

## OVERVIEW

Arius Enterprise Embedded Power BI Reports provide a unique way to publish Microsoft Power BI Reports to the Arius Enterprise portal so that they can be consumed by all users with an Arius Enterprise license.

Sample Power BI screen



Power BI Reports consist of one or more pages of visuals or dashboards which are created by *report designers* in collaboration with the client using Microsoft's Power BI desktop application and then embedded into the Arius Enterprise portal by Milliman. Arius Enterprise prepares the Arius Analysis data in an easily consumable format for Power BI (which is referred to as the Power BI Data Model).

Power BI Reports then visualize data from this Power BI Data Model. The connection between each of these components is static to ensure Power BI reports are accessible while users work on Arius Analysis projects, to reduce Azure environment costs, and to prevent unwanted information from being reflected in the reports (results from in-progress projects, for example). For the Power BI reports to reflect the most recent data within the Arius Analysis database, users must:


1. update the Power BI Data Model; then
2. refresh the Power BI Reports.

The purpose of this document is to provide instructions on how to update the Power BI Data Model and refresh the Power BI Reports, and on the interactions available to the *report consumers*, who are looking for trends, insights, and business intelligence on this data.

## THE POWER BI DATA MODEL

The Power BI Data model consists of the calculated tables and columns as well as other properties such as table relationships, hierarchies, data types and categories. Both Power BI Data Models and Extract Tables are derived from the data within the Arius Analysis Database, but the more robust data models are specifically designed to optimize performance when querying and performing calculations for the

Power BI Reports. Due to the complexity of these models, they are pre-defined by the report designer, and are not editable by users. You can see limited information about the data model by navigating to the **Reporting** tab of the Arius Analysis Tool and clicking **Power BI Data Models** on the left navigational pane. From this screen, you can identify the date at which the model was last modified, as well as the user who last modified it (both of these values will be locked). You can also see the last submission date and user, which will indicate how current the Power BI Data model is.

Clicking the  icon will begin the process of updating the Power BI Data Model with new information from the detailed data in the Analysis database. Depending on the underlying data model, this can take some time to run. Monitoring the **Status Reports** window will inform you as to the progress of the update.

*Note:* if a project fails while updating the Power BI Data Model, you may need to increase the performance levels of your Arius Enterprise site (not the Power BI specific performance levels discussed below).

After the Power BI Data Model is updated, you can refresh the dashboards using the interface as described below. Note that the dashboards will NOT automatically refresh when the Power BI Data Model is updated.

## EMBEDDED POWER BI REPORTS

### Viewing the Reports

From the **Arius Analysis** portal home page, click the **Power BI** icon (or the Power BI link at the top navigation ribbon). This will bring you to a screen in which the available reports are listed on the left navigation pane, and the reports are rendered in the large bottom right window. Note that when first arriving at this tab, no report will display.

To open a report, click on the report name on the left pane. This will display the selected report. Reports may contain multiple tabs, which will be shown in a new navigation ribbon immediately below the rendered report. If there are more tabs than can be displayed on the screen, the arrow buttons at the left of this ribbon will allow you to navigate to the additional tabs.

*Note:* If you receive the **Cannot load model** message, this means the Power BI service has been paused. See *Performance Levels* below to learn how to start the PowerBI service.

### Navigating the Reports

The embedded reports function identically to a report opened in Power BI desktop software. Depending on your visualization, there may be a number of interactive elements that will cause other objects to automatically refresh. For example, clicking on a dimension value within a Power BI visualization may cause other visualizations within the same tab to filter to the selected dimension value. To un-filter, you will need to click in any white space within the filtered object.

Clicking on any column heading within a visualization will sort that visualization according to the values in that column. The first click will sort descending, and the second will sort ascending.

There are additional functions available within each visualization. Hovering over any visualization will reveal a small toolbar in the upper right corner.



Clicking on the **filter** icon within this toolbar will show a separate window indicating the filters applied to the selected visualization. Note that in many cases, there are filters applied in the background, so not all filters seen in this window are controllable by the report user.

The second icon within this toolbar will expand the selected visual to encompass the entire frame. From this view, clicking **Back to Report** in the upper left corner will return you to the primary report screen.

Additional functions can be found within the ellipsis:

- **Export Data:** A separate window allows the data in the visualization to be exported to either an Excel (.xlsx) or a CSV file. Currently, only summarized data (i.e., what is shown on the visualization) is exportable.
- **Show as a Table:** Primarily useful on graphs, this will open a view which shows the visualization, with the underlying (summarized) data in a table below the graphic. As with the **expand** functionality, click **Back to Report** to return to the dashboard.
- **Spotlight:** This option will cause other visualizations on the screen to become mostly transparent, allowing additional focus on the currently selected visualization.

## Refreshing the Reports

To update the dashboard view, click the down arrow next to the report name within the left hand navigational pane. This will provide some additional information, specifically the current status, and the time at which the connection was last refreshed. It will additionally expose a **Dataset** button.



Clicking this button will update (refresh) the Power BI Report connection to the Power BI Data Model. This does NOT refresh the data model itself (which contains the measures and dimensions shown on the report). This functionality is separated to allow users to continue to utilize the Power BI dashboard while the Power BI Data Model is being refreshed. See the *Power BI Data Model* section above for information on updating the underlying data itself.

## PERFORMANCE LEVELS

Utilizing the Power BI reports will incur Azure fees. To help you manage costs, you can start and stop the Power BI service, as well as control the performance level of the service. To manage these settings, navigate to **Utilities** from the Arius Enterprise portal, and click **Performance Levels**. Power BI will appear as an option on the left navigation window. Clicking this will show the options for starting and stopping the service, as well as changing the tier.

Stopping the Power BI service will prevent any reports from rendering and should be used for maximum cost savings when the Power BI dashboards are not in use.

The performance tiers for the Power BI Service are similar to those for databases within the elastic pool. Additional Virtual Cores can be selected for faster render times, though these come with additional Azure costs.

Updating either of these assumptions will require some time for the Azure environment to adapt to the new settings.

## PERMISSIONS & SECURITY

### Updating the Power BI Data Model & Power BI Reports

Users with the **Update Extract Tables** permission have authority to update both the Power BI Data Model and the Power BI Reports.

### Enabling/Disabling Power BI and Setting Performance Levels

Users with the **Manage Performance** permission have authority to Start (and Stop) the Power BI Service, as well as modify the performance tier (speed) in which the Power BI Service runs.

Refer to the *Portal Management Security* documentation for more information. Note this document is also available in the Arius Enterprise portal under PORTAL MANAGEMENT | ADD NEW ROLE page by selecting the ? icon.