

Visualizing Your Data Using Dashboards

Introduction/Course Description

Introduction

Speakers: Derek Garrett and Daniel Mask

This is an intermediate level course designed to educate users on the components of dashboards in Multiview and demonstrate how to build an Accounts Payable dashboard.

Objectives:

By the end of this course you should be able to:

- Source data for dashboards.
- Understand the widgets available for use in dashboards.
- Understand the difference between a value, argument, series, dimension, and measure.
- Build a basic Accounts Payable dashboard.

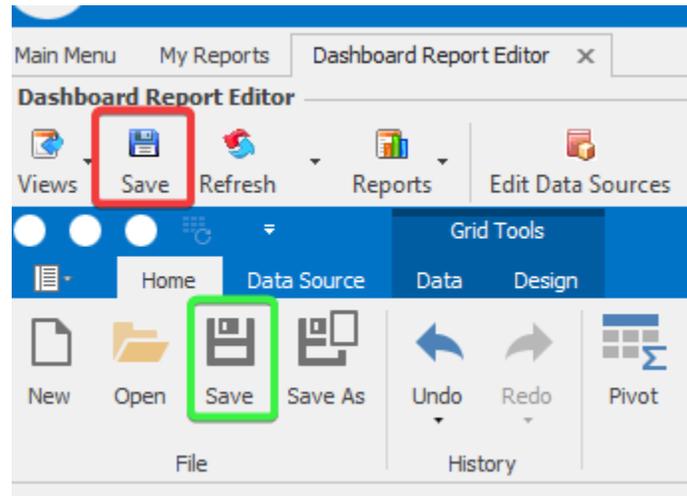
Building Block of Dashboards

Data Sources

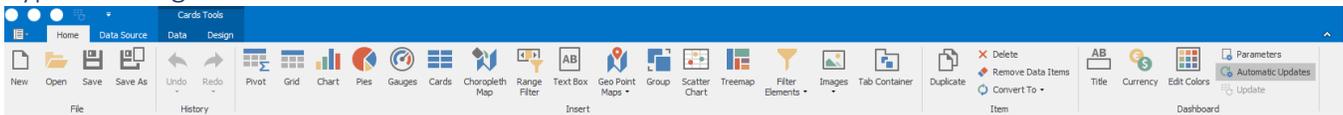
Data used in dashboards is sourced from previously built reports. There are two types of reports that can be used as data sources: 1) Analytics and 2) Pivots. For today's hands-on demo, in an effort to save on time, we will be using previously built pivot reports, however users can build pivot reports at their leisure to use in their own dashboards.

Saving Your Dashboard

When building a dashboard report, be sure to save your report often as it does not autosave. When saving your report, you **MUST** use the save button in the dashboard ribbon (see green rectangle below); not the button in the Multiview toolbar as that one does not work on dashboard specific items. It's also important to save your work before adding new data sources.



Types of Widgets Available



- **Pivot:** displays a cross-tabular report that presents multi-dimensional data in an easy-to-read format.
- **Grid:** displays data in a row/column format.
- **Chart:** visually displays the data via a bar, point/line, area, range, bubble, or financial chart.
- **Pies:** displays a series of pies or donuts that represent the contribution of each value to a total.
- **Gauges:** displays a series of gauges. Each gauge can communicate two values - one with a needle and the other with a marker on the scale.
- **Cards:** displays a series of cards. Each card illustrates the difference between two values. This difference can be expressed as an absolute value, an absolute variation, or a percentage variation.
- **Choropleth Map:** allows you to colorize the required areas in proportion to the provided values on a map.
- **Range Filter:** allows you to apply filtering to other dashboard items. This item displays a chart with selection thumbs that allow you to filter out values displayed along the argument axis.
- **Text Box:** display rich text within a dashboard.
- **Geo Point Map:** allows you to place callouts, bubbles or pies on the map using geographical coordinates.
- **Group:** arranges dashboard items and allows you to manage interaction between dashboard items within and outside the group.
- **Scatter Chart:** allows the ability to plot datapoints on an X/Y axis to visualize correlation.
- **Treemap:** DO NOT USE! Currently a bug; if you click on Treemap, you'll immediately lose your work and will have to restart Multiview.

- **Filter Elements:** represent a special type of dashboard item that allows you to apply filtering to other dashboard items.
- **Images:** allows you to add images to a dashboard.
- **Tab Container:** allows you to split the dashboard layout into several pages. You can switch tabs in UI or in code and use a timer for visual effects. Common filter controls for large elements in a dashboard can be located on a separate tab page.

Widget Data Sections

Each dashboard widget has a specific set of data sections, such as *Values*, *Arguments* and *Series* in the chart, *Columns* and *Sparklines* in the grid, and *Values*, *Columns* and *Rows* in the pivot grid. Each data section corresponds to a particular dashboard item area or element.

- **Value:** data item on the Y-axis
- **Argument:** data item on the X-axis
- **Series:** A grouping of data points on the X-Axis
- **Dimension:** a data item whose values are not intended to be summarized.
- **Measure:** a data item whose values are summarized before they are used in the dashboard.

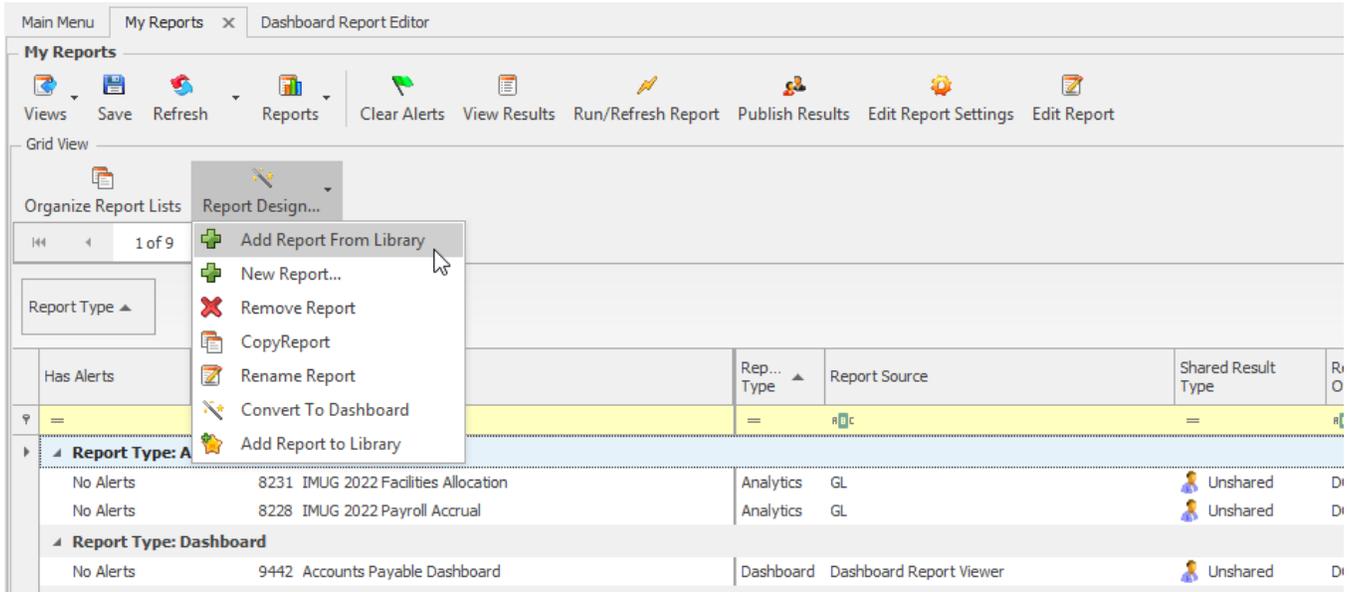
Create a Basic Dashboard Report

Business Case

You are an analyst at your company and the CEO wants to see a daily snapshot of key Accounts Payable data. You know all the data is available in the queries, but those are better for deeper analysis. You must put together a dashboard which refreshes daily and shows the needed information.

Steps to Build an Accounts Payable Dashboard

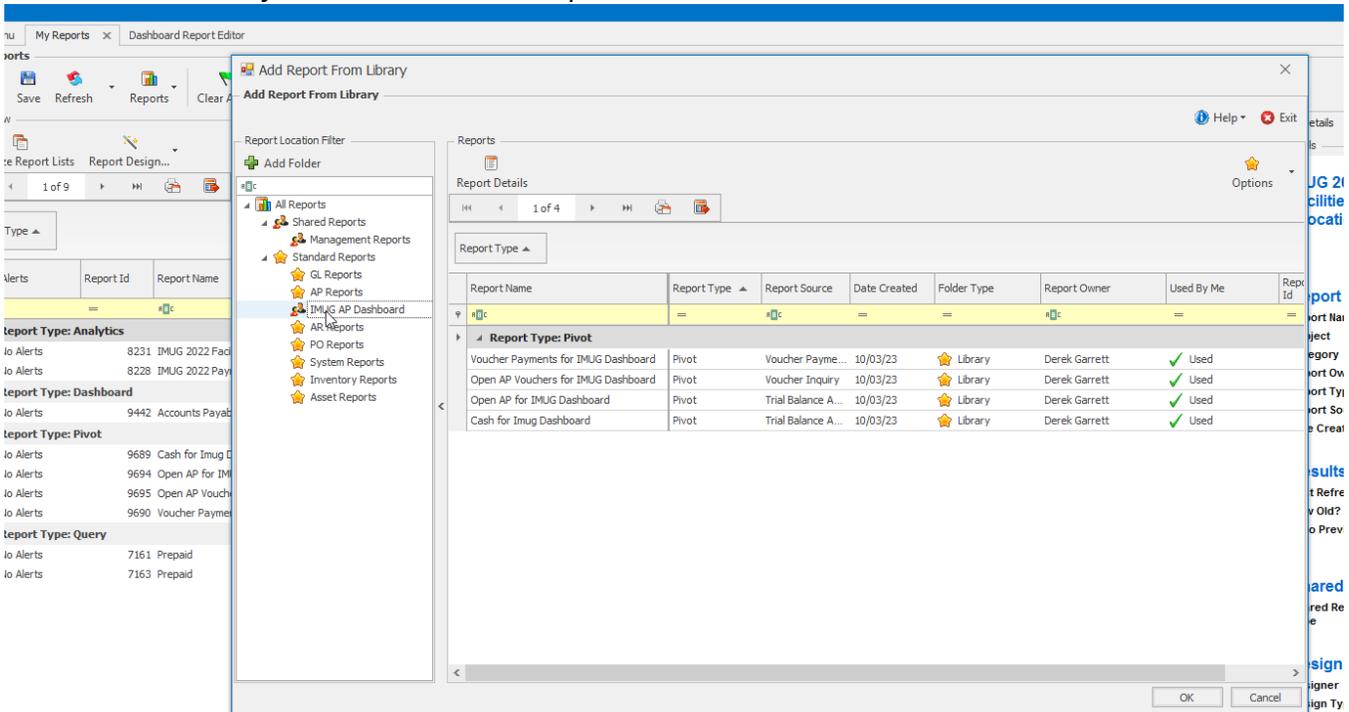
1. **Logging into Multiview**
 - a. Log into Multiview using the information provided at your workstation.
 - b. **Click *Log in to Desktop*.**
 - c. **Click** on the *Multiview* menu then click *My Reports*.
2. **Adding pivot reports to *My Reports*.** In order to maximize our time during this course, pivots were previously created and saved for the users.
 - a. **Click *Report Design*** then click *Add Report From Library*.



The screenshot shows the 'Dashboard Report Editor' window. On the left, the 'My Reports' panel is visible, showing a list of reports with columns for 'Report Type', 'Has Alerts', 'Report Id', and 'Report Name'. The 'Report Design...' menu is open, showing options like 'Add Report From Library', 'New Report...', 'Remove Report', 'Copy Report', 'Rename Report', 'Convert To Dashboard', and 'Add Report to Library'. The main area displays a table of reports:

Report Type	Report Name	Report Source	Shared Result Type
No Alerts	8231 IMUG 2022 Facilities Allocation	Analytics GL	Unshared
No Alerts	8228 IMUG 2022 Payroll Accrual	Analytics GL	Unshared
Report Type: Dashboard			
No Alerts	9442 Accounts Payable Dashboard	Dashboard Dashboard Report Viewer	Unshared

- b. Navigate to *IMUG AP Dashboard* in the panel on the left.
- c. **Click Voucher Payments for IMUG Dashboard** then **click ok**.
- d. **Repeat** for *Open AP Vouchers for IMUG Dashboard*, *Open AP for IMUG Dashboard*, and *Cash for IMUG Dashboard* reports.

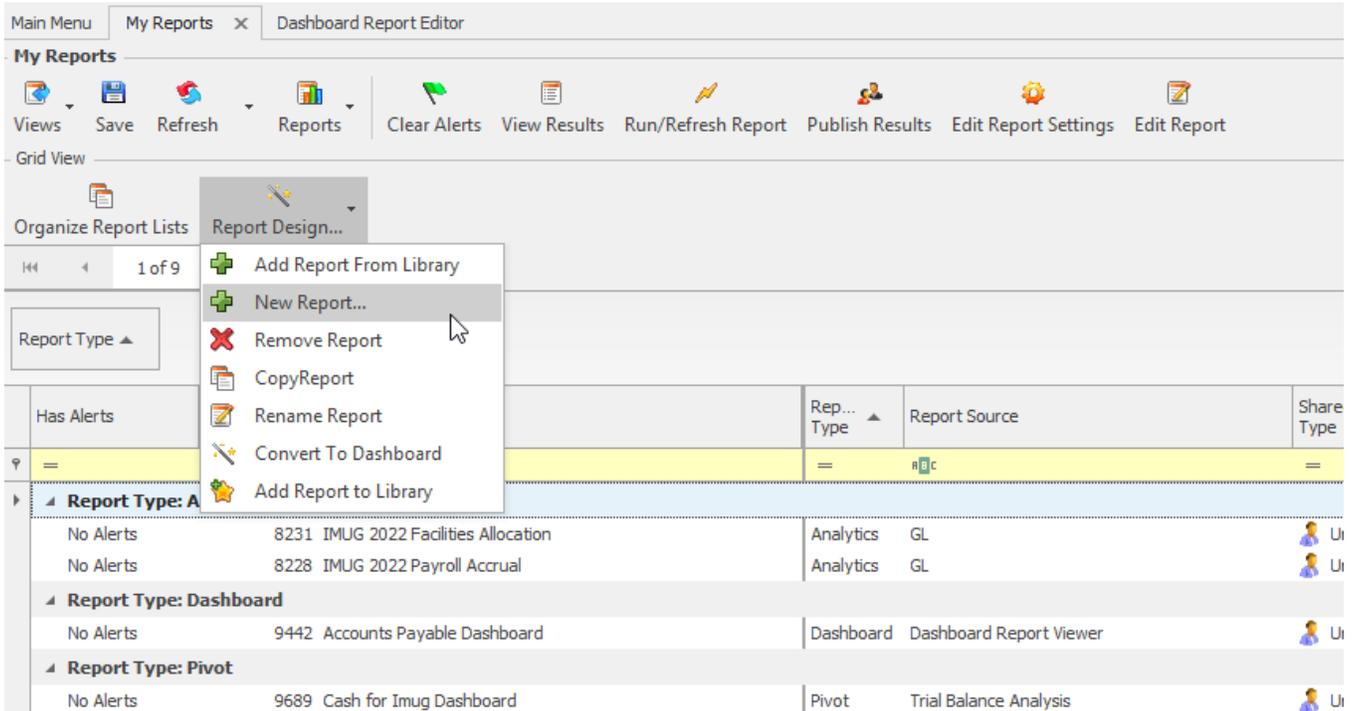


The screenshot shows the 'Add Report From Library' dialog box. The left pane shows a tree view of report folders, with 'IMUG AP Dashboard' selected. The right pane shows a table of reports within that folder:

Report Name	Report Type	Report Source	Date Created	Folder Type	Report Owner	Used By Me
Voucher Payments for IMUG Dashboard	Pivot	Voucher Payme...	10/03/23	Library	Derek Garrett	Used
Open AP Vouchers for IMUG Dashboard	Pivot	Voucher Inquiry	10/03/23	Library	Derek Garrett	Used
Open AP for IMUG Dashboard	Pivot	Trial Balance A...	10/03/23	Library	Derek Garrett	Used
Cash for Imug Dashboard	Pivot	Trial Balance A...	10/03/23	Library	Derek Garrett	Used

3. Creating a new Dashboard Report

- a. **Click Report Design** then **click New Report...**

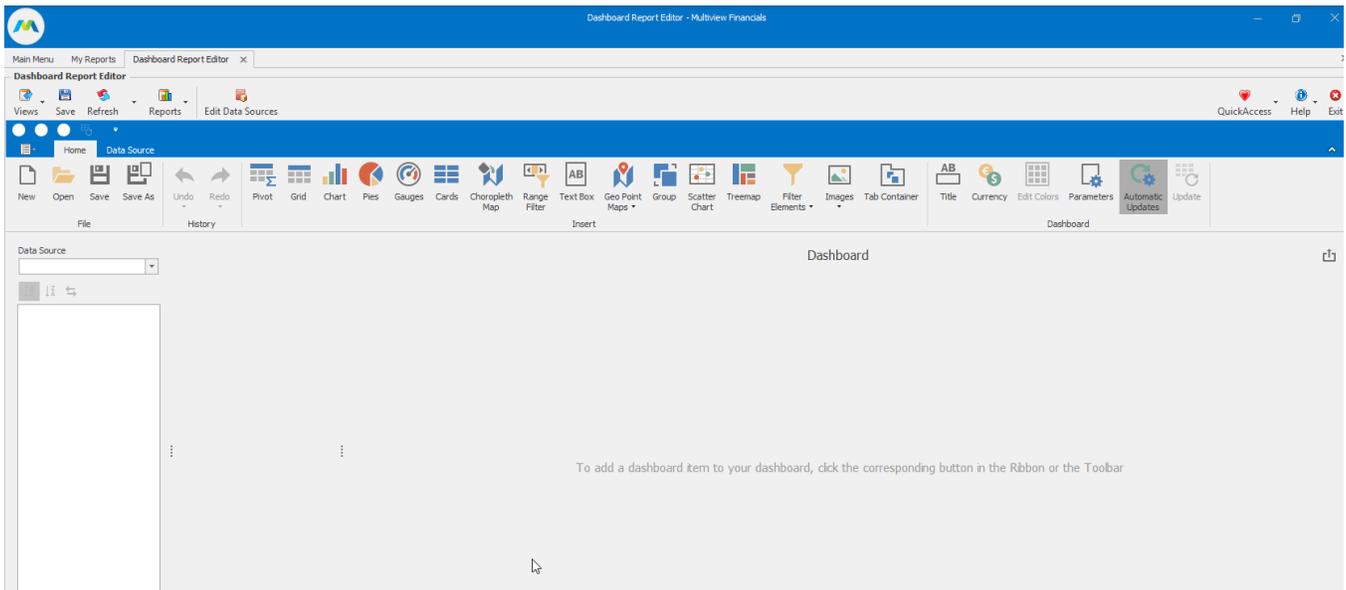


The screenshot shows the 'Dashboard Report Editor' window. The 'Report Design...' menu is open, displaying the following options:

- Add Report From Library
- New Report...
- Remove Report
- Copy Report
- Rename Report
- Convert To Dashboard
- Add Report to Library

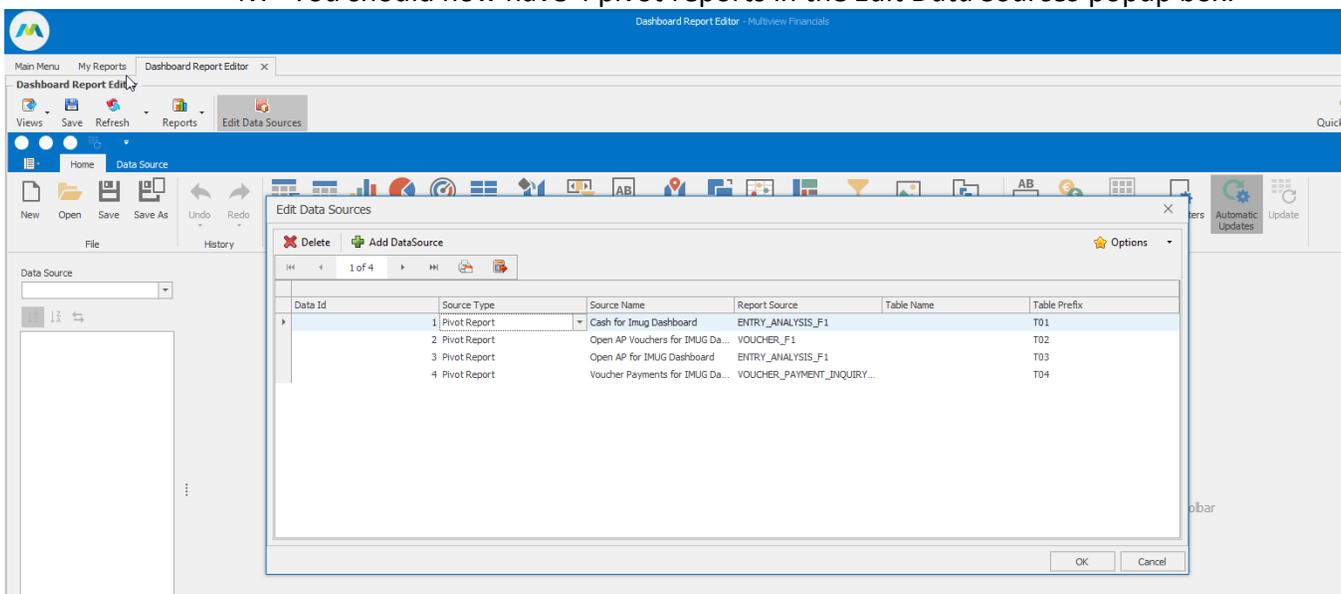
The background shows a table of reports with columns for 'Has Alerts', 'Report Type', 'Report Name', 'Report Type', 'Report Source', and 'Share Type'. The table contains several rows of report data, including 'IMUG 2022 Facilities Allocation', 'IMUG 2022 Payroll Accrual', 'Accounts Payable Dashboard', and 'Cash for Imug Dashboard'.

- When the *New ViewPoint Report* dialogue box pops up, **click** the *Dashboard* radio button then **click next**.
- You'll see a list of previously built reports. Be sure "New Report From Scratch" is selected then **click next**.
- Give your report a name in the *Report Name* field. A quick name would be "Yourname IMUG AP Dashboard."
- Click next** then **click finish**.
- You'll see a blank Dashboard Editor.



The screenshot shows the 'Dashboard Report Editor' window with a blank dashboard editor. The ribbon includes the following tabs: Home, Data Source, Pivot, Grid, Chart, Pies, Gauges, Cards, Choropleth Map, Range Filter, Text Box, Geo Point Maps, Group, Scatter Chart, Treemap, Filter Elements, Images, Tab Container, Title, Currency, Edit Colors, Parameters, and Automatic Updates. The main workspace is empty, with a message at the bottom: "To add a dashboard item to your dashboard, click the corresponding button in the Ribbon or the Toolbar".

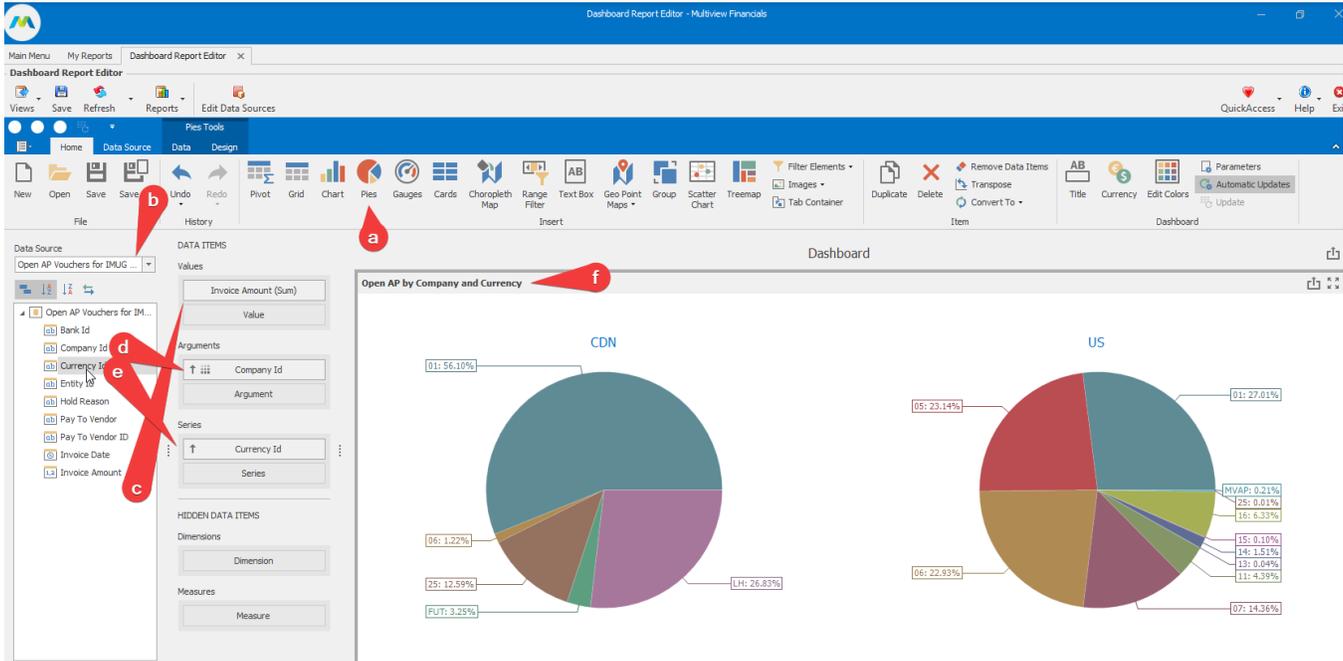
4. Adding data sources to your pivot report.
 - a. **Click Edit Data Sources** in the Multiview Menu.
 - b. **Click Add Data Source.**
 - c. **Search** for previous pivot reports we added to *My Reports*.
 - i. **Type Cash for IMUG Dashboard** in the *Report Name* filter row and **click** on the report.
 - ii. **Click ok.**
 - iii. **Repeat** for *Voucher Payments for IMUG Dashboard*, *AP Vouchers for IMUG Dashboard*, and *Open AP for IMUG Dashboard*.
 - iv. You should now have 4 pivot reports in the *Edit Data Sources* popup box.



5. Add a pie chart showing open AP by Company and Currency.
 - a. **Click Pies** in the ribbon to insert a pie chart.
 - b. In the left-hand pane, **change** the data source to be *Open AP Vouchers for IMUG Dashboard*.
 - c. **Click Invoice Amount** and **drag** that data item to *Value*.
 - d. **Click Company ID** and **drag** that data item to *Argument*.
 - e. **Click Currency ID** and **drag** that data item to *Series*.

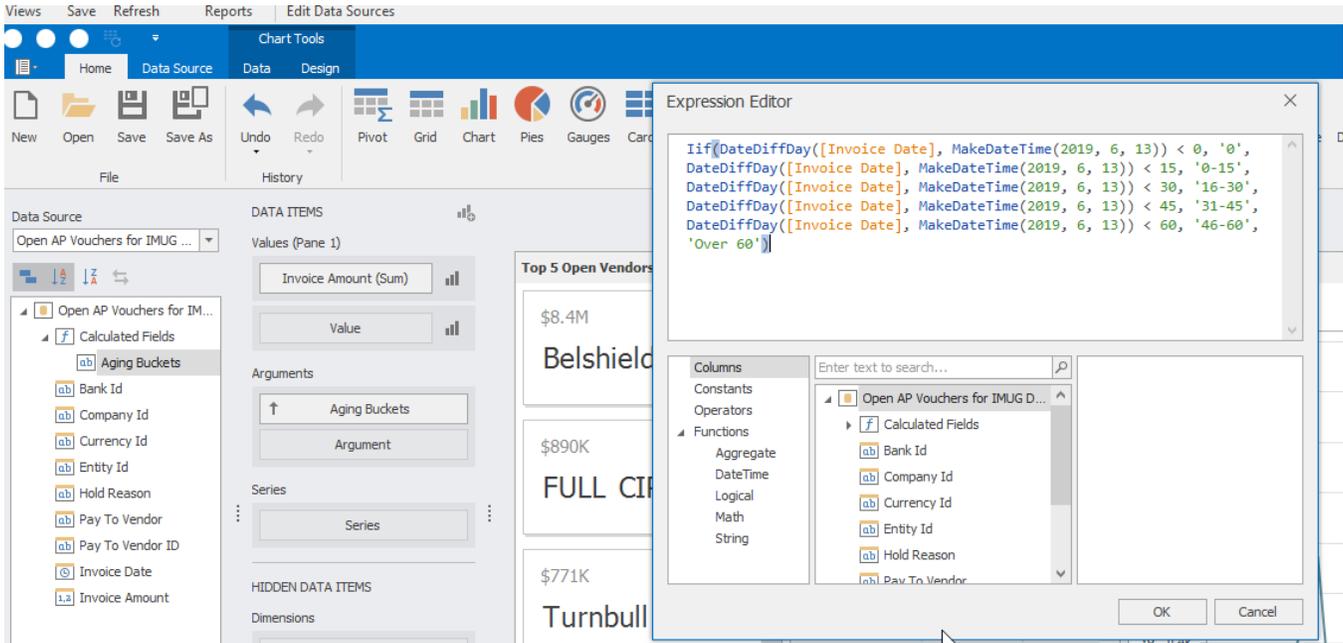
You should now see that you have 2 pie charts. 1 is for US dollars and the other is for CDN. Each pie chart is segregated into amounts by company. In order for us to keep our graph's widgets straight, it is important to name them as we go along. To rename our widget:

- f. **Right Click** anywhere in the pie chart widget and **click Edit Names** in the popup.
- g. In the *Dashboard Item Name* field, **type** "Open AP by Company and Currency."
- h. **Click ok.**
- i. **Click save.**



6. Add a bar graph showing current AP Aging

- a. **Click** *chart* in the ribbon.
- b. Ensure the data source for this chart is still *Open AP Vouchers for IMUG Dashboard*.
- c. This graph will require a calculated field to produce the buckets. The formula to use is: $\text{Iif}(\text{DateDiffDay}([\text{Due Date}], \text{Today}()) < 0, '0', \text{DateDiffDay}([\text{Due Date}], \text{Today}()) < 15, '0-15', \text{DateDiffDay}([\text{Due Date}], \text{Today}()) < 30, '16-30', \text{DateDiffDay}([\text{Due Date}], \text{Today}()) < 45, '31-45', \text{DateDiffDay}([\text{Due Date}], \text{Today}()) < 60, '46-60', 'Over 60')$.
This formula needs modified a bit for our IMUG data but will work nicely for real world data. To expedite entering this formula, it has been placed on the desktop to easily copy and paste into the dashboard.
- d. **Copy** the AP aging formula.
- e. In your dashboard report, **right click** on any of the data items in the left hand panel.
- f. **Click** *Add Calculated Field*
- g. **Paste** the formula in the expression editor then **click** *ok*.
 - i. If you want to rename the new calculated field, **right click** on the *calculated field* then **click** *rename*.
 - ii. Feel free to rename this field to something recognizable such as “Aging Buckets.”

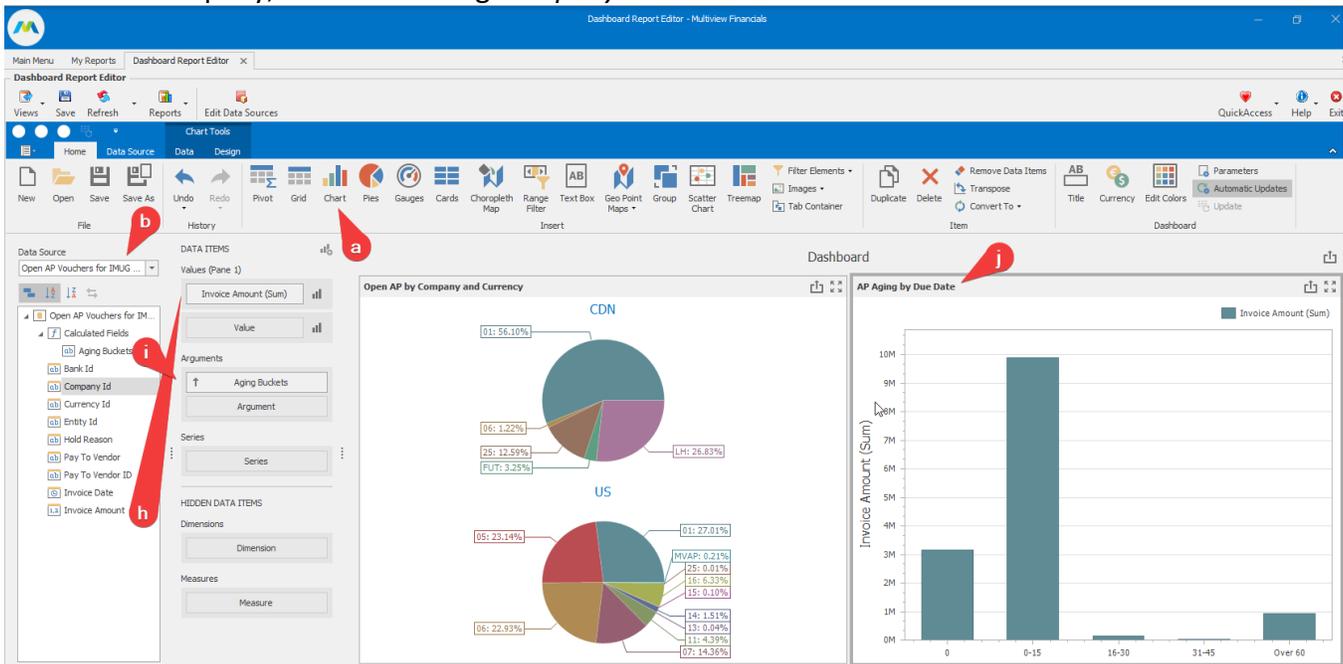


Expression Editor

```
IIf(DateDiffDay([Invoice Date], MakeDateTime(2019, 6, 13)) < 0, '0',
DateDiffDay([Invoice Date], MakeDateTime(2019, 6, 13)) < 15, '0-15',
DateDiffDay([Invoice Date], MakeDateTime(2019, 6, 13)) < 30, '16-30',
DateDiffDay([Invoice Date], MakeDateTime(2019, 6, 13)) < 45, '31-45',
DateDiffDay([Invoice Date], MakeDateTime(2019, 6, 13)) < 60, '46-60',
'Over 60')
```

- h. From the left hand panel, **Drag Invoice Amount** to **Value**.
- i. **Drag Aging Buckets** (the calculated field) to **Argument**.
- j. You can change the name of the graph by **right clicking** in the chart then **clicking Edit Names**.
 - i. Suggested Name: "AP Aging by Due Date."

This graph is showing the total amount of open AP. If you want to see this broken down by company, feel free to drag *Company ID* into the *Series* area.



Dashboard Report Editor - Multiview Financials

Dashboard

Open AP by Company and Currency

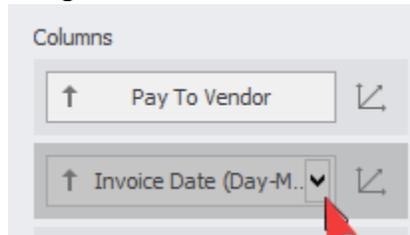
Company/Currency	Percentage
CDN	56.10%
US	22.93%
01	27.01%
06	1.22%
25	12.59%
FUT	3.25%
05	23.14%
07	14.36%
04	1.51%
13	0.04%
11	4.39%
16	6.33%
15	0.19%
28	0.01%
IMVAP	0.21%
LH	26.83%

AP Aging by Due Date

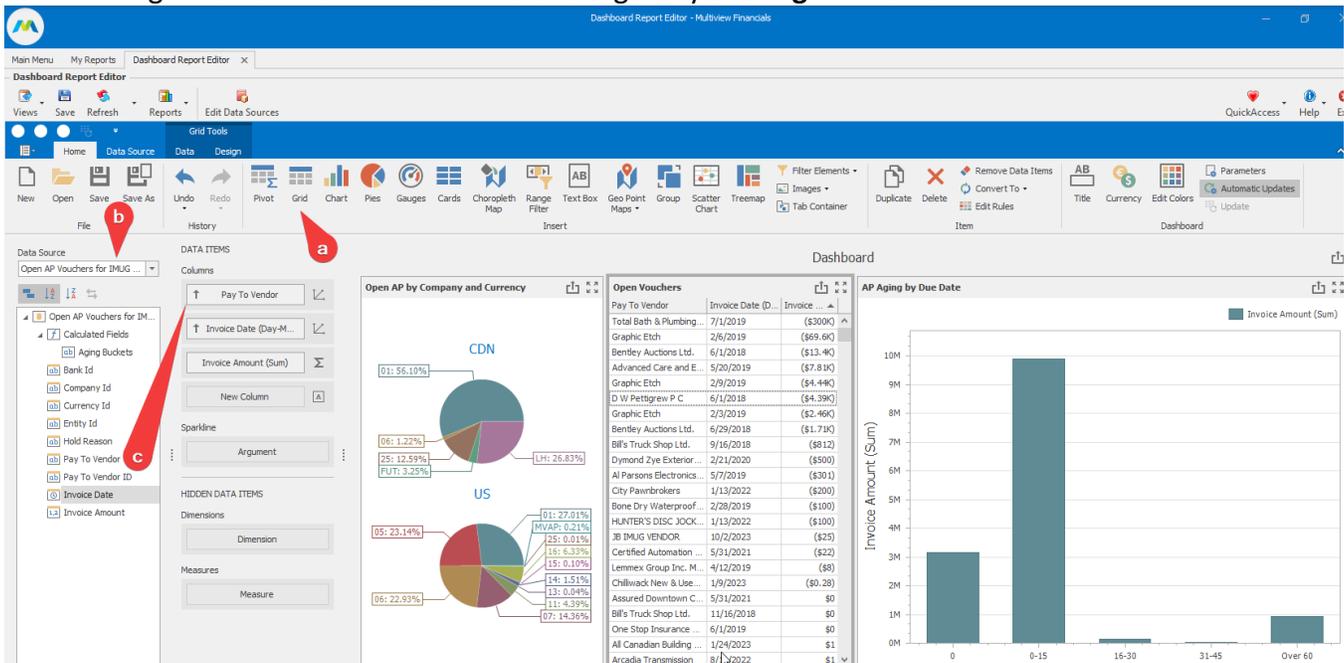
Due Date Range	Invoice Amount (Sum)
0	~3.2M
0-15	~9.8M
16-30	~0.2M
31-45	~0.1M
Over 60	~1.0M

7. Display a list of open invoices by Vendor, Invoice Date, and Amount

- a. Click *grid* in the ribbon.
- b. Ensure the data source for this chart is still “Open AP Vouchers for IMUG Dashboard.”
- c. Drag *Pay to Vendor* from the panel on the left to *New Column*.
 - i. Repeat for *Invoice Date* and *Invoice Amount*.
- d. Click on the *LOV* to the right of *Invoice Date* in the *data items*.



- e. In the dropdown, click *Day-Month-Year*. This will change the grouping in the grid from years to individual days.
- f. You can change the name of the grid by right clicking in the grid then clicking *Edit Names*.
 - i. Suggested Name: “Open Vouchers” then click *ok*.
- g. You can sort the columns of the grid by clicking on each *column header*.



Open AP by Company and Currency

Region	Company	Percentage
CDN	01: 56.10%	
	06: 1.22%	
	25: 12.59%	
	FUT: 3.25%	
	LH: 26.83%	
US	01: 27.01%	
	02: 0.21%	
	12: 6.33%	
	15: 6.10%	
	14: 1.51%	
	13: 0.94%	
	11: 4.39%	
05: 23.14%		
07: 14.36%		

Open Vouchers

Pay To Vendor	Invoice Date (D...)	Invoice ...
Total Bath & Plumbing...	7/1/2019	(\$3000)
Graphic Etch	2/6/2019	(\$69.40)
Bentley Auctions Ltd.	6/1/2018	(\$13.40)
Advanced Care and E...	5/20/2019	(\$7.810)
Graphic Etch	2/9/2019	(\$4.440)
D W Pettigrew P C	6/1/2018	(\$4.390)
Graphic Etch	2/3/2019	(\$2.460)
Bentley Auctions Ltd.	6/29/2018	(\$1.710)
Bill's Truck Shop Ltd.	9/16/2018	(\$812)
Dymond Zye Exterior...	2/7/2020	(\$500)
Al Parsons Electronics...	5/7/2019	(\$301)
City Pawnbrokers	1/13/2022	(\$200)
Bone Dry Waterproof...	2/28/2019	(\$100)
HUNTER'S DISC JOCK...	1/13/2022	(\$100)
JB IMUG VENDOR	10/2/2023	(\$25)
Certified Automation ...	5/31/2021	(\$22)
Lemmex Group Inc. M...	4/12/2019	(\$8)
Chilliwack New & Use...	1/9/2023	(\$0.28)
Assured Downtown C...	5/31/2021	\$0
Bill's Truck Shop Ltd.	11/16/2018	\$0
One Stop Insurance ...	6/1/2019	\$0
All Canadian Building ...	1/24/2023	\$1
Arcadia Transmission	8/1/2022	\$11

AP Aging by Due Date

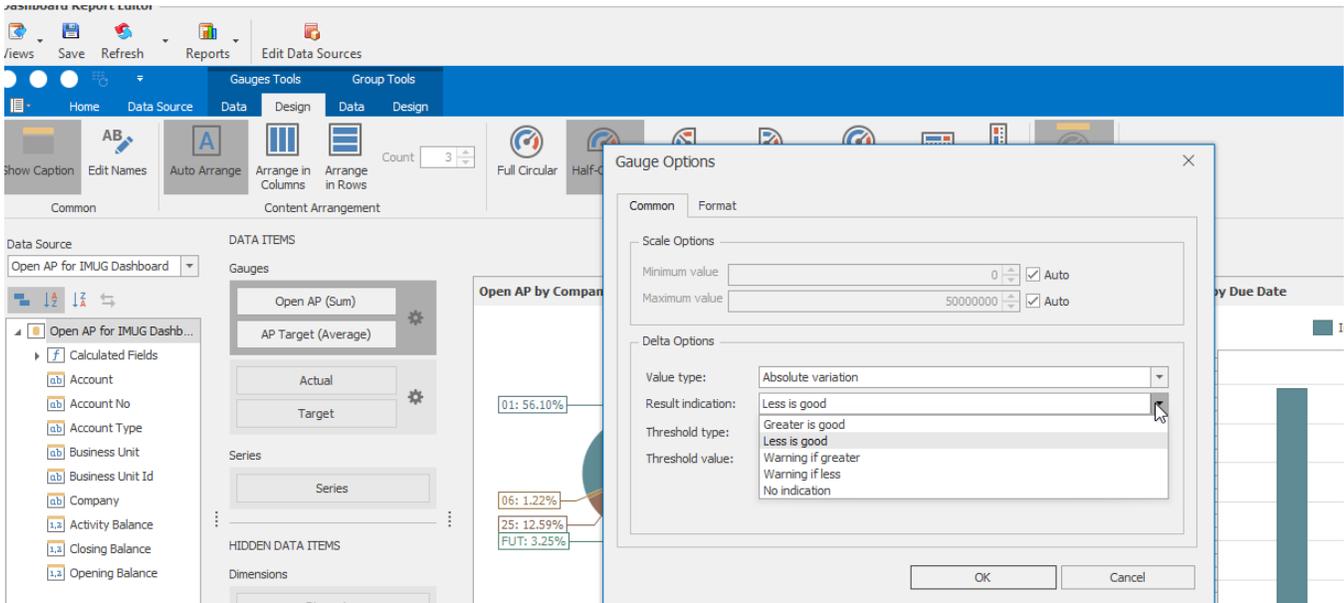
Due Date Range	Invoice Amount (Sum)
0	~3M
0-15	~9.5M
16-30	~0.5M
31-45	~0.1M
Over 60	~1M

8. Add gauges for Open AP and Open Cash
 - a. Click *group* in the ribbon.
 - b. Click *gauges* in the ribbon.
 - i. Drag the newly created box into *group 1*.
 - c. Click *gauges* in the ribbon.
 - i. Drag the newly created box into *group 1*.
There should now be 2 boxes within *group 1*.

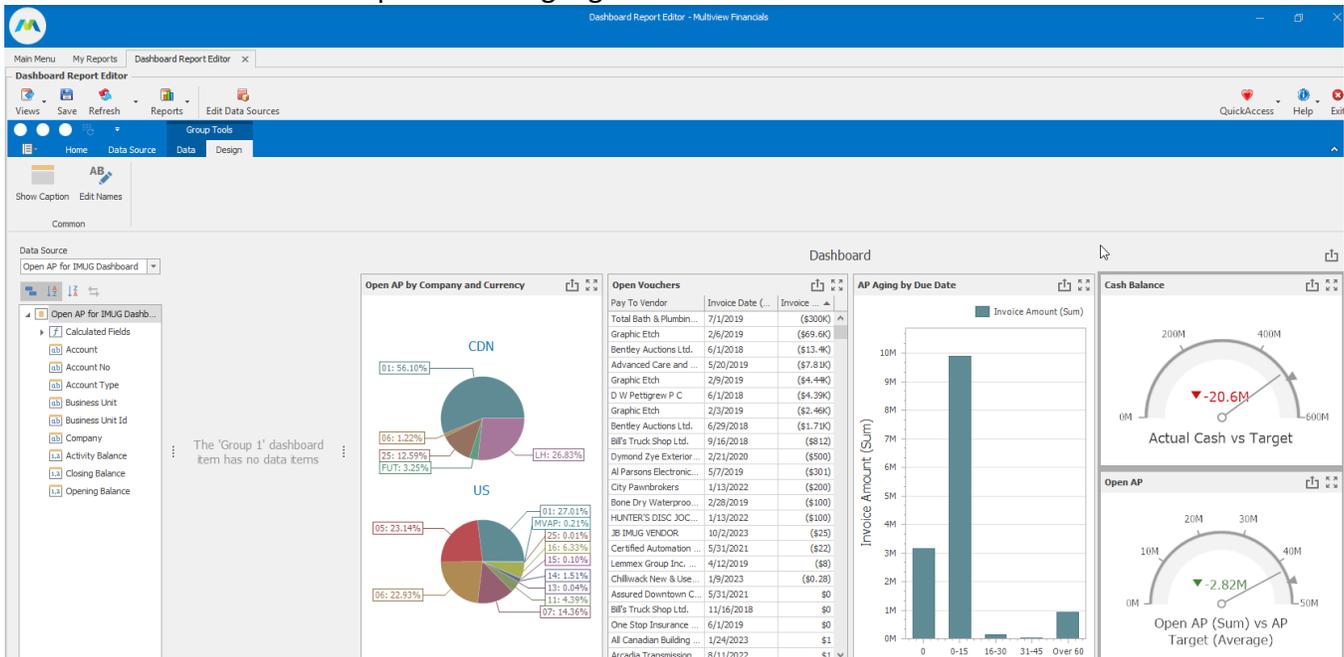
- d. **Click** on *gauges 1* and **change** the *Data Source* to *Cash for IMUG Dashboard*.
- e. **Drag** *closing balance* to *actual*.
- f. To create a target, **right click** on a value in the panel on the left then **click** *Add Calculated Field*.
- g. **Type** *500000000* (500 million) then **click** *ok*.
- h. **Right click** on the calculated field and **click** *rename*.
 - i. Suggested name: “Cash Target” then **click** *ok*.
- i. **Drag** *cash target* to *target*.
- j. **Click** the *LOV* to the right of *Cash Target* then **click** *average*.
- k. You can change the name of the gauge by **right clicking** in the gauge then **clicking** *Edit Names*.
 - i. Suggested Name: “Cash Balance” then **click** *ok*.
 - ii. You can also take this opportunity to edit the name of the *value*.
- l. **Click** on *Gauges 2* and **change** the *Data Source* to *Open AP for IMUG Dashboard*.
- m. **Drag** *closing balance* to *actual*.

Notice in the gauge that the amount is negative. This is due to AP being a liability account which generally has a credit balance. In order to make this amount positive for reporting purposes, we’ll need to create a calculated field to reverse the value.
- n. **Right click** on a value in the panel on the left then **click** *Add Calculated Field*.
 - i. **Enter** *[Closing Balance]*-1* then **click** *ok*.
- o. **Right click** on the calculated field and **click** *rename*.
 - i. Suggested name: “Open AP” then **click** *ok*.
- p. To create a target, **right click** on a value in the panel on the left then **click** *Add Calculated Field*.
- q. **Type** *450000000* (45 million).
- r. **Click** *ok*.
- s. **Right click** on the calculated field and **click** *rename*.
 - i. Suggested name: “AP Target” then **click** *ok*.
- t. **Drag** *ap target* to *target*.
- u. **Click** the *LOV* to the right of *AP Target* then **click** *average*.

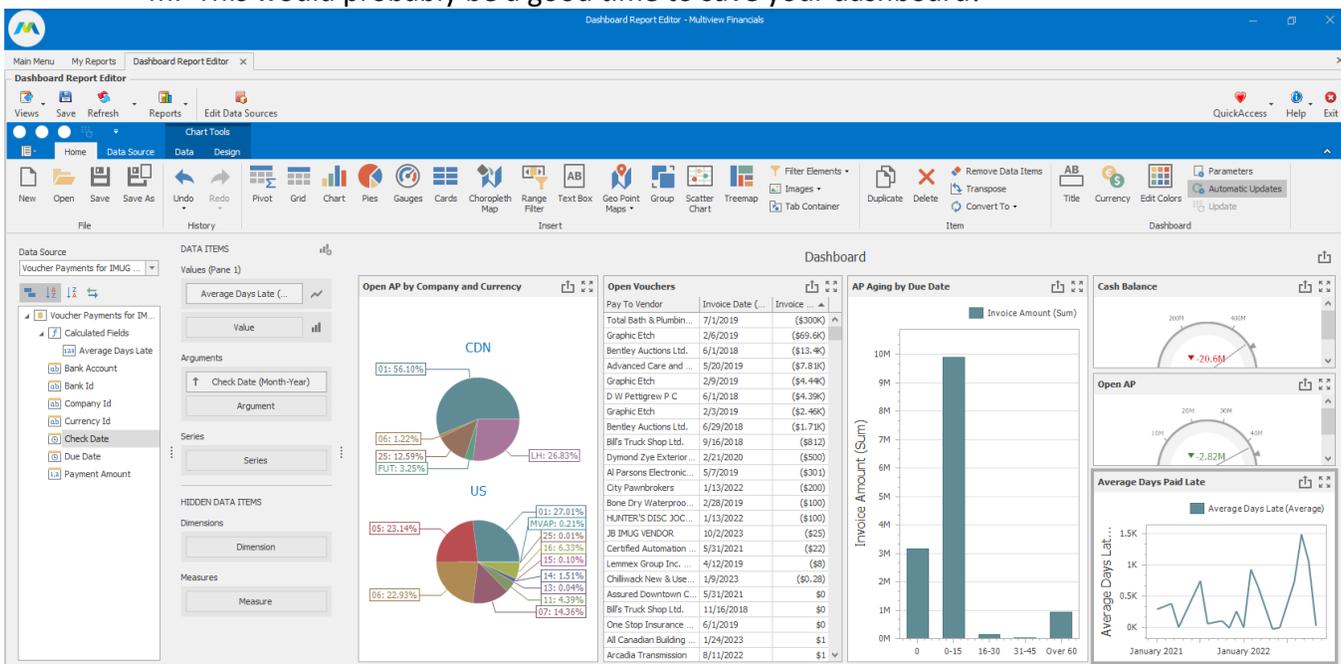
The gauge is below the target but the difference is showing red. We need to show it as green to represent that this is good. In order to do this:
- v. Click on *gauges 2* and then click on the gear to the right of *Open AP* in the *data items*.
- w. **Change** the value in *result indication* to *less is good* then **click** *ok*.



- x. You can change the name of the gauge by **right clicking** in the gauge then **clicking Edit Names**.
 - i. Suggested Name: "Open AP."
 - ii. You can also take this opportunity to edit the name of the *value*.
- y. You can change the look of the gauges to half gauges by clicking on the gauge, then clicking on the *design* tab of *Gauges Tools* in the ribbon.
- z. The title of the group, "Group 1", is not beneficial so we can remove it by right clicking on *Group 1* and **clicking on show caption** from the dropdown. This will allow us to have more screen space for the gauges.



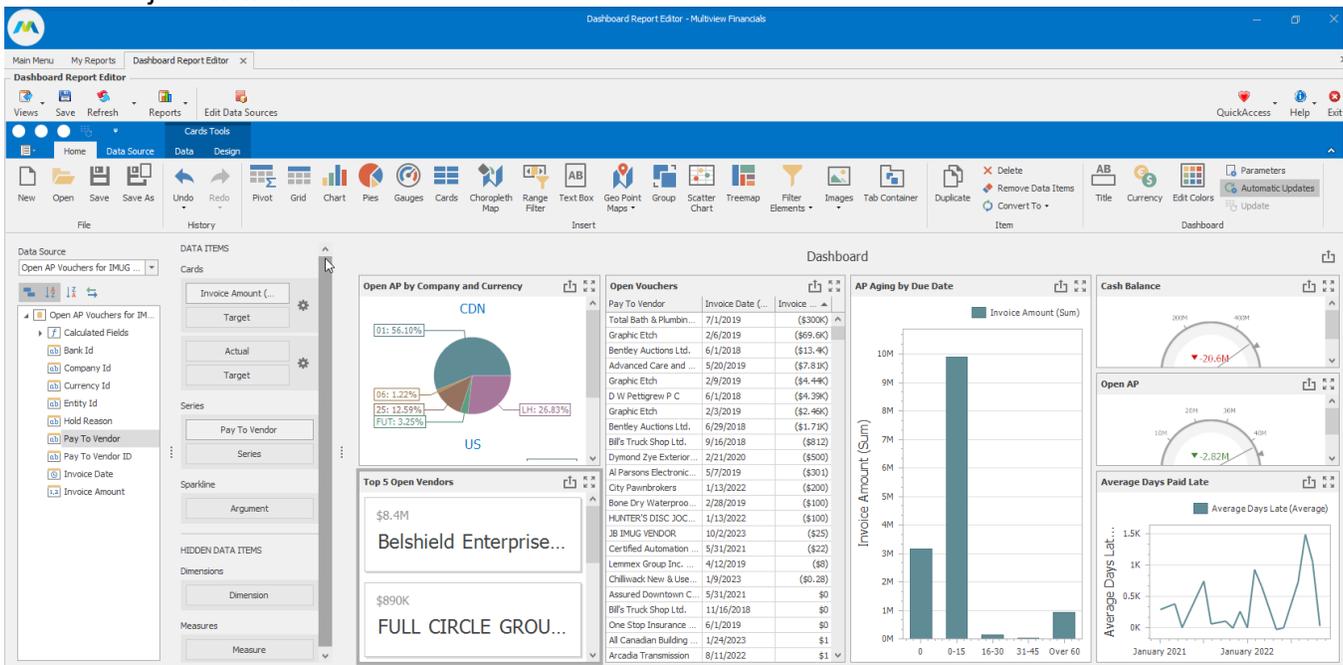
9. Create a line graph showing the average number of days vouchers were paid late.
 - a. **Click chart** in the ribbon.
 - b. In the panel on the left, **choose** the *Voucher Payments for IMUG Dashboard* data source.
 - c. We need to add a calculated field to calculate the average number of days late the invoices were paid.
 - d. **Right click** on a value in the panel on the left then **click Add Calculated Field**.
 - e. Paste the formula or type: `DateDiffDay([Due Date], [Check Date])` into the expression editor then **click ok**.
 - f. **Right click** on the calculated field and **click rename**.
 - i. Suggested name: "Average Days Late" then **click ok**.
 - g. **Drag Average Days Late** to *value*.
 - h. **Click** on the *LOV* beside *Average Days Late* then **click average**.
 - i. **Drag check date** from the panel on the left to *argument*.
 - j. **Click** on the *LOV* beside *Check Date* then **click Month-Year**.
 - k. A line graph is a better way to visualize this data. To change the bar graph to a line graph **click** on the *bar icon* to the right of *Average Days Late* and then choose a line graph you'd like to use.
 - l. You can change the name of the graph by **right clicking** in the graph then **clicking Edit Names**.
 - i. Suggested Name: "Average Days Paid Late" then **click ok**.
 - m. This would probably be a good time to save your dashboard!



10. Add cards for the top 5 vendors with open invoices.

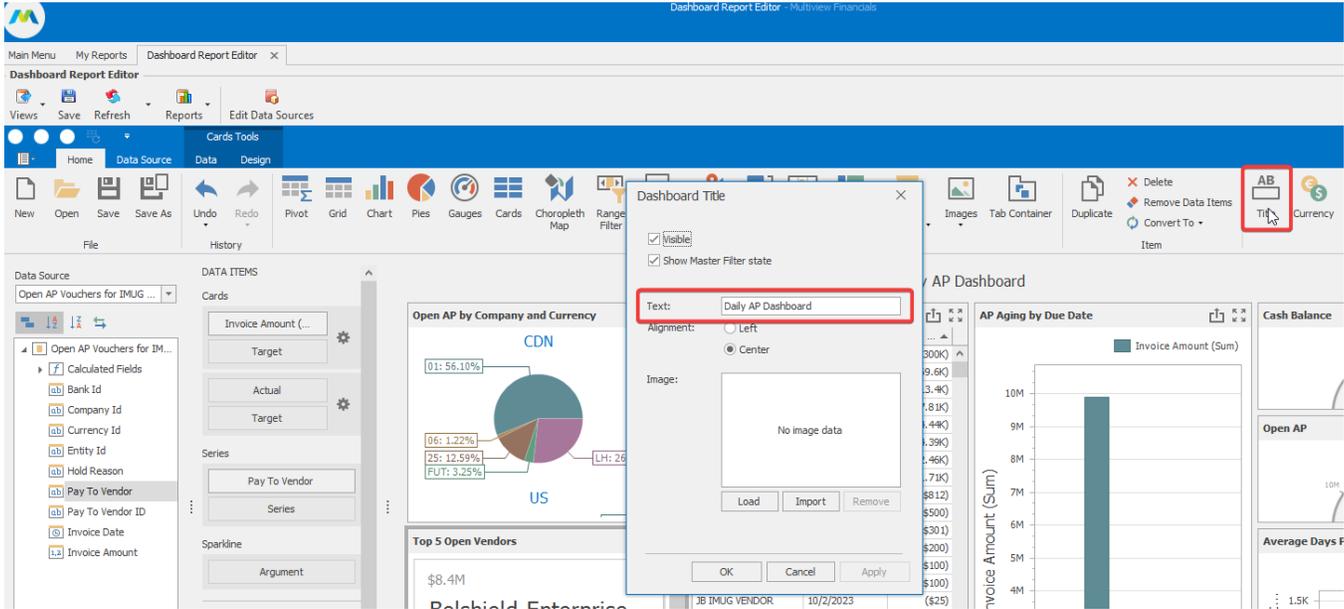
Cards can be used to compare actual to target amounts, but in this example, we are going to use them to show the top 5 vendors with open invoices.

- a. **Click cards** in the ribbon.
- b. **Ensure** the data source being used for the cards is *Open AP Vouchers for IMUG Dashboard*.
- c. **Drag Invoice Amount** to *Actual*.
- d. **Drag Pay to Vendor** to *Series*.
- e. To limit the cards to our top 5, **select** the *LOV* to the right of Pay to Vendor.
- f. In the popup **select Top N**.
- g. **Check** the *enabled* box.
- h. **Click ok**.
- i. You can rename the cards by **right clicking** on the cards and **click Edit Names**.
 - i. Suggest Name: “Top 5 Open Vendors.”
- j. **Click ok**.



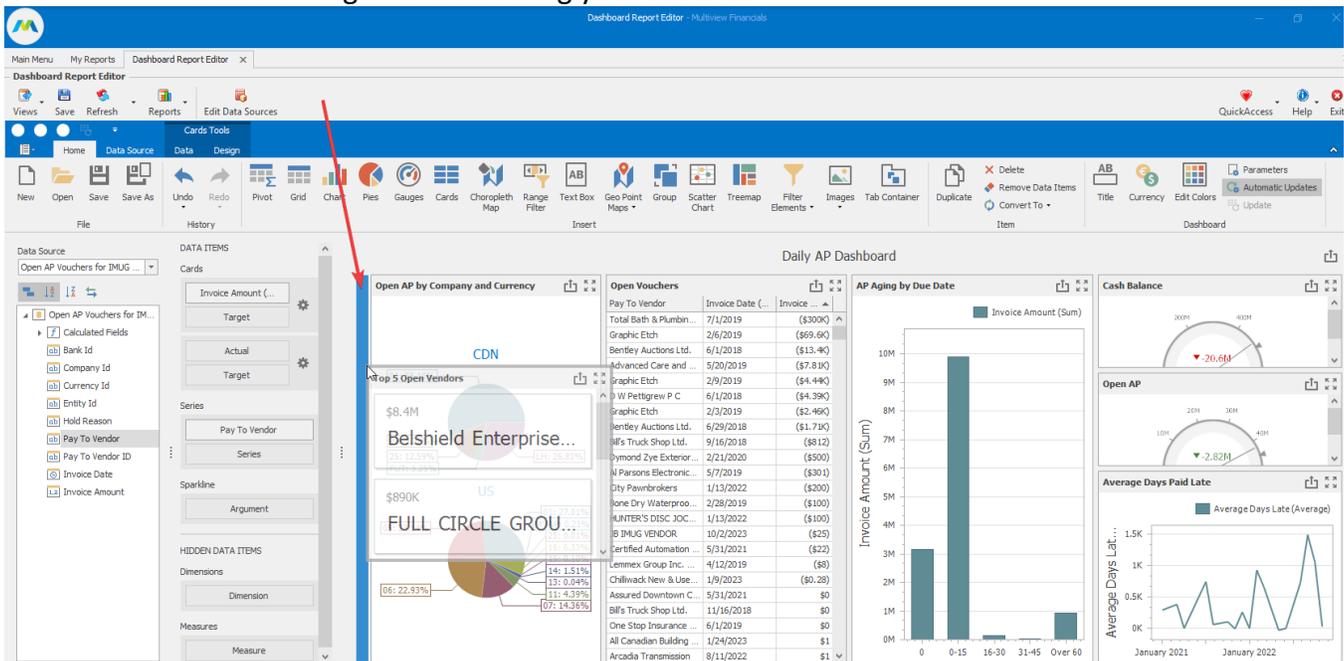
11. Renaming you dashboard

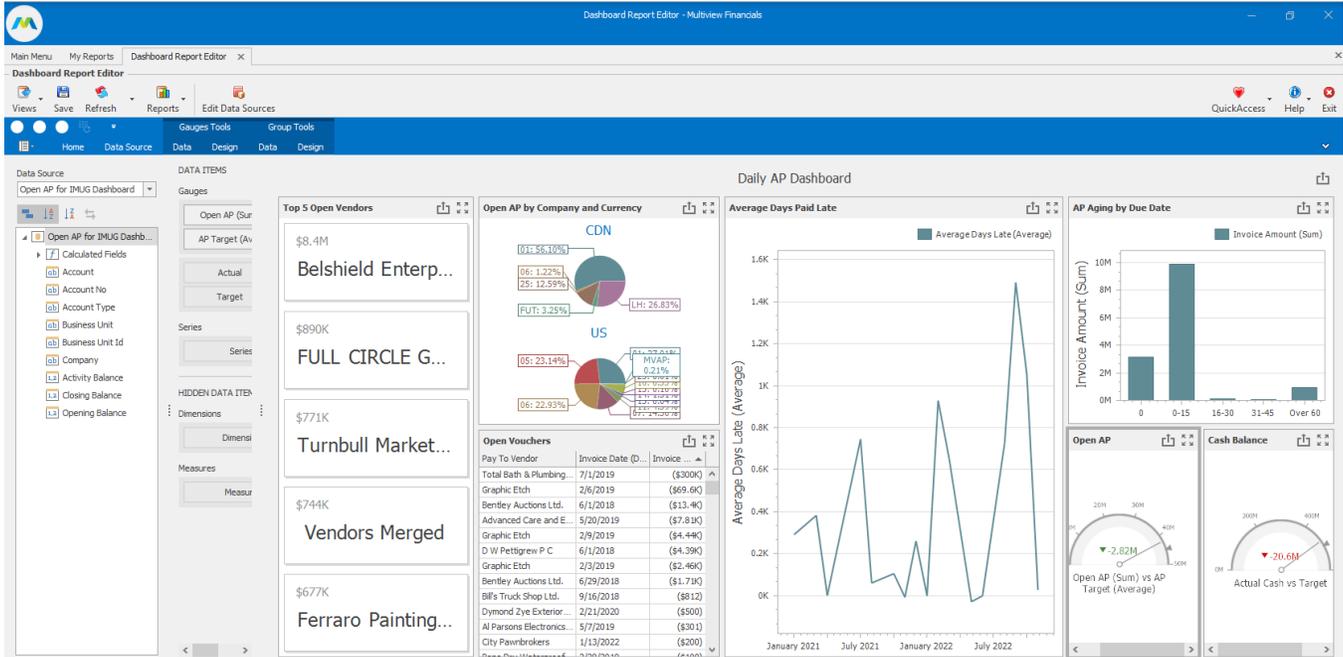
- a. You can rename your dashboard by **clicking Title** in the ribbon.



12. Rearranging your dashboard

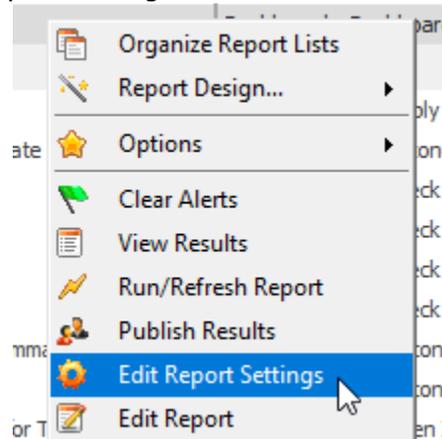
- a. You can rearrange your dashboard by grabbing a widget and moving it until you see a blue rectangle then releasing your mouse.



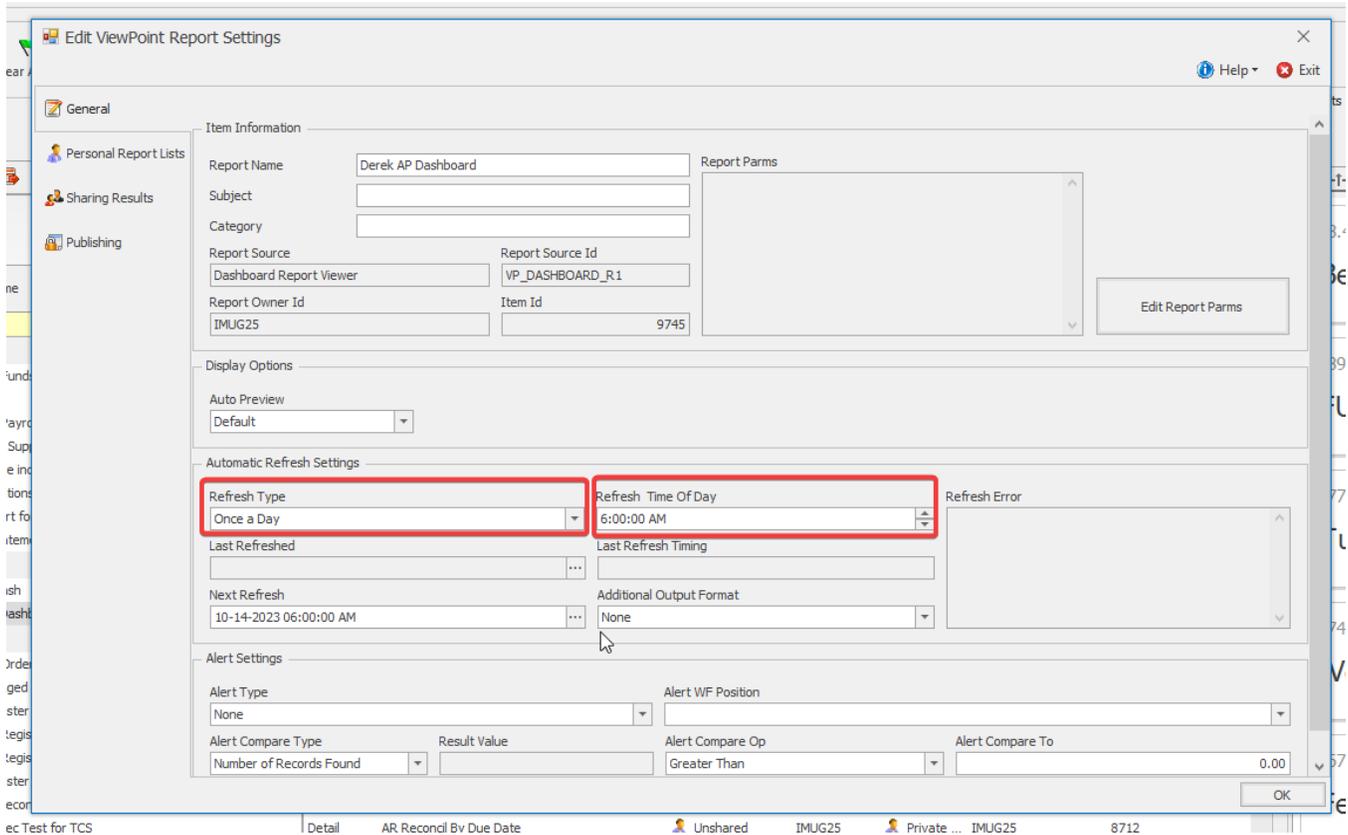


13. Setting your dashboard to refresh and push it to recipients.

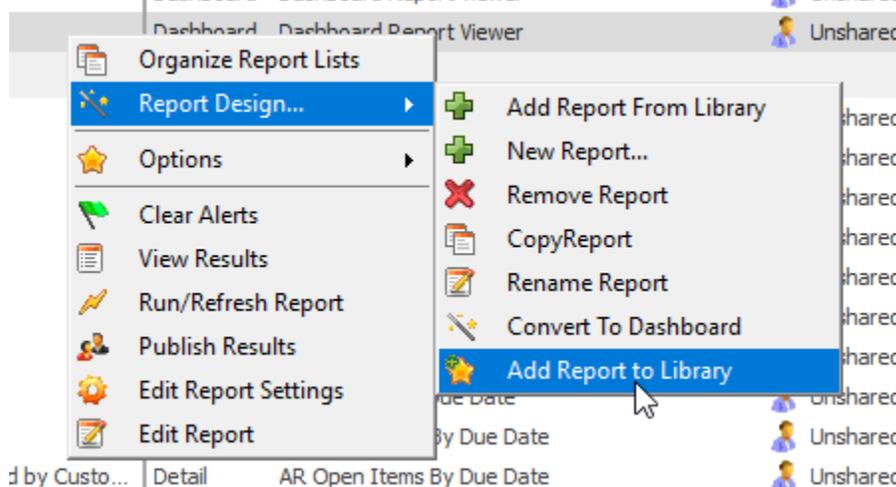
- Click **save**.
- Close *Dashboard Report Editor* tab.
- In *my reports*, **right click** on your dashboard report.
- In the popup **click Edit Report Settings**.



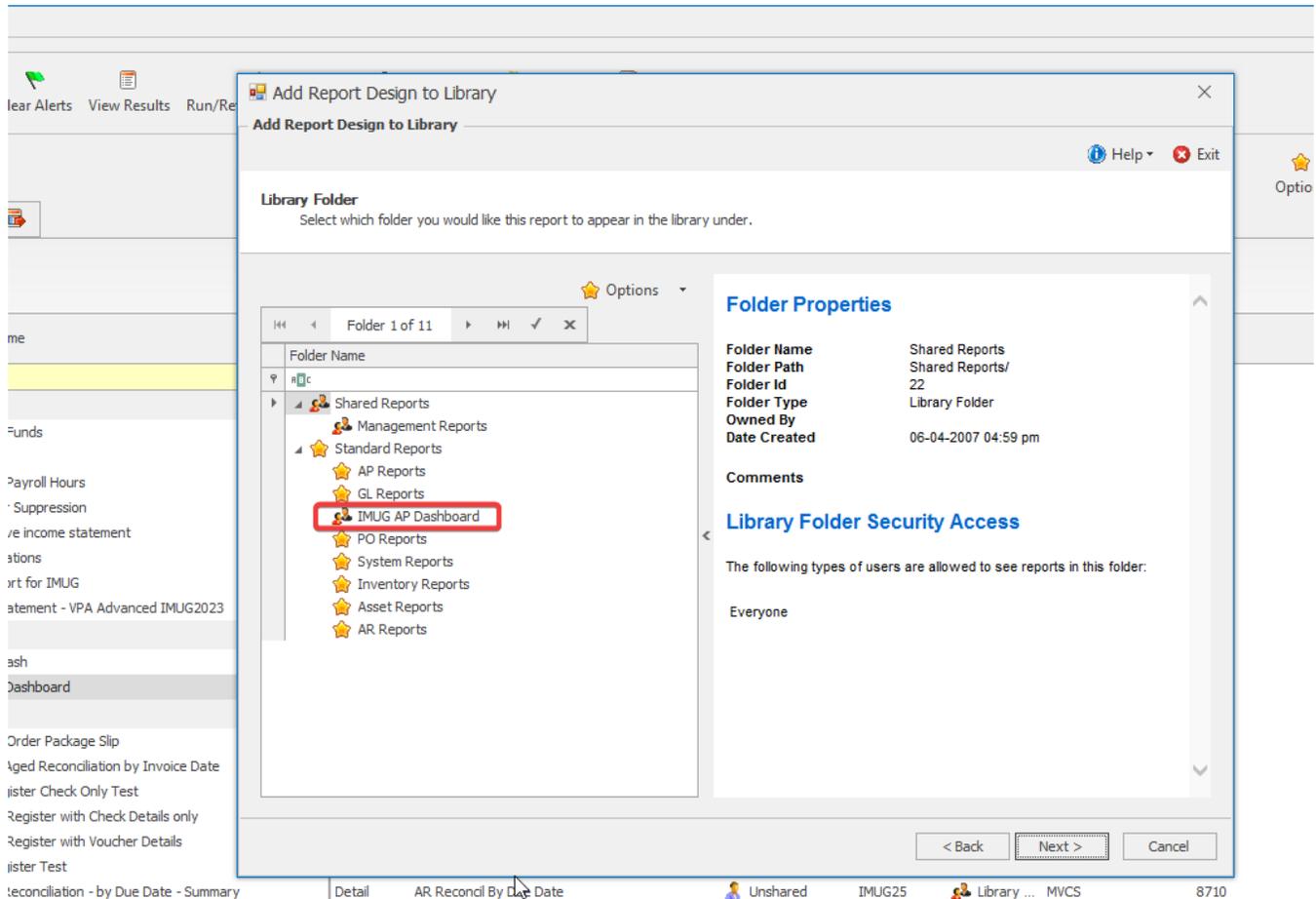
- Change the *Refresh Type* to *Once a Day*
- Change the *Refresh Time of Day* to *6:00:00 AM*.
- Click **ok**.



- h. To push the report to users, you'll need to add the report to the library. **Right click** on your report **hover over report design** and **click Add Report to Library**.



- i. **Click next.**
 j. **Click next.**
 k. Pick a folder to put the report. We are going to choose *IMUG AP Dashboard* then **click next.**



- l. Select the security for this report. If you want it in the library for users to retrieve, **select everyone**. If you want to force it to certain users' *My Reports*, then **select secured by user Id**, **click** the box for *Mandatory Report*, then select the users you want to push the report to. ****IMPORTANT** BE SURE TO INCLUDE YOUR OWN USER IN THE LIST OF USERS!**
- m. **Click Next.**
- n. **Click Finish.**

Run/Re

Add Report Design to Library

Help Exit

Security
Select Security options

Security to use this report: Secured by User Id

Mandatory Report

Options

1 of 139

Allowed	Access Id	Description
<input checked="" type="checkbox"/>	IMUG25	IMUG25
<input checked="" type="checkbox"/>	DGARRETT	Derek Garrett
<input type="checkbox"/>	USER2	User 2
<input type="checkbox"/>	USER1	User 1
<input type="checkbox"/>	TOM	Tom Brown
<input type="checkbox"/>	TIFFANY	Tiffany
<input type="checkbox"/>	STEPH	Steph Siu
<input type="checkbox"/>	SSOUTHERLAND	Scott Southerland
<input type="checkbox"/>	SEAN	

< Back Next > Cancel

Summary | Detail | AR Reconcil Bv Due Date | Unshared | IMUG25 | Library ... | MVCS | 8710