its current status is displayed.

- Red = unresolved
- Green = resolved

For information messages, a reference number (if entered) will be displayed in blue.

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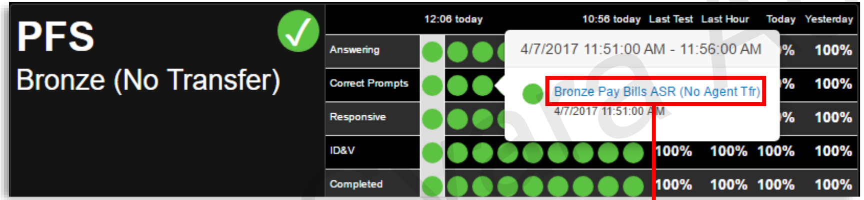
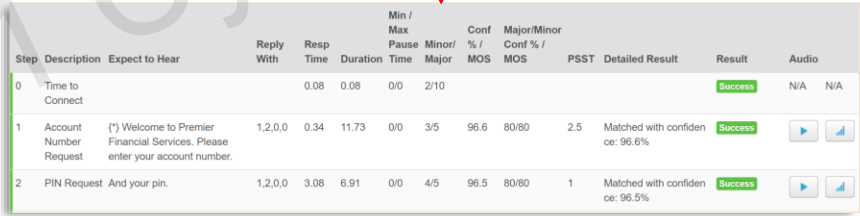
Dashboard Overview

The Dashboard is designed to be setup in a Contact or Network Operations Center. Some users who have access to the Dashboard may not have approval to view potentially sensitive information contained within the Test Case results.

Remember, clicking on any dot on the Dashboard provides a link to the Test Case(s) being monitored. Clicking on this link will open the Test Case results in a separate web browser tab.





Step	Description	Expect to Hear	Reply With	Resp Time	Duration	Min / Max Pause Time	Minor/ Major	Conf % / MOS	Major/Minor Conf % / MOS	PSST	Detailed Result	Result	Audio	
0	Time to Connect			0.08	0.08	0/0	2/10					Success	N/A	N/A
1	Account Number Request	{*} Welcome to Premier Financial Services. Please enter your account number.	1,2,0,0	0.34	11.73	0/0	3/5	96.6	80/80	2.5	Matched with confidence: 96.6%	Success		
2	PIN Request	And your pin.	1,2,0,0	3.08	6.91	0/0	4/5	96.5	80/80	1	Matched with confidence: 96.5%	Success		

The Dashboard can be configured so that certain users will not be able to see the replies for steps which have been masked. If replies have been masked from a user, that user will not be able to access the captured audio recording or screenshots of the interaction either.

Dashboard Overview

Step replies are masked by adding Test Case step descriptions to the Mask Reply Expression field in the Dashboard Parameters.

Whether you can mask step replies from a user with the Dashboard role depends on which other role(s) they have been assigned. If any user with the Dashboard role has also been assigned the **Account Administration** or **Reporting** role, replies **cannot** be masked from them.

Step	Description	Expect to Hear	Reply With	Resp Time	Duration	Min / Max Pause Time	Minor/ Major	Min Conf % / MOS	PSST	Detailed Result	Result	Audio	
0	Time to Connect			0.11	0.11	0/0	5/10				Success	N/A	N/A
1	Account Number Request	{*} Welcome to Premier Financial Services. Please enter your account number.	□□□□□	0.30	11.22	0/0	3/5	80	2.5	Matched with confidence: 96.1%	Success	N/A	N/A

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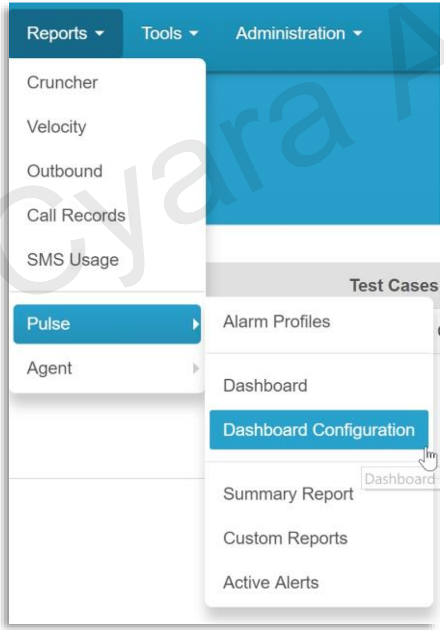
Unit 4: Pulse Dashboard Administration

Dashboard Administration

Dashboards can be configured by users with the **Dashboard** and **Dashboard Admin** roles.

Select **Pulse > Dashboard Configuration** from the **Reports** Menu to edit the Global Dashboard or create additional Dashboards.

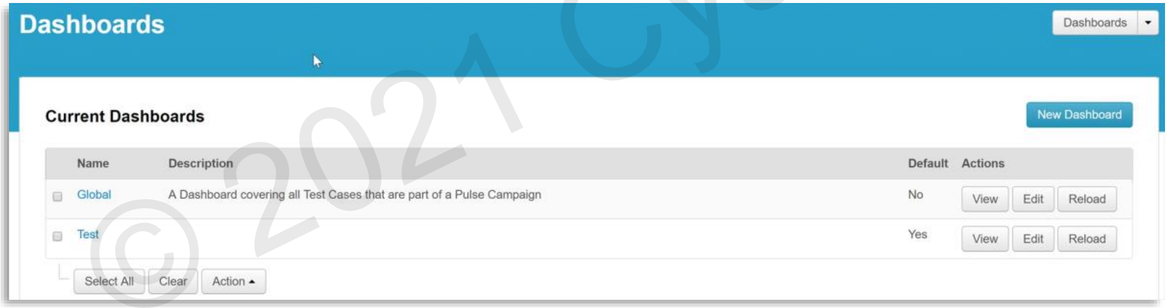


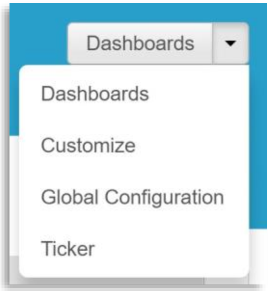
Dashboard Administration - Dashboard Configuration

From the Dashboards page, click **New Dashboard** to create a new Dashboard, or select a previously created Dashboard under Current Dashboards to view/edit the **Dashboard Details.**

You can also use the drop-down menu to access the various configuration pages including:

- Dashboards
- Customize
- Global Configuration
- Ticker





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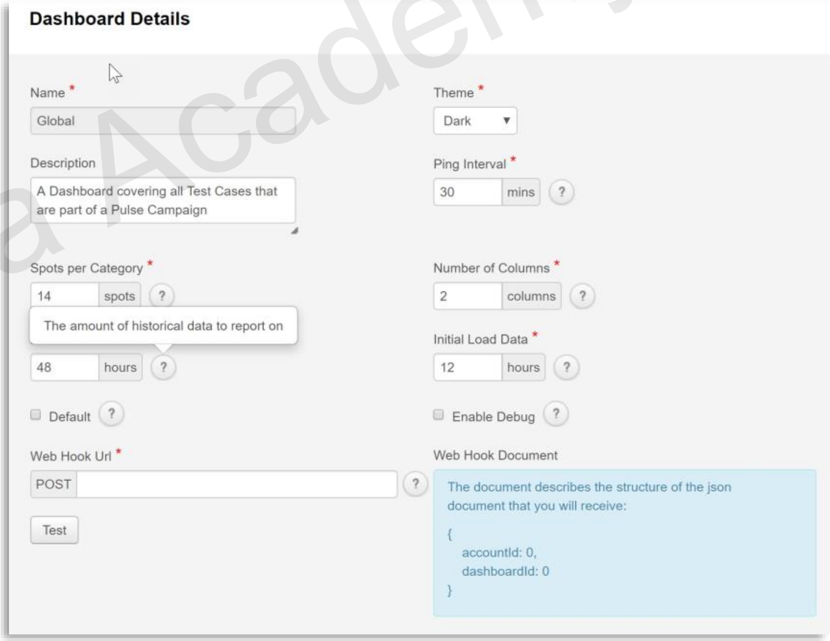
Dashboard Administration - Dashboard Details

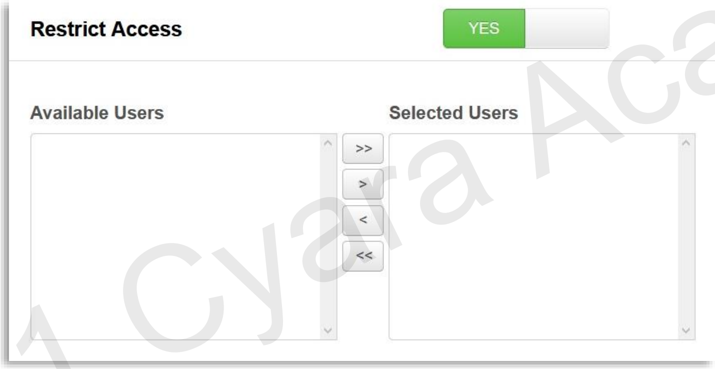
The following Dashboard Details are configurable when creating a new Dashboard, or editing a previously created dashboard:

- **Name** - The name of the Dashboard
- **Description** - A description of the Dashboard
- **Spots per Category** - The number of spots to be displayed per category “row” in each Service Group
- **Historical Data** - The time period of historical data to report on the Dashboard
- **Theme** - The Dashboard can have a light or dark color theme
- **Ping Interval** - Interval in minutes to keep the Dashboard session alive independent of the user session
- **Number of Columns** - The number of columns to be used in the display
- **Initial Load Data** - The time period of historical data to initially display on the Dashboard
- **Default** - If selected, this Dashboard will be shown when a Dashboard is not specifically selected
- **Enable Debug** - If selected, trace messages will be written to your web browser console log (Developer Tools)
- **Web Hook URL** – this allows you to POST a document to the supplied URL whenever a test result is received for Test Cases assigned to this Dashboard.



Dashboard Administration - Dashboard Details

Slide the **Restrict Access** button to YES if you want to Restrict Access to this Dashboard. The following panel will appear when you enable this option:

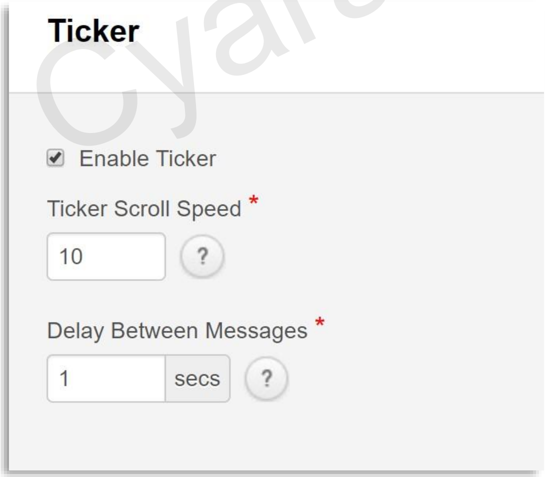


The Available Users list will contain users attached to the Account who have been assigned the Dashboard role (but not the Dashboard Admin role). Using the arrow buttons, move the users from the Available Users section to the Selected Users section to provide them with access to this Dashboard.

Dashboard Administration - Dashboard Details

The following **Ticker** parameters can also be configured on the Dashboard Details page:

- Enable Ticker - If selected the ticker will be displayed at the bottom of the Dashboard (enabled by default)
- Ticker Scroll Speed - How fast the ticker will scroll across the Dashboard (1 fastest - 100 slowest)
- Delay Between Messages - The number of seconds to pause between showing messages

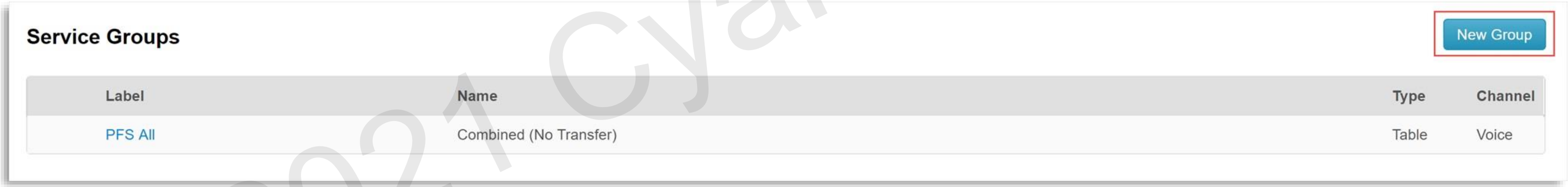


Dashboard Administration - Dashboard Details

Service Groups define what is displayed on the Dashboard. Services Groups for the Global Dashboard are created at runtime based upon Test Cases currently associated to active Pulse Campaigns.

To **create** a Service Group for your custom Dashboard, click the **New Group** button.

To **edit** an existing Service Group, click the Service Group Label.

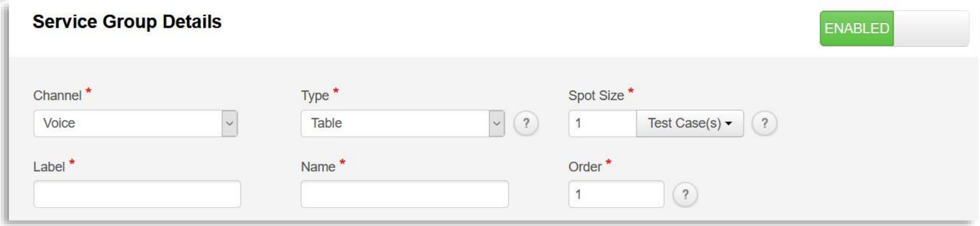


Dashboard Administration - Service Group Details

Define the Service Group Details fields:

- **Enabled/Disabled Switch** - whether the Service Group is enabled or disabled
- **Channel*** - the channel associated with the Service Group (agent/email/SMS/voice/web)
- **Type*** - the data can be displayed in a Table or on a Chart
- **Label** - the primary name of the Service Group to be displayed (this name must be unique)
- **Name** - a secondary description for the Service Group
- **Spot Size** ** - where the dot displayed is defined by either:
  - The status of one or multiple Test Cases executed per Pulse Campaign run
  - The status of those Test Cases that were executed in a Pulse Campaign **within a defined timeframe** (in minutes)
  - For an Agent Service group, the spot size will be based per agent Behavior(s) or timeframe
- **Order** - specify a position of this group on the Dashboard (groups with lower numbers are displayed first)
- **Chart Type***** - The type of chart (area, column or line)
- **Maximum Data Points***** - The maximum number of data points to show on the ‘x’ axis of the chart

* These fields cannot be changed after the Service Group has been saved
** This field is displayed when the Type ”Table” has been selected
*** These fields are displayed when the Type ”Chart” has been selected



Dashboard Administration - Service Group Details

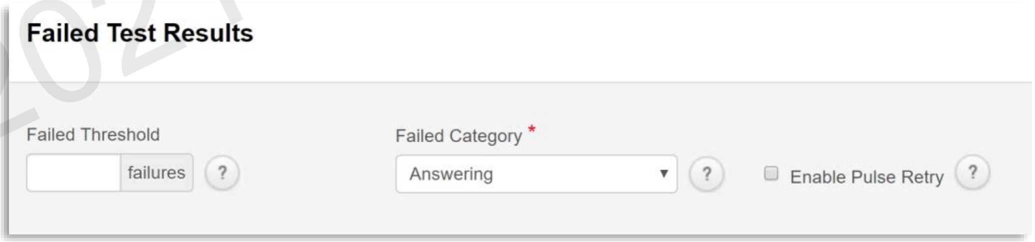
Fail Test Results*

- **Failed Threshold** - the number of consecutive failures of the chosen category before a service reports a category as failed. If this is used in conjunction with the Enable Pulse Retry option, this defines the number of times a failed test is re-run.

- **Failed Category** - the category that is used to determine when the failed threshold should apply (select Any to apply to all categories)

- **Enable Pulse Retry** - Allow the Cyara to perform automated retries up until the number defined by the Failed Threshold (note this is only applicable for the Answering category)

* These options are displayed when the Type ”Table” has been selected

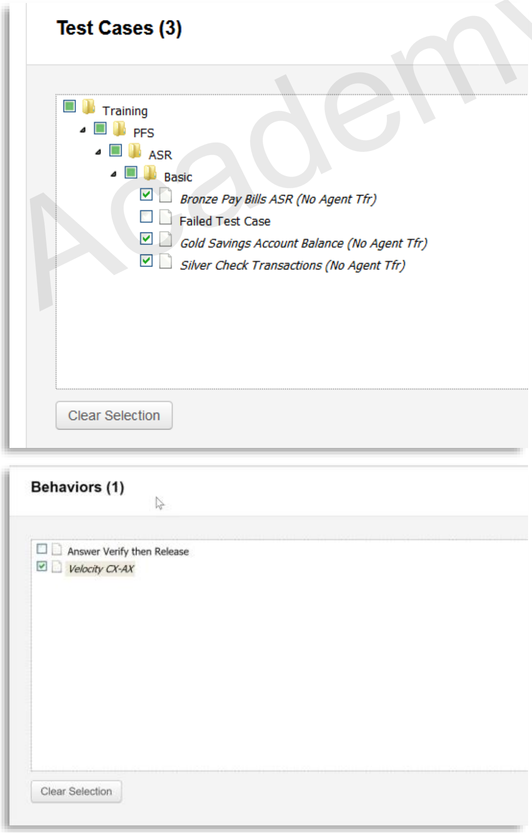


Dashboard Administration - Service Group Details

Test Cases or Behaviors (Agent Service Group)

- Select the Test Cases/Behaviors to be monitored in the Service Group
  - Multiple test cases can be added

- Note: Only Test Cases that have been associated with a Pulse Campaign (or Behaviors associated with a Virtual Agent) will be available for selection

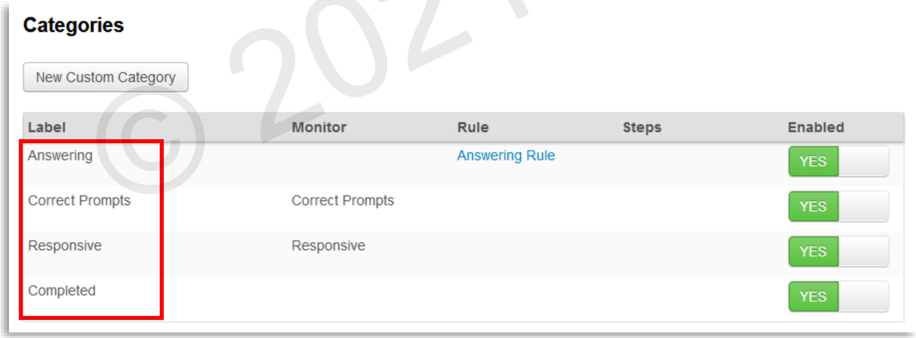


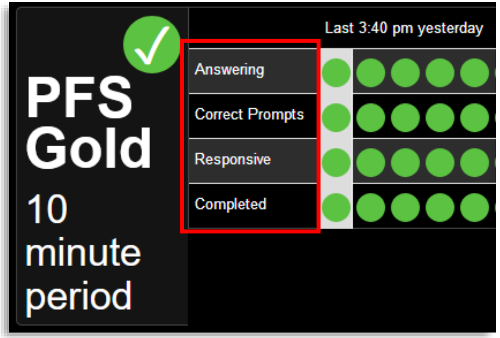
CYARA

Dashboard Administration - Service Group Categories

Categories

- Applicable to Table Type only. If Chart Type has been selected, this section will allow the creation of Chart Series
- When you create a new Service Group with the Type set to Table, it will automatically be assigned with four enabled default Categories.
  - Answering
  - Correct Prompts
  - Responsive
  - Completed
- These default Categories cannot be edited (except for the Answering Rule) or deleted, but they can be disabled with the slide switch.





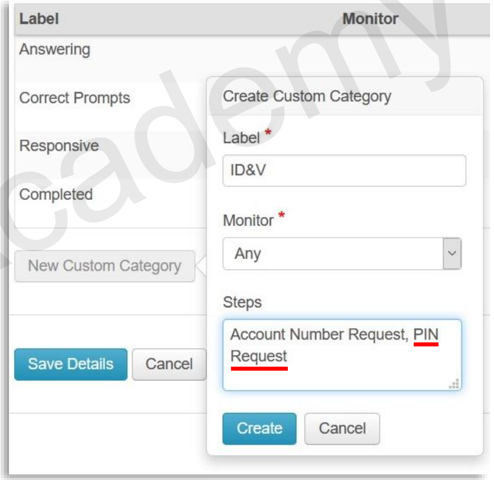
Dashboard Administration - Service Group Custom Categories

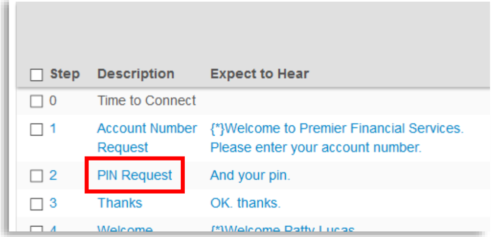
To create a Custom Category, click one of the **New Custom Category** buttons.

Dashboard Administration - Service Group Custom Categories

Populate the following fields:

- Label
  - The primary name of the Category to be displayed
- Monitor
  - Any - Monitor any of the following
  - Completed - Monitor if the step(s) completed successfully
  - Correct Prompts - Monitor the speech recognition results
  - Responsive - Monitor the response times
- Steps
  - The Description of the Test Case step(s) to be monitored (not case sensitive)
  - Multiple Test Case steps can be added by separating the Step Description names with a comma
  - If you have multiple Test Cases assigned to a Service Group and wish to monitor a step in one of those Test Cases (or subset of those Test Cases), ensure the Step Description in the Test Cases are unique i.e. if step two in the three selected Test Cases have the same Step Description name of “PIN Request”, the Custom Category will report on step two of all three Test Cases





Click the Create button to create the new Custom Category.

Dashboard Administration - Service Groups

Custom Categories appear as additional rows within the Service Group, between the Responsive and Completed rows after the Dashboard has been reloaded.

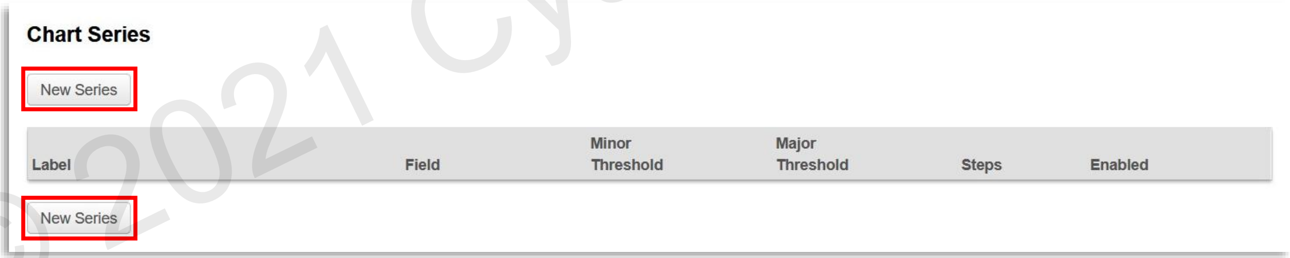
Custom Category

Dashboard Administration - Service Group Chart Series

Chart Series

- Applicable to Chart Type only. If Table Type has been selected, this section will allow the creation of Categories)
- When you create a new Service Group with the Type set to Chart, no Chart Series are automatically assigned. You must create one or more Chart Series before data will be displayed on the Chart.

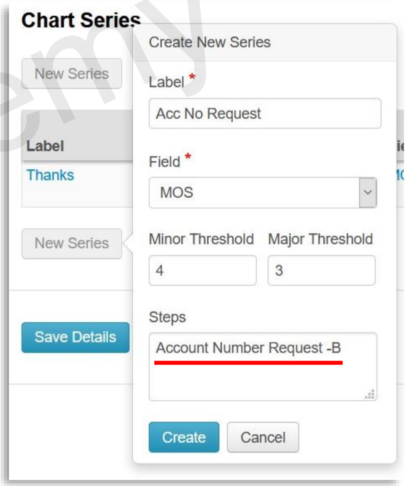
To create a Chart Series, click one of the **New Series** buttons.

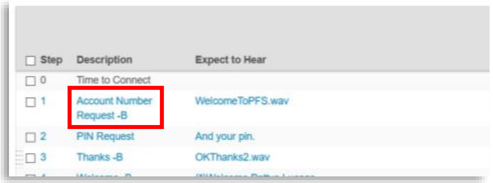


Dashboard Administration - Service Group Chart Series

Populate the following fields:

- Label
  - The primary name of the Chart Series to be displayed
- Field
  - Confidence % - Plot the Confidence percentage results for the defined step(s)
  - MOS - Plot the MOS results for the defined step(s)
  - Response Time - Plot the Response Time results for the defined step(s)
- Thresholds
  - Minor Threshold - Where the Minor Threshold line should appear on the Chart
  - Major Threshold - Where the Major Threshold line should appear on the Chart
    - These Thresholds are separate from those set in Test Cases. They determine whether plotted results are reported on the Dashboard as Successful, Satisfactory or Failed
- Steps
  - The Description of the test case step(s) to be monitored (not case sensitive)
  - Multiple test case steps can be added by separating the Step Description names with a comma
  - If you have multiple test cases assigned to a Service Group and wish to monitor a step in one of those test cases (or subset of those test cases), ensure the Step Description in the test cases are unique i.e. if step one in the three selected test cases have the same Step Description name of “Account Number Request -B”, the Series will report on step one of all three test cases





Click the Create button to create the new Chart Series.

CYARA

Dashboard Administration - Service Groups

Chart Series appear as data within the service group after the Dashboard has been reloaded.

Thanks Chart Series

Acc No Request Chart Series

Minor Threshold

Major Threshold

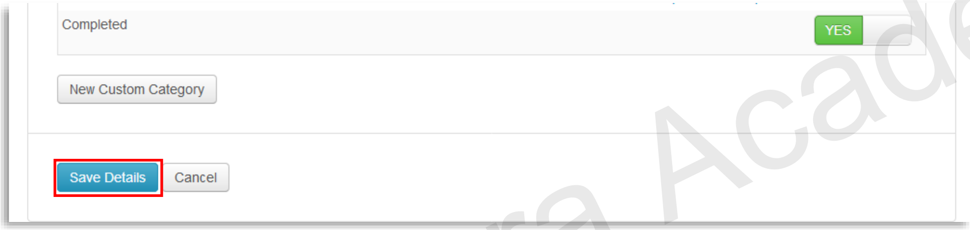
MOS Results of the “Thanks” step of the Bronze Test Case

MOS Results of the “Acc No Request” step of the Bronze Test Case

CYARA

Dashboard Administration - Service Groups

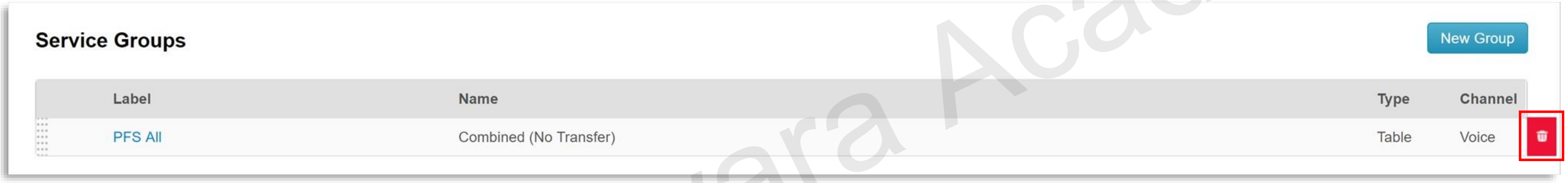
Click the **Save Details** button to save the Service Group and Custom Category/Chart Series.



On the Dashboards page, click your Dashboard's **Reload** button to update and apply changes to the current Dashboard display.

Dashboard Administration - Delete Service Groups, Custom Category or Chart Series

To **delete** a Service Group, Custom Category or Chart Series, edit your Dashboard, then hover your mouse cursor over the row and click on the Trash/Bin icon.



Click Save Details, then on the Dashboards page, click your Dashboard's **Reload** button to update and apply changes to the current Dashboard display.

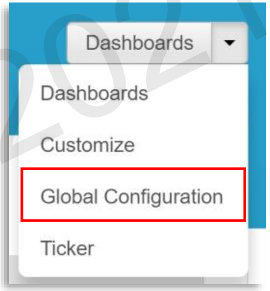
Dashboard Administration - Global Configuration

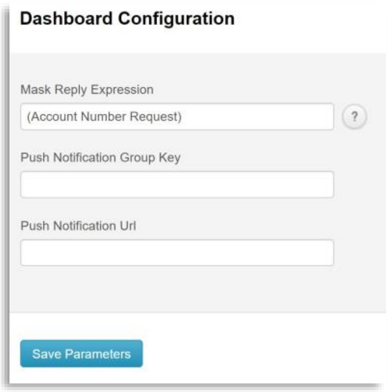
Select **Global Configuration** from the drop-down menu to configure the following parameters:

- Mask Reply Expression
  - To mask a test case step reply, enter the **test case step description** enclosed in brackets ”( )”
    e.g. (Account Number Request)
  - Multiple expressions can be entered in this field. Each expression must be delimited by the pipe “|” character
    e.g. (Account Number Request|PIN Request)

- Push Notification Group Key & Push Notification URL
  - If a customer has setup a notification service to alert individuals or groups about failed results displayed on the Dashboard, the relevant Key and URL information can be inserted into these fields

Click the **Save Parameters** button to confirm all settings.





Dashboard Administration - Masking Replies

Once a Test Case step reply has been masked and the Dashboard has been reloaded, users that access the Test Case results from the Dashboard, without permission to see these step replies, will see masking characters instead of the actual reply.

Step	Description	Expect to Hear	Reply With	Resp Time	Duration	Min / Max Pause Time	Minor/ Major	Min Conf % / MOS	PSST	Detailed Result	Result	Audio	
0	Time to Connect			0.11	0.11	0/0	5/10				Success	N/A	N/A
1	Account Number Request	{*} Welcome to Premier Financial Services. Please enter your account number.	□□□□□	0.30	11.22	0/0	3/5	80	2.5	Matched with confidence: 96.1%	Success	N/A	N/A

Dashboard Administration - Ticker - Outages

Select **Ticker** from the drop-down menu to configure the Dashboard Ticker.

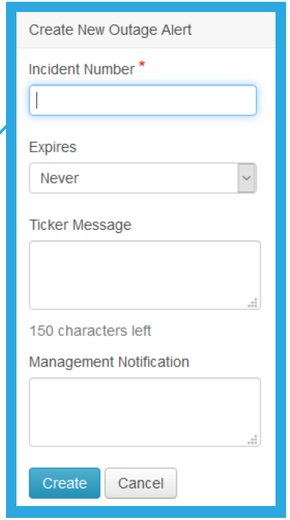
The Ticker page allows for the creation of Outage and General information banners to scroll at the bottom of the Dashboard.

To generate an Outage Message on the Dashboard, click the **Create Outage** button.

- Enter relevant information into each field
  - Incident Number (as per company format)
  - Expires (expiry time if applicable - set to Never by default)
  - Ticker Message (note the 150 character limit)
  - Management Notification (only used for Push notification service)

Click **Create** to confirm.

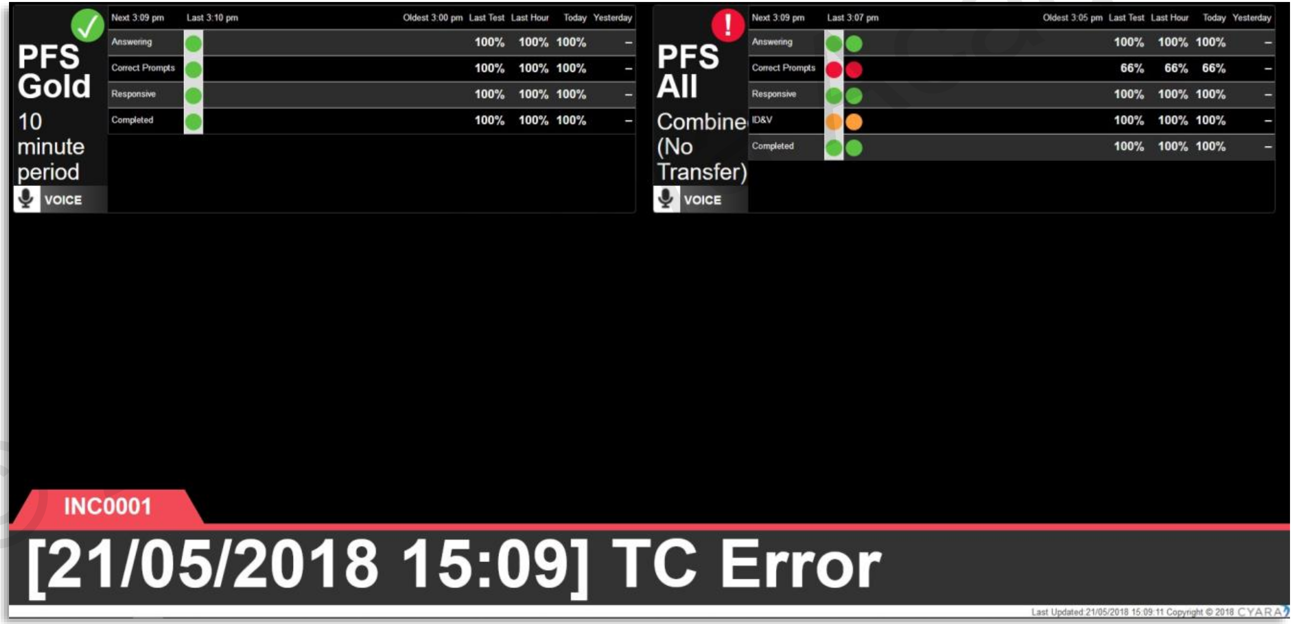
On the created message, slide the **Visibility** status to **Show** to display the message.



Dashboard Administration - Ticker - Outages

The Dashboard Ticker will scroll the outage message with the current timestamp.

The incident number will also be displayed above the Ticker (in red).

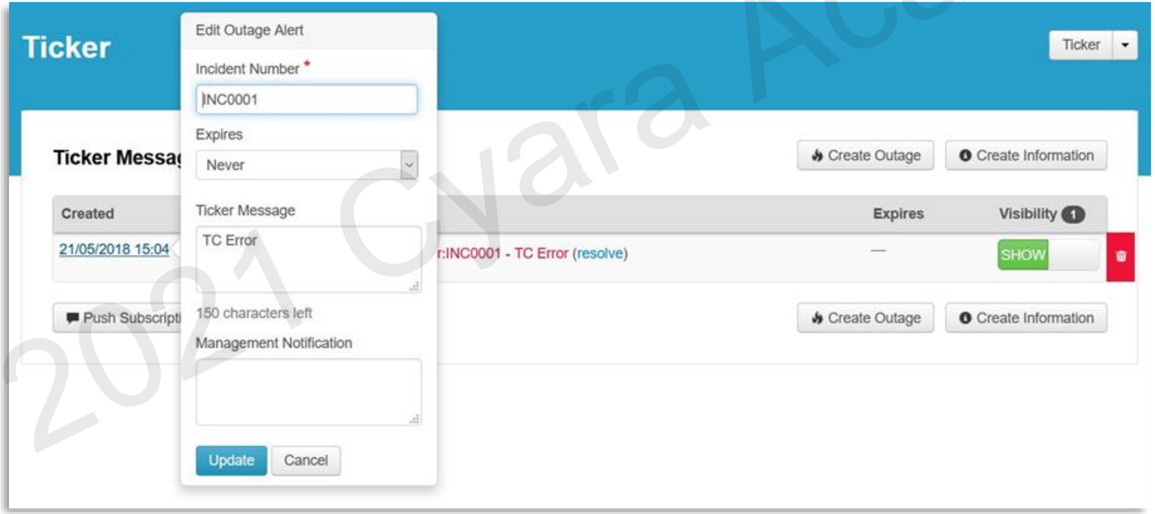


CYARA

Dashboard Administration - Ticker - Editing an Outage

To edit an Outage Message on the Dashboard, click the timestamp of the message and then enter the new information.

Click **Update** to confirm the changes.

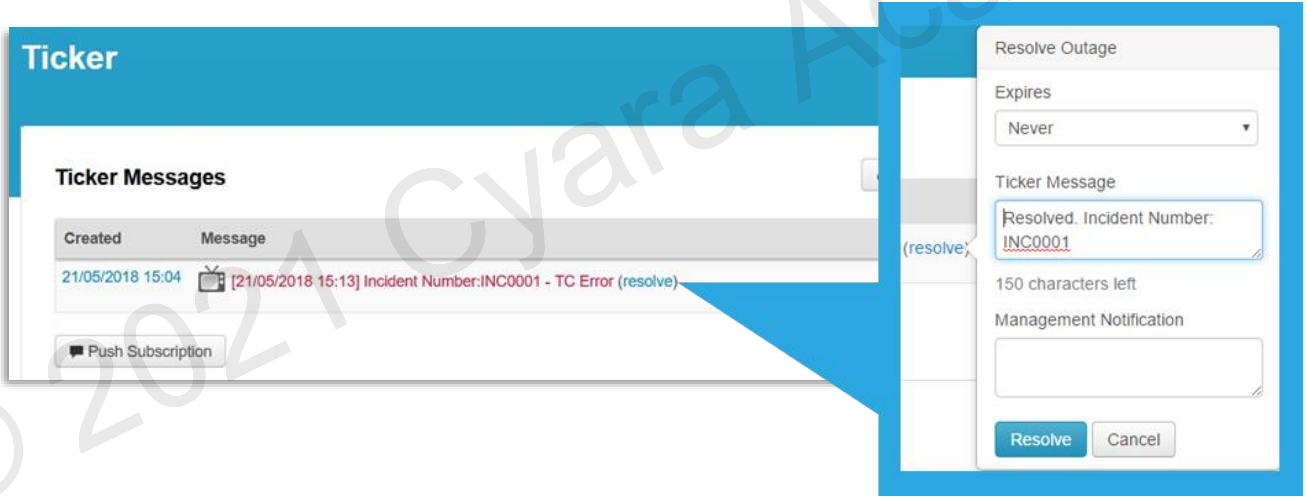


CYARA

Dashboard Administration - Ticker - Resolve Outage

To show that an outage has been resolved on the Dashboard, click the word **resolve** within the outage message and then update the Ticker Message (and Management Notifications) as appropriate.

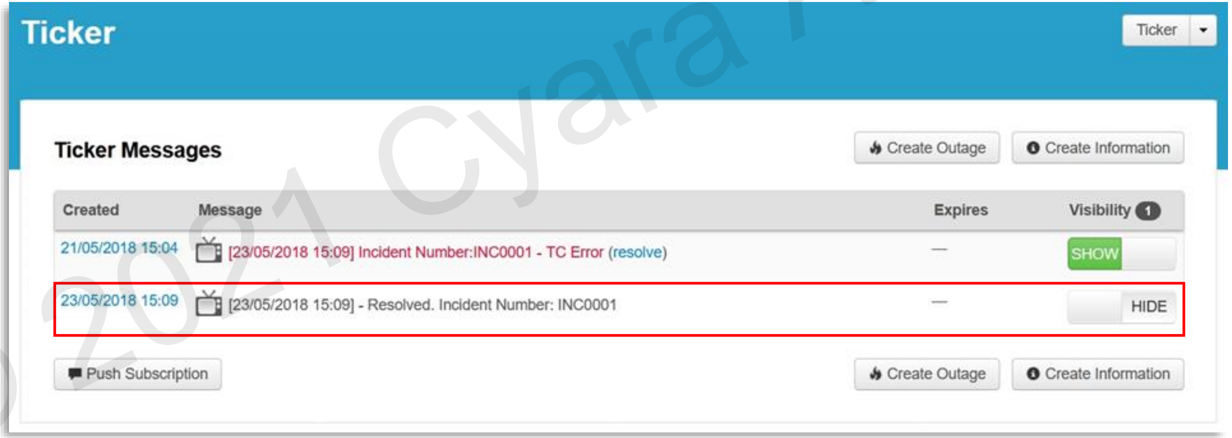
Click **Resolve** to confirm the changes.



Dashboard Administration - Ticker - Resolve Outage

A new Resolved Ticker message will be created (as shown below) but it will be hidden by default. To display the Resolved message on the Dashboard, slide the **Visibility** status to **Show**.

When you slide the Resolved message's Visibility status to Show, the Outage message's Visibility status will automatically be set to Hide. You can override this by setting the Visibility status back to Show if you wish.



CYARA

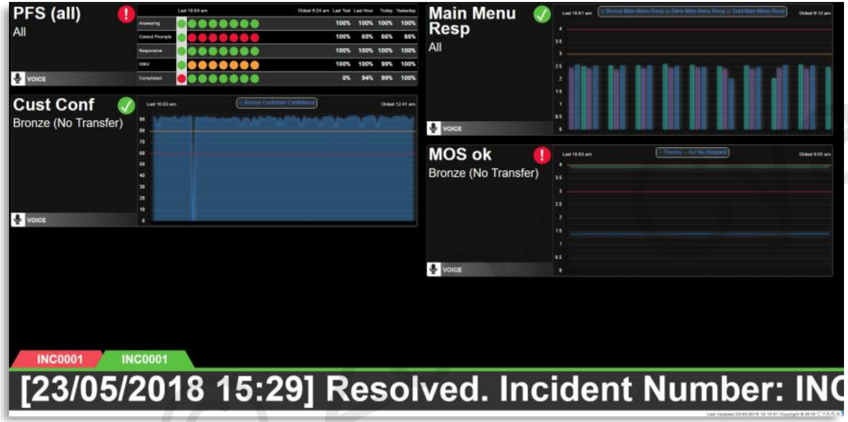
Dashboard Administration - Ticker - Resolve Outage

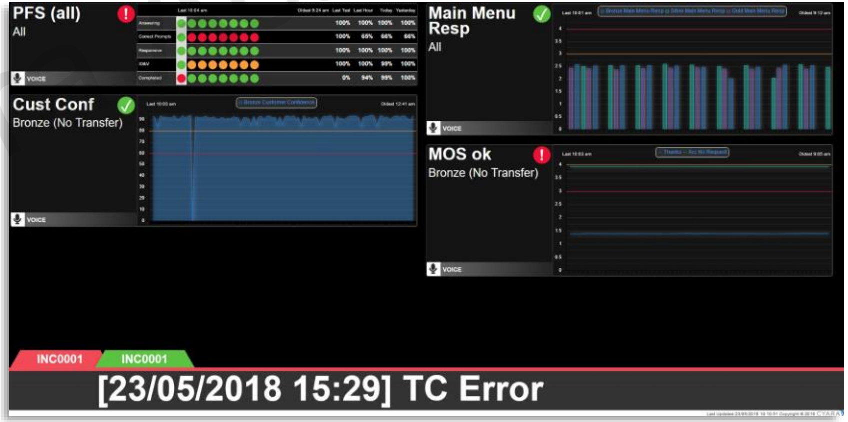
The Dashboard Ticker will scroll the resolved outage message with the current timestamp.

The incident number will also be displayed above the Ticker (in green).

Dashboard Administration - Ticker - Resolve Outage

If both Outage and Resolved messages' Visibility status are set to Show, The Dashboard Ticker will alternate scrolling of both messages.





CYARA

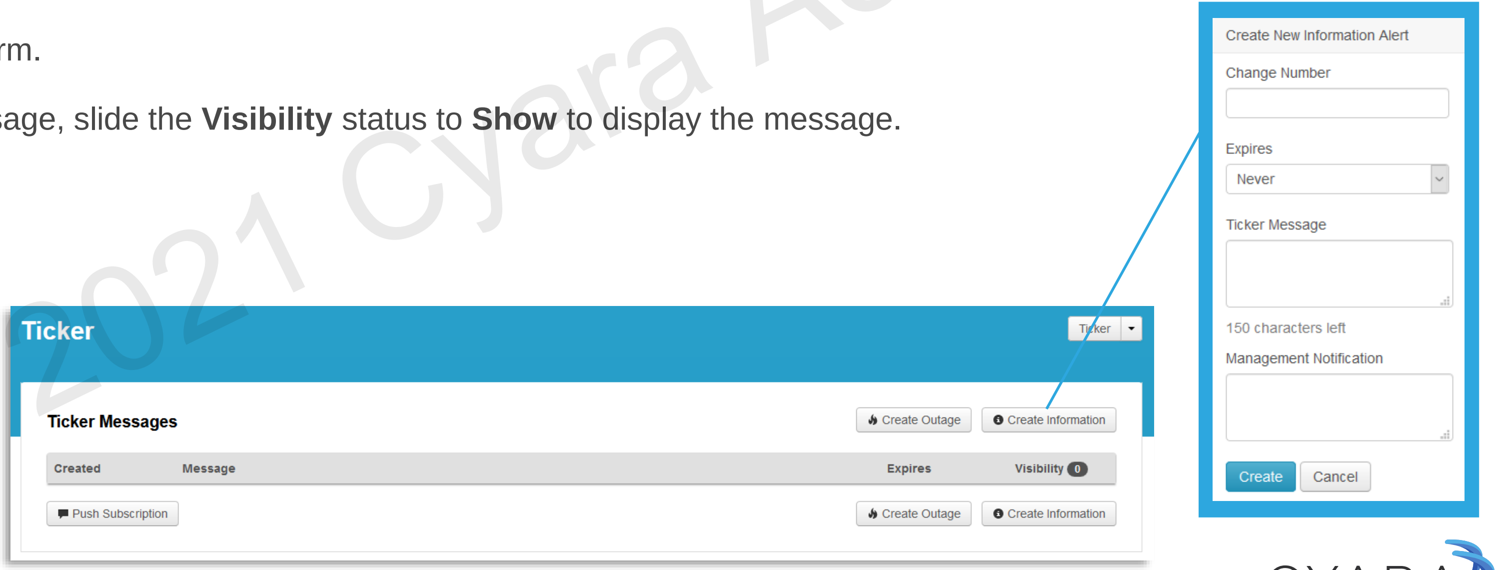
Dashboard Administration - Ticker - Information Message

To **generate an Information message** on the Dashboard, click the **Create Information** button.

- Enter relevant information into each field.
  - Change Number (reference number if required)
  - Expires (expiry time if applicable - set to Never by default)
  - Ticker Message (note the 150 character limit)
  - Management Notification (only used for Push notification service)

Click **Create** to confirm.

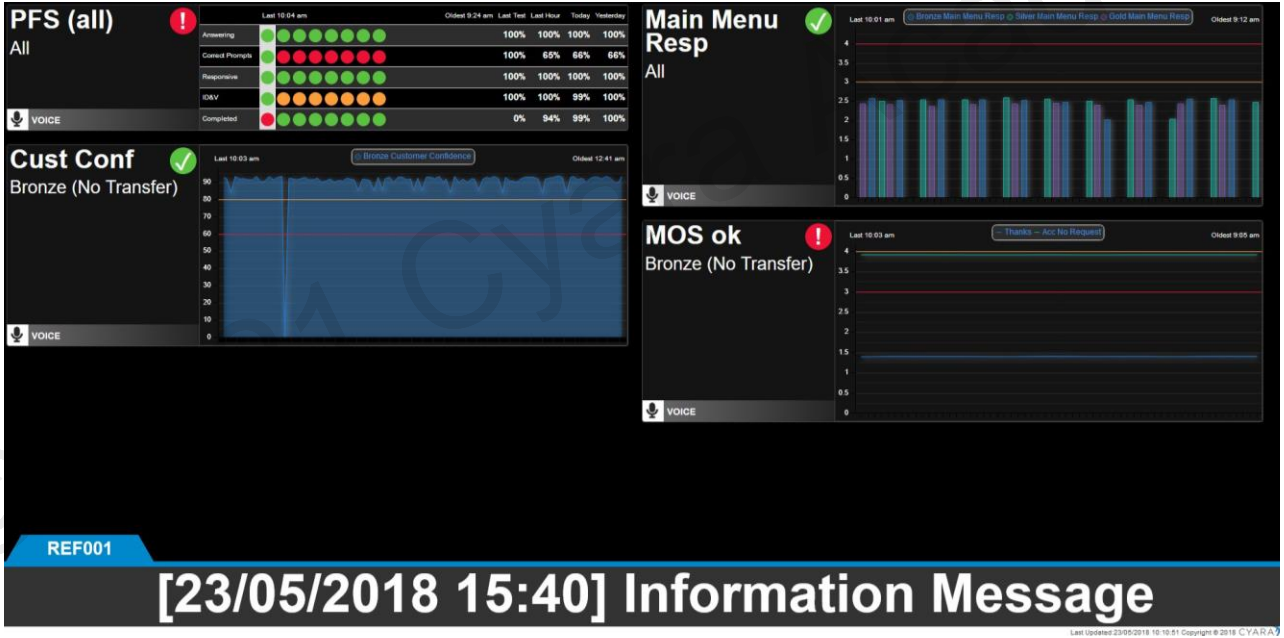
On the created message, slide the **Visibility** status to **Show** to display the message.



Dashboard Administration - Ticker - Information Message

The Dashboard Ticker will scroll the Information Message with the current timestamp.

The reference number will be displayed above the Ticker (in blue).

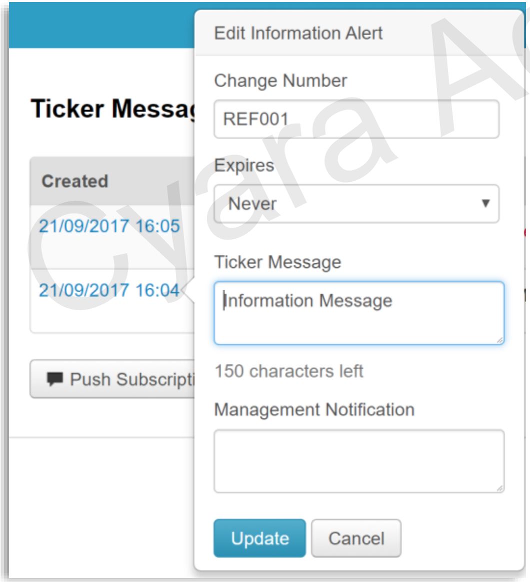


CYARA

Dashboard Administration - Ticker - Information Message

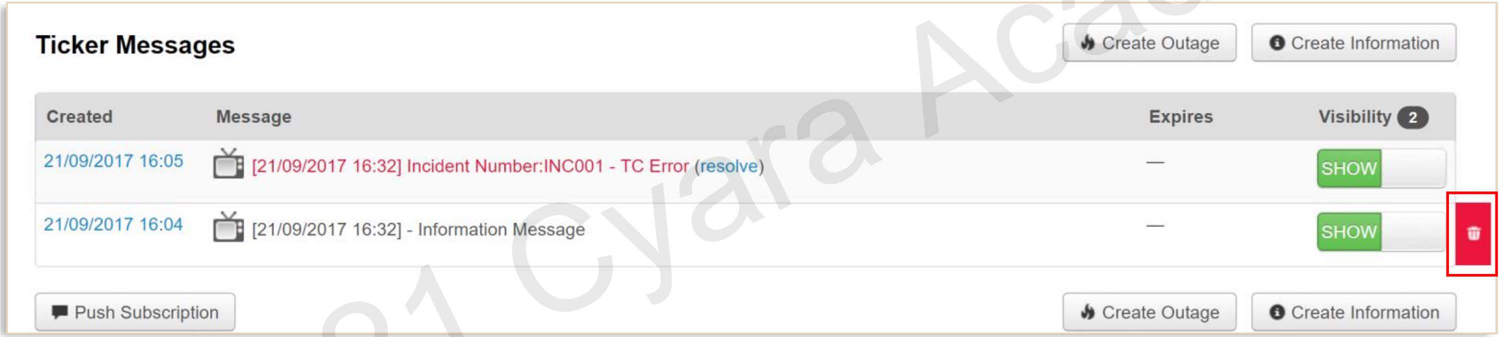
To Edit an Information Message on the Dashboard, click the timestamp of the message, then enter the new information.

Click **Update** to confirm the changes.



Dashboard Administration - Ticker - Delete Message

To Delete an Outage, Resolved or Information Message, hover your mouse cursor over the message and then click the **Trash/Bin** icon.

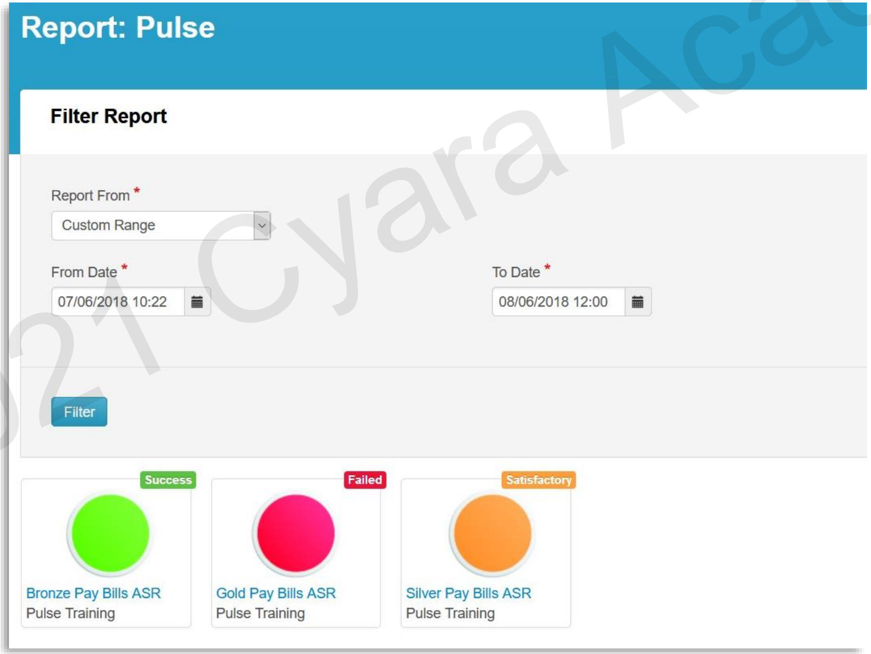


Unit 5: Reporting and Analysis

Reporting and Analysis - Pulse Summary Report

The Pulse Summary Report provides dashboard style reporting by displaying color coded results of Test Cases run within a Pulse Campaign.

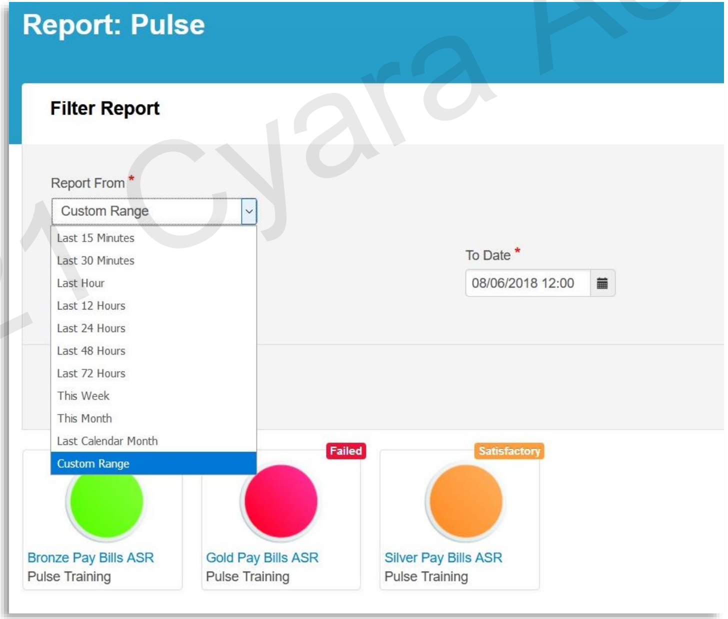
- Green = Successful
- Red = Failed
- Orange = Satisfactory



Reporting and Analysis - Pulse Summary Report

The Pulse Summary Report results can be filtered to show results from:

- The last 15, 30 minutes, last hour, last 12, 24, 48 or 72 hours
- This week, this month
- Last calendar month
- A custom range up to 3 months



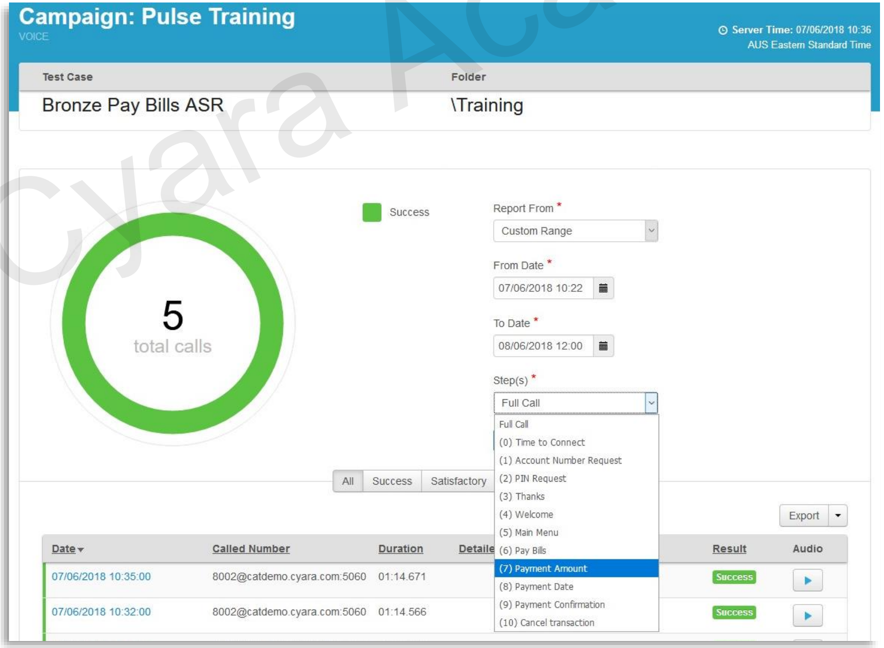
CYARA

Reporting and Analysis - Pulse Summary Report

Clicking on test case results will display a detailed view of the results. The details can be filtered by step number to see if failures are occurring at specific steps.

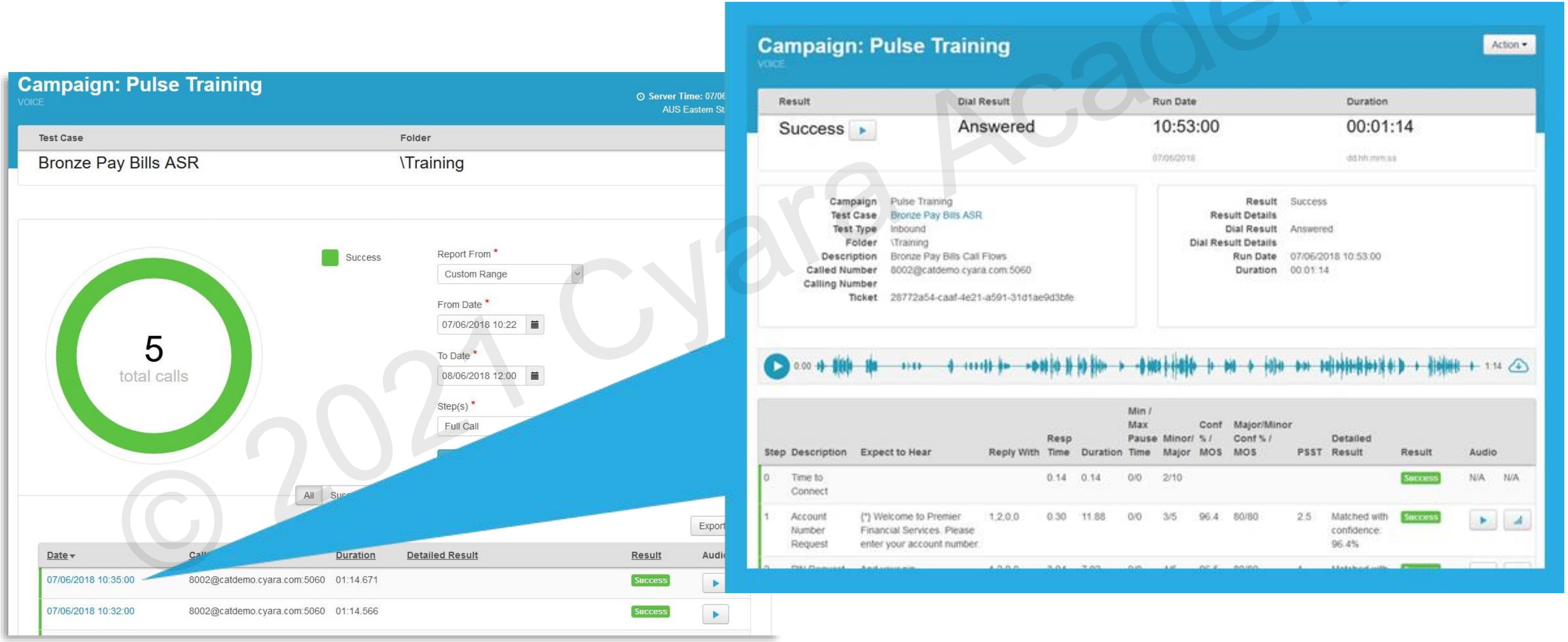
Summary results for each call are displayed, including:

- Date and timestamp
- Called number
- Call duration
- Detailed result (if not successful)
- Result (success, Satisfactory, Failed)
- Audio (full call recording)



Reporting and Analysis - Pulse Summary Report

Clicking on a call will open the Result Details page (as per a standard Test Case results page).

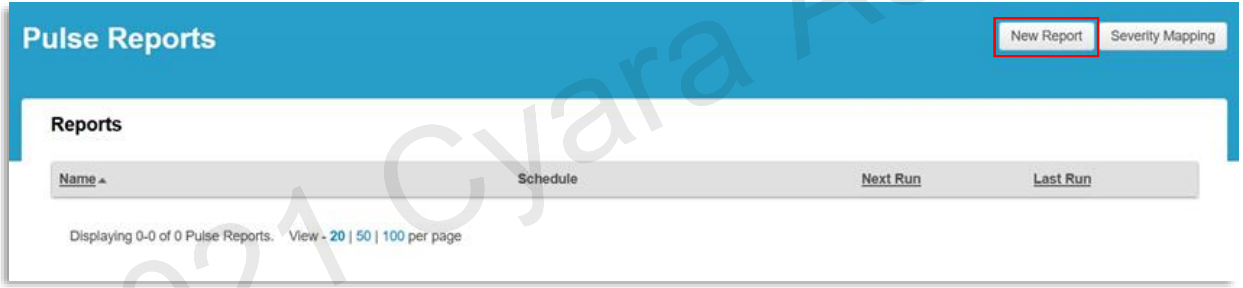


Custom Reports

Reporting and Analysis - Pulse Custom Reports

Custom Reports allows the creation of tailor-made reports with various filters and reporting schedules.

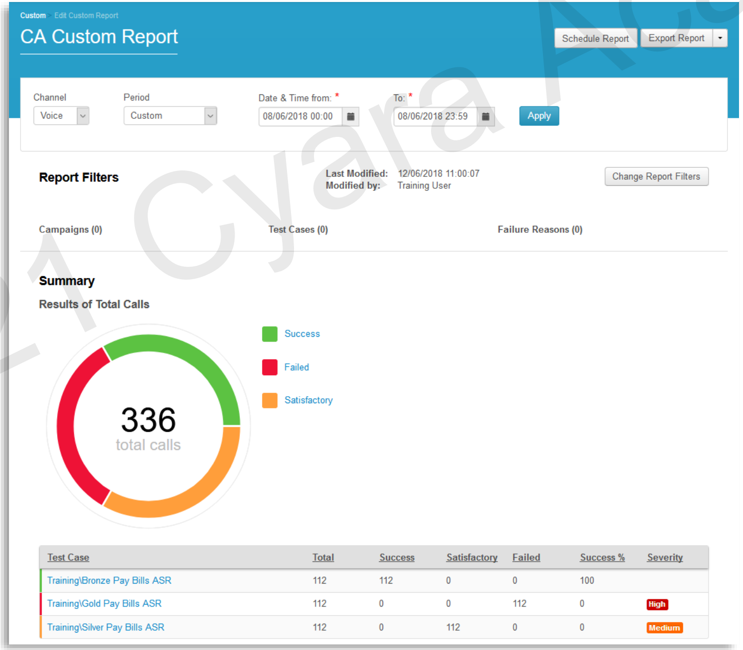
To create a custom report, select **Custom** from the Pulse section of the Reports menu, then click **New Report**.



Reporting and Analysis - Pulse Custom Reports

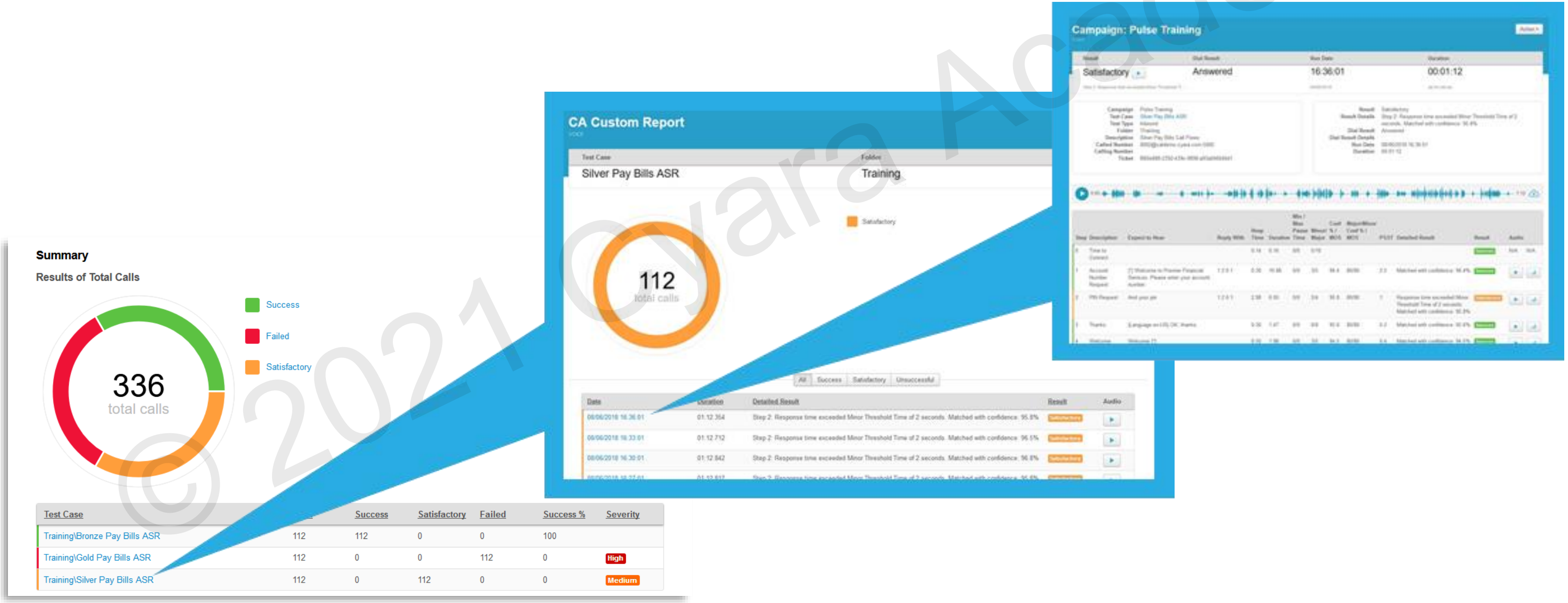
From the Edit Custom Report page, enter a name for the report, select the appropriate Channel and Period that the report should encompass. If you select Custom as the Period, choose the date and time range that you want the report to encompass.

Clicking **Apply** will display a summary of results that satisfy the report criteria.



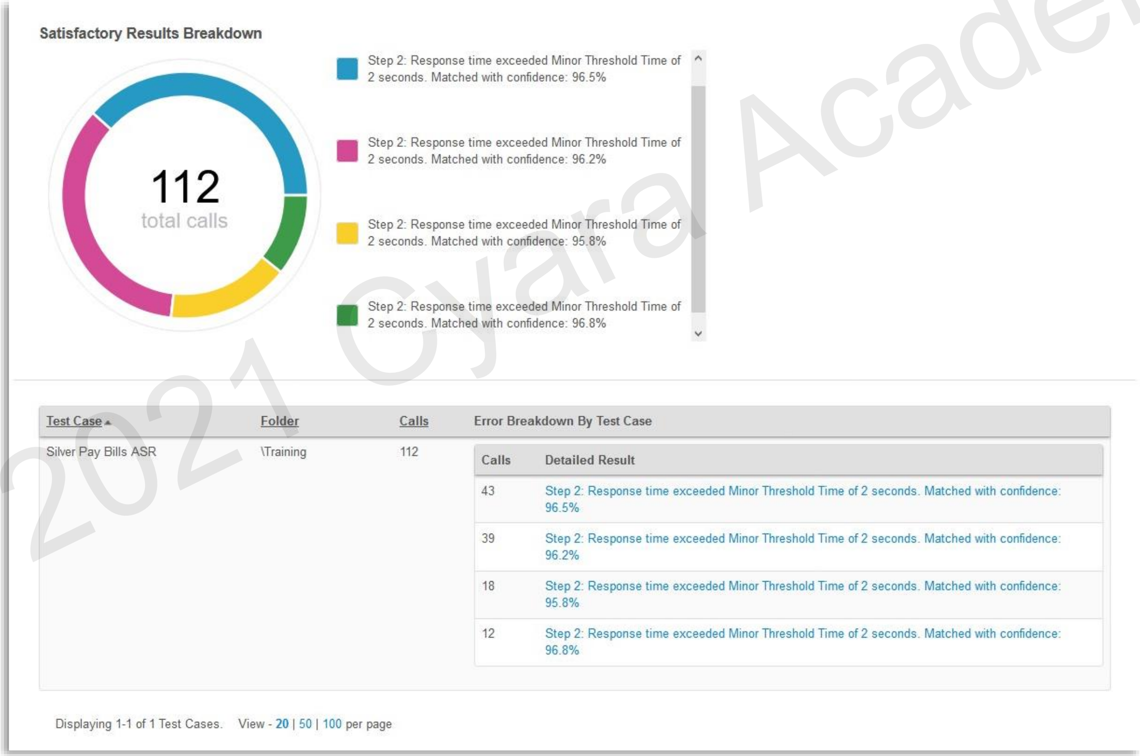
Reporting and Analysis - Pulse Custom Reports

As per other Cyara reports, hovering your mouse cursor over a section of the pie chart will display a detailed breakdown of the results. Clicking a test case link will take you to the Test Case results breakdown for each call generated during the report time period, and then clicking on a timestamp will drill down further to the call validation details.



Reporting and Analysis - Pulse Custom Reports

Clicking on a section of the pie chart will navigate to the corresponding list of error breakdown by test case for that category.



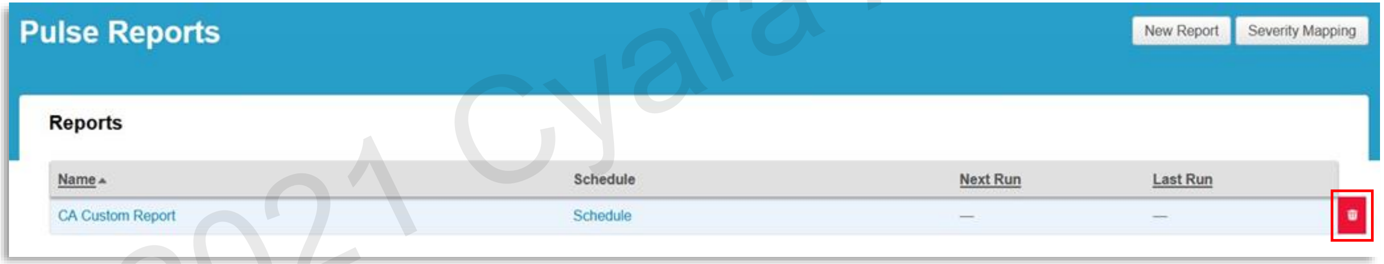
Reporting and Analysis - Pulse Custom Reports

You can change the report filters so the output of the report is based on specific Campaigns, Test Cases or Failure Reasons. Check the boxes beside the criteria you want to report on and then click Save and Run to update the Custom Report.

Reporting and Analysis - Pulse Custom Reports

Select Custom Reports from the Pulse section of the Reports menu. Any schedules (if set) will be shown.

Click the report name to edit the details. To delete a report, hover your mouse cursor over the report, then click the Trash/Bin icon.



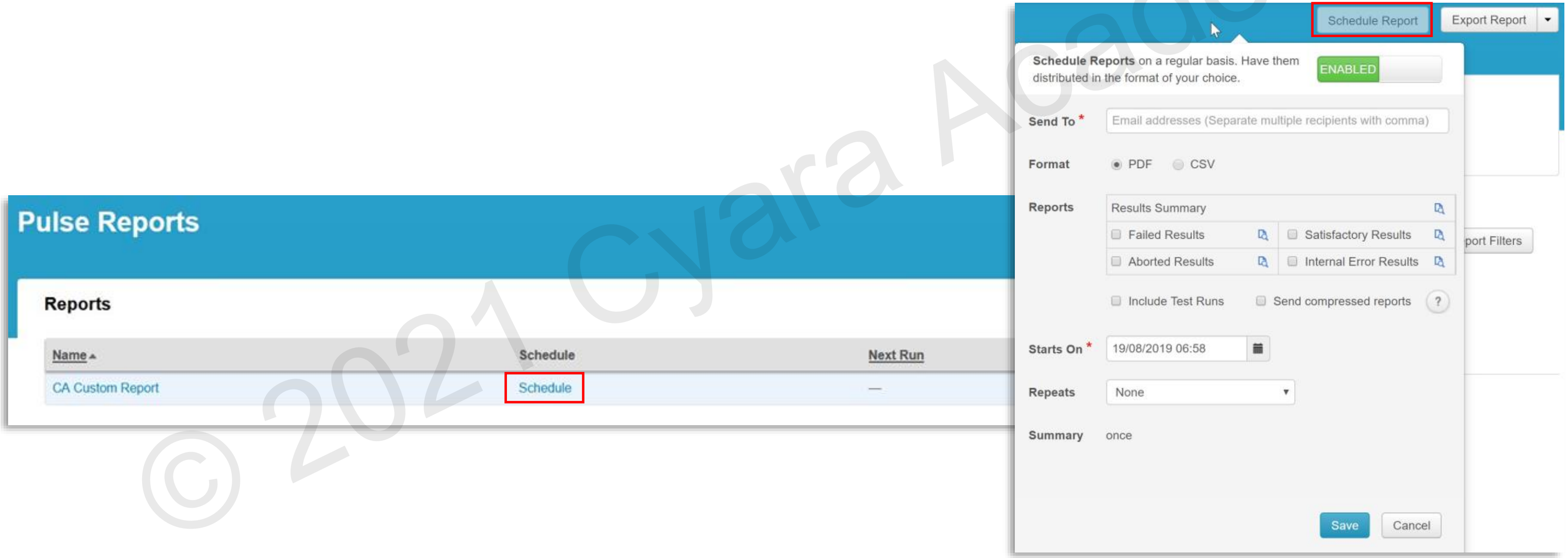
CYARA

Scheduling Custom Reports

CYARA

Reporting and Analysis - Scheduling Pulse Custom Reports

To set a schedule for a Custom Report, click the schedule link beside the report in the Pulse Report list, or, click the **Schedule Report** button at the top right of the Edit Custom Report page.



CYARA

Reporting and Analysis - Scheduling Pulse Custom Reports

Custom Reports can be scheduled to email out to specific people or groups on a periodic basis.

Select / enter the appropriate information in each field:

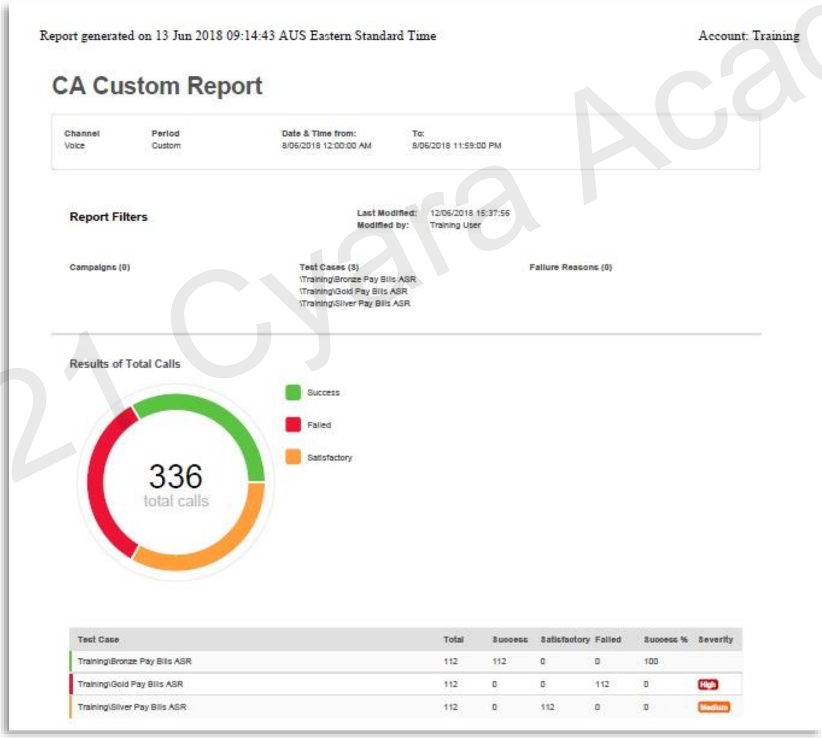
- **Send To** - Enter email addresses. Use a comma (,) to separate addresses
- **Format** - Select either PDF or CSV format for the generated report
- **Reports** – Select either a full summary or generate sub reports for failed categories
- **Starts On** - Select a date and time that the Custom Report should be initially generated
- **Repeats** - Select How often the Custom Report should be generated. Choose between every hour, day, week, month or year. The options in this field change depending on the Repeat option chosen e.g. if Every Week is chosen, you can then select which day of the week the report should be generated on.
- **Summary** - Displays a textual summary of the schedule options you have selected

Using the Preview link, you can see what the report will look like prior to saving the settings. After clicking the link, you will be prompted to Open / Save the generated report.

Ensure the Enabled / Disabled slider is set to enabled, then click **Save** to save and start the report schedule.

Reporting and Analysis - Scheduling Pulse Custom Reports

Below is a sample Custom Report generated in PDF format. Custom Reports will be attached to an email in the specified format and sent to the users defined in the Send To field.



Report generated on 13 Jun 2018 09:14:43 AUS Eastern Standard Time

Account: Training

CA Custom Report

Channel	Period	Date & Time from:	To:
Voice	Custom	8/06/2018 12:00:00 AM	8/06/2018 11:59:00 PM

Report Filters

Last Modified: 12/06/2018 15:37:56
Modified by: Training User

Campaigns (0)

Test Cases (3)
\Training\Bronze Pay Bills ASR
\Training\Gold Pay Bills ASR
\Training\Silver Pay Bills ASR

Failure Reasons (0)

Results of Total Calls

Test Case	Total	Success	Satisfactory	Failed	Success %	Severity
Training\Bronze Pay Bills ASR	112	112	0	0	100	
Training\Gold Pay Bills ASR	112	0	0	112	0	High
Training\Silver Pay Bills ASR	112	0	112	0	0	Medium

Reporting and Analysis - Pulse Custom Reports Severity Mapping

When a test case fails, the failure is grouped into an existing Failure Reason category.

- e.g. "Step 1: Response time exceeded Major Threshold Time of 5 seconds" is grouped into the Exceeded Major Threshold category.

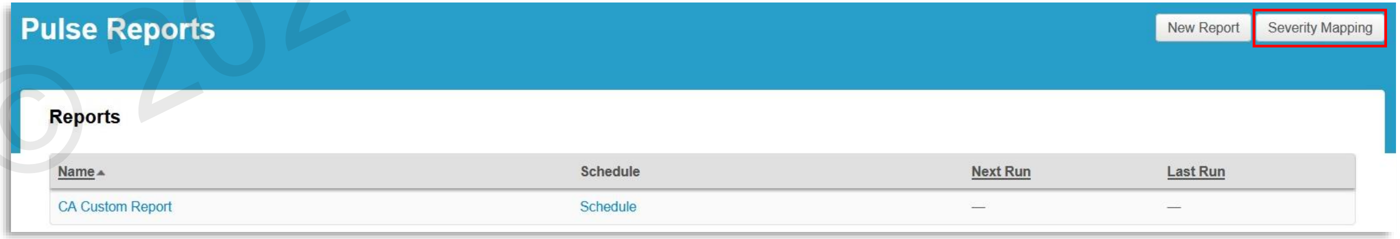
Each Failure Reason category has a severity level assigned to it.

- e.g. Exceeded Major Threshold is set to a "High" severity level by default

Severity Mapping allows you to define custom severity levels for each of the Failure Reason categories.

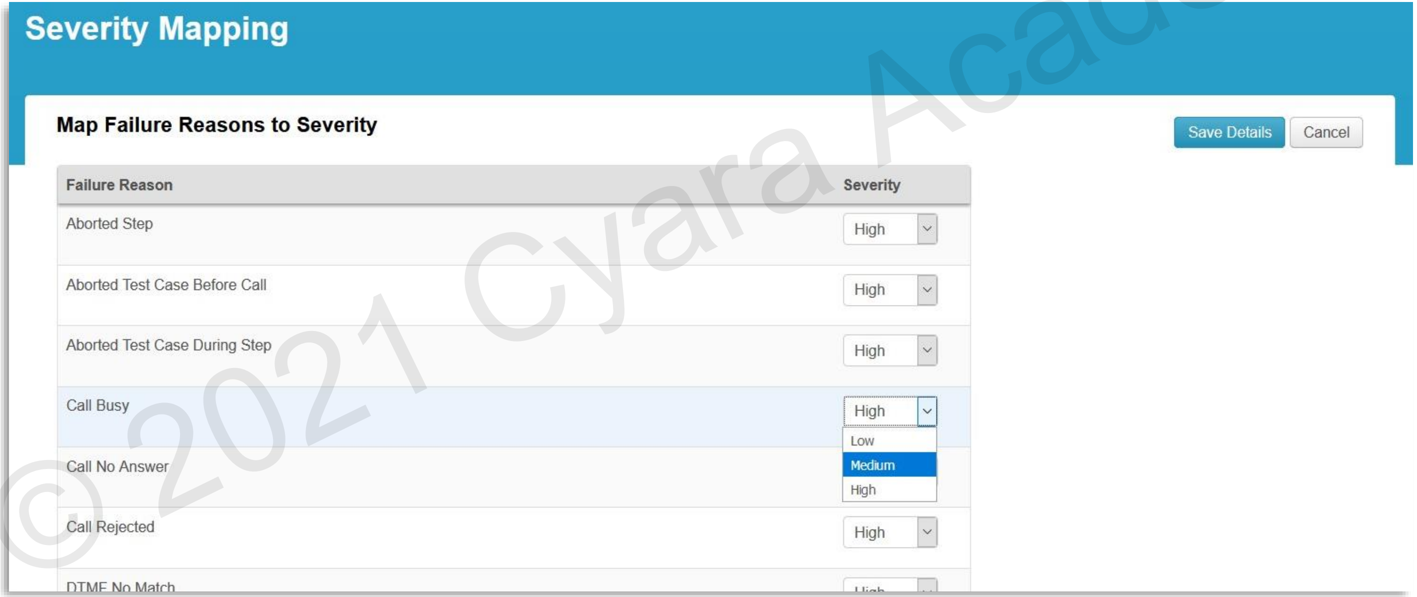
Severity Mapping only applies to Custom Reports i.e. test case validation results and alarm notification triggers are not affected.

To customize Severity Mapping, click the **Severity Mapping** button located at the top right of the Pulse Reports page (click **Custom** from the Pulse section of the Reports menu).



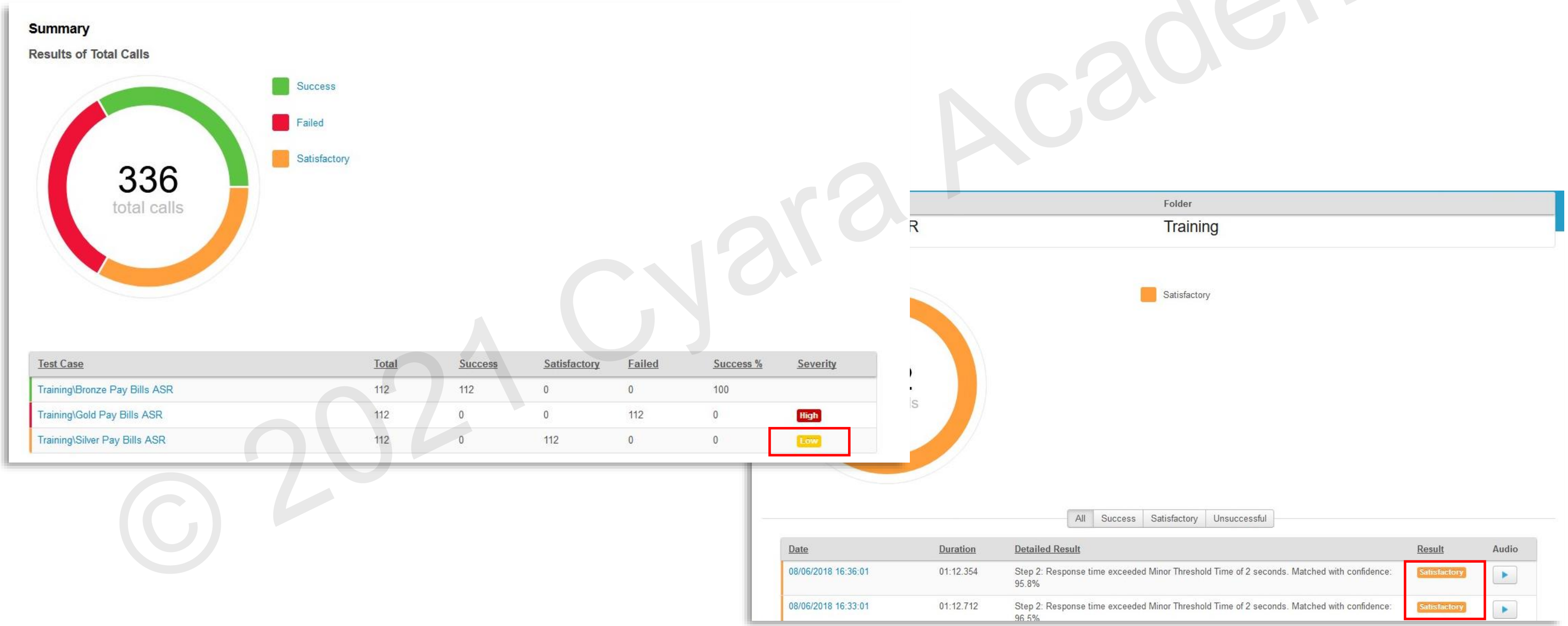
Reporting and Analysis - Pulse Custom Reports Severity Mapping

To change the Severity of a Failure Reason, find the Failure Reason in the list, use the drop-down menu to select the desired Severity for the failure and then click the **Save Details** button to apply the change.



Reporting and Analysis - Pulse Custom Reports Severity Mapping

As shown below, Severity Mapping displayed in Custom Reports doesn't affect test case validation results.



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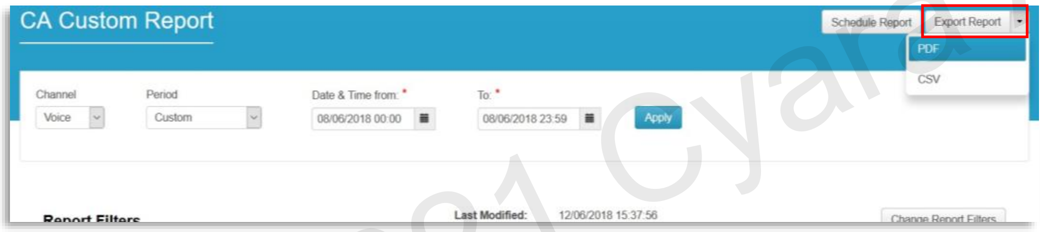
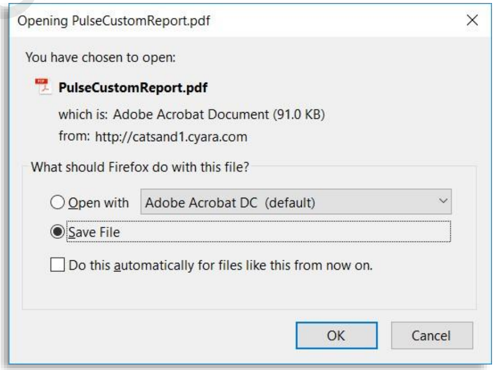
Reporting and Analysis - Exporting Pulse Custom Reports

Custom Reports can be exported at any time from within the Edit Custom Report page.

To export a report, click the **Export Report** button to export a CSV file or click the small arrow beside the Export Report button to select PDF as the exported file format.

Doing either of the above will prompt you to Open / Save the exported file.





Other reports can also be exported in PDF or CSV format by clicking the **Export Report** button on the applicable report page.

Active Alerts Report

Reporting and Analysis - Active Alerts Reports

The Active Alerts report displays Pulse Campaign test cases that are currently in an alert state, meaning that the Minor or Major threshold count has been breached.

The report provides operational information regarding how long a Pulse test case has been in an alert state so that you can take the appropriate action based on your organization's incident management policies.

The report includes the following fields:

- **Campaign** - The name of the Pulse Campaign running the test case affected
- **Test Case** - The name of the test case in alert state
- **Step** - The number of the step that failed during the last Pulse Campaign run
- **Failure Type** - Minor or Major failure
- **First Occurrence** - The date and time when the failure thresholds were first breached
- **Active Time** - How long the test case has been in an alert state
- **Alerts Sent** - How many notifications of the alert have been sent out via email / SMS. If the alert frequency (in the test case) is set to "Once", the notifications will be sent only for unique errors

Reporting and Analysis - Active Alerts Reports

To sort the Active Alerts report, click on the appropriate column header. By default the report will be ordered by the first occurrence.

To refresh the Active Alerts report, click the refresh button located in the top right corner of the table.

To export the Active Alerts report in CSV file format, click the **Export Report** button.

To email the Active Alerts report in CSV file format to yourself (or anyone), click the **E-mail Report** button.

Once a Pulse Campaign test case that has a Major alert completes with a “Success” or “Satisfactory” result, the alert will be closed and removed from the Active Alerts report.

Pulse Reports: Active Alerts

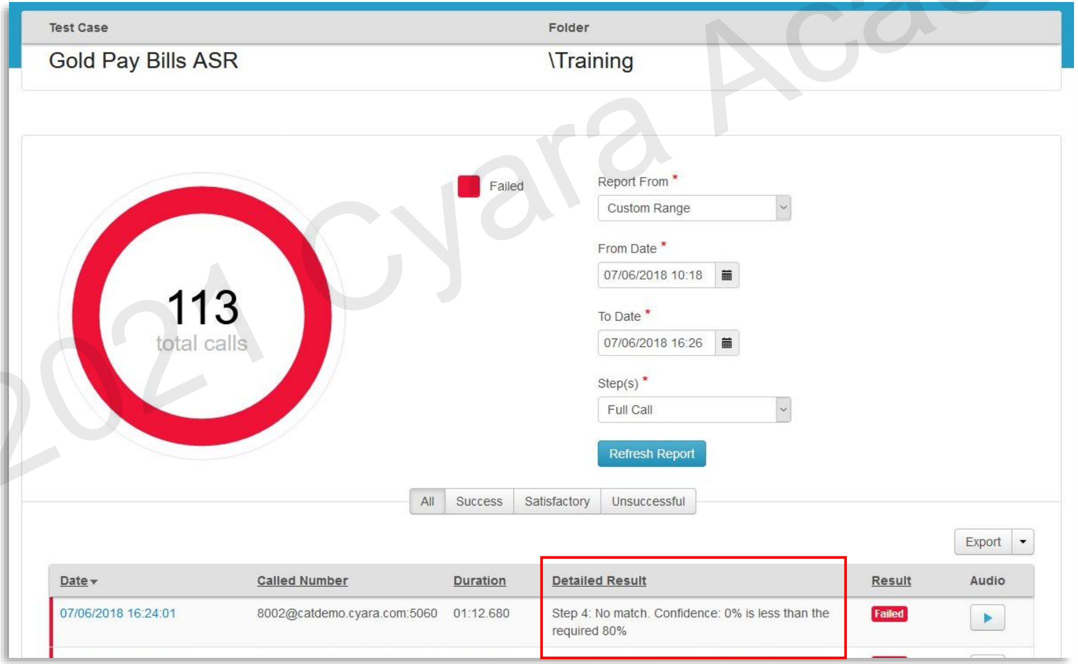
E-mail Report | Export Report

Campaign	Test Case	Step	Failure Type	First Occurrence ▲	Active Time	Alert Sent
Pulse Training	Gold Pay Bills ASR	4.Welcome	Major	07/06/2018 10:18	5 hours 50 minutes	0
Pulse Training	Silver Pay Bills ASR	2.PIN Request	Minor	07/06/2018 10:30	5 hours 38 minutes	0

Reporting and Analysis - Active Alerts Reports

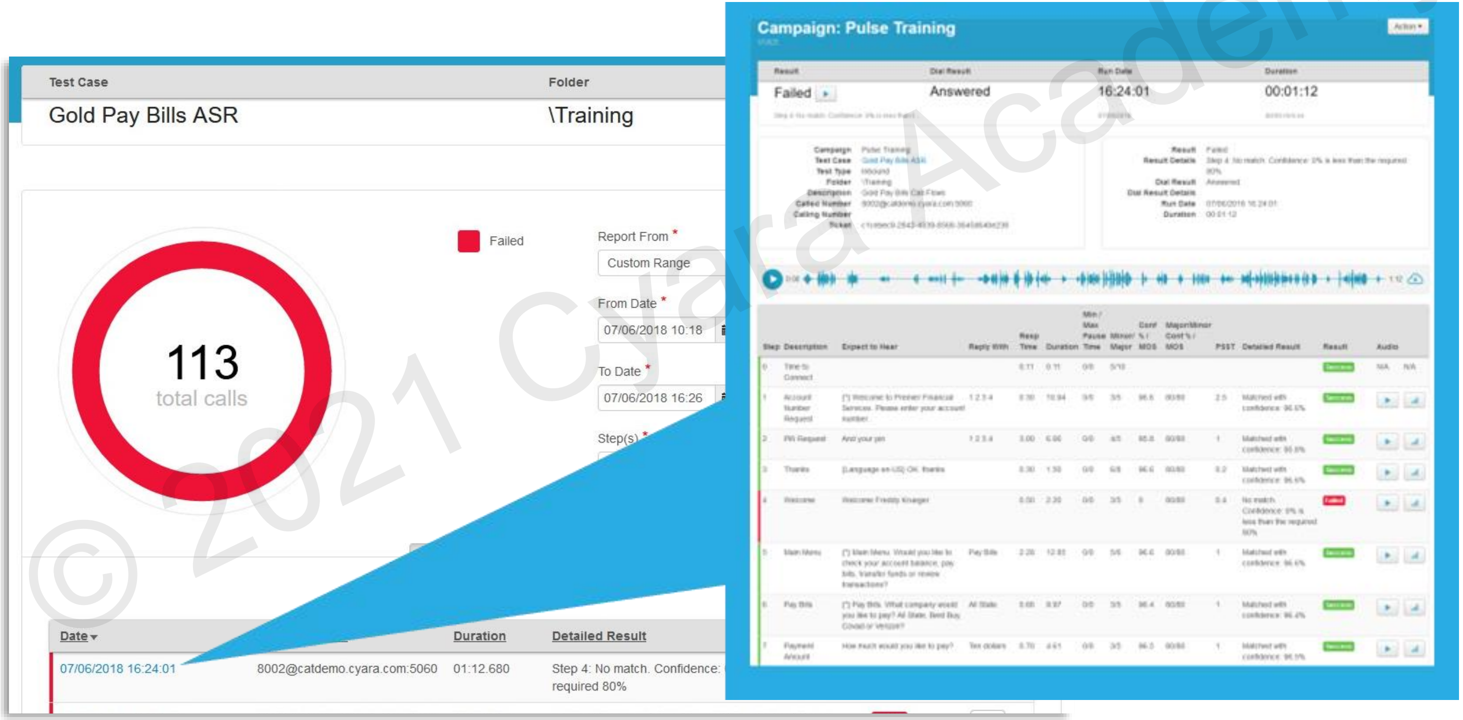
As well as being informed about the Pulse Test Cases currently in the alert state, the Active Alerts report allows you to identify the root cause of an incident. To find this information, click on a row in the report to navigate to the Pulse Detail page.

The cause will be described under the Detailed Results header.



Reporting and Analysis - Active Alerts Reports

Clicking on a call will open the Result Details page (as per a standard Test Case results page).



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Troubleshooting Results

Reporting and Analysis - Reasons for Failed Results

There are various reasons for failed results in Pulse reports. Some of the more common reasons include:

- Actual prompts are different to the expected prompts
- Optional prompts (e.g. Hot Topics) being inserted into call flows after test cases were created
- Low volume on prompt recordings
- Poor audio quality of prompts e.g. clipping or jitter

Some failed results may be false negatives. Reasons for false negative results include:

- Confidence Thresholds set too high
- Gaps of silence varying between test runs affecting PSST, and hence, recognition
- Phonetic spelling not used in the test case Expect to Hear fields
- No gaps present between acronyms e.g "NYPD" instead of "N Y P D"

Reporting and Analysis - Hints for Interpreting Results

Some helpful hints when resolving failures and interpreting results include:

- Listening to Step audio recordings first is quicker than listening to full call recordings
- Call durations are key to finding failures
- Using a wave file editor for audio analysis helps to visually locate anomalies
- Exporting results allows the ability to sort and dimension data in an application such as Microsoft Excel
  - e.g. by test case then duration, or by test case then detailed results then duration etc.

Unit 6: Alarm Notification

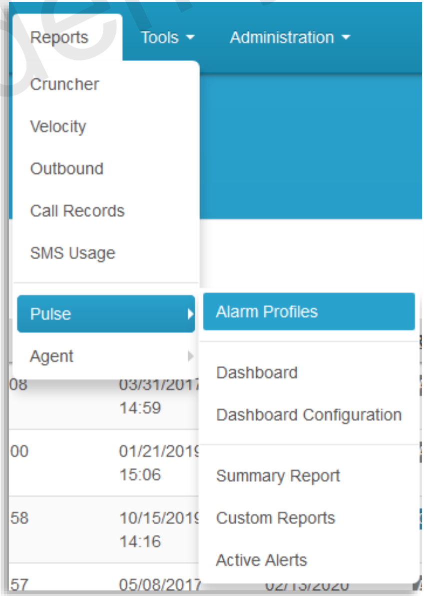
Alarm Profiles

Alarm Profiles can be created to enable alarm notifications to be sent via Email, Web Hook or push notifications to the Cyara Mobile App in the event of Test Case failures occurring during a Pulse Campaign.

Alarm Profiles can be created for each user associated with the active portal account and alarm notifications can be sent to multiple recipients at the same time.

If calls made during the Pulse Campaign breach predefined thresholds, Cyara will send an alarm notification to users about the failure, ensuring that you'll be the first to know if the customer experience is not performing as intended.

To create an **Alarm Profile**, select Alarm Profiles from the Pulse section of the Reports menu.



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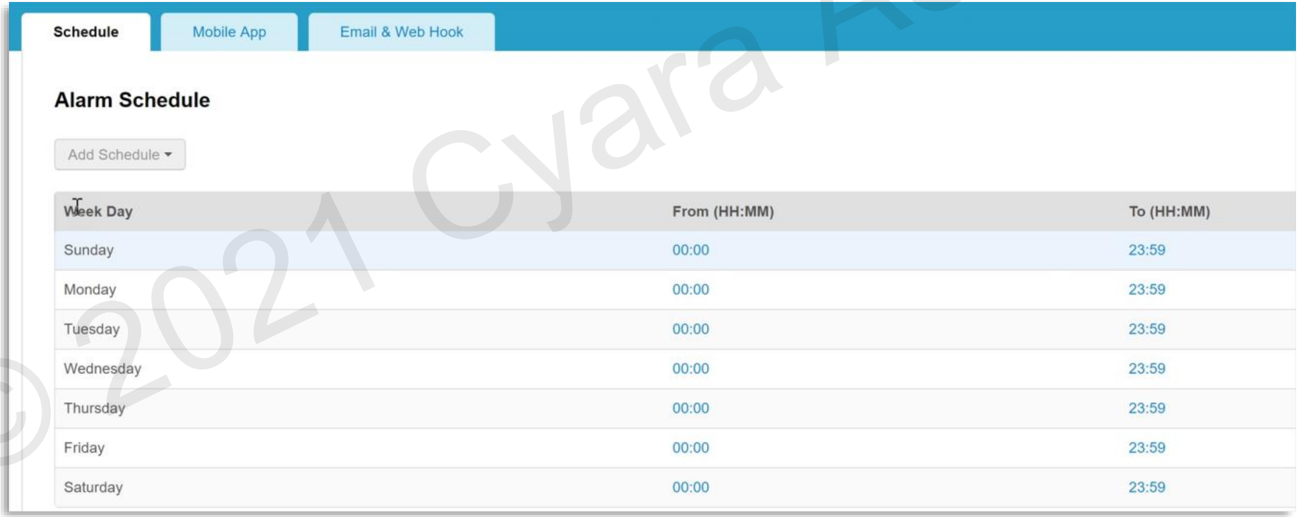
Alarm Profiles

Click the **New Profile** button and then select the appropriate user for whom you want to create the profile for.
- Note: only users attached to the currently active Account will be available for selection

Customize the Alarm Schedule if required.
- The schedule is set to 24/7 by default but it can be altered per day and/or time range

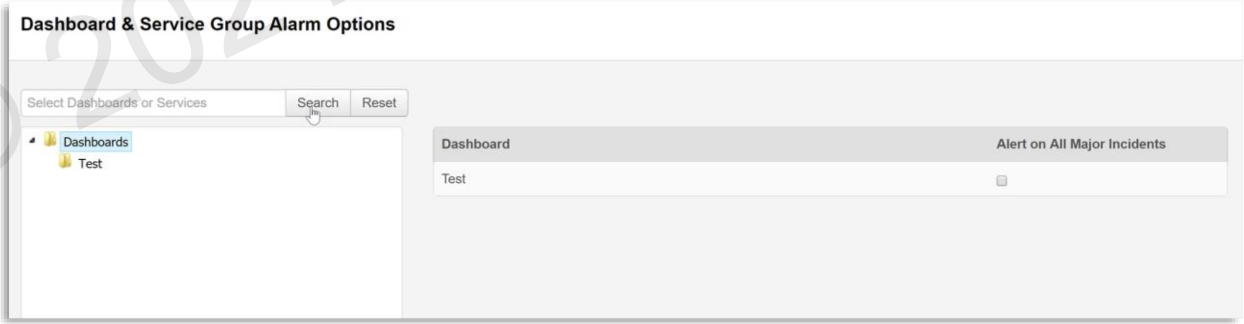


Alarm Profiles

Under the Mobile App tab, you can choose to receive failure alerts through push notifications to the Cyara Mobile App.

Notifications threshold values can be set, based on the number of failures occurring within a rolling attempts window.

If any custom Dashboards have been set, you can choose to be alerted on all Major Incidents from one or more Dashboards, or from specific Service Groups within Dashboards.

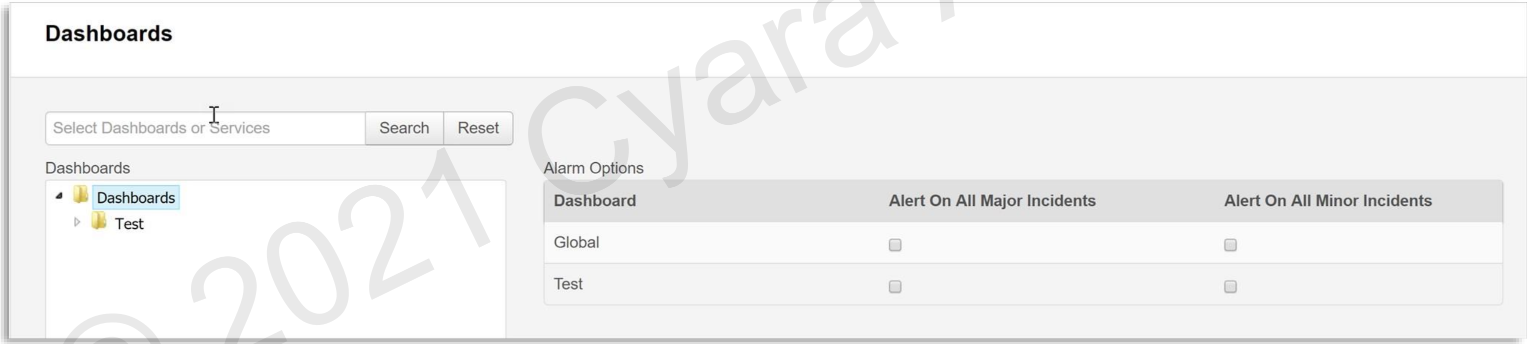


Alarm Profiles

Under the Email & Web Hook tab, you can choose to receive alerts via Email or Web Hook for third party notification platforms using an appropriate POST URL.

Templates can potentially be used for the Web Hook option.

You can choose to be alerted on all Minor and/or Major Incidents from one or more Dashboards, or from specific Service Groups within Dashboards.



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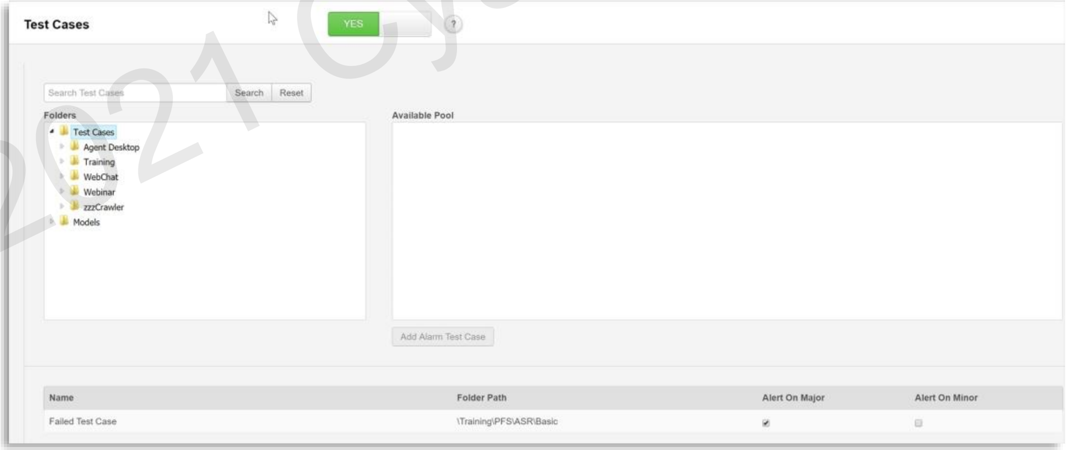
Alarm Profiles

You also have the option of being alerted of failures within specific Voice Test Cases. Expand the Test Cases section by sliding the switch to YES.

Browse the folder structure on the left-hand side or use the search field to find the Test Case(s) you wish to assign to the Alarm Profile, then select the Test Case(s) in the Available Pool on the right-hand side and click the **Add Alarm Test Case** button.

- Note: the Alert Settings For Pulse and Alert Frequency are configured within the test case itself, as described on the next slides

After adding the Test Cases, choose whether to be alerted on Major and/or Minor breaches via the check boxes beside each Test Case and then click **Save Details** to save the Alarm Profile.



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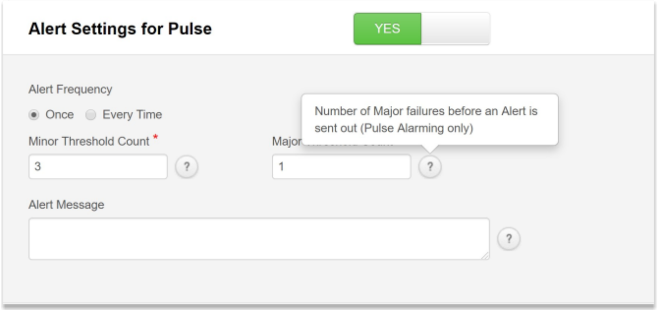
Test Case Alert Settings for Pulse Campaigns

When creating or editing a Test Case, the Alert Settings for Pulse option can be enabled to allow threshold count breaches to trigger notifications via Email, Web Hook or push notifications to the Cyara Mobile App. This option is only relevant for Pulse Campaigns and is disabled by default. When toggled on, you can then set the Minor and Major Threshold count values, Custom Alert Message (that will be sent when the Threshold count values are breached) and the Alert Frequency.

Each Step of a Test Case has a Minor and Major Threshold level. The Major Threshold is the maximum allowable response time for each Step before the Step counts as a ‘fail’ result. Normally, you would want to be informed of this as soon as it occurs, which is why you would keep the Major Threshold count as 1. However, you can assign any value to the Major Threshold count. As an example, specifying a value of ‘1’ as a Major Threshold count will trigger an alert when there is a Step marked as a 'failed' result. Hard Aborting an in-progress campaign will also increment the Major Threshold count for each Test Case in the Campaign.

The Minor Threshold is the maximum allowable response time for each Step before the Step counts as a ‘satisfactory’ result. Minor Threshold violations are Step response times deemed to be of a non-critical nature. Minor Threshold violations may not be a concern if they occur only rarely, but frequent occurrences may indicate a potential problem, so these should be investigated. As an example, specifying a value of ‘3’ as a Minor Threshold count will trigger an alert when there are 3 or more occurrences of a Step in the Test Case that have response times classified as ‘satisfactory’ during a Campaign run.



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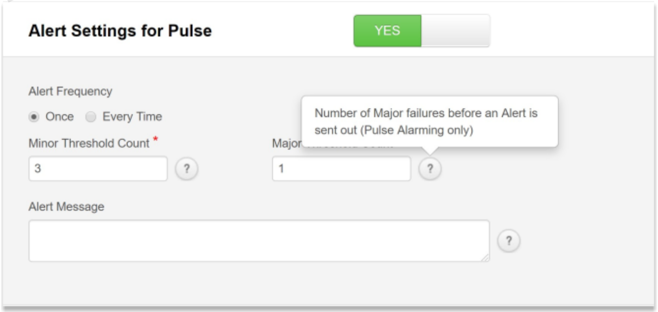
Test Case Alert Settings for Pulse Campaigns

The Alert Frequency can be set to Once or Every Time. If you choose Every Time, Cyara will send a major or minor alert notification every time Test Case failures breach the Minor or Major Threshold limits.

If you choose Once, the alert notification is sent only once if the Test Case has breached the Minor or Major Threshold limit. No additional alert notifications will be sent for further breaches related to the same issue. This avoids sending the major alert notification multiple times if a Test Case consistently fails. If a Test Case result in a subsequent campaign run is classified as ‘Satisfactory’ or ‘Success’, the Major Threshold count will be reset.

Similarly, it avoids sending the minor alert notification multiple times if a Test Case is consistently validating as 'Satisfactory' with the exact same issue. If a Test Case result in a subsequent campaign run is classified as ‘Success’, the Minor Threshold count will be reset.



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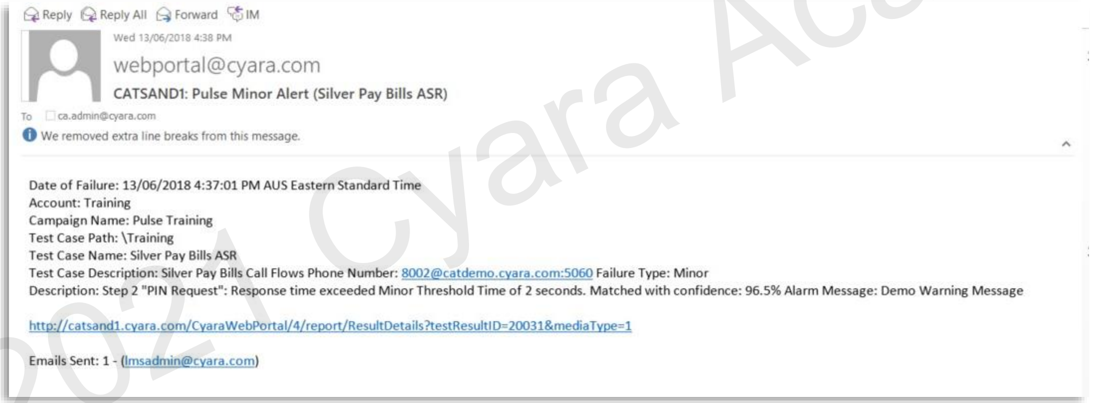
Alarm Notification

Below is a sample Email Notification triggered by a Minor Threshold breach.



Reply Reply All Forward IM

Wed 13/06/2018 4:38 PM

webportal@cyara.com

CATSAND1: Pulse Minor Alert (Silver Pay Bills ASR)

To ca.admin@cyara.com

We removed extra line breaks from this message.

Date of Failure: 13/06/2018 4:37:01 PM AUS Eastern Standard Time
Account: Training
Campaign Name: Pulse Training
Test Case Path: \Training
Test Case Name: Silver Pay Bills ASR
Test Case Description: Silver Pay Bills Call Flows Phone Number: 8002@catdemo.cyara.com:5060 Failure Type: Minor
Description: Step 2 "PIN Request": Response time exceeded Minor Threshold Time of 2 seconds. Matched with confidence: 96.5% Alarm Message: Demo Warning Message

http://catsand1.cyara.com/CyaraWebPortal/4/report/ResultDetails?testResultID=20031&mediaType=1

Emails Sent: 1 - (lmsadmin@cyara.com)

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Course Review

Course Review

By completing this course, you should now understand:

- The Contact Center Operations Environment
- Different strategies to proactively monitor a Contact Center platform
- How to plan, create and execute Campaigns using Cyara Pulse
- How to set up Pulse Schedules
- How to view and administer the Pulse Dashboard
- How to view and analyze Pulse Reports
- How to set up Alarm Profiles
- How to set up Alarm Notifications

This concludes the Cyara CX Monitoring course, we hope you enjoyed your learning experience.

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Customer Smiles. Delivered at Scale.