Universal Controller 6.8.x

Reporting

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Overview

Dashboards are sets of Widgets that provide quick access to information about the Universal Controller activity and system information.

The Controller Home Dashboard, which displays when you log in to the Controller, is a system-defined dashboard.

The Controller provides a set of Widgets, each of which you can add to any dashboard. You also can create your own Widgets and add them to any dashboard.

Note

You cannot add Widgets to or remove Widgets from the Home dashboard, and you cannot delete the Home dashboard, but you can copy it.

Accessing the Dashboards

To access the Dashboards, you can either:

- Click the Dashboards tab to display the currently selected dashboard.
- Click the Home icon at the top of any page to display your Home dashboard.
- Click **Dashboards** in the Reporting navigation pane to display your default dashboard.

Unless you manually close the dashboards, the dashboards remain open throughout your Controller session, and the Dashboards tab displays at the top of every page.

Dashboard Security

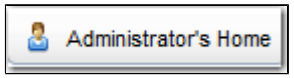
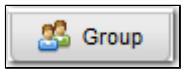
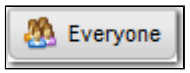
By default, all users can create, edit, and delete their own dashboards. To enforce stricter dashboard creation constraints at the user level, refer to the Strict Dashboard Create Constraints Universal Controller system property.

For authorization to create, edit, or delete a dashboard with Everyone or group visibility, refer to the ops_report_admin, ops_dashboard_group, and ops_dashboard_global roles.

Dashboard Tabs

Within the Dashboards tab, each dashboard that is visible to you, including your Home dashboard, will appear as a selectable tab along the bottom of the Dashboards page.

In order to distinguish dashboards that you have created from dashboards that you have inherited, you can select to display a visibility icon in the Dashboard tabs (see the Use Dashboard Visibility Icons user preference).

Visibility	Icon	Description
User		Dashboards visible to a specific user will be designated with an icon depicting one user.
Group		Dashboards visible to a specific group will be designated with an icon depicting two users.
Everyone		Dashboards visible to all users will be designated with an icon depicting four users.

Setting Order of Dashboard Tabs

A tab displays at the bottom of the Dashboards page for every dashboard that you create (or copy.) By default, the Home dashboard tab displays first, followed by tabs in the order (by time) that their dashboards were created/copied.

You can change the order of the Dashboards tabs by clicking any tab and dragging it left or right.

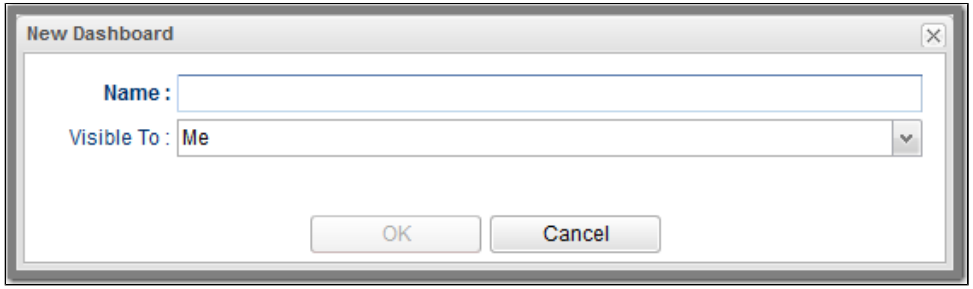
The Dashboard tabs for any new dashboards created/copied since the last time that the tabs were re-ordered will display at the end of those re-ordered tabs, sorted by create time.

Creating a Dashboard

For dashboard create authorization, see #Dashboard Security.

To create a dashboard:

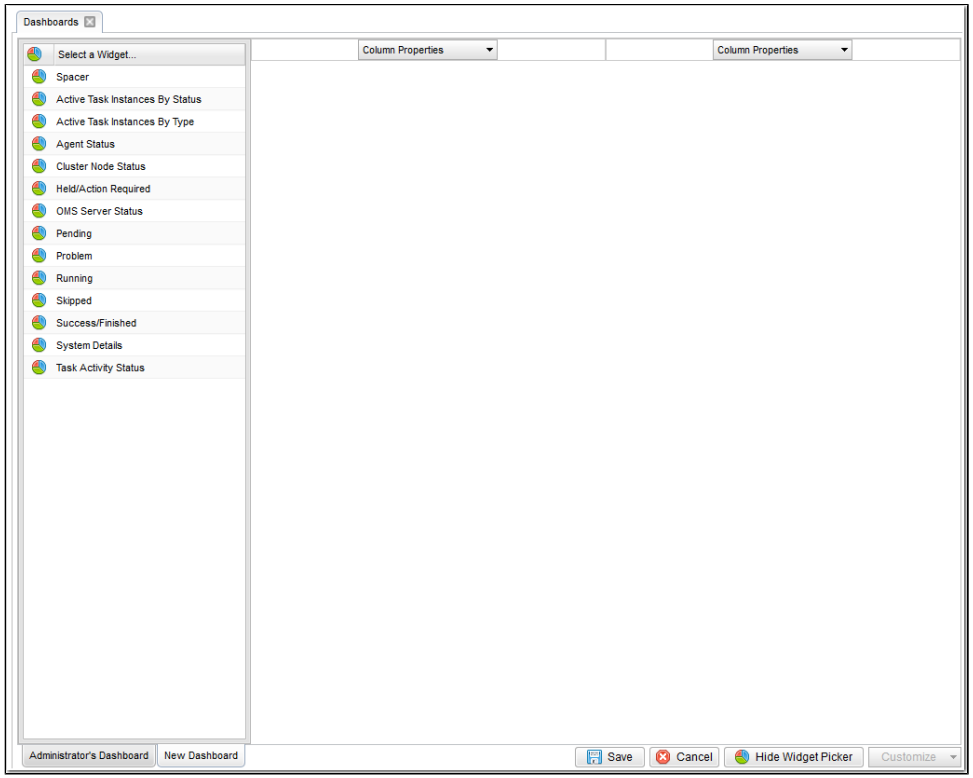
Step 1	Access the Dashboards page.

Step 2	From the **Customize** drop-down list at the bottom of the page, click **New**. The **New Dashboard** pop-up dialog displays.  For dashboard Create authorization, see #Dashboard Security.
Step 3	Enter a Name for the new dashboard and a Visible To designation (default is Me). • With the ops_dashboard_global role, you can additionally choose Everyone as a Visible To designation. • With the ops_dashboard_group role, you can additionally choose any group in which you are a member as a Visible To designation. The Name must be unique within the selected Visible To designation.

Step 4

Click **OK**. An empty Dashboard page displays.

To the left of the dashboard, a **Widget Picker** list of all Widgets displays.



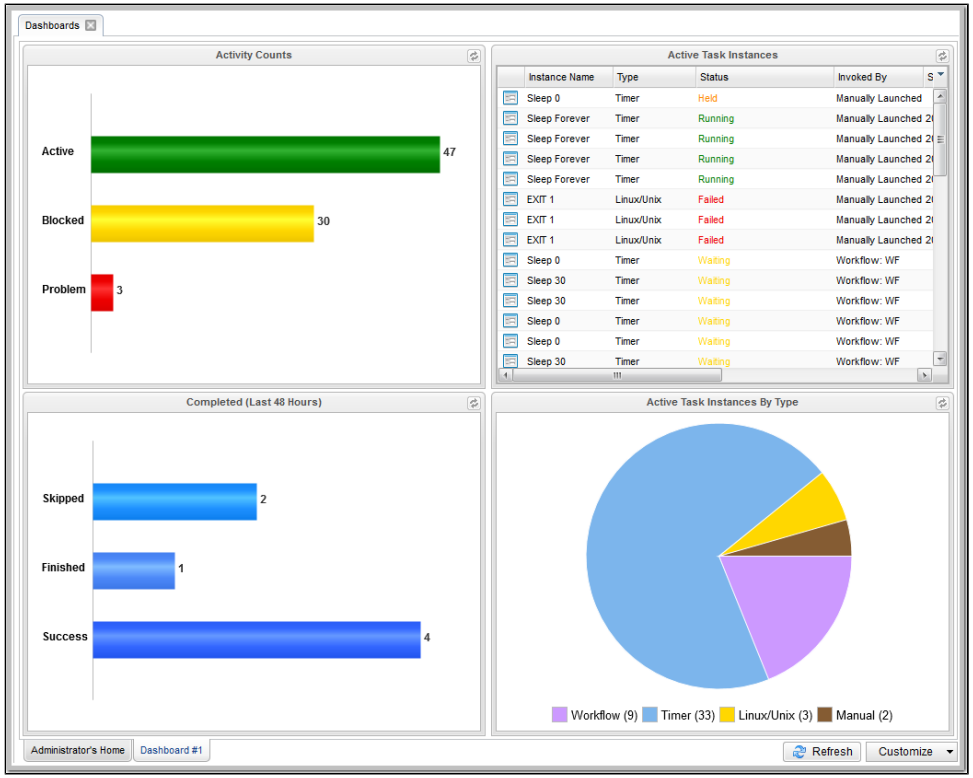
Step 5

By default, a new dashboard provides two columns, into which you can add any number of Widgets.

Drag and drop Widgets from the **Select a Widget...** list on the left side of the page into either column. The Widgets are arranged vertically in that column.

To see what the dashboard will look like without the **Widget Picker**, click the **Hide Widget Picker** button at the bottom of the dashboard. The **Hide Widget Picker** button is replaced by a **Show Widget Picker** button, which you can click to re-display the **Widget Picker**.

For example:

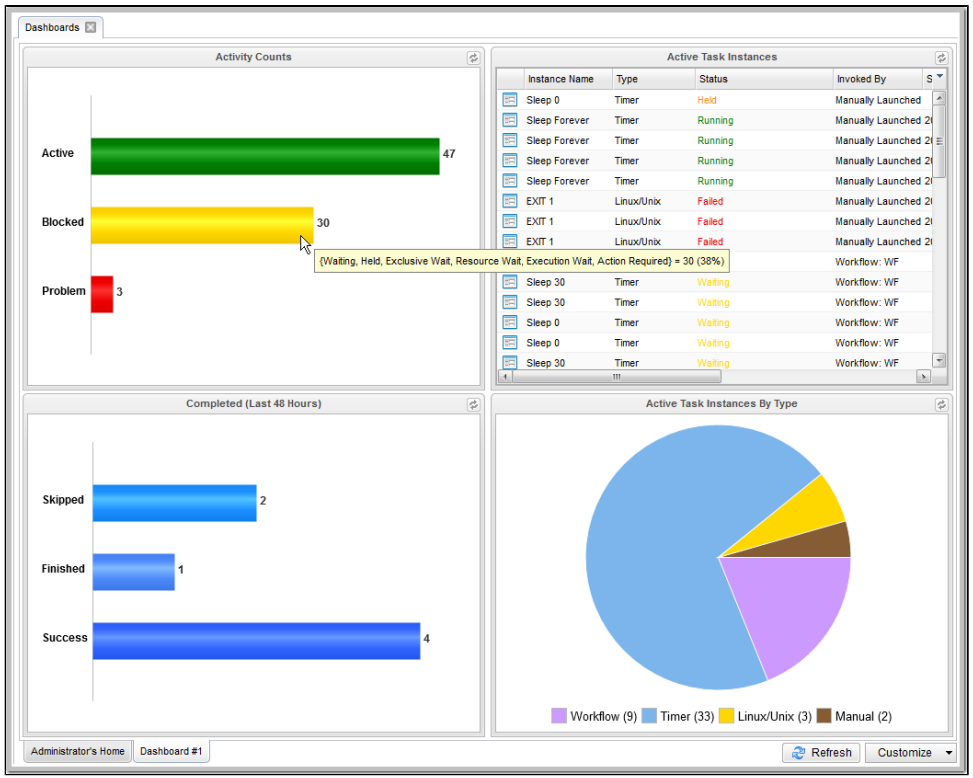


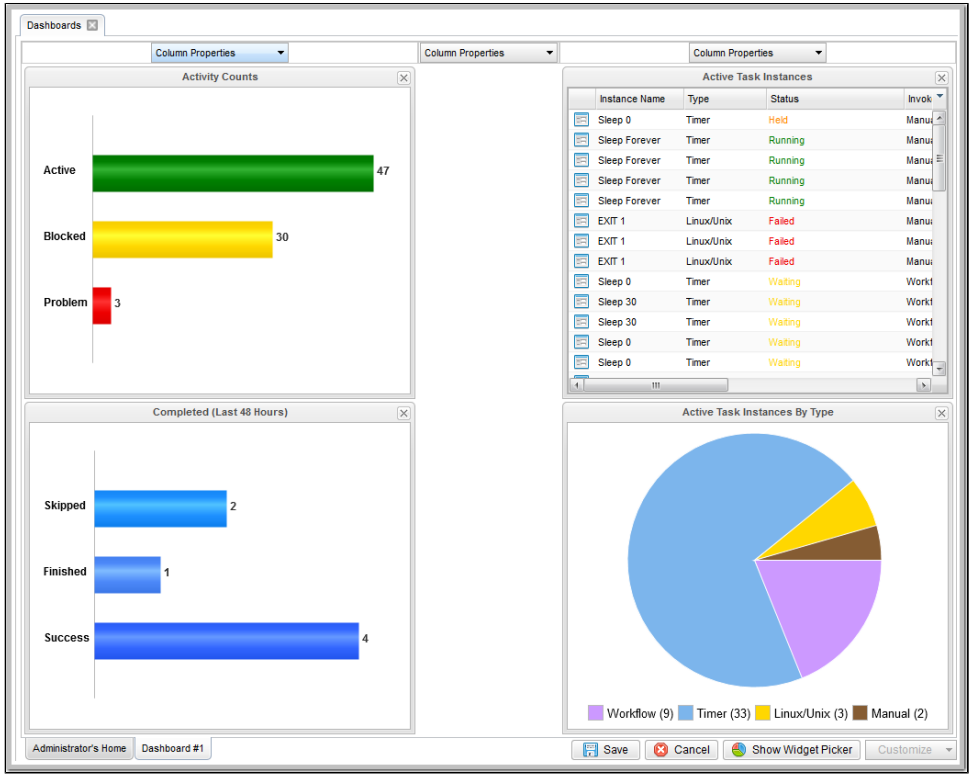
Step 6

To display a call-out of current data for any section of a Widget, hover your cursor over that section. The call-out identifies:

- Data type represented by that section of the Widget
- Number of that data type in that section
- Percent of that data type in that section (in comparison to all sections)

For Composite Widgets, the call-out identifies the statuses included in each of its Activity Widgets.



Step 7	If you want to arrange your Widgets into more columns, click the **Column Properties** drop-down list above any column and then click **Add Column**.  After you have dropped a Widget into a column, you can drag and drop it to another location in the column or to another column. You also can drag and drop each column into a new location by clicking the column header.
Step 8	If you decide that you do not want a selected Widget in the dashboard, click the **x** icon in the top right corner of the Widget to remove it.
Step 9	If you want to add some space between Widgets in a column, drag and drop the **Spacer** Widget from the list.
Step 10	Click the **Save** button to save the dashboard and display it on the Dashboards page. A tab for that dashboard also displays at the bottom of the Dashboards page. (See #Setting Order of Dashboard Tabs, below.)

Editing a Dashboard

Note

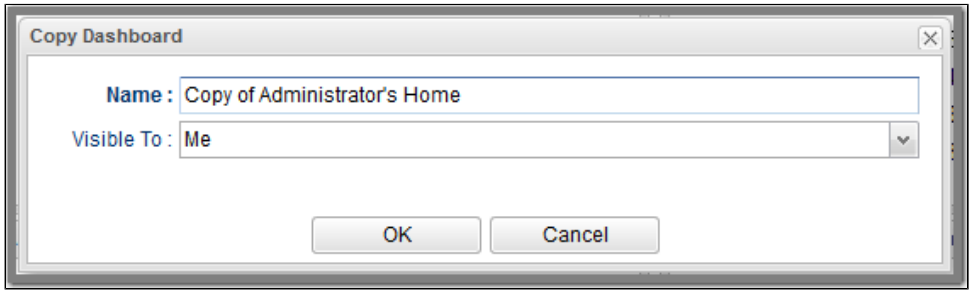
You cannot edit the Home Dashboard.

To edit a dashboard:

Step 1	Access the Dashboards page.
Step 2	At the bottom of the page, click the tab for the dashboard that you want to edit. That dashboard then displays.
Step 3	From the **Customize** drop-down list in the bottom right corner of the page, click **Edit**. The **Column Properties** header displays above each column of Widgets. To display the **Widget Picker** list of Widgets that you can add to the dashboard, click the **Show Widget Picker** button at the bottom of the page. For dashboard Edit authorization, see #Dashboard Security.
Step 4	Add, relocate, or remove any columns and/or Widgets from the dashboard (see #Creating a Dashboard for details.) If you remove a column from a Dashboard, all Widgets in that column also are removed; they are not relocated to another column.
Step 5	Click the **Save** button.

Copying a Dashboard

To copy a dashboard and automatically create a tab for that Dashboard in Dashboards:

Step 1	Access the Dashboards page.
Step 2	Display the dashboard that you want to copy.
Step 3	From the **Customize** drop-down list at the bottom right corner of the dashboard, click **Copy**. The **Copy Dashboard** pop-up dialog displays.  For dashboard Copy authorization, see #Dashboard Security.

Step 4	Enter a Name for the copy of the dashboard and a Visible To designation (default is Me). • With the ops_dashboard_global role, you can additionally choose Everyone as a Visible To designation. • With the ops_dashboard_group role, you can additionally choose any group in which you are a member as a Visible To designation. The Name must be unique within the selected Visible To designation.
Step 5	Click **OK**. The copy of the dashboard displays, and a tab for that copied dashboard displays at the bottom of the page.

Renaming a Dashboard

To rename a dashboard:

Step 1	Access the Dashboards page.
Step 2	Display the dashboard that you want to rename.
Step 3	From the **Customize** drop-down list in the bottom right corner of the page, click **Edit**. For dashboard Edit authorization, see #Dashboard Security.
Step 4	Double-click the name of the dashboard in the tab along the bottom of the Dashboards page to highlight the name.
Step 5	Enter a new name for the dashboard and click **Save**.

Deleting a Dashboard

Note

You cannot delete the Home Dashboard.

To delete a dashboard:

Step 1	Access the Dashboards page.
Step 2	Display the dashboard that you want to delete.
Step 3	From the **Customize** drop-down list at the bottom right corner of the dashboard, click **Delete**. For dashboard Delete authorization, see #Dashboard Security.
Step 4	On the confirmation pop-up that displays, click **Yes**. The dashboard is deleted.

Setting a Default Dashboard

By default, the Home dashboard displays when you log in, click the Home icon, or open Dashboards via the **Reporting** navigation pane.

You can set a different dashboard to display by default when Dashboards is opened via the **Reporting** navigation pane.

Additionally, you can select this default dashboard to display when you log in or click the Home icon (see the Use Default Dashboard For Home user preference).

You can select any dashboard that is visible to you as your default Dashboard.

To set a Dashboard other than the Home dashboard as the default Dashboard:

Step 1	Access the Dashboards page.
Step 2	Display the dashboard that you want to set as the default.
Step 3	From the **Customize** drop-down list at the bottom right corner of the dashboard, click **Set As Default**.

Changing Dashboard Visibility

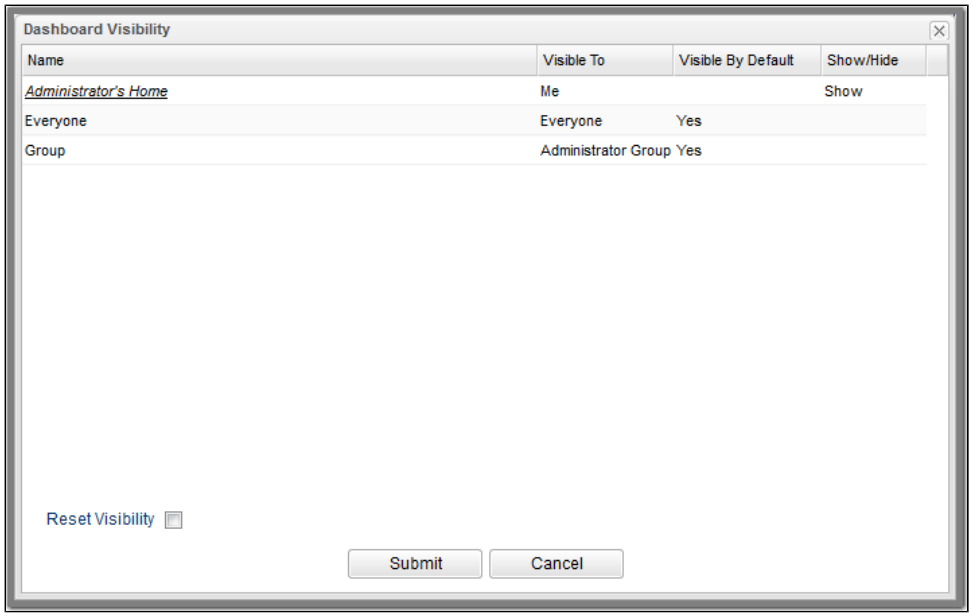
You can change the visibility of a dashboard so that it is visible to yourself, any group in which you are a member, or everyone.

You also can select whether or not to make a dashboard visible by default, as well as to override your default visibility selection by selecting to show or hide it.

Note

You cannot change the visibility of the Home Dashboard.

Step 1	Access the Dashboards page.

Step 2	From the **Customize** drop-down list at the bottom right corner of the dashboard, click **Visibility...**. The Dashboard Visibility pop-up dialog displays a list of all dashboards that are available to you, in tab order, followed by hidden dashboards. Your default dashboard is underlined and *italicized*. 
Step 3	To change the visibility of a dashboard, double-click the #Visible To column for that dashboard and select Me, Everyone, or any Group of which you are a member.
Step 4	To select whether or not a dashboard is visible by default, double-click the #Visible By Default column for that dashboard and select Yes or No.
Step 5	To specify show/hide settings for a dashboard, double-click the Show/Hide column for that dashboard and select Show or Hide.
Step 6	Check Reset Visibility if you want to reset your show/hide customizations, default dashboard, and tab order. You will be prompted with the following confirmation when you submit your changes: `Reset Visibility will clear your Show/Hide customization, your default dashboard, and your tab order. Are you sure you want to continue?`
Step 7	Click **Submit** to submit your visibility changes.

Visible To

The Visible To column specifies the current visibility of the dashboard.

- To edit the Visible To of a dashboard currently assigned to Everyone, you must have the ops_dashboard_global role.
- To edit the Visible To of a dashboard currently assigned to a group you are a member of, you must have the ops_dashboard_group role.

- If you are permitted to edit the Visible To of a dashboard, when you click the Visible To cell, a drop-down list displays with the following options.
  - Me
  - Everyone (if you have the ops_dashboard_global role).
  - Each group you are a member of (if you have the ops_dashboard_group role).

You cannot modify the Visible To designation for your home dashboard.

Visible By Default

The Visible By Default column specifies if the dashboard should display automatically for a user who inherits it.

- To edit the Visible By Default of a dashboard currently assigned to Everyone, you must have the ops_dashboard_global role.
- To edit the Visible By Default of a dashboard currently assigned to a group you are a member of, you require the ops_dashboard_group role.
- If you are permitted to edit the Visible By Default of a dashboard, when you click the Visible By Default cell, a drop-down list displays with Yes and No options (Yes is the default).

Show/Hide

The Show/Hide column specifies the user's show/hide customizations.

- You can edit the show/hide customization for any available dashboard except the your home dashboard, which will always display as Show.

  Note

  While modifying the #Visible To and #Visible By Default options requires dashboard update permission, modifying the show/hide customization does not, as the show/hide customization data is owned by the user.
- For any dashboard with Me visibility, clicking the Show/Hide column displays a drop-down list with Show and Hide options (Show is the default).
- For any dashboard with group visibility or Everyone visibility, clicking the Show/Hide column displays a drop-down list with Show, Hide and blank options (blank is the default).
  - Show indicates the dashboard should be shown regardless of the Visible By Default configuration.
  - Hide indicates the dashboard should be hidden regardless of the Visible By Default configuration.
  - Blank indicates the dashboard should be displayed based on the Visible By Default configuration. If the dashboard is the your default dashboard, the blank option is not available, and the Show/Hide value will default to Show.
- If the dashboard is the your default dashboard, changing the Show/Hide value from Show to Hide will clear the default dashboard designation.

Refreshing Dashboard Data

Automatic Refresh

All Widget records specify a refresh rate for when the dynamic data in the Widget is automatically refreshed.

Note

You also can set up an automatic refresh of all Widgets in a dashboard when the Dashboard is re-focused (that is, the user tabs back to the dashboard) via the Dashboard Force Refresh On Focus and Dashboard Force Refresh On Focus Threshold user preferences.

Manual Refresh

You can manually refresh Widget data either of two ways:

- To manually refresh the data on all Widgets in a dashboard, click the Refresh button in the bottom right corner of the dashboard.
- To manually refresh the data for a single Widget, click the Refresh icon in the top right corner of the Widget.

Closing the Dashboards

You can close the Dashboards at any time by clicking the **x** icon on the Dashboards tab.

To re-open the Dashboards, you can either:

- Click the Home icon at the top of any page to display your Home dashboard.
- Click **Dashboards** in the Reporting navigation pane to display your default Dashboard.

Reports

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  - Pie Chart Report
  - Bar Charts Reports - Horizontal and Vertical
- Built-In Reports
- Exporting and Importing Reports
  - Exporting Reports
  - Importing Reports
- Scheduling a Report
  - Report Specifications
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  - Bundling and Promotion
  - List Import / Export
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Overview

Reports are based on the Reportable tables in the Universal Controller database.

To create a report, you create a Report Details record and select a single Reportable table containing the data that you want to include in the report output. You can create a report as a list of table records or as a graphic.

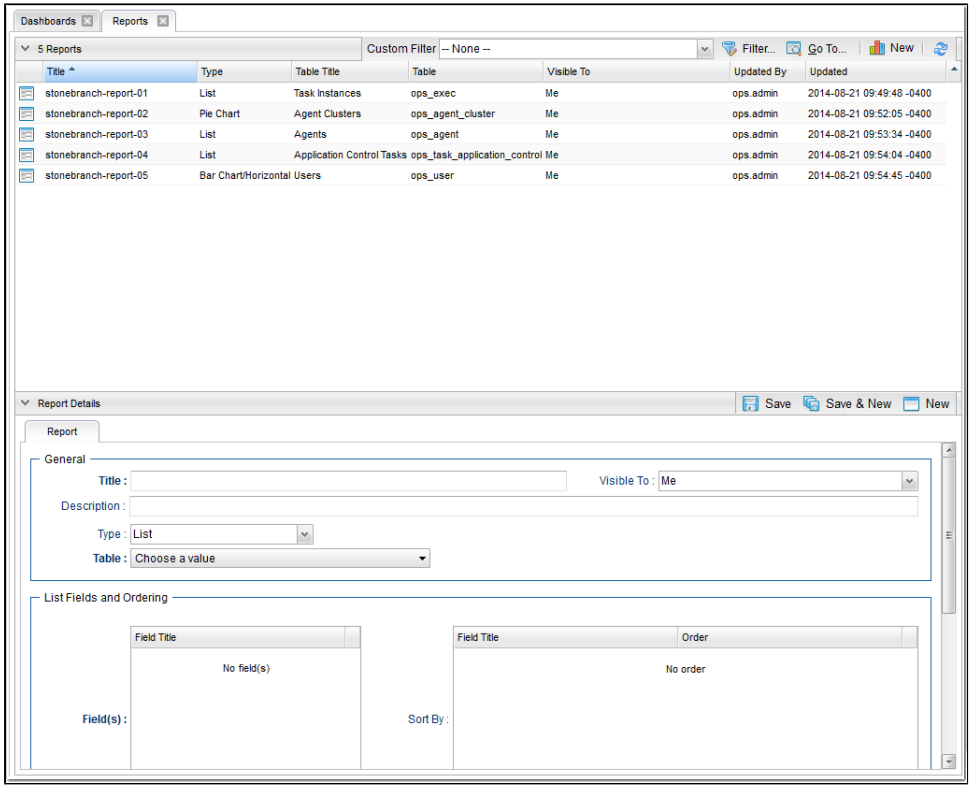
To generate report output, you run the report either:

- Manually
- Automatically, as a Widget on any Dashboard. (If you delete a report from which a Widget was created, the Widget will no longer function.)
- On schedule, by attaching the report to an Email Task or Email Notification action for any task type, and then defining a trigger for that task. When the task is triggered, the report is run.

Note

Some reports require specific roles; Reportable Tables identifies these tables.

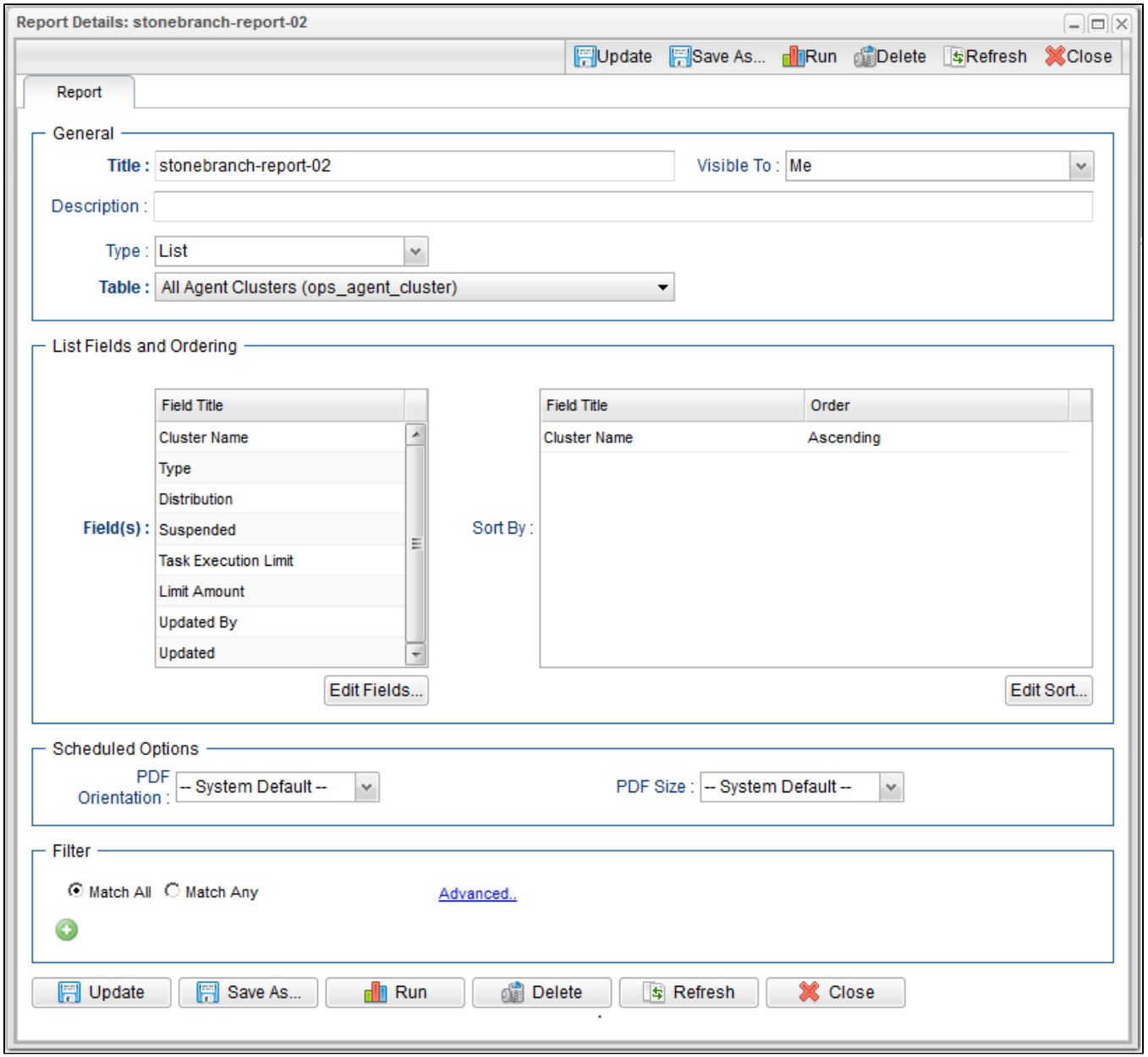
Creating a Report

Step 1	From the Reporting navigation pane, select **Reports**. The Reports list displays a list of all existing reports. Below the list, Report Details for a new Report displays. (You also can click the New button to display Report Details for a new Report.) 
Step 2	Enter/select Details for a new Report, using the field descriptions below as a guide. • Required fields display in **boldface**. • Default values for fields, if available, display automatically. To display more of the Details fields on the screen, you can temporarily hide the list. Note If you view Report Details for an existing Report by clicking a Report in the list, and then want to create a new Report, you must click the **New** button that displays above and below the Details.
Step 3	Click a **Save** button. The Report is added to the database, and all buttons and tabs in the Report Details are enabled.

Report Details

The following Report Details is for an existing Report.

Depending on the values that you enter / select for these fields, more (or less) fields may display. See the field descriptions, below, for a description of all fields that may display in the Report Details.



Report Details Field Descriptions

The following table describes the fields and buttons that display in the Report Details.

Field Name	Description
General	This section contains general information about the Report.
Title	Title (name) of the Report. Report titles must be unique per visibility (see Visible To field, below): • Any Report that you make visible to **Me** (the logged in user) must have a unique Title among all Reports visible to **Me**. • Any Report that you make visible to **Everyone** (all users) must have a unique Title among all Reports visible to **Everyone**. • Any Report that you make visible to a **Group** must have a unique Title among all Reports visible to that **Group**. Reports visible to **Me**, **Everyone**, and any **Group** can have the same title. For example, there can be multiple Reports titled **Report #1** as long as only one is visible to **Me**, one is visible to **Everyone**, and one is visible to any specific **Group**.
Description	Description for this report.
Type	Type of Report (see Report Output). Options: • List • Bar Chart/Horizontal • Bar Chart/Vertical • Pie Chart
Table	Universal Controller Reportable table in the Controller database on which the Report is based.
Visible To	Users that will be able to view this report. Options: • Me User creating this Report. • Everyone Any logged in user. • <group name> Any user in the specified group, selected from a list of groups that the user creating this Report is a member of.
List Fields and Ordering	For List reports; this section allows you to select and arrange fields for the report based on the selected Universal Controller table.
Field(s)	Fields in the selected Universal Controller table that you want displayed on the report.
Sort By:	Specifications for how you want fields in the Report to be sorted (see Sorting).
Chart Options	For Chart reports; this section allows you design the chart for the report based on the selected Universal Controller table.

Chart Size	Size of the displayed report. Options: • Small • Medium • Large • 100% (full screen)
Group By	Field in the selected Universal Controller table by which you want to group the fields in the report.
Group Threshold	Maximum number of groups to display on the chart, specified by the Report Group Threshold Universal Controller system property. All groups above the threshold will be displayed in one group named **Other**.
Group Order	Sequence of the groups shown in the key below the chart graphic. Options: • Label Ascending alphanumeric order by Label (for example, Name) • Label/Descending Descending alphanumeric order by Label (for example, Name) • Count Ascending alphanumeric order by number of records in the group • Count/Descending Ascending alphanumeric order by number of records in the group
Group Date/Time Format	Formatting of the Group By field value when grouping by a Date/Time field (such as Created or Updated). Options: • - - None - - • yyyy • yyyy-mm • yyyy-mm-dd • yyyy-mm-dd hh • yyyy-mm-dd hh:mm Group Date/Time Format is applicable (and visible) only when selecting a Date/Time field as the Group By field.
Stack By	Field in the selected Universal Controller table by which you want to sort records within each Group.
Sum Field	Sum of the integers in the field in the selected Universal Controller table by which you want to group the fields in the report.
Bar Thickness	Thickness of the bars on the chart.
Show Average	Indication of whether or not to display the average line on the bar chart.
Average Color	If Show Average is checked; Hexadecimal color of the average line. If an average color is not specified, the color is determined by the Report Average Color Universal Controller system property.
Show Threshold	Indication of whether or not to display the threshold line on the bar chart.
Threshold Color	If Show Threshold is checked; Hexadecimal color of the threshold line. If a threshold color is not specified, the color is determined by the Report Threshold Color Universal Controller system property.

Threshold Value	If Show Threshold is checked; Integer value for the threshold line.
Threshold Label	If Show Threshold is checked; Label for the threshold line. If a threshold label is not specified, the label will be **Threshold**.
Scheduled Options	This section allows you to override the values of Universal Controller System Properties for scheduled reports.
PDF Orientation	If Type is List; Orientation of the scheduled report PDF. Options: • - - System Default - - (value of Scheduled Report PDF Orientation system property) • Portrait • Landscape
PDF Size	If Type is List; Size of the scheduled report PDF. Options: • - - System Default - - (value of Scheduled Report PDF Size system property) • Letter • Legal • A4
Image Width	If Type is Bar Chart/Horizontal, Bar Chart/Vertical, Pie Chart; Width (in pixels) of the scheduled chart report (overrides Scheduled Report Image Width system property).
Image Height	If Type is Bar Chart/Horizontal, Bar Chart/Vertical, Pie Chart; Height (in pixels) of the scheduled chart report (overrides Scheduled Report Image Height system property).
Filter	This section allows you filter entries displayed in the Report (see Filters). If you are filtering on date-related fields using the **between (inclusive)** comparison operator (SQL BETWEEN condition), the database query can produce unexpected results when the later date is specified before the earlier date.
Metadata	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Report Details that let you perform various actions.
Save	Saves a new Report record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplays empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
New	Displays empty (except for default values) Details for creating a new record.

Save As...	Saves the Report under a different Title and/or as being visible to different users.
Update	Saves updates to the record.
Run	Generates the report and displays it on a new tab. (Clicking **Run** does not save any new data entered for the report.)
Delete	Deletes the current record.
Refresh	Refreshes any dynamic data displayed in the Details.

Report Output

Report output can be created in either of four types, as specified by the Type field in the Report Details:

- List
- Pie Chart
- Bar Chart/Horizontal
- Bar Chart/Vertical

The following sample report outputs for each type were created from the same Universal Controller Reportable Database table: All tasks (ops_task).

List Report Output

List reports are output under a new tab.

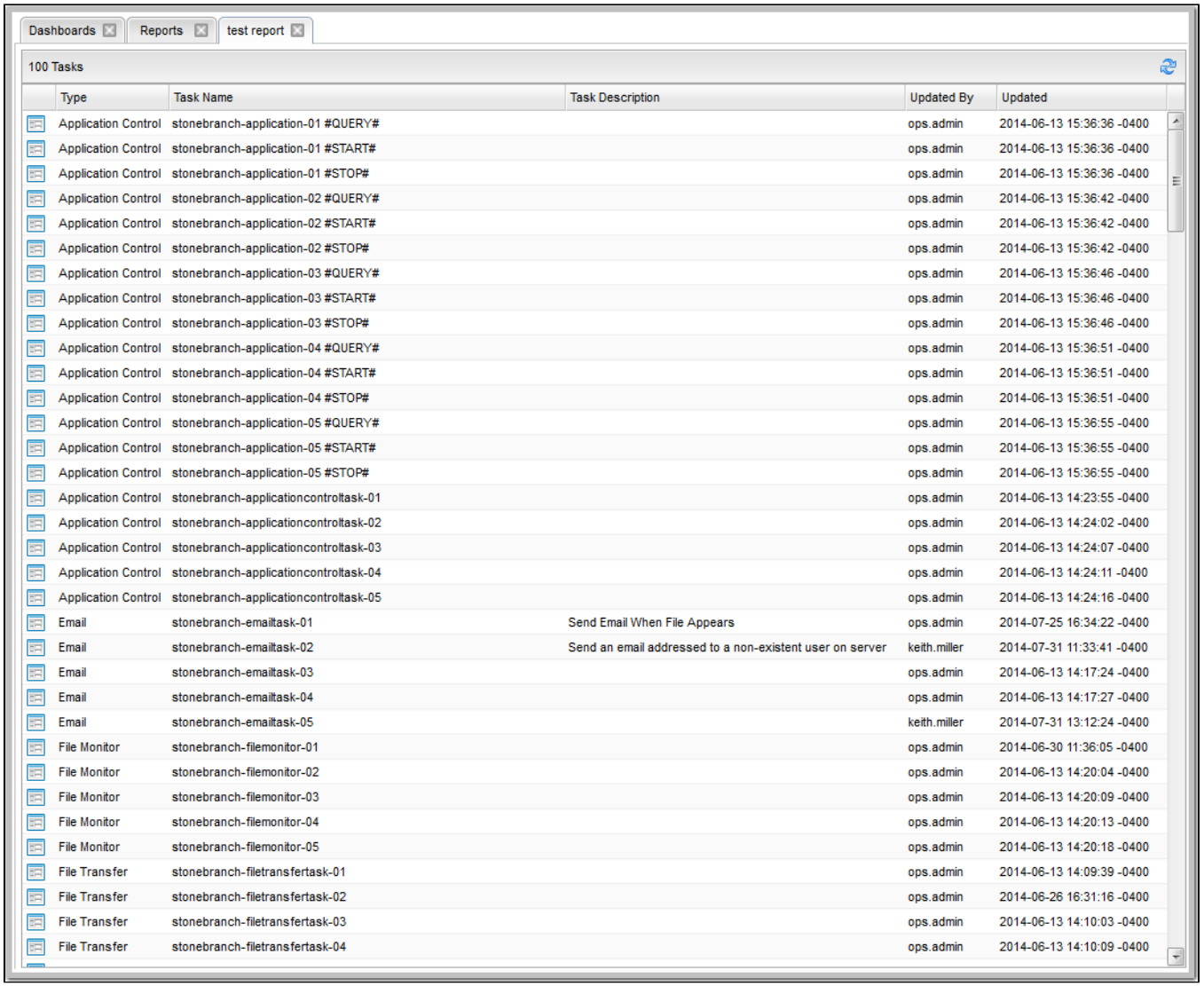
By default, entries in List reports are not sorted; you must specify a sort method in the Sort By field in the Report Details.

Chart Report Output

Chart reports are output as pop-up graphics.

Chart reports entries are grouped by **Type**. You can see what percent of report entries are in each type by hovering your cursor over the graphic for that type.

List Report

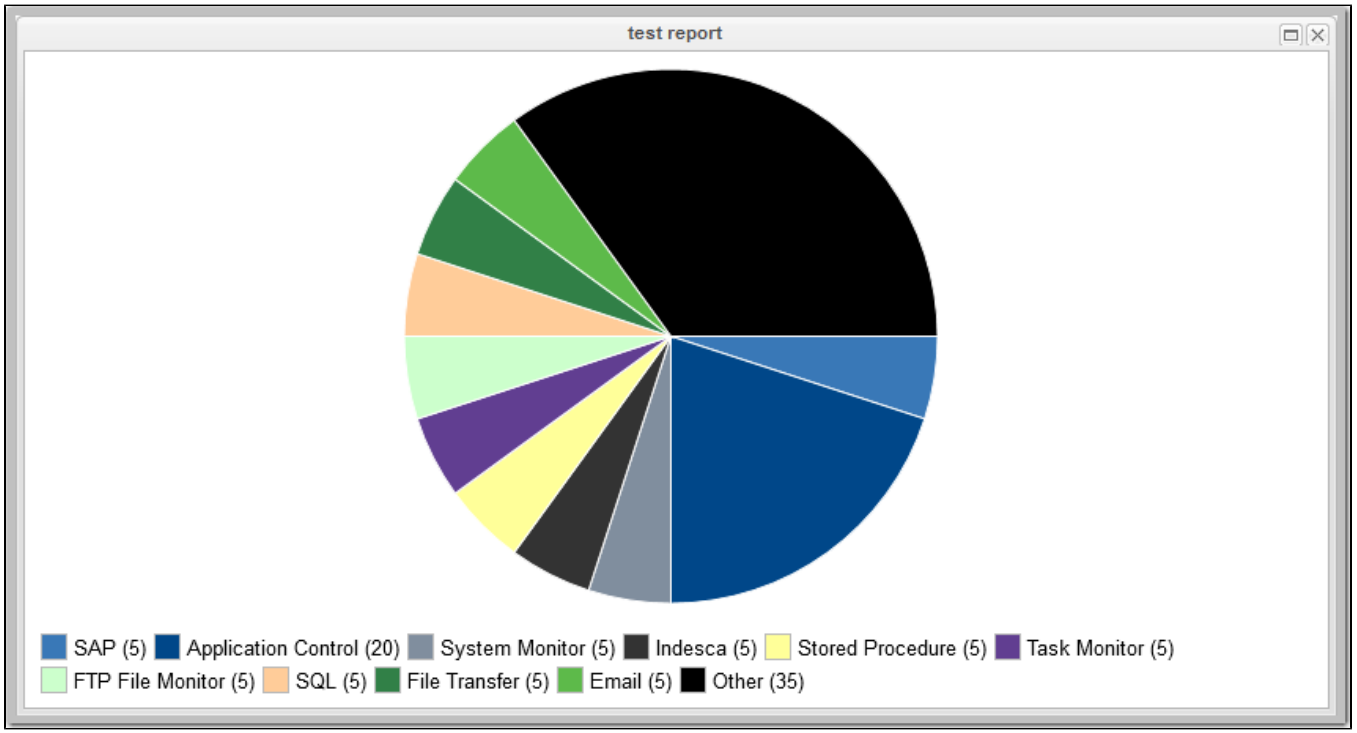


Dashboards | Reports | test report

100 Tasks

Type	Task Name	Task Description	Updated By	Updated
Application Control	stonebranch-application-01 #QUERY#		ops.admin	2014-06-13 15:36:36 -0400
Application Control	stonebranch-application-01 #START#		ops.admin	2014-06-13 15:36:36 -0400
Application Control	stonebranch-application-01 #STOP#		ops.admin	2014-06-13 15:36:36 -0400
Application Control	stonebranch-application-02 #QUERY#		ops.admin	2014-06-13 15:36:42 -0400
Application Control	stonebranch-application-02 #START#		ops.admin	2014-06-13 15:36:42 -0400
Application Control	stonebranch-application-02 #STOP#		ops.admin	2014-06-13 15:36:42 -0400
Application Control	stonebranch-application-03 #QUERY#		ops.admin	2014-06-13 15:36:46 -0400
Application Control	stonebranch-application-03 #START#		ops.admin	2014-06-13 15:36:46 -0400
Application Control	stonebranch-application-03 #STOP#		ops.admin	2014-06-13 15:36:46 -0400
Application Control	stonebranch-application-04 #QUERY#		ops.admin	2014-06-13 15:36:51 -0400
Application Control	stonebranch-application-04 #START#		ops.admin	2014-06-13 15:36:51 -0400
Application Control	stonebranch-application-04 #STOP#		ops.admin	2014-06-13 15:36:51 -0400
Application Control	stonebranch-application-05 #QUERY#		ops.admin	2014-06-13 15:36:55 -0400
Application Control	stonebranch-application-05 #START#		ops.admin	2014-06-13 15:36:55 -0400
Application Control	stonebranch-application-05 #STOP#		ops.admin	2014-06-13 15:36:55 -0400
Application Control	stonebranch-applicationcontroltask-01		ops.admin	2014-06-13 14:23:55 -0400
Application Control	stonebranch-applicationcontroltask-02		ops.admin	2014-06-13 14:24:02 -0400
Application Control	stonebranch-applicationcontroltask-03		ops.admin	2014-06-13 14:24:07 -0400
Application Control	stonebranch-applicationcontroltask-04		ops.admin	2014-06-13 14:24:11 -0400
Application Control	stonebranch-applicationcontroltask-05		ops.admin	2014-06-13 14:24:16 -0400
Email	stonebranch-emailtask-01	Send Email When File Appears	ops.admin	2014-07-25 16:34:22 -0400
Email	stonebranch-emailtask-02	Send an email addressed to a non-existent user on server	keith.miller	2014-07-31 11:33:41 -0400
Email	stonebranch-emailtask-03		ops.admin	2014-06-13 14:17:24 -0400
Email	stonebranch-emailtask-04		ops.admin	2014-06-13 14:17:27 -0400
Email	stonebranch-emailtask-05		keith.miller	2014-07-31 13:12:24 -0400
File Monitor	stonebranch-filemonitor-01		ops.admin	2014-06-30 11:36:05 -0400
File Monitor	stonebranch-filemonitor-02		ops.admin	2014-06-13 14:20:04 -0400
File Monitor	stonebranch-filemonitor-03		ops.admin	2014-06-13 14:20:09 -0400
File Monitor	stonebranch-filemonitor-04		ops.admin	2014-06-13 14:20:13 -0400
File Monitor	stonebranch-filemonitor-05		ops.admin	2014-06-13 14:20:18 -0400
File Transfer	stonebranch-filetransfertask-01		ops.admin	2014-06-13 14:09:39 -0400
File Transfer	stonebranch-filetransfertask-02		ops.admin	2014-06-26 16:31:16 -0400
File Transfer	stonebranch-filetransfertask-03		ops.admin	2014-06-13 14:10:03 -0400
File Transfer	stonebranch-filetransfertask-04		ops.admin	2014-06-13 14:10:09 -0400

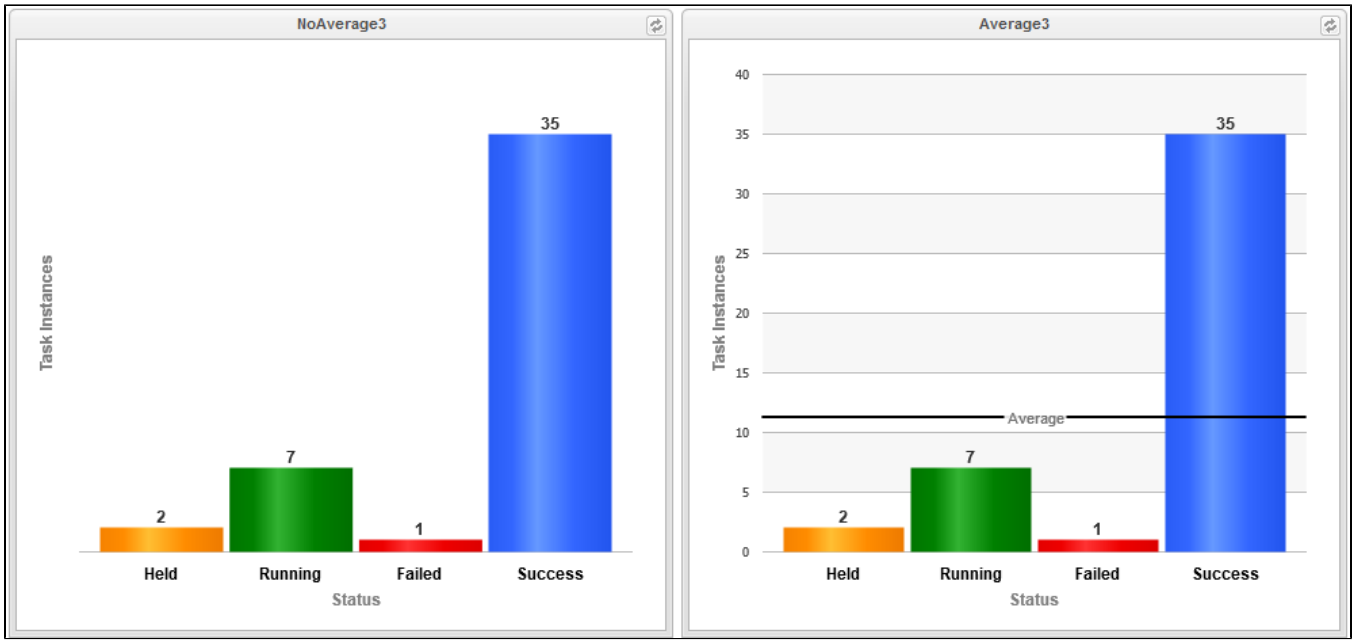
Pie Chart Report



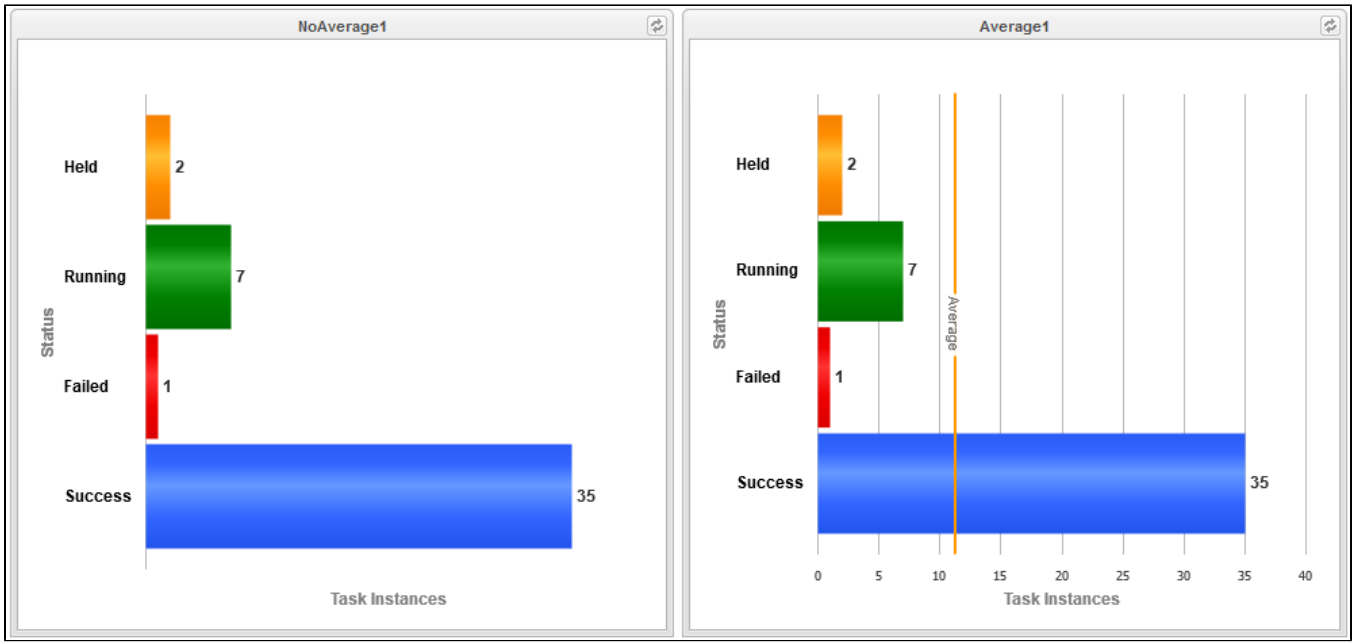
Bar Charts Reports - Horizontal and Vertical

The following Bar Chart reports show horizontal and vertical types both with and without an average line and a threshold line.

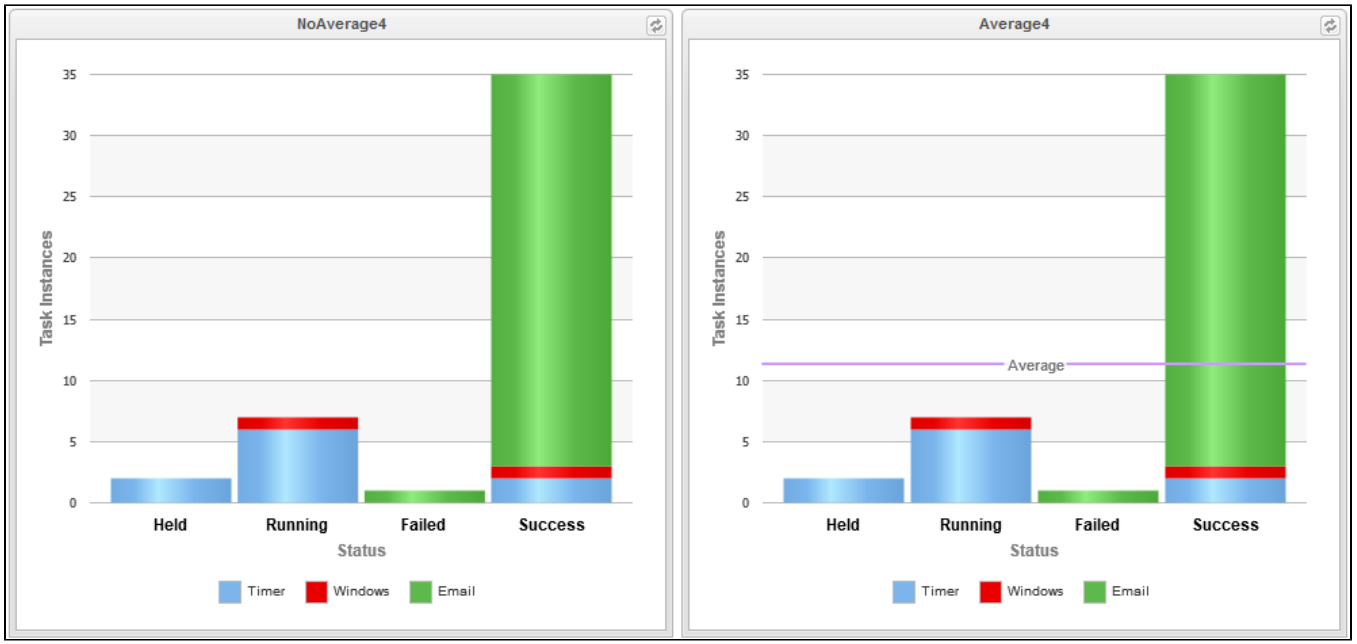
Vertical Bar Chart: Group By with Average Line



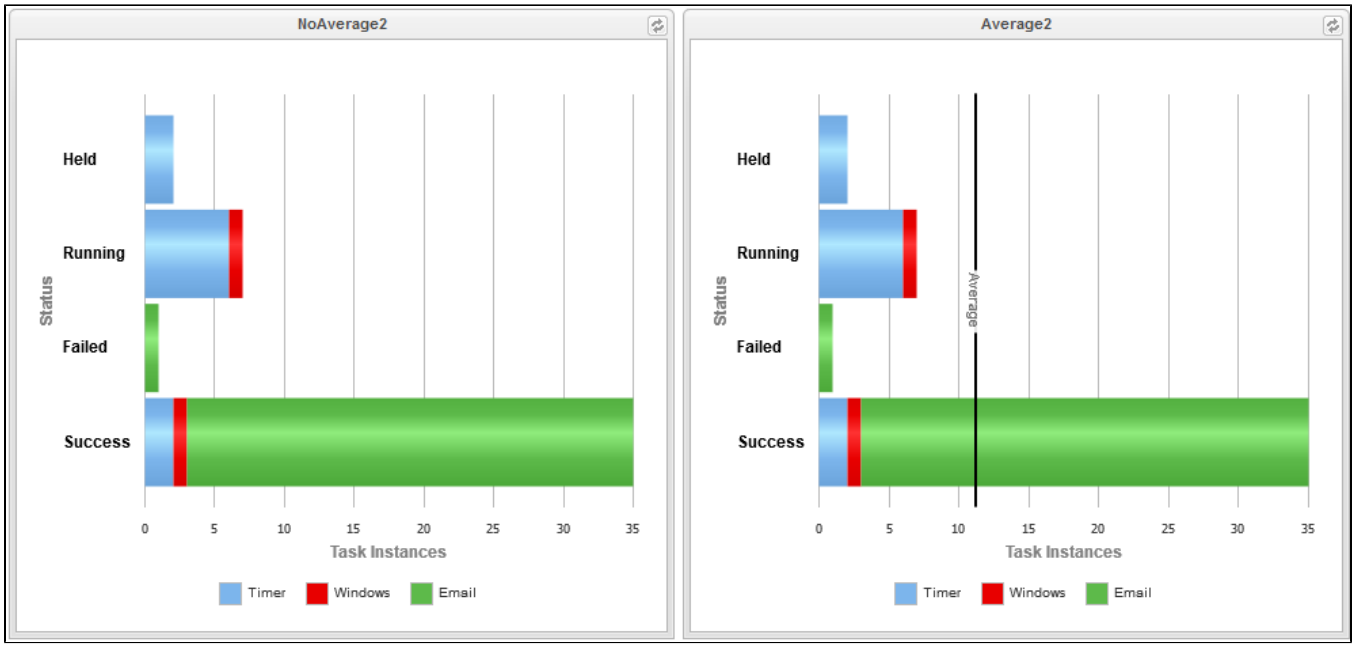
Horizontal Bar Chart: Group By with Average Line



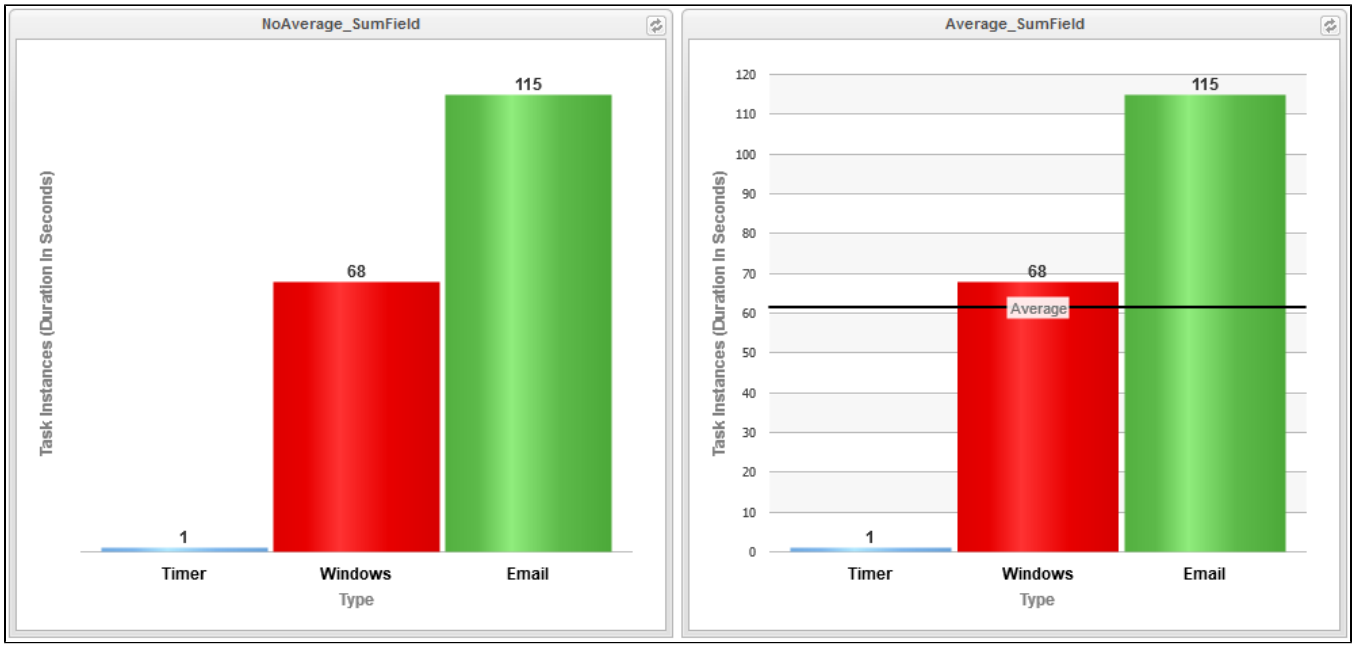
Vertical Bar Chart: Group By and Stack By with Average Line



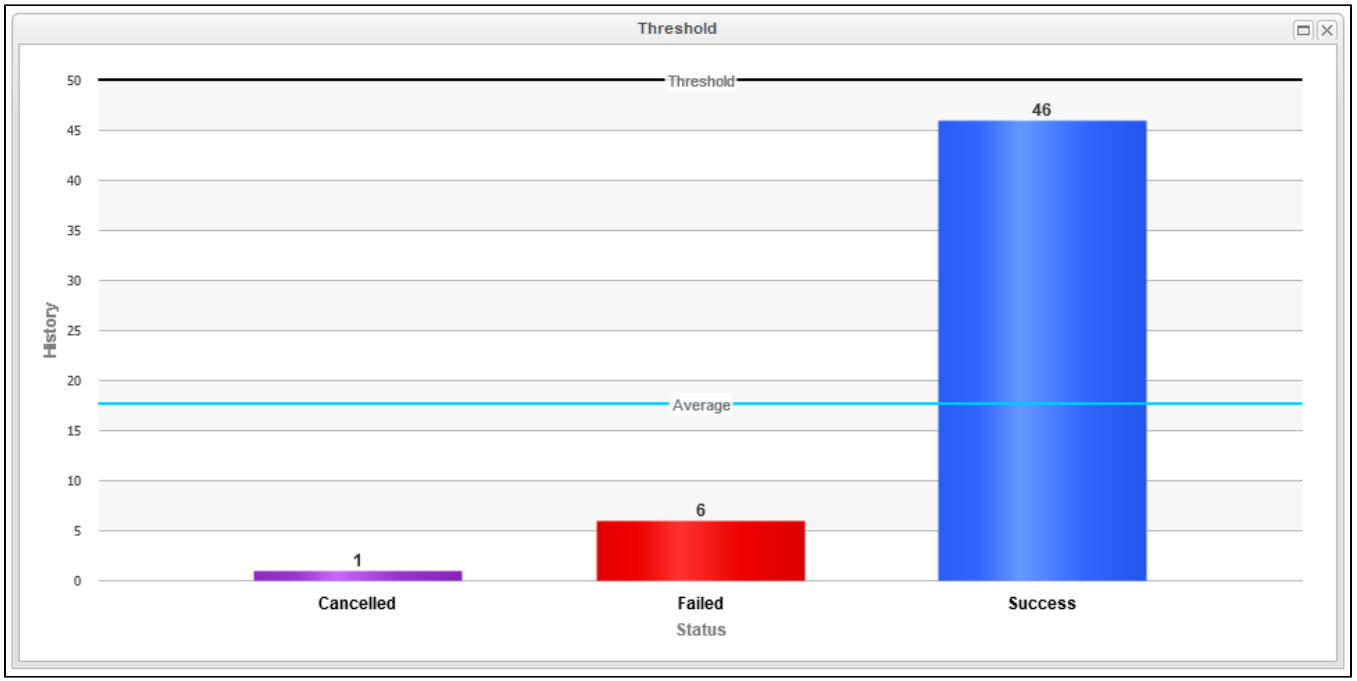
Horizontal Bar Chart: Group By and Stack By with Average Line



Vertical Bar Chart: Sum Field with Average Line

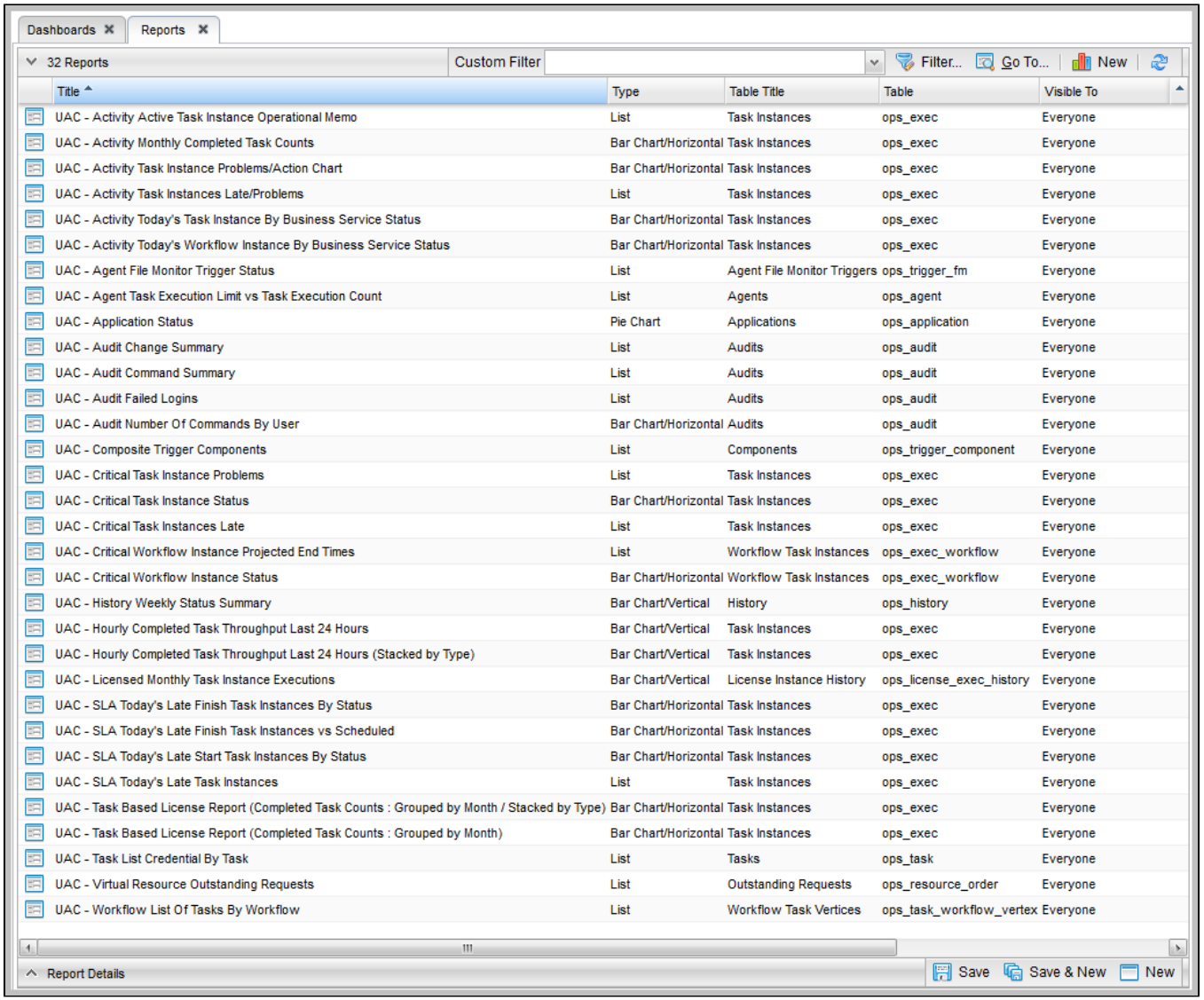


Vertical Bar Chart: Average Line and Threshold Line



Built-In Reports

The Controller provides a series of built-in reports that are base on various Reportable Tables.



The title of each built-in report is preceded by **UAC -**.

Built-in reports are not editable, but you can use **Save As** to create a renamed copy of a built-in report, and then edit that report.

Exporting and Importing Reports

If you want to maintain the same reports across several environments (for example: Development, Staging, and Production), you can export Reports from any Controller cluster node and import those same Reports into any Controller cluster node.

Since every Report is visible to a specific user, a specific group, or Everyone (all users and groups), make sure that for every Report being exported which is visible to a specific user or group, that same user or group also exists on the cluster node(s) to which the Report will be imported.

Exporting Reports

From the Reports list, you can export one Report, multiple Reports, or all Reports. To select specific Reports to be exported, apply a filter prior to exporting.

Each report is exported as an individual XML file to the cluster node location specified in the Export Path Universal Controller system property.

Note

You cannot select Reports on a list to indicate which are to be exported; you must filter the list.

To run the export:

Step 1	Display the Reports list.
Step 2	If you do not want to export all Reports, apply a filter.
Step 3	Right-click in any column header of the list to display an Action menu.
Step 4	Select **Export > XML**.
Step 5	When the export is complete, an ***Exported*** message displays above the list, indicating that the export is complete.

Importing Reports

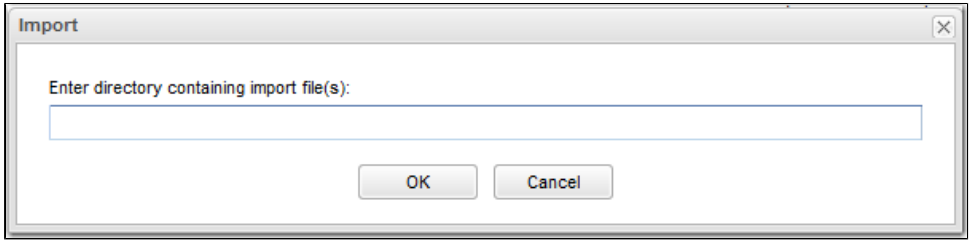
You can import Reports, using the XML files created via a Reports list export, by using the Import action that is available from the Reports list (and from any list where the record type can be imported).

Note

Reports from Controller 5.x and earlier are not supported in Controller 6.x.

To run the import:

Step 1	Display the Reports list.
Step 2	Right-click in any column header of the list to display an Action menu.

Step 3	Select **Import**. An **Import** pop-up displays. 
Step 4	Enter the directory containing the Report XML file(s) to be imported and click **OK**.
Step 5	Refresh the Reports list to view the imported reports.

The import performs a pre-validation on the XML files; if any files are found to be invalid, a warning displays on the Universal Automation Center Console and the import operation is aborted. Any invalid XML files should be fixed or removed from that location.

Scheduling a Report

To schedule a Report:

1. Select a Report or Report Variable in an Email Task or an Email Notification action for any task type.
2. Select a method of running the task.

When the task is run and the task instance has been created, an email is sent with the Report output attached.

Report Specifications

The Controller provides system properties that let you specify the layout and content of scheduled reports.

You can override some of these system properties in the Scheduled Options section of the Report Details.

Methods

To run a task that generates an email with an attached report, you can:

- Create a stand-alone trigger that will send the email according to a schedule defined in the trigger.
- Create an Email Task / Email Notification within a workflow that will send the email based on some dependencies in that workflow.
- Create an Email Notification for a task that will send the email based on events associated with the task instance.

You also can trigger or launch, on demand, an Email Task (or any Task with an Email Notification) to generate an email with an attached report.

Security

All scheduled Reports run under the security context of the task instance Execution User.

An Email Task Instance that attempts to run a report that the Execution User does not have permission to view will terminate with a Start Failure status and the following status description:

```
Report with name <report-name> and id <report-id> not visible to execution user <execution-user>.
```

An Email Notification task instance that attempts to run a report that the Execution User does not have permission to view will include the following statement in the body of the email:

```
Report with name <report-name> and id <report-id> not visible to execution user <execution-user>.
```

Bundling and Promotion

Universal Controller does not support the bundling and promotion of reports. Any report required by a promoted task must already be available on the target system.

For details on how the Controller resolves tasks that include scheduled Reports, see Preparing Bundles for Promotion / Reports.

List Import / Export

Since an Email Task or Email Notification Task can include a report, these reports must be included as output in a List Export if the export is following references: XML (Export References).

When records are being imported by a List Import, the import queries the database for a record with the same (unique) display name to allow for performing UUID mapping where necessary. However, Reports are not unique by display name (Title), so the import must use both the Title and visibility information to perform such a query to facilitate UUID mapping when necessary. If a report with the same UUID already exists in the database, or a report by the same Title/visibility does not exist in the database, then no such UUID mapping will be performed.

Reportable Tables

The following table provides the name, table ID, and description of the Universal Controller database tables that are available for creating reports.

Note

Any user can create reports based on any of these tables. However, some reports - as identified below - can be run only if the user has been assigned a specific role.

Table	Table Name	Category	Description
Abort Actions	ops_abort_action	Actions	Contains details about Abort actions.
Advanced Criteria	ops_task_email_criteria	Tasks	Contains details about Email Monitor task Advanced Criteria.
Advanced Criteria	ops_exec_email_criteria	Task Instances	Contains details about Email Monitor task instances Advanced Criteria.
Agent File Monitor Components	ops_trigger_component_fm	Triggers	Contains details about Agent File Monitor components of Composite Triggers.
Agent File Monitor Task Instances	ops_exec_file_monitor	All Task Instances	Contains details about Agent File Monitor task instances.

Agent File Monitor Tasks	ops_task_file_monitor	Tasks	Contains details about Agent File Monitor tasks.
Agent File Monitor Triggers	ops_trigger_fm	All Triggers	Contains details about Agent File Monitor triggers.
All Actions	ops_notification	Actions	Contains details about all task actions: Abort Action, Email Notifications, Set Variable, SNMP Notification, and System Operation.
All Agent Clusters	ops_agent_cluster	Agent Clusters	Contains details about Agent Clusters.
All Agents	ops_agent	Agents	Displays a list of Agents.
All Components	ops_trigger_component	Triggers	Contains details about all Composite trigger components.
All Step Actions	ops_zos_step_action	Step Actions	Contains details about z/OS step actions.
All Task Instances	ops_exec	All Task Instances	Task instance activity (running tasks).
All Tasks	ops_task	Tasks	Contains details about tasks of every type, along with associated Task Instance information.
All Triggers	ops_trigger	All Triggers	Contains details about triggers of every type.
Application Control Tasks	ops_task_application_control	Tasks	Contains details about Application Control tasks.
Application Control Task Instances	ops_exec_application_control	All Task Instances	Contains details about Application Control task instances.
Application Monitor Triggers	ops_trigger_appl_monitor	All Triggers	Contains details about Application Monitor triggers.
Applications	ops_application		Shows a list of Application resources.
Audits	ops_audit	Security	Contains details of events being written to the Audit history. (Requires ops_admin role to run this report.)
Business Services	ops_generic_group	Security	Contains details about Business Services.
Calendar Custom Days	ops_cal_cust_join	Calendars	Contains details about which Custom Days are associated with which Calendar records.
Calendars	ops_calendar	Calendars	Contains details about Calendar records.
Cluster Nodes	ops_cluster_node		Provides details about cluster nodes.
Composite Triggers	ops_trigger_composite	Triggers	Contains details about Composite trigger records.
Credentials	ops_credentials		Login credentials used by the Controller to access remote machines.
Cron Triggers	ops_trigger_cron	All Triggers	Contains details about Cron trigger records.
Currently In Use By	ops_resource_usage	Virtual Resources	Contains details about Virtual resource usage, as displayed in the Currently In Use By tab.
Custom Days	ops_custom_day	Calendars	Contains details about defined Custom Days.
Database Connections	ops_database_connection	Connections	Contains details about Database Connections defined in the Controller database.
Email Connections	ops_email_connection	Connections	Contains details about Email Connections resources.
Email Monitor Components	ops_trigger_component_em	Triggers	Contains details about Email Monitor components of Composite Triggers.
Email Monitor Task Instances	ops_exec_email_monitor	All Task Instances	Contains details about Email Monitor task instances.

Email Monitor Tasks	ops_task_email_monitor	Tasks	Contains details about Email Monitor tasks.
Email Monitor Triggers	ops_trigger_em	All Triggers	Contains details about Email Monitor triggers.
Email Notifications	ops_email_notification	Actions	Contains details about Email Notifications associated with tasks.
Email Task Instances	ops_exec_email	All Task Instances	Contains details about Email task instances.
Email Tasks	ops_task_email	Tasks	Contains details about Email tasks.
Email Templates	ops_email_template		Contains details about Email templates.
Exclusive Requests	ops_exclusive_order	Mutually Exclusive	Contains any requests to run exclusively by a task instance.
File Transfer Task Instances	ops_exec_ftp	All Task Instances	Contains details about File Transfer task instances.
File Transfer Tasks	ops_task_ftp	Tasks	Contains details about File Transfer tasks.
Forecasts	ops_trigger_forecast		Contains details about trigger forecasts.
Group Members	ops_user_grmember	Security	Contains relationship information between Universal Controller User Groups and Universal Controller Users; that is, which Users belong to which Groups. (Requires ops_admin or ops_user_admin role to run this report.)
Group Roles	ops_group_has_role	Security	Contains relationship information between Universal Controller User Groups and Roles; that is, which Groups have been assigned which Roles. (Requires ops_admin or ops_user_admin role to run this report.)
Groups	ops_user_group	Security	Contains details about Universal Controller User Groups. (Requires ops_admin or ops_user_admin role to run this report.)
History	ops_history		Contains a history of task activity.
License Instance History	ops_license_exec_history		Contains statistics relating to the number of task instance executions.
Linux/Unix Agent Clusters	ops_unix_agent_cluster	Agent Clusters	Contains details about Linux/Unix agent clusters.
Linux/Unix Agents	ops_unix_agent	Agents	Contains details about Linux/Unix agent resources.
Linux /Unix Agents In Cluster	ops_unix_agent_cluster_join	Agent Clusters	Shows relationship information between Unix agents and Unix agent clusters; that is, which agents belong to which clusters.
Linux/Unix Task Instances	ops_exec_unix	All Task Instances	Contains details about Linux/Unix task instances.
Linux/Unix Tasks	ops_task_unix	Tasks	Contains details about Linux/Unix tasks.
Local Custom Days	ops_local_custom_day	Calendars	Contains details about defined Local Custom Days.
Local Variables	ops_local_variable	Variables	Contains details about task and trigger variables (also called local variables), entered into the Variables tab on a task or trigger record.
Manual Task Instances	ops_exec_manual	All Task Instances	Contains details about Manual task instances.
Manual Tasks	ops_task_manual	Tasks	Contains details about Manual tasks.
Manual Triggers	ops_trigger_manual	All Triggers	Contains Manual trigger records.
Mutually Exclusive	ops_task_to_exclusive	Mutually Exclusive	Contains relationship information between tasks and mutually exclusive tasks; that is, which tasks are mutually exclusive with each other.
Notes	ops_note		Contains details about Notes attached to Controller records.

OMS Servers	ops_oms_server	Connections	Provides details about OMS Servers.
Output	ops_exec_output	Task Instances > Other	Contains any output (such as STDOUT) attached to task instances.
Outstanding Requests	ops_resource_order	Virtual Resources	Contains any outstanding requests for a resource by a task instance.
PeopleSoft Connections	ops_peoplesoft_connection	Connections	Contains PeopleSoft Connections records.
PeopleSoft Parameters	ops_exec_peoplesoft_rt_param	Task Instances > Other	Contains Parameter records associated with PeopleSoft task instances.
PeopleSoft Parameters	ops_task_peoplesoft_rt_param	Tasks > Other	Contains Parameter records associated with PeopleSoft tasks.
PeopleSoft Task Instances	ops_exec_peoplesoft	All Task Instances	Contains details about PeopleSoft task instances.
PeopleSoft Tasks	ops_task_peoplesoft	Tasks	Contains details about PeopleSoft tasks.
Permissions	ops_permission	Security	Contains details about Universal Controller Permissions assigned to Universal Controller Users and Groups. (Requires ops_admin or ops_user_admin role to run this report.)
Remote File Monitor Task Instances	ops_exec_ftp_file_monitor	All Task Instances	Contains details about Remote File Monitor task instances.
Remote File Monitor Tasks	ops_task_ftp_file_monitor	Tasks	Contains details about Remote File Monitor tasks.
Restartable Job Steps	ops_exec_zos_jobstepsui	Task Instances > Other	Contains details about restartable job steps in a z/OS task.
Restart Criteria	ops_exec_zos_rstrt_criteria	Task Instances > Other	Contain information about z/OS task restart criteria.
Restart Criteria	ops_task_zos_rstrt_criteria	Tasks > Other	Contain information about z/OS task restart criteria.
SAP Connections	ops_sap_connection	Connections	Contains SAP Connections records.
SAP Task Instances	ops_exec_sap	All Task Instances	Contains details about SAP task instances.
SAP Tasks	ops_task_sap	Tasks	Contains details about SAP tasks.
Scripts	ops_script		Contains Script records.
Set Variables	ops_variable_action	Actions	Contains details about Set Variable actions.
SNMP Managers	ops_snmp_connection	Connections	Contains SNMP Managers records.
SNMP Notifications	ops_snmp_notification	Actions	Contains SNMP notifications defined for Tasks.
SQL Task Instances	ops_exec_sql	All Task Instances	Contains details about SQL task instances.
SQL Tasks	ops_task_sql	Tasks	Contains details about SQL tasks.
Step Conditions	ops_exec_zos_stepcond	Task Instances > Other	Contains details about z/OS task instance step conditions.
Step Conditions	ops_task_zos_stepcond	Tasks > Other	Contains details about z/OS task step conditions

Stored Procedure Parameters	ops_exec_stored_proc_param	Task Instances > Other	Contains Parameter records associated with Stored Procedure task instances.
Stored Procedure Parameters	ops_stored_proc_param	Tasks > Other	Contains Parameter records associated with Stored Procedure tasks.
Stored Procedure Task Instances	ops_exec_stored_proc	All Task Instances	Contains details about Stored Procedure task instances.
Stored Procedure Tasks	ops_task_stored_proc	Tasks	Contains details about Stored Procedure tasks.
System Monitor Task Instances	ops_exec_system_monitor	All Task Instances	Contains details about System Monitor task instances.
System Monitors	ops_task_system_monitor	Tasks	Contains details about System Monitor tasks.
System Operations	ops_zos_step_action_sysop	Step Actions	Contains details about z/OS System Operation step actions.
System Operations	ops_system_operation	Actions	Contains details about System Operation actions.
Task Instance Run Criteria	ops_exec_run_criteria	Task Instances > Other	Contains run criteria information for task instances within Workflows.
Task Instance Virtual Resources	ops_exec_to_resource	Virtual Resources	Contains relationship information between Virtual resources and task instances; that is, which task instances are assigned to which Virtual Resources.
Task Monitor Components	ops_trigger_component_tm	Triggers	Contains details about Task Monitor components of Composite Triggers.
Task Monitor Task Instances	ops_exec_monitor	All Task Instances	Contains details about Task Monitor task instances.
Task Monitor Tasks	ops_task_monitor	Tasks	Contains details about Task Monitor tasks.
Task Monitor Triggers	ops_trigger_tm	All Triggers	Contains details about Task Monitor triggers.
Task Run Criteria	ops_task_run_criteria	Tasks > Other	Contains run criteria information for tasks within Workflows.
Task Virtual Resources	ops_task_to_resource	Virtual Resources	Contains relationship information between Virtual resources and tasks; that is, which tasks are assigned to which Virtual Resources.
Temporary Triggers	ops_trigger_temp	All Triggers	Contains details about Temporary triggers.
Time Components	ops_trigger_component_time	Triggers	Contains details about Time components of Composite Triggers.
Time Triggers	ops_trigger_time	All Triggers	Contains details about Time triggers.
Timer Task Instances	ops_exec_sleep	All Task Instances	Contains details about Timer task instances.
Timer Tasks	ops_task_sleep	Tasks	Contains details about Timer tasks.
Universal Command Task Instances	ops_exec_indesca	All Task Instances	Contains details about Universal Command task instances.
Universal Command Tasks	ops_task_indesca	Tasks	Contains details about Universal Command tasks.
Universal Task Instances	ops_exec_universal	All Task Instances	Contains details about Universal task instances.
Universal Tasks	ops_task_universal	Tasks	Contains details about Universal tasks.
Universal Template Field Choices	ops_unv_tmplt_field_choice	Universal Templates	Contains details about Universal Template Field Choices. (Requires ops_admin, ops_universal_template_admin, or ops_universal_template_view role to run this report.)

Universal Template Fields	ops_unv_tmplt_field	Universal Templates	Contains details about Universal Template Fields. (Requires ops_admin, ops_universal_template_admin, or ops_universal_template_view role to run this report.)
Universal Templates	ops_unv_tmplt	Universal Templates	Contains details about Universal Templates. (Requires ops_admin, ops_universal_template_admin, or ops_universal_template_view role to run this report.)
User Roles	ops_user_has_role	Security	Contains details about Users and Roles, including which Users have which Roles. (Requires ops_admin or ops_user_admin role to run this report.)
Users	ops_user	Security	Contains details about User records. (Requires ops_admin or ops_user_admin role to run this report.)
Variable Monitor Components	ops_trigger_component_vm	Triggers	Contains details about Variable Monitor components of Composite Triggers.
Variable Monitor Task Instances	ops_exec_variable_monitor	All Task Instances	Contains details about Variable Monitor task instances.
Variable Monitor Tasks	ops_task_variable_monitor	Tasks	Contains details about Variable Monitor tasks.
Variable Monitor Triggers	ops_trigger_vm	All Triggers	Contains details about Variable Monitor triggers.
Variables	ops_variable	Variables	Contains details about Global variables, entered by selecting Variables from the Navigator.
Virtual Resources	ops_virtual_resource	Virtual Resources	Contains details about Virtual resource records.
Web Service Task Instances	ops_exec_web_service	All Task Instances	Contains details about Web Service task instances.
Web Service Tasks	ops_task_web_service	Tasks	Contains details about Web Service tasks.
Widgets	ops_widget		Contains details about Widgets.
Windows Agent Clusters	ops_windows_agent_cluster	Agent Clusters	Contains details about Windows agent clusters.
Windows Agents	ops_windows_agent	Agents	Contains details about Windows agents.
Windows Agents In Cluster	ops_win_agent_cluster_join	Agent Clusters	Shows relationship information between Windows agents and Windows agent clusters; that is, which agents belong to which clusters.
Windows Task Instances	ops_exec_windows	All Task Instances	Contains details about Windows task instances.
Windows Tasks	ops_task_windows	Tasks	Contains details about Windows tasks.
Workflow Task Dependencies	ops_task_workflow_edge	Tasks > Other	Contains information about the conditions specified between tasks within workflows.
Workflow Task Instance Dependencies	ops_exec_workflow_edge	Task Instances > Other	Contains information about the conditions specified between task instances within workflows.
Workflow Task Instances	ops_exec_workflow	All Task Instances	Contains details about Workflow task instances.
Workflow Task Instance Vertices	ops_exec_workflow_vertex	Task Instances > Other	Contains relationship information between workflows instances and task instances; that is, which tasks are running in which workflows.
Workflow Task Vertices	ops_task_workflow_vertex	Tasks > Other	Contains relationship information between tasks and workflows; that is, which tasks are in which workflows.
Workflow Tasks	ops_task_workflow	Tasks	Contains details about Workflow tasks.
z/OS Agents	ops_zos_agent	Agents	Contains details about z/OS agents.
z/OS Task Instances	ops_exec_zos	All Task Instances	Contains details about z/OS task instances.

z/OS Tasks	ops_task_zos	Tasks	Contains details about z/OS tasks.

All Task Instances Table (ops_exec)

The Universal Controller All Task Instances table (`ops_exec`) contains all available data about executed task instances.

Field Name	Description
Agent	For Agent-based tasks, the name of the Agent.
Agent Acquired	System-supplied; For internal processing only.
Agent Cluster Acquired	System-supplied; For internal processing only.
All Dependencies Cleared	
Attempt	A counter that keeps track of the number of times this task instance was attempted.
Average Estimated End Time	System-supplied.
Calendar	Calendar that defines the business days, holidays, and other special days that determine the run dates for the task(s) specified in the trigger. Select a Calendar from the drop-down list of all existing Calendars. To display detailed information about a selected calendar, click the Details icon next to the Calendar field.
Class	Type of task instance, such as Timer task instance or Workflow task instance.
CP Duration	Optional; Allows you to override the estimated Critical Path Duration of the task when running in a Workflow; used in conjunction with the #CP Duration Unit field. In most cases, this field should be left blank, which implies that the Controller will estimate the Critical Path Duration based on historical executions. Valid values are any integer equal to or greater than 0. Variables and Functions are supported.
CP Duration Unit	Type of CP Duration; used in conjunction with the #CP Duration field. For example, for a CP Duration of two minutes, specify 2 in the #CP Duration field and select **Minutes** in this field. Options: • Seconds • Minutes • Hours Default is Minutes.
CPU Time	System-supplied; Amount of CPU time the task took to run.
Created	Date and time when the task instance was created.

Created by	User ID of the user who created the task.
Credentials (credentials)	Credentials under which an Agent runs this task. These Credentials override any Credentials provided in the Agent Details for any Agent running this task.
Credentials (credentials_var)	The variable specified in the login credentials field, if enabled.
Credentials Variable	Indication of whether the Credentials field is a reference field for selecting a specific Credential (unchecked) or a text field for specifying the Credential as a variable (checked). Use the format: ${variable name} The variable must be a supported type as described in Variables and Functions. Note When updating multiple Tasks, to change from using a Credentials reference to using a Credentials variable, you must change the **Credentials Variable** field to **Yes** and specify the Credentials variable in the **Credentials Unresolved** field. Conversely, to change from using a Credentials variable to using a Credentials reference, you must change the **Credentials Variable** field to **No** and specify the Credentials reference in the **Credentials** field.

Critical	If enabled (checked), the Controller calculates the Critical Path of this Workflow and, by default, displays it in the Workflow Monitor. You can toggle between the normal view and the Critical Path view by using the Toggle Critical Path View icon on the Workflow Monitor toolbar.
	
	If disabled (unchecked), the Controller does not calculate the Critical Path of this Workflow and display it in the Workflow Monitor, and the Toggle Critical Path View icon on the Workflow Monitor toolbar is disabled.
	
	Note
	This field displays only if the Critical Path Calculations Permitted Universal Controller system property is set to **true**.
	
	Important
	• When restoring a Workflow Details Version, the Calculate Critical Path setting (enabled or disabled) will be preserved.
	• When promoting a Workflow record or importing (list or bulk) Workflow Details:
	  ◦ Critical Path Calculations Permitted setting will not change.
	  ◦ **Calculate Critical Path**, if enabled, will be disabled.
	• If the database is "dropped" for any reason:
	  ◦ Critical Path Calculations Permitted will be set to **false**.
	  ◦ **Calculate Critical Path**, if enabled, will be disabled.

Current Retry Count	System-supplied; Displays, only for a running task instance, the current number of times that the Controller has retried the task after it first went to failure status.
Delay Duration	Number of days, hours, minutes, and seconds to delay after starting the task.

<table>
<tr><td>Delay Duration In Seconds</td><td>Number of seconds to delay after starting the task.</td></tr>
<tr><td>Delay On Start</td><td>Amount of time to delay the start of a task, after it has been launched, from the time that it is eligible to start; that is, all dependencies have been met.</td></tr>
<tr><td>Duration</td><td>System-supplied; Amount of time the task took to run.</td></tr>
<tr><td>Duration in Seconds</td><td>Amount of time, in seconds, the task instance took to run.</td></tr>
<tr><td>Early Finish</td><td>If enabled, and if the task instance finishes before the time or period specified, the task instance is flagged as early. You can specify a time or duration to determine an early finish (see #Early Finish Type). To determine whether a task instance finished early, open the task instance and locate the #Finished Early field; the field is checked if the instance finished before the specified time or did not last as long as expected. This field only appears on the task instance if the user added Early Finish specifications to the task definition.</td></tr>
<tr><td>Early Finish Duration</td><td>If #Early Finish Type = Duration; Shortest amount of time this task instance should take to run. You can specify any combination of hours, minutes, and seconds.</td></tr>
<tr><td>Early Finish Time</td><td>If #Early Finish Type = Time; Time before which the task finish time is considered early. That is, enter a time at which the task should still be running. Use HH:MM, 24-hour time.</td></tr>
<tr><td>Early Finish Type</td><td>Required if #Early Finish is enabled.

Options:
Time - Flag the task if it finishes before the specified time (see #Early Finish Time).
Duration - Flag the task if it finishes a certain amount of time before the programmed finish time (see #Early Finish Duration). The task must have a specific finish time.
Average Duration - Flag the task if it finishes before the average duration (see Average Instance Time) for the task, less an offset (see Early Finish Offset Type), if specified</td></tr>
<tr><td>End Time</td><td>System-supplied; Date and time the task instance completed</td></tr>
<tr><td>Exclude Backup</td><td>Specification for whether the task instance can be excluded from a backup when being purged by retention duration.</td></tr>
<tr><td>Exclusive State</td><td>Current status of the mutually exclusive request being used by a task instance.

The Controller uses the same process each time it launches a task with mutually exclusive requirements and goes through the same series of states:<table>
<tr><td>1</td><td>INITIAL</td><td>The initial state. This is the default value at launch time.</td></tr>
<tr><td>2</td><td>REQUESTED</td><td>When the task requests its mutually exclusive requirements, the Exclusive state becomes Requested.</td></tr>
<tr><td>3</td><td>ACQUIRED</td><td>When all of the requested mutually exclusive requirements are met and acquired by the server, the Exclusive state becomes Acquired.</td></tr>
<tr><td>4</td><td>RETURNED</td><td>When the task completes, the server returns the acquired mutually exclusive requirements and the Exclusive state becomes Returned.</td></tr>
<tr><td>5</td><td>CLEARED</td><td>When the Clear Exclusive command is run, the server cancels or returns the mutually exclusive requirements and the Exclusive state becomes Cleared.</td></tr>
</table></td></tr>
</table>

Execution User	System-supplied; If the task was launched manually, the ID of the user who launched it.
Exit Code	The exit code, if any, returned by the process.
Finished Early	System-supplied; This field is flagged if the task finished earlier than the time specified in the Early Finish fields.
Finished Late	System-supplied; This field is flagged if the task finished later than the time or duration specified in the Late Finish fields.
Forced Finished	True or False. Indicates whether the task instance was force-finished.
Hold Reason	Information about why the task will be put on hold when it starts.
Hold on Start	If enabled, when the task is launched it appears in the Activity Monitor with a status of **Held**. The task runs when the user releases it.
Hold Resources On Failure	If enabled, the task instance will continue to hold Renewable resources if the task instance fails.
IO Other	Total input/output operations for this task.
IO Reads	Total input/output reads for this task.
IO Writes	Total input/output writes for this task.
Instance Name	Name of the task instance.
Instance Reference Id	System-supplied; the Controller increments this number each time the task is run.

Invoked by	System-supplied; How the task instance was launched. One of the following:
	• Trigger: (Trigger Name)
	Instance was launched by the named trigger.
	• Workflow: (Workflow Name)
	Instance was launched by the named workflow.
	• Manually Launched
	Instance was launched by a user. To determine the name of the user:
	  • From the Activity Monitor or Task Instances list, click the task instance name to open the record.
	  • The Execution User field identifies the user who launched the task instance.

Late Finish	If enabled, and if the task instance finishes after the time or period specified, the task instance is flagged as late. You can specify a time or duration to determine a late finish (see #Late Finish Type). To determine whether a task instance finished late, open the task instance and locate the #Finished Late field; the field is checked if the instance finished after the specified time or lasted longer than expected. This field only appears on the task instance if the user specified a Late Finish in the task definition.
Late Finish Duration	If #Late Finish Type = Duration; Longest amount of time this task instance should take to run. You can specify any combination of hours, minutes, and seconds.

Late Finish Time	If #Late Finish Type = Time; Time after which the task finish time is considered late. Use HH:MM, 24-hour time.
Late Finish Type	Required if Late Finish is enabled. Options: • Time - Flag the task if it finishes after the specified time (see Late Finish Time). • Duration - Flag the task if it finishes a certain amount of time after the programmed finish time (see Late Finish Duration). The task must have a specific finish time. • Average Duration - Flag the task if it finishes after the average duration (see Average Instance Time) for the task, less an offset (see Late Finish Offset Type), if specified
Late Start	If enabled, and if the task instance starts after the time or period specified, the task instance is flagged as late. You can specify a time or duration to determine a late start (see #Late Start Type). To determine whether a task instance started late, open the task instance and locate the #Started Late field; the field is checked if the instance started after the specified time. The #Started Late field displays in the task instance Details only if the user specified a Late Start in the task Details.
Late Start Duration	If Late Start Type is Duration, use this to specify the longest amount of time this task instance can wait before starting. You can specify any combination of hours, minutes, and seconds.
Late Start Time	If #Late Start Type = Time; Time after which the task start time is considered late. Use HH:MM, 24-hour time.
Late Start Type	Required if #Late Start is enabled. Options: • Time - Flag the task if it starts after the specified time. • Duration - Flag the task if it starts a certain amount of time after the programmed start time. The task must have a specific start time.
Longest Estimated End Time	System-supplied.
Maximum Retries	User-defined; maximum number of times that the Controller should retry this task after it has started and gone to a failed state.
Member of Business Services	User-defined; allows you to select one or more Business Services that this record belongs to. If the Business Service Visibility Restricted Universal Controller system property is set to true, depending on your assigned (or inherited) Permissions or Roles, Business Services available for selection may be restricted.
Memory Peak	The peak amount of memory used during the execution of this task instance.
Memory Used	The amount of memory used during the execution of this task instance.
Operational Memo	User-defined operational memo.

<table>
<tr><td>Predecessors Satisfied Time</td><td>he time in which all predecessor dependencies have been satisfied for the task instance.</td></tr>
<tr><td>Progress</td><td>Indicates the workflow progress in terms of completed tasks: success, finished, or skipped. (A sub-workflow within a workflow counts as one task.} For example, 5/10 indicates that 5 of 10 tasks within the workflow have completed.</td></tr>
<tr><td>Projected End Time</td><td>System-supplied; projected end time of the task instance.</td></tr>
<tr><td>Queued Time</td><td>System-supplied; the time that the task was queued for processing.</td></tr>
<tr><td>Resolve Name Immediately</td><td>Instance Name of the task instance that will be resolved immediately at trigger/launch time.</td></tr>
<tr><td>Resources Consumed</td><td>System-supplied; For internal processing only.</td></tr>
<tr><td>Resource State</td><td>Current status of the resource being used by a task instance.

The Controller uses the same process each time it launches a task on a resource and the resource goes through the same series of states:
<table><tr><td>1</td><td>INITIAL</td><td>The initial state. This is the default value at launch time.</td></tr><tr><td>2</td><td>REQUESTED</td><td>When the task requests the resources it needs, the Resource state becomes Requested.</td></tr><tr><td>3</td><td>ACQUIRED</td><td>When all of the requested resources are available and acquired by the server, the Resource state becomes Acquired.</td></tr><tr><td>4</td><td>RETURNED</td><td>When the task completes, the server returns the resources it was using, and the Resource state becomes Returned.</td></tr></table></td></tr>
<tr><td>Retention Time</td><td>Specification that the task instance launched by a trigger is eligible to be purged from the database as soon as the retention duration time specified in the trigger has been met.</td></tr>
<tr><td>Retry Indefinitely</td><td>User-defined; indicates whether the Controller should continue trying indefinitely to run this task. If you enable this field, it overrides any value placed in the #Maximum Retries field.</td></tr>
<tr><td>Retry Interval (Seconds)</td><td>User-defined; number of seconds between each retry.</td></tr>
<tr><td>Run Called</td><td>(Internal property.)</td></tr>
<tr><td>Run Criteria Run Time</td><td>Indicates that run-time run criteria was specified for the task.</td></tr>
</table>

Run Criteria Trigger Time	Indicates that trigger-time run criteria was specified for the task.
Security Name	The task name.
Shortest Estimated End Time	System-supplied.
Start Time	System-supplied; the date and time that the task started.
Started Late	System-supplied; This field is flagged if the task started later than the time specified in the Late Start fields.
State Changed Time	The last time the task instance changed status.
Status	System-supplied; Provides additional information, if any, about the status of the task.
Status Description	System-supplied; Provides additional information, if any, about the status of the task.
Status History	History of all statuses that the task instance has gone through.
Sys id	Unique system identifier associated with a task instance.
Task	User-defined name of this task (Maximum = 255 alphanumeric characters); variables supported. It is the responsibility of the user to develop a workable naming scheme for tasks.
Task Description	User-supplied description of this record.
Task Priority	Priority of this task instance, as set by the user via the Set Priority command. Options are: High, Medium, Low.

<table>
<tr><td>Time Wait State</td><td>Current status of the wait/delay options for a task instance.

When the Controller launches a task with wait/delay options, the time wait status will transition through a series of states:

<table>
<tr><td>1</td><td>INITIAL</td><td>The initial state. This is the default value at launch time.</td></tr>
<tr><td>2</td><td>EXECUTING WAIT</td><td>When the task instance is waiting to start, the Time Wait state becomes Executing Wait.</td></tr>
<tr><td>3</td><td>COMPLETED WAIT</td><td>When the wait to start requirement is met, the Time Wait state becomes Completed Wait.</td></tr>
<tr><td>4</td><td>EXECUTING DELAY</td><td>When the task instance is delayed on start, the Time Wait state becomes Executing Delay.</td></tr>
<tr><td>5</td><td>COMPLETED DELAY</td><td>When the delay on start requirement is met, the Time Wait state becomes Completed Delay.</td></tr>
<tr><td>6</td><td>CLEARED</td><td>When the task instance no longer has a time wait requirement (for example, from issuing the Clear Time Wait/Delay command), the Time Wait state becomes Cleared.</td></tr>
</table>
</td></tr>
<tr><td>Trigger</td><td>Name used within the Controller to identify this trigger. It can contain a maximum of 255 alphanumerics. It is the responsibility of the user to develop a workable naming scheme for triggers.</td></tr>
<tr><td>Trigger Time</td><td>Date and time (current or user-selected) when the trigger launches its tasks.</td></tr>
<tr><td>Type</td><td>Type of task instance.</td></tr>
<tr><td>Universal Template</td><td>If Type = Universal; Name of the Universal Template on which the Universal Task Type is based.</td></tr>
<tr><td>Updated</td><td>Date and time this record was last updated.</td></tr>
<tr><td>Updated by</td><td>User who last updated this record.</td></tr>
<tr><td>Updates</td><td>Number of updates that have been made to the task record.</td></tr>
<tr><td>User Defined Field 1</td><td>First of two possible user-defined fields that displays in the General Information section of the task instance Details.</td></tr>
<tr><td>User Defined Field 2</td><td>Second of two possible user-defined fields that displays in the General Information section of the task instance Details.</td></tr>
<tr><td>User Estimated End Time</td><td>System-supplied; If the user entered information into the User Estimated Duration field in the task definition, the Controller uses this information to calculate an end time for the task instance, based on the date/time the task instance started.</td></tr>
<tr><td>UUID</td><td>Universally Unique Identifier of this task instance.</td></tr>
<tr><td>Vertex Id</td><td>Each task within a workflow has a unique vertex ID, which distinguishes it from other tasks of the same name, if any.</td></tr>
<tr><td>Virtual Resource Priority</td><td>Priority for acquiring a resource for this task instance.</td></tr>
</table>

Wait Day Constraint	Specification for whether or not to advance the wait time to another day.
Wait Duration	Number of days, hours, minutes, and seconds to wait before starting the task.
Wait Duration In Seconds	Number of seconds to wait before starting the task.
Waited for Exclusive	Indicates that the task instance could not run exclusively immediately and went into an Exclusive Wait state.
Waited for Resources	Indicates that the task instance could not get resources immediately and went into a resource wait state.
Wait Time (HH:MM)	Number of hours and minutes to wait before starting the task.
Wait To Start	Amount of time to wait before starting a task from the time that it was launched.
Wait Until Time	Amount of time calculated to wait before the task was started.
Workflow	Name of the workflow, if appropriate.
Workflow Definition	Name of the parent workflow task definition.
Workflow Only	Specification for whether or not to apply the Wait To Start and Delay On Start specifications only if the task is in a Workflow.
Workflow Start Time	Start time of the parent workflow task instance.

Widgets

- Overview
- Types of Widgets
- Creating a Widget
- System Widgets
  - System Widget Details
  - System Widget Details Field Descriptions
  - System Details Widget Preview
- Activity Widgets
  - Composite Widgets
  - Activity Widget Details
  - Activity Widget Details Field Descriptions
  - Activity Widget Preview
- Report Widgets
  - Report Widget Details
  - Report Widget Details Field Descriptions
  - Report Widget Preview
- Additional Details

Overview

Widgets are graphic and/or alphanumeric displays of of real-time, dynamic information about Universal Controller, the jobs it is running, and the environment in which it is operating.

Some Widgets are provided by the Controller, and you can create as many other Widgets as desired. You can add any Widget to any dashboard except the Home Dashboard.

Types of Widgets

There are three type of Widgets:

- System Widgets
- Activity Widgets
- Report Widgets

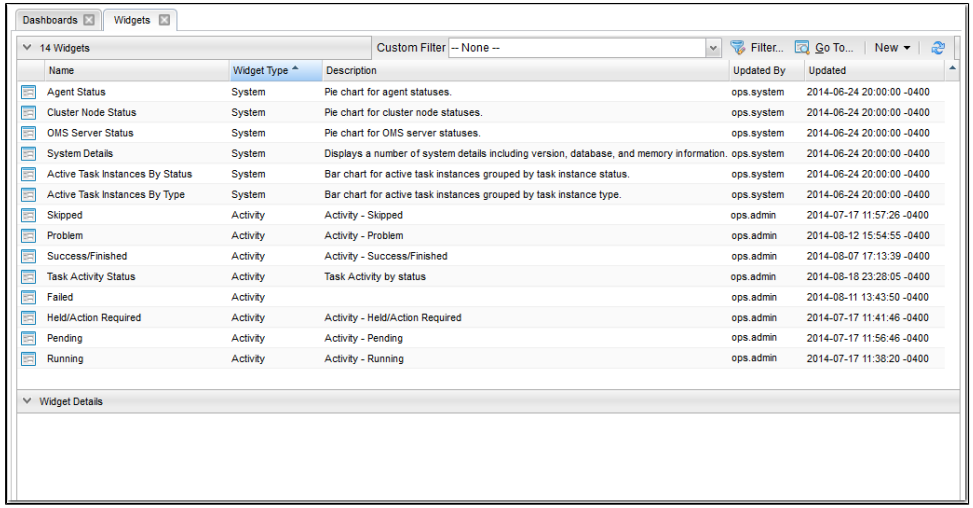
Creating a Widget

Note

You can create Widgets (Activity Widgets and Report Widgets only; System Widgets cannot be created) only if you have been assigned the ops_admin, ops_report_admin, or ops_widget_admin role; otherwise, the **New** button does not display at the top of the Widgets list.

Step 1

From the Reporting navigation pane, select **Widgets**. The Widgets list displays.



Name	Widget Type	Description	Updated By	Updated
Agent Status	System	Pie chart for agent statuses.	ops.system	2014-06-24 20:00:00 -0400
Cluster Node Status	System	Pie chart for cluster node statuses.	ops.system	2014-06-24 20:00:00 -0400
OMS Server Status	System	Pie chart for OMS server statuses.	ops.system	2014-06-24 20:00:00 -0400
System Details	System	Displays a number of system details including version, database, and memory information.	ops.system	2014-06-24 20:00:00 -0400
Active Task Instances By Status	System	Bar chart for active task instances grouped by task instance status.	ops.system	2014-06-24 20:00:00 -0400
Active Task Instances By Type	System	Bar chart for active task instances grouped by task instance type.	ops.system	2014-06-24 20:00:00 -0400
Skipped	Activity	Activity - Skipped	ops.admin	2014-07-17 11:57:26 -0400
Problem	Activity	Activity - Problem	ops.admin	2014-08-12 15:54:55 -0400
Success/Finished	Activity	Activity - Success/Finished	ops.admin	2014-08-07 17:13:39 -0400
Task Activity Status	Activity	Task Activity by status	ops.admin	2014-08-18 23:28:05 -0400
Failed	Activity		ops.admin	2014-08-11 13:43:50 -0400
Held/Action Required	Activity	Activity - Held/Action Required	ops.admin	2014-07-17 11:41:46 -0400
Pending	Activity	Activity - Pending	ops.admin	2014-07-17 11:56:46 -0400
Running	Activity	Activity - Running	ops.admin	2014-07-17 11:38:20 -0400

Step 2

From the **New** drop-down list at the top of the list, select the type of Widget you want to create:

- Activity Widget
- Report Widget

The Widget Details for that Widget type displays.

Note

The General section of Widget Details is the same for System, Activity, and Report Widgets, but the Details section is different for all three types of Widgets.

Step 3

Enter / select Details for a new Widget, using the field descriptions as a guide.

- Required fields display in **boldface**.
- Default values for fields, if available, display automatically.

To display more of the Details fields on the screen, you can either:

- Use the scroll bar.
- Temporarily hide the list above the Details.
- Click the **New** button above the list to display a pop-up version of the Details.

Step 4

Click a **Save** button. The Widget record is added to the database, and all buttons in the Widget Details are enabled.

Step 5

To see how the Widget will display, click the **Preview** button.

Graphic Widgets identify the entries that comprise the graphic with color, and an alphanumeric key identifies the number of each entry type represented by the color. You also can see what percent of Widget entries are in each type by hovering your cursor over that portion of the graphic.

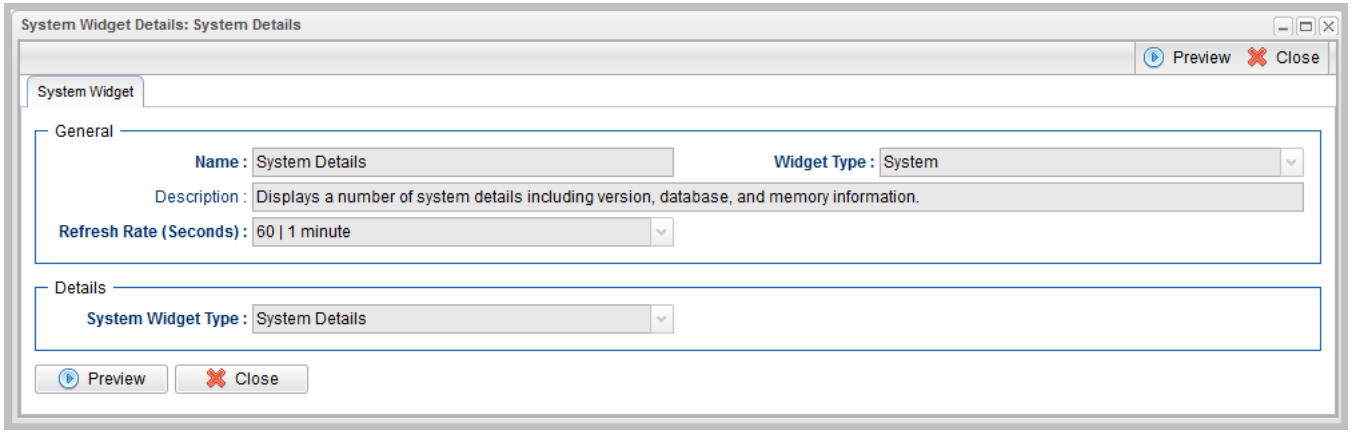
System Widgets

System Widgets contain information about the Controller; Agent, Cluster Node, and OMS Server status; and task instance status and type.

All System Widgets are provided by the Controller. You cannot modify or delete a System Widget, but you can add or remove it from any Dashboard.

System Widget Details

The following System Widget Details is for the System Details Widget. See the field descriptions below for a description of all fields that display in the System Widget Details for the System Details Widget.



System Widget Details Field Descriptions

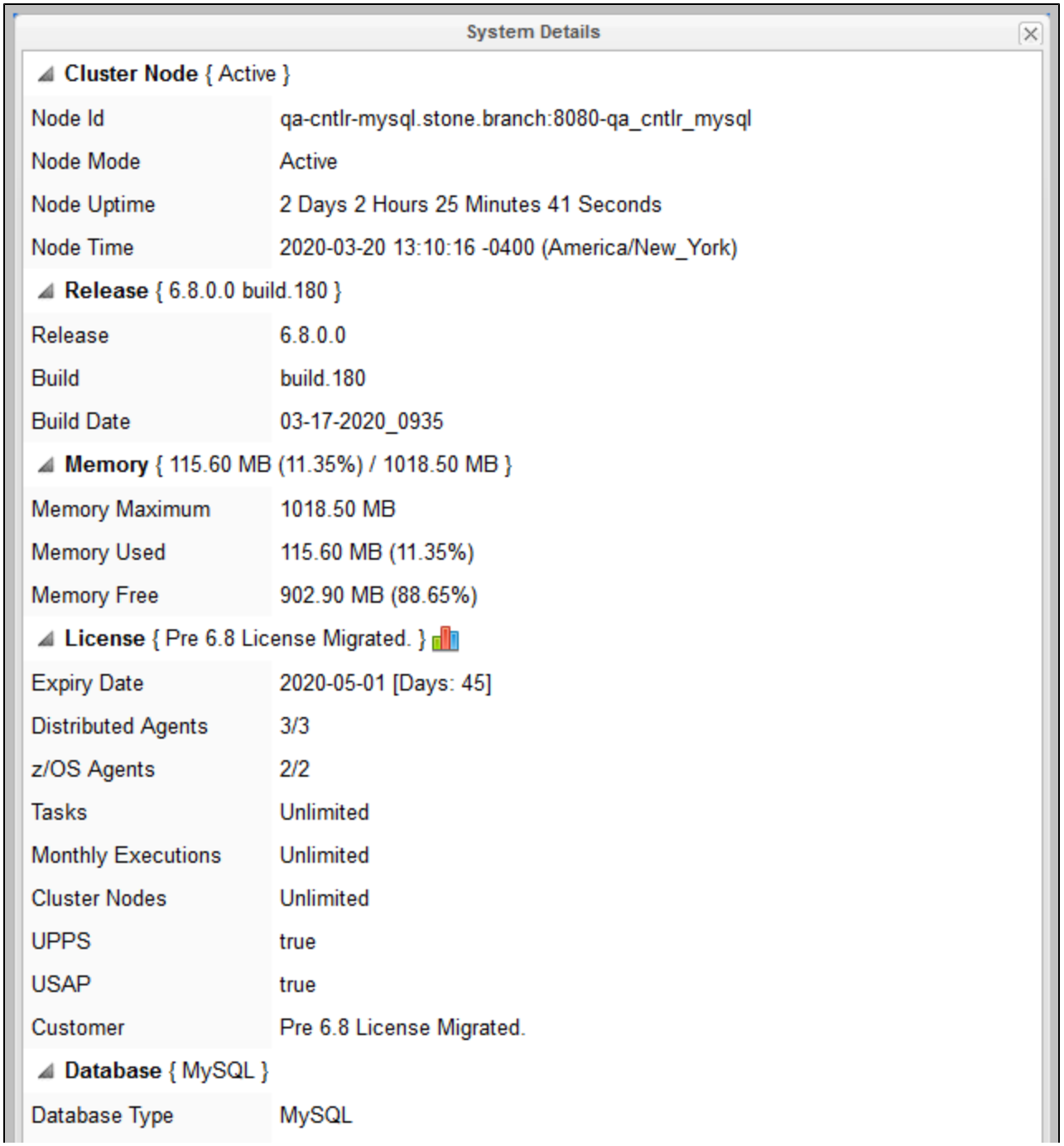
The following table describes the fields, buttons, and tabs that display in the System Details Widget Details, above.

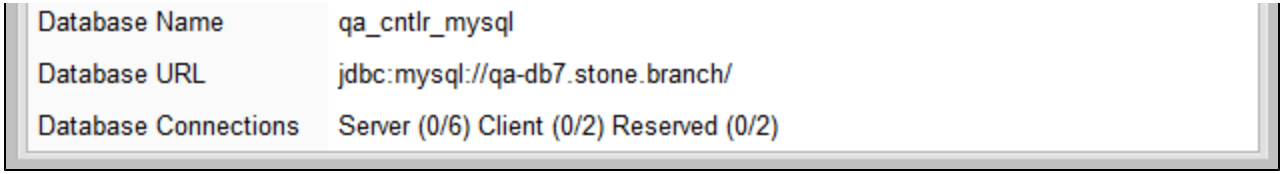
Field Name	Description
General	This section contains general information about the Widget.
Name	Name of the Widget
Widget Type	Type of this Widget: System.
Description	Description of this Widget.
Refresh Rate (Seconds)	Time interval (in seconds) when the dynamic data in this Widget is refreshed.
Details	This section contains detailed information about the Widget.
System Widget Type	Type of this System Widget.
Metadata	This section contains Metadata information about this record.

UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Widget Details that let you perform various actions.
Preview	Provides a preview of how this Widget will display on a Dashboard.
Close	For pop-up view only; closes the pop-up view of this Widget.

System Details Widget Preview

The following preview shows how the System Details Widget above will display on a Dashboard.


System Details
Cluster Node { Active }
Node Id
qa-cntlr-mysql.stone.branch:8080-qa_cntlr_mysql
Node Mode
Active
Node Uptime
2 Days 2 Hours 25 Minutes 41 Seconds
Node Time
2020-03-20 13:10:16 -0400 (America/New_York)
Release { 6.8.0.0 build.180 }
Release
6.8.0.0
Build
build.180
Build Date
03-17-2020_0935
Memory { 115.60 MB (11.35%) / 1018.50 MB }
Memory Maximum
1018.50 MB
Memory Used
115.60 MB (11.35%)
Memory Free
902.90 MB (88.65%)
License { Pre 6.8 License Migrated. }
Expiry Date
2020-05-01 [Days: 45]
Distributed Agents
3/3
z/OS Agents
2/2
Tasks
Unlimited
Monthly Executions
Unlimited
Cluster Nodes
Unlimited
UPPS
true
USAP
true
Customer
Pre 6.8 License Migrated.
Database { MySQL }
Database Type
MySQL



Note

By default, the only System Details categories that display expanded categories are those specified in the System Details Expanded Categories Universal Controller system property.

Activity Widgets

Activity Widgets contain information about Controller activity; that is, task instance statuses.

The Controller provides a set of Activity Widgets, which you can modify and delete, and you can create your own Activity Widgets.

You also can create an Activity Widget that is a composite of other Activity Widgets

All Activity Widgets display as horizontal bar charts.

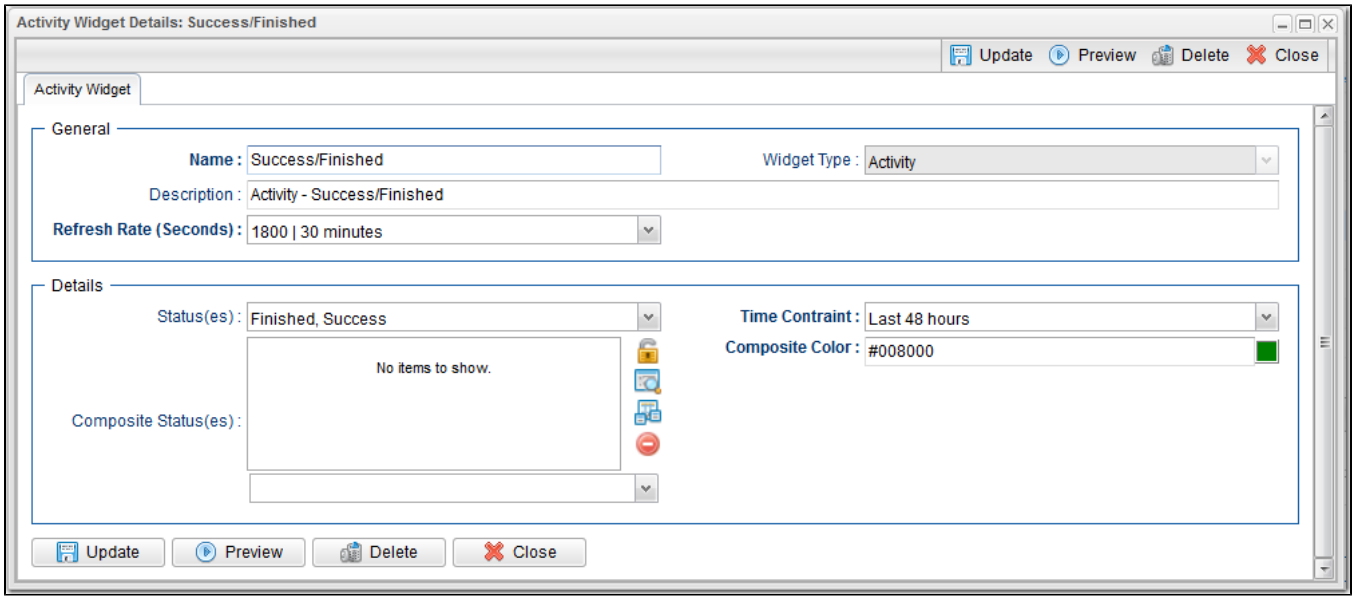
Composite Widgets

Composite Widgets are Activity Widgets composed of other Activity Widgets. Composite Widgets can contain any Activity Widgets except other composite Widgets.

To create a Composite Widget, you select task instance statuses for the Widget in the Composite Status(es) field in the Activity Widget Details.

Activity Widget Details

The following Activity Widget Details is for a Success/Finished Activity Widget: a widget based on Success and Finished task instance statuses. See the field descriptions below for a description of all fields that display in the Activity Widget Details.



Activity Widget Details Field Descriptions

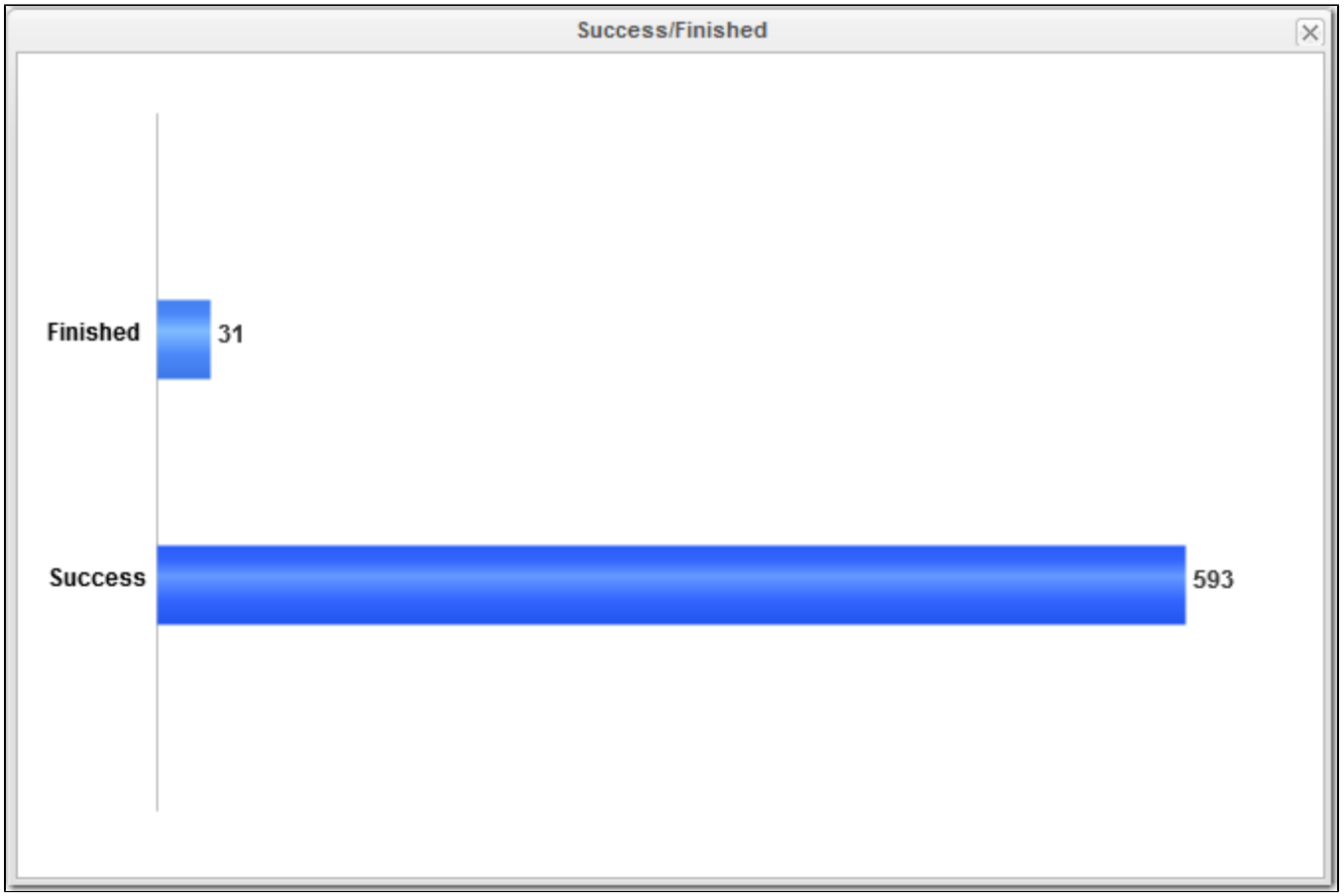
The following table describes the fields, buttons, and tabs that display in the Success/Finished Activity Widget Details, above.

Field Name	Description
General	This section contains general information about the Widget.
Name	Name of the Widget. Note The name of an Activity Widget should reference - either directly or indirectly - the task instance Status(es) for which it is created. For Example, if you create a Widget for a specific status and simply name it **Widget A**, and **Widget A** then is included in a Composite Widget, that Composite Widget will display on a Dashboard with an entry for **Widget A**, which provides no indication of the status for which it was created.
Widget Type	Type of this Widget: Activity.
Description	Description of this Widget.
Refresh Rate (Seconds)	Time interval (in seconds) when the dynamic data in this Widget is refreshed.

Details	This section contains detailed information about the Widget.
Status(es)	Task instance status(es) to include in this Widget.
Time Constraint	Time frame for which you want task instances in the selected status(es) to be included in this Widget. The Time Constraint defined for a Composite Widget overrides the Time Constraints defined in each of its individual Activity Widgets.
Composite Status(es)	Activity Widget(s) to include in this Widget. Each Activity Widget represents one or more task instance statuses. Selecting one or more Activity Widgets in this field, rather than selecting status (es) in the #Status(es) field, makes this Widget a composite Activity Widget.
Composite Color	Color used on a Dashboard for this Widget if it is part of a composite Activity Widget.
Metadata	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.
Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Widget Details that let you perform various actions.
Save	Saves a new Widget record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplays empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
Update	Saves updates to the record.
Preview	Provides a preview of how this Widget will display on a Dashboard.
Delete	Deletes the current record.
Close	For pop-up view only; closes the pop-up view of this Widget.

Activity Widget Preview

The following preview shows how the Success/Finished Activity Widget above - provided by Universal Controller - will display on a Dashboard.



Report Widgets

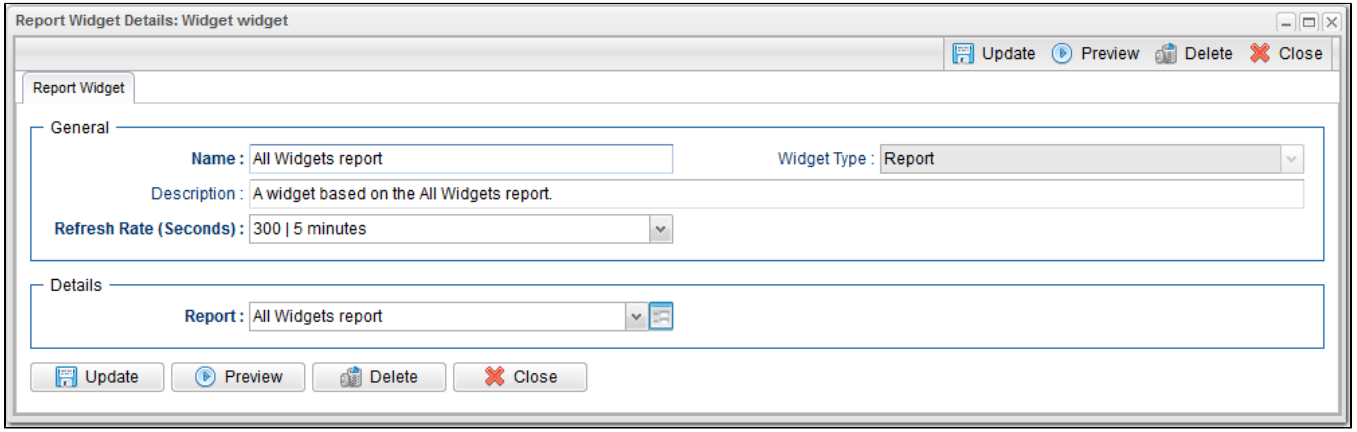
Report Widgets are based on any Report.

A Report Widget displays in the format selected for the report:

- List
- Bar Chart/Horizontal
- Bar Chart/Vertical
- Pie Chart

Report Widget Details

The following Report Widget Details is for an All Widgets Report Widget: it is based on a report using the Widgets (**`ops_widget`**) Universal Controller Reportable table. See the field descriptions below for a description of all fields that display in the Report Widget Details.



Report Widget Details Field Descriptions

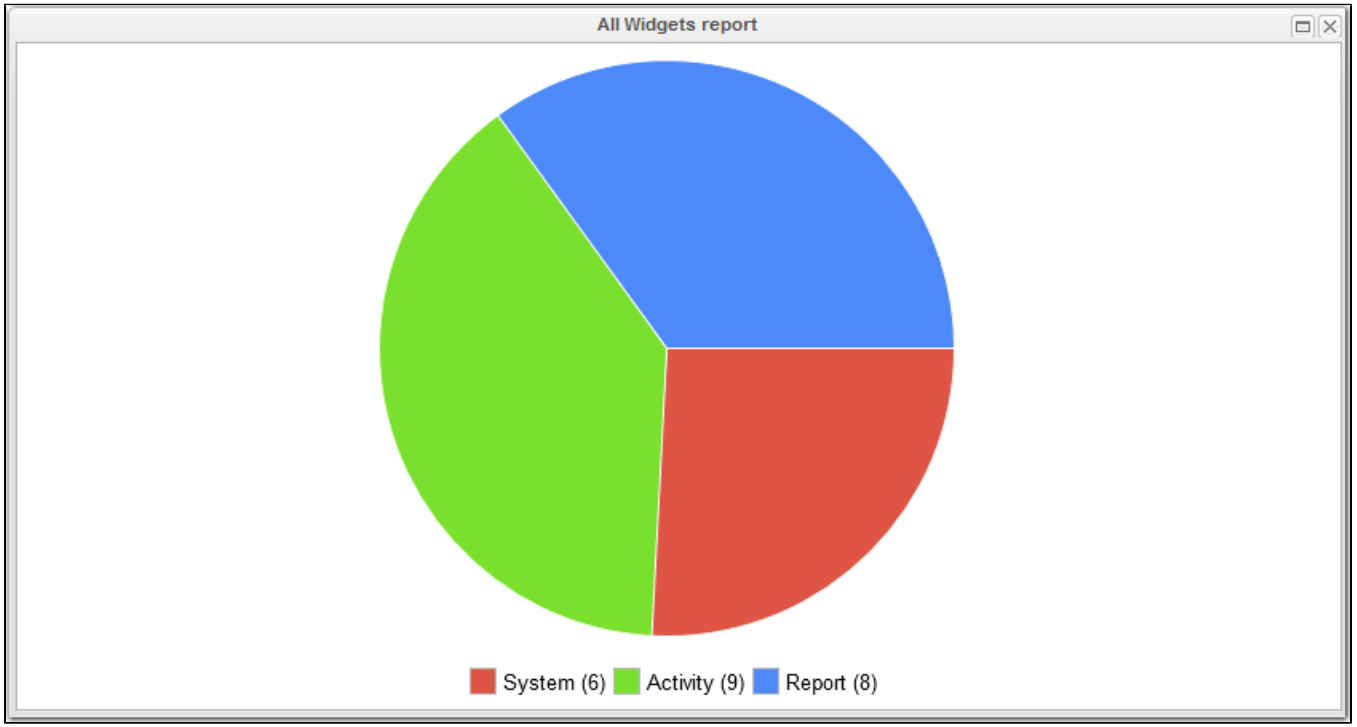
The following table describes the fields, buttons, and tabs that display in the All Widgets Report Widget Details.

Field Name	Description
General	This section contains general information about the Widget.
Name	Name of the Widget
Widget Type	Type of this Widget: Report.
Description	Description of this Widget.
Refresh Rate (Seconds)	Time interval (in seconds) when the dynamic data in this Widget is refreshed.
Details	This section contains detailed information about the Widget.
Report	Report on which this Widget is based.
Metadata	This section contains Metadata information about this record.
UUID	Universally Unique Identifier of this record.
Updated By	Name of the user that last updated this record.
Updated	Date and time that this record was last updated.
Created By	Name of the user that created this record.

Created	Date and time that this record was created.
Buttons	This section identifies the buttons displayed above and below the Widget Details that let you perform various actions.
Save	Saves a new Widget record in the Controller database.
Save & New	Saves a new record in the Controller database and redisplays empty Details so that you can create another new record.
Save & View	Saves a new record in the Controller database and continues to display that record.
Update	Saves updates to the record.
Preview	Provides a preview of how this Widget will display on a Dashboard.
Delete	Deletes the current record.
Close	For pop-up view only; closes the pop-up view of this Widget.

Report Widget Preview

The following preview shows how the All Widgets Report Widget above will display on a Dashboard.



Additional Details

For information on how to access additional details - such as Metadata and complete database Details - for a Widget (or any type of record), see Records.

Colors

- Overview
- Changing a Task Instance Status Color

Overview

The Controller assigns a default color for each of the 25 possible statuses for a task instance.

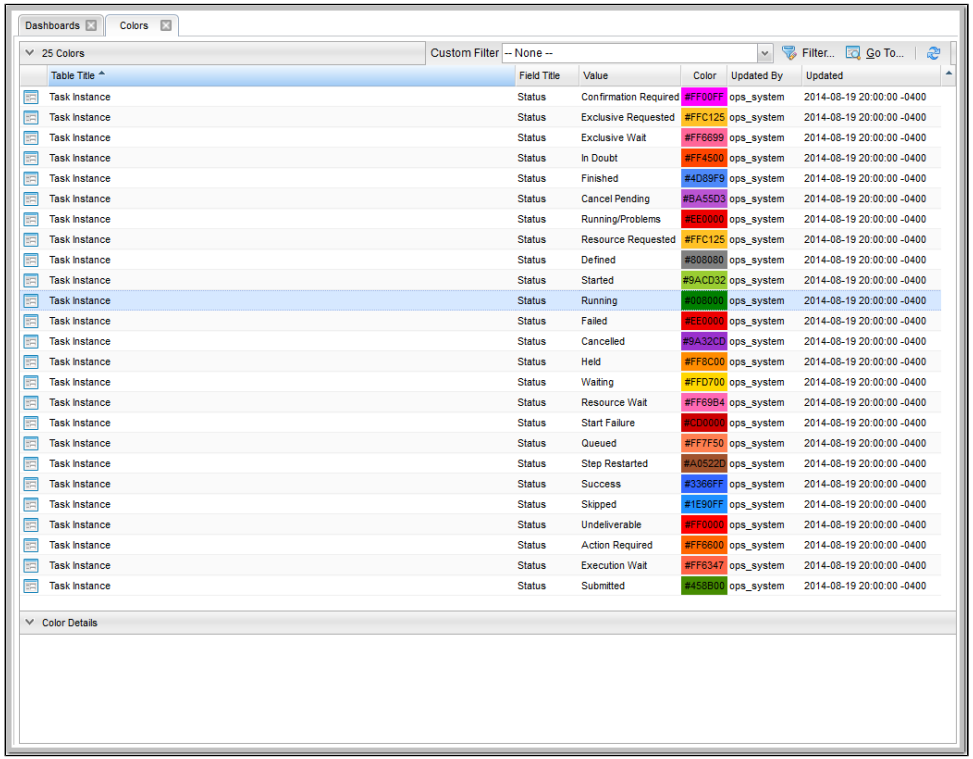
A status is identified for every task instance in a Workflow Monitor and on every list that contains a Status column for task instances, such as the Activity Monitor and the Task Instances list.

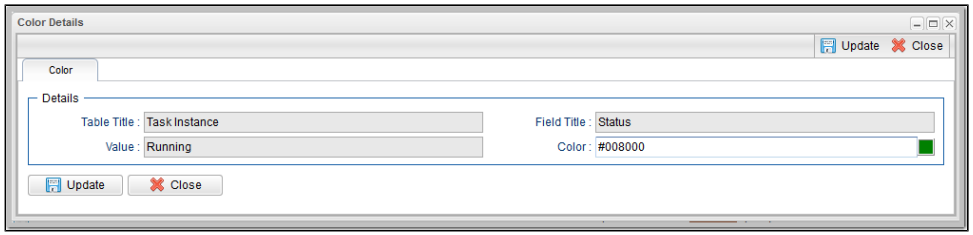
You can change the default color for any task instance status.

Changing a Task Instance Status Color

Step 1

From the Reporting navigation pane, select **Colors**. The Colors list displays a list of all 25 task instance statuses and the hexadecimal values of their RGB colors.

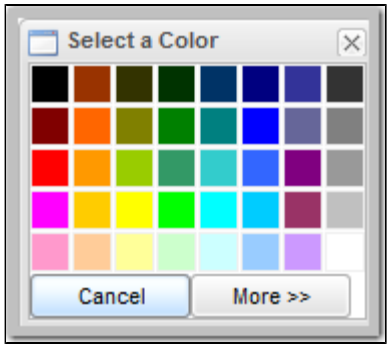


Step 2	Open a record on the list for the color you want to change. Color Details for that task instance displays. 

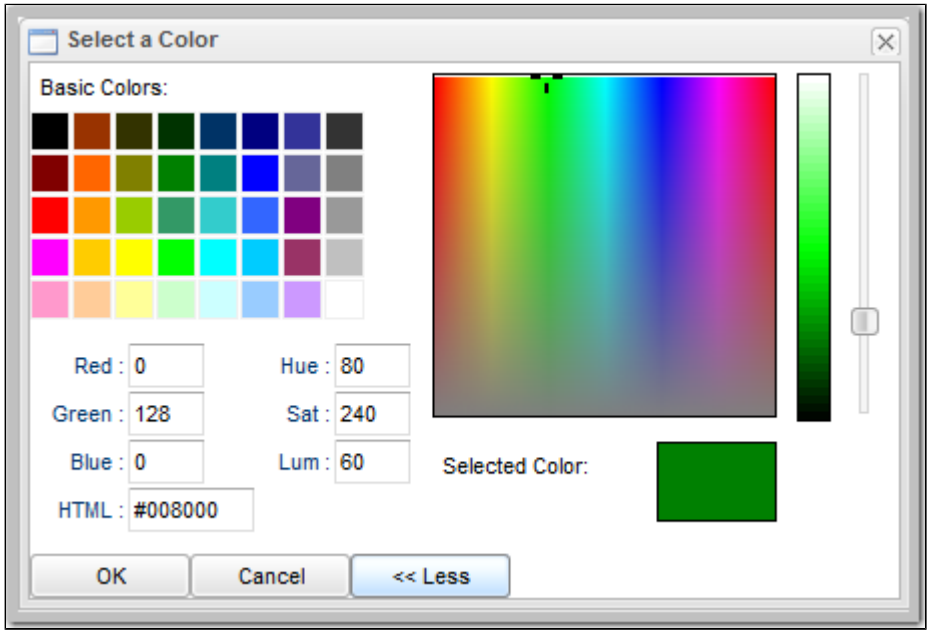
Step 3

Change the color either of two ways:

1. Enter the hexadecimal value for a different RGB color in the **Color** field.
2. Select a color from a color chart:
   a. Click the icon next to the **Color** field to display a **Select a Color** pop-up.



   b. Either click a color on the chart or click the **More >>** button to display a more detailed version of the **Select a Color** pop-up, which lets you select any RGB color.



Step 4	Click the **Update** button in the Color Details to update the color for that task instance status.