blueprism

The Operational Agility Software Company

Blue Prism

Guide to Blue Prism Tiles

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1 Introduction

This document is a guide for working with Tiles, a feature of Blue Prism introduced in version 5. Dashboards are made up of a series of Tiles, each of which is a visualisation of data providing a useful overview of specific metrics, either in the form of a chart, graph or other visual representation of a set of data. Tiles are created and stored in the Tile Library, where they can be added to dashboards, subject to the user being granted sufficient privileges to do so.

2 Working with Tiles

2.1 Manipulating Tiles

Creating a Tile

In order to create a new tile, you will need to right-click in the Tile Library to show the context menu, where you can choose **Create Tile**. The Dashboard Tile definition screen will then appear, allowing you to configure the Tile. A **Preview** tab is also available to display a preview of how the tile will appear using the current settings.

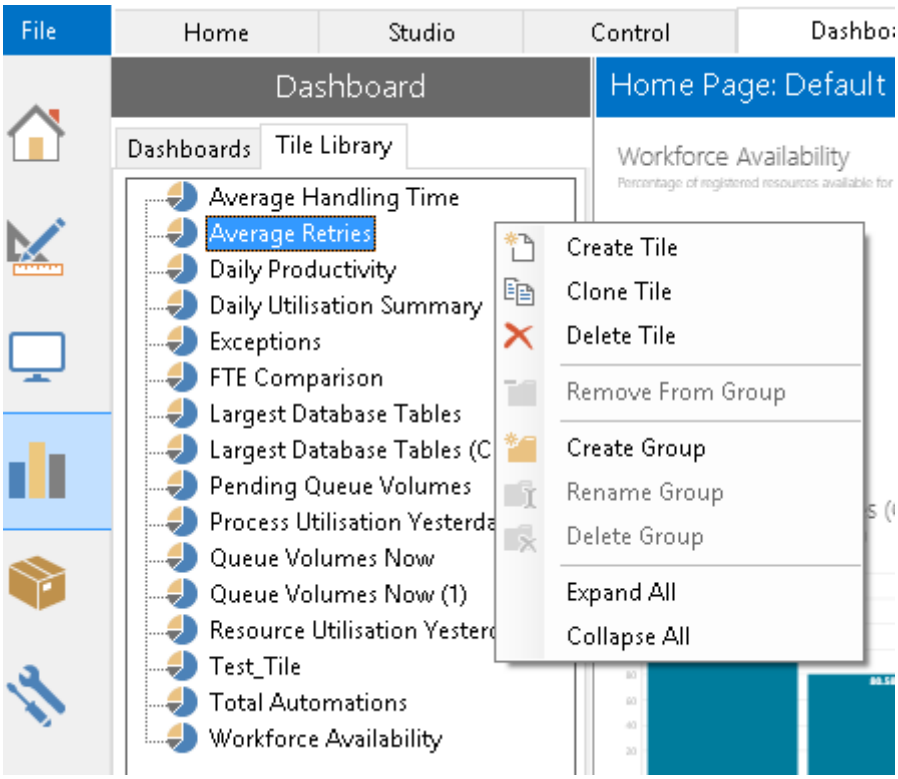

Figure 1 Tile Library Right Click Menu

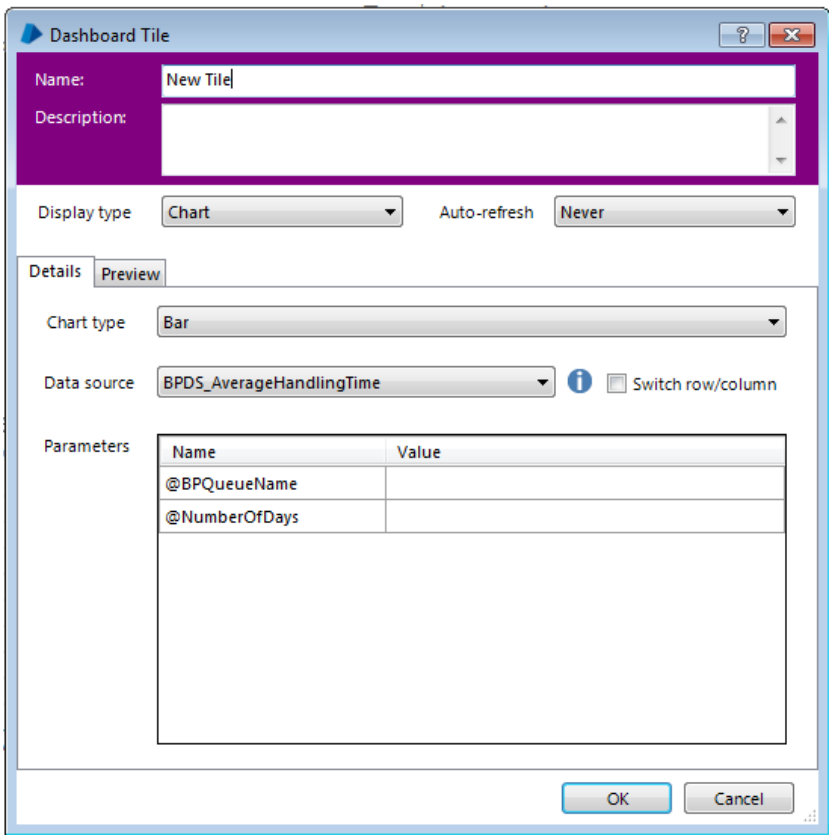

Figure 2 Dashboard Tile Window

The properties that can be set for a tile are:

Property name	Description	Values
Name	The name of the Tile. This will usually reflect a specific metric, e.g. “Number of available robots”	Free-form text value (up to 255 characters). Names do not need to be unique.
Description	A text description offering a more detailed explanation of the values represented in the Tile.	Free-form text value (up to 4096 characters).
Display Type	The type of visual representation of the data.	Selection. Default is ‘Chart’ type.
Auto-Refresh	The interval to poll the server for changes to the Tile’s data.	Selection. Default is ‘Never’. **Warning:** While under normal operations auto-refresh will not impact system

		performance, a large number of tiles refreshing at once one a busy system can potentially cause noticeable slow-down.
Chart Type	The style-type to be applied to the data source e.g. Bar Chart, Pie Chart, etc.	Selection. Default for Chart is 'Bar'
Data Source	A database Stored Procedure designed to return the values for the chosen Display Type control.	Selection. List populated from published Stored Procedures in the Blue Prism database.
Information	Opens context-sensitive help for the Blue Prism supplied data sources.	N/A
Switch Row/Column	Allows the tile to return data from the Stored Procedure with row and column axes switched.	Unchecked – defined axes. Checked – rows and columns swapped.
Parameters	A list of parameters required as inputs to the Data Source stored procedure.	Data values will vary according to the requirements of the stored procedure. See the stored procedure's definition for details.

Edit a Tile

Any existing tile can be edited from within the Tile Library. To edit a tile, you will need to double-click it. From there a new screen is shown where properties of the tile can be specified.

Copying a Tile

To speed up the tile development process, a tile can be copied with its existing settings in order to create a new tile. With a tile selected, right-click and choose **Clone Tile.** A new tile is listed in the same Tile Group as the source tile, which takes the name of the source tile with the phrase "– Copy" appended to the name.

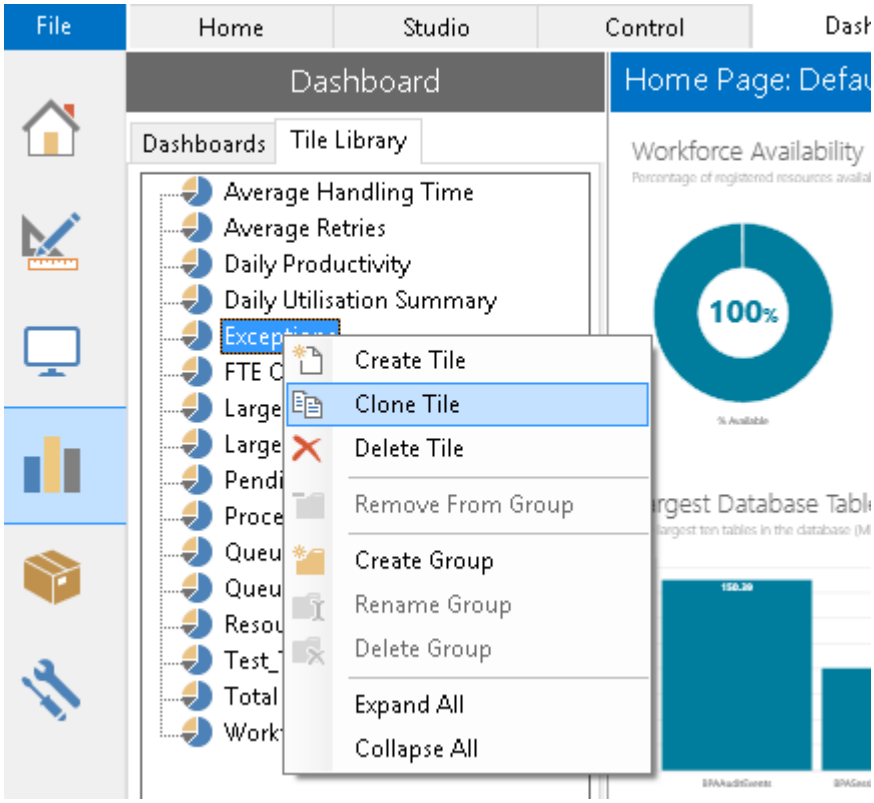

Figure 3 Tile Context Menu

Deleting a Tile

Tiles can be deleted by selecting the tile, right-clicking and choosing **Delete Tile**. A prompt window will be shown asking for confirmation of the deletion before the tile is removed.

Adding a Tile to a Dashboard

A dashboard is one of more tiles. To add a tile to a dashboard you must have a dashboard open and the dashboard must be in **Edit Mode**. In the Dashboards pane, select a dashboard to edit, then from the context menu choose the **Edit** function.

Next, switch to the **Tile Library** pane, then drag and drop the tile from the Tile Library into a free position on the dashboard. Where a tile exists already it will he highlighted with a border to indicate that the space cannot be used for dropping your new tile.

Tiles can be positioned by dragging and dropping them relative to other tiles, and tiles will automatically re-position themselves into the best fit position for their size.

2.2 Tile Groups

Tile Groups are a way of organising existing tiles into groups to provide a user-friendly storage structure.

Creating a Tile Group

To create a new **Tile Group**, right-click in the Tile Library and choose **Create Group**. A new group will need to be named before it can be used.

Once a Tile Group exists then tiles can be dragged and dropped over the Tile Group to add the tile to the group. Tiles will be arranged in the order that they were added to the group.

Groups can be nested to whatever level is required, and tiles can be placed at any level within the nested groups.

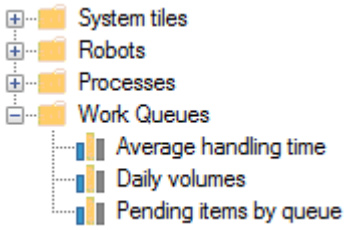

Figure 4 Tile Groups

Rename Group

To rename an existing Tile Group choose **Rename Group** from the Tile Group's context menu.

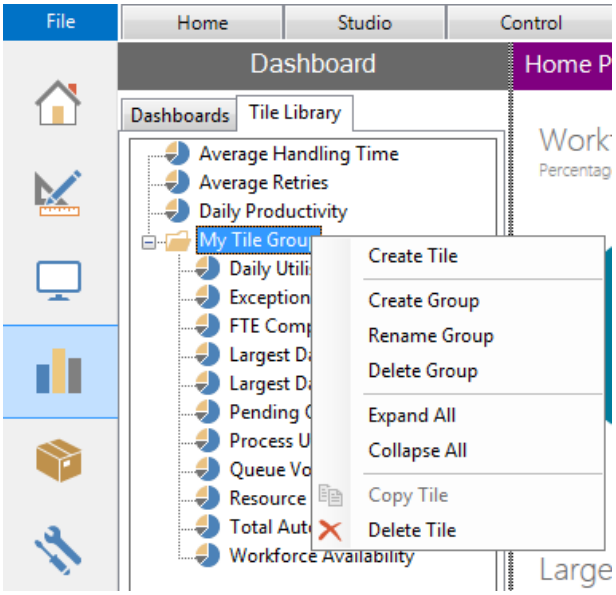

Figure 5 Tile Group Context Menu

Delete Group

To delete an existing Tile Group choose **Delete Group** from the Tile Group's context menu. Deleting a Tile Group does not delete the tiles within that group, so if a Tile Group is deleted any tiles within it will remain in the Tile Library, but will no longer belong to a group.

3 Data Sources

SQL Stored Procedures provide the data used by a tile, and in order for them to be detected by the tile configurator, the stored procedures must be named appropriately:

- BPDS: Data sources with a naming prefix of BPDS are reserved to represent SQL Server stored procedures provided with Blue Prism.
    - Custom stored procedures must not be named with this prefix and the existing stored procedures must not be modified in any way, except if advised by Blue Prism
    - Blue Prism will not recognise stored procedures that are prefixed “BPDS” unless they have been created by Blue Prism
    - Any manual changes to these procedures may be subsequently overwritten by a future product update. If any custom changes are required to these stored procedures, create a copy of the procedure with the appropriate prefix for a custom data source
- DS: The prefix of DS is the recommended prefix for any custom stored procedures that are created for dashboard tiles.

4 Tile Data Format

The data used by tiles is derived from a stored procedure which must exist in the Blue Prism database. The stored procedure must return a data table for use in the chart tile. The first column in the returned data represents the chart labels and subsequent columns represent 1 – *n* series of data.

For example a procedure to return queue volumes by status might be created as:

```
with results as (
    select a.name as Queue, b.state, COUNT(*) as number
    from BPAWorkQueue a inner join BPAWorkQueueItem b on b.queueid=a.id
    group by a.name, b.state)

select Queue, [1] as Pending, [3] as Deferred, [4] as Completed
from results pivot (sum(number) for state in ([1],[3],[4])) as number;
```

When executed by Blue Prism, this would return the following:

	Queue	Pending	Deferred	Completed
1	Account Opening	125	10	45
2	CHAPS Payments	114	8	62
3	Direct Debits	75	15	80
4	ISA Processing	170	5	15

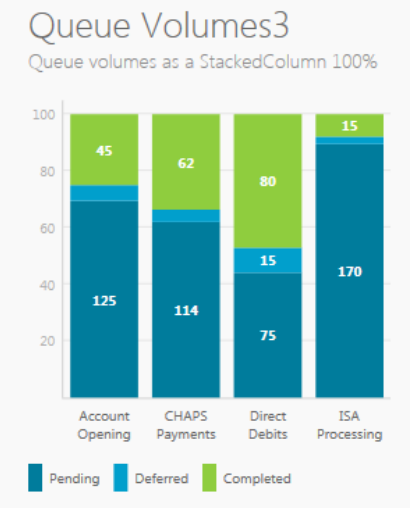

Figure 6 A Tile using a custom stored procedure

Before any new stored procedure is used within a Production environment the performance of the query should be tested on a realistic data set to avoid any potential system performance problems.

5 Permissions

The Dashboard permissions control a user's ability to work with tiles, or design global and personal dashboards.

Permission settings are available through the **System** screen, and are contained in the **Security** section under **Users**. In the Users screen select the link **Manage User Roles** to access the Manage Roles configuration screen.

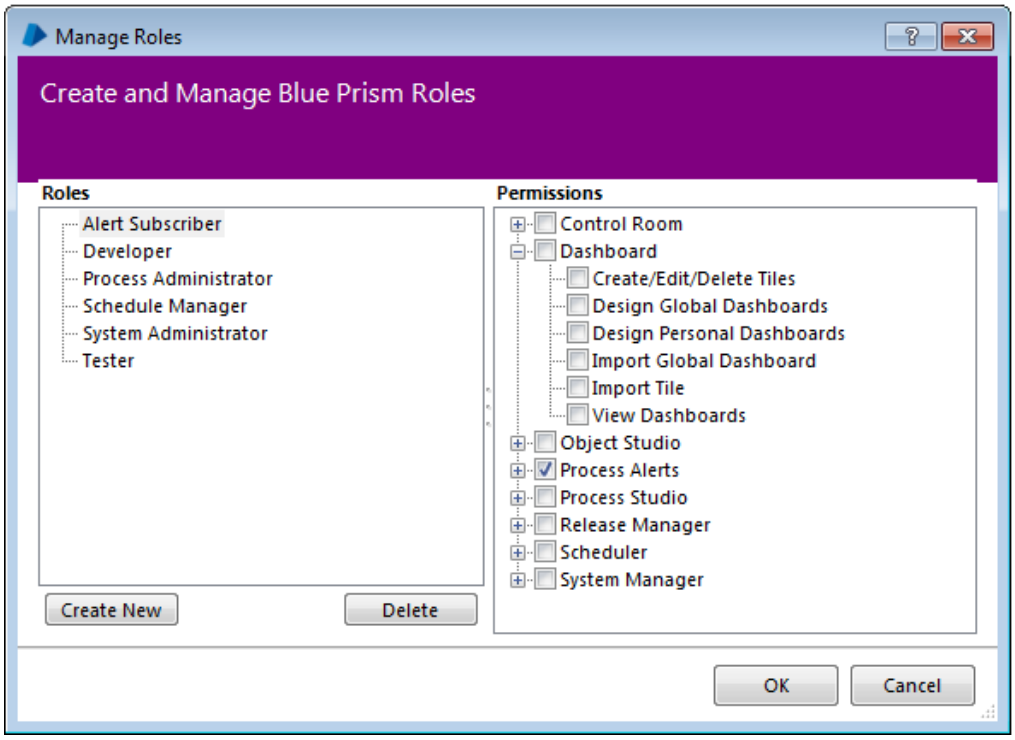

Figure 7 Blue Prism Roles

The following permissions are available:

- Create/Edit/Delete Tiles – users will be able to create/edit/delete/organise tiles
- Design Global Dashboards – users will have read-only access to the tile library, and will be able to create/edit/delete global dashboards
- Design Personal Dashboards – users will have read-only access to the tile library, and will be able to create/edit/delete their own personal dashboards
- Import Global Dashboards – users can import a Release Package containing Global Dashboards
- Import Tile – users can import a Release Package containing Tiles

- View Dashboards – users will be able to access the review tab and click on the available dashboards. They will be able to select a dashboard for displaying on their own Home page. They won't have access to the tile library or the ability to create/edit/delete dashboards.

Users without any Dashboard permissions will see the Default Dashboard when logging into Blue Prism.

6 Management Information for Dashboards

Dashboard information is based upon information stored within the Blue Prism database. The source data for each dashboard Tile is an individual SQL Server Stored Procedure (a saved query) which retrieves data from special management information tables in the database schema. For more information about data sources for Tiles, see the Data Sources chapter of this document.

The source tables for the data that is collectively called Management Information (MI) are populated from data is captured when utilisation and productivity statistics are enabled in the **Reporting** screen.

There are three types of tables in the database which store MI data:

- Daily Raw Data – contains usage statistics for the current day
- Daily Consolidated Data – contains consolidated statistics for the defined daily retention period
- Monthly Consolidated Data – contains consolidated statistics for the defined monthly retention period

The Daily Raw Data tables are populated by enabling the collection of usage and productivity statistics.

To enable the recording of statistics, you need to Click on System → System → Reporting. This reveals the **MI Reporting** settings. To enable statistics collection select the checkbox Collect utilisation and productivity statistics.

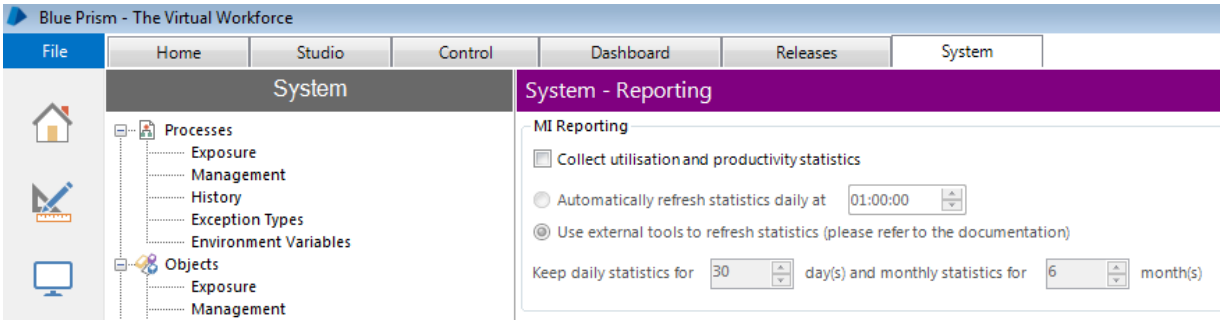

Figure 8 System – Reporting screen

MI Data Refresh Settings

When the collection of statistics is enabled then there are two options to control the task of refreshing the statistics data. The refresh task aggregates from the Daily Raw Data tables, and then transfers it into the Daily and Monthly Consolidated Data tables.

Automatically Refresh Statistics Daily

This setting uses the Blue Prism Server service to run the refresh task. It moves data from the raw tales into the consolidated tables and deletes any data that has exceeded the retention settings.

Use External Tools to Refresh Statistics

Where the MI statistics are not being refreshed automatically by Blue Prism, then the stored procedure 'usp_RefreshMI' can be configured to be executed each night. Options for achieving this include:

Setting up a scheduled task using the SQL Server Agent

Using a Windows scheduled task to execute the stored procedure via the SQLCMD utility.

Designing and scheduling a Blue Prism process which uses the Data – SQL Server visual business object.

Retention Period Settings

Daily and monthly data sets can be retained for any defined period. The exact numbers of days and months can be set using the spin controls in the MI Reporting settings page.

Any changes to these settings need to be applied using the **Apply** button.

The number of days and months determines the amount of data that is kept within the Daily and Monthly Consolidated Data tables. Data which exceeds the defined retention period setting will be automatically deleted from the consolidated tables when the data is refreshed.

The data from the Daily Raw Data tables is transferred to the Daily Consolidated Data tables when the daily refresh job is triggered, and the raw tables are then emptied.

7 Default Tiles

The following tiles are included in Blue Prism by default.

- Average Handling Time

The Average Handling Time tile displays the average work time for completed cases organized by queue. Defaults to a Bar Chart.

Input name	Value
@BPQueueName	Optional name of the queue to report on. Defaults to blank (all queues).
@NumberOfDays	Optional number of days to report against. Defaults to 7 days.

- Average Retries

Displays the average number of retries for completed cases organized by queue. Defaults to Pie Chart.

Input name	Value
@BPQueueName	Optional name of the queue to report on. Defaults to blank (all queues).
@NumberOfDays	Optional number of days to report against. Defaults to 7 days.

- Daily Productivity

Reports the number of new/deferred/completed cases, organized by queue. Defaults to a Column chart.

Input name	Value
@BPQueueName	Optional name of the queue to report on. Defaults to blank (all queues).
@NumberOfDays	Optional number of days to report against. Defaults to 7 days.

- Daily Utilization Summary

Reports overall resource utilization, organized by day. Defaults to a Column chart.

Input name	Value
@BPQueueName	Optional name of the queue to report on. Defaults to blank (all queues).
@NumberOfDays	Optional number of days to report against. Defaults to 7 days.
@DisplayUnits	“Second”, “Minute”, “Hour”, or “Percentage”. Defaults to “Minute”.
@MaxResourceHours	Maximum number of hours to consider for percentage display. Defaults to 24.

- Exceptions

Reports the number of exceptions by queue. Defaults to a Column chart.

Input name	Value
@BPQueueName	Optional name of the queue to report on. Defaults to blank (all queues).
@NumberOfDays	Optional number of days to report against. Defaults to 7 days.

- FTE Comparison

Reports on productivity in comparison to a human FTE.

Input name	Value
@BPQueueName	Optional name of the queue to report on. Defaults to blank (all queues).
@NumberOfMonths	Optional number of months to report against, between 1 and 12. Defaults to 6.
@FTEProductivity	Benchmark FTE Productivity for comparison.
@FTECost	Benchmark FTE Cost for comparison.
@DisplayAs	“Percentage”, “Number”, or “Cost”.

- Largest Database Tables

Reports on the largest tables in the Blue Prism database, organized by table name. Defaults to Pie Chart.

Input name	Value
@NumberOfTables	Optional number of tables to report on. Defaults to 5.

- Largest Database Tables (Columns)

Reports on the largest tables in the Blue Prism database, organized by table name. Defaults to Column Chart.

Input name	Value
@NumberOfTables	Optional number of tables to report on. Defaults to 5.

- Pending Queue Volumes

Reports the volumes of tasks, organized by queue. Defaults to Pie chart.

Input name	Value
@BPQueueName	Optional name of the queue to report on. Defaults to blank (all queues).
@ExcludePending	Optional Boolean of whether to exclude pending items. Defaults to false.
@ExcludeDeferred	Optional Boolean of whether to exclude deferred items. Defaults to false.
@ExcludeComplete	Optional Boolean of whether to exclude completed items. Defaults to false.
@ExcludeExceptions	Optional Boolean of whether to exclude exceptions. Defaults to false.

- Process Utilization Yesterday

Reports on overall time spent on processes, organized by process, displayed as multiple time intervals. Defaults to a Stacked Column chart.

Input name	Value
@BPProcessName	Optional name of the process to report on. Defaults to null (all processes).
@DisplayUnits	“Second”, “Minute”, “Hour”, or “Percentage”. Defaults to “Minute”.

- Queue Volumes Now

Reports queue volumes, organized by queue and status.

Input name	Value
@BPQueueName	Optional name of the queue to report on. Defaults to blank (all queues).
@ExcludePending	Optional Boolean of whether to exclude pending items. Defaults to false.
@ExcludeDeferred	Optional Boolean of whether to exclude deferred items. Defaults to false.
@ExcludeComplete	Optional Boolean of whether to exclude completed items. Defaults to false.
@ExcludeExceptions	Optional Boolean of whether to exclude exceptions. Defaults to false.

- Resource Utilization Yesterday

Reports on overall time running sessions, organized by resource and displayed as multiple time intervals.

Input name	Value
@BPProcessName	Optional name of the resource to report on. Defaults to null (all resources).
@DisplayUnits	“Second”, “Minute”, “Hour”, or “Percentage”. Defaults to “Minute”.

- Total Automations

Reports on total objects and processes, organized by type. Defaults to a Pie chart.

- Workforce Availability

Reports on resources available in the system. Defaults to a Pie chart.