SYNTELLIS

Elevating. Performance. Together.

AXIOM INSIGHTS webinar

(Based upon Version 2020.1)

Moderator: Anastasia Rundus, Client Relationship Executive

Deb Miller, Client Services Account Executive

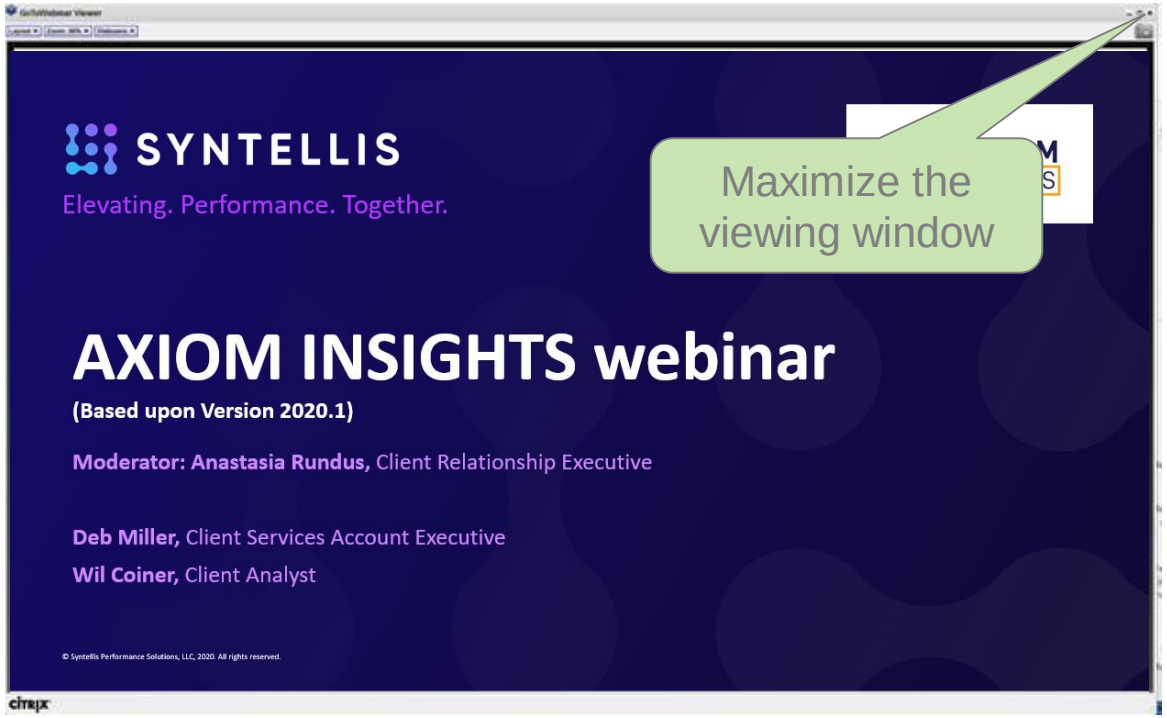
Wil Coiner, Client Analyst

AGENDA

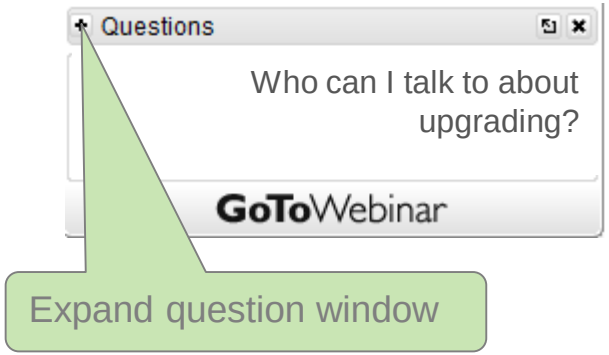
- Introductions & Webinar instructions
- Syntellis Overview
- Month End Budget Variance Reporting
- Best Practices – Report Design
- Using QA Diagnostics
- Questions and Answers

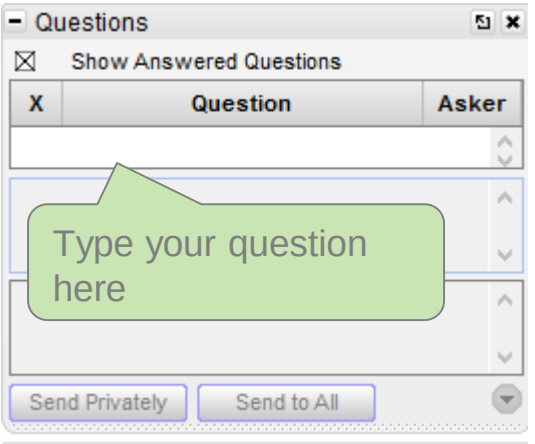
Webinar Information

Maximize your viewing window



Submit questions





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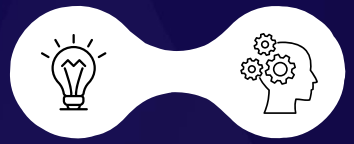
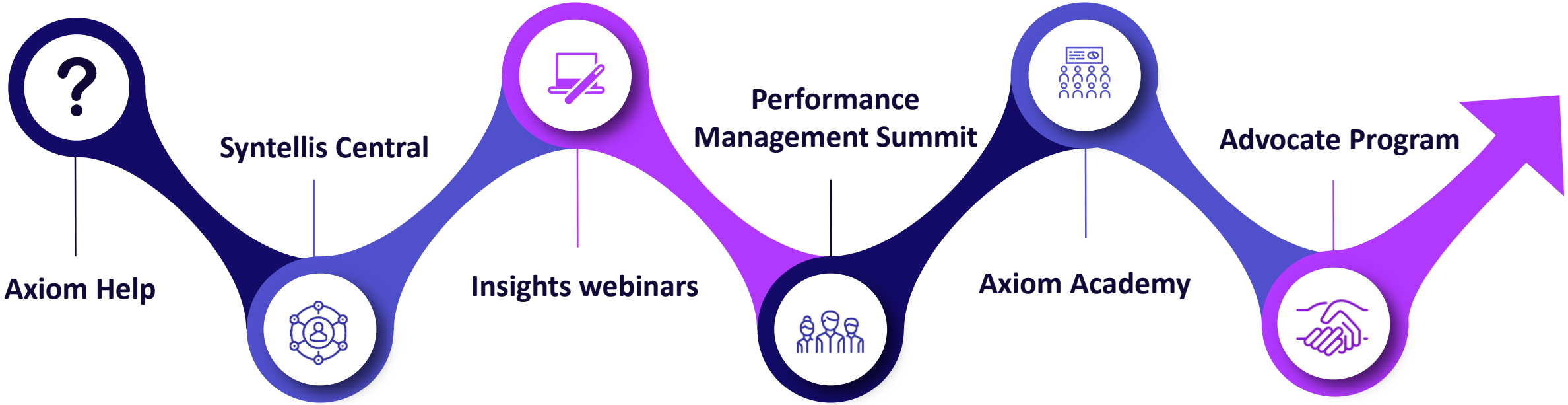
SYNTELLIS
PERFORMANCE SOLUTIONS

We offer solutions that turn data into intelligence, transforming raw information into a clear path forward … resulting in elevated client performance.

SYNTHESIS  INTELLIGENCE

Gain the Axiom Advantage

https://www.kaufmanhall.com/about/events-speaking/webinar-series-axiom-advantage



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Month End Budget Variance Reporting

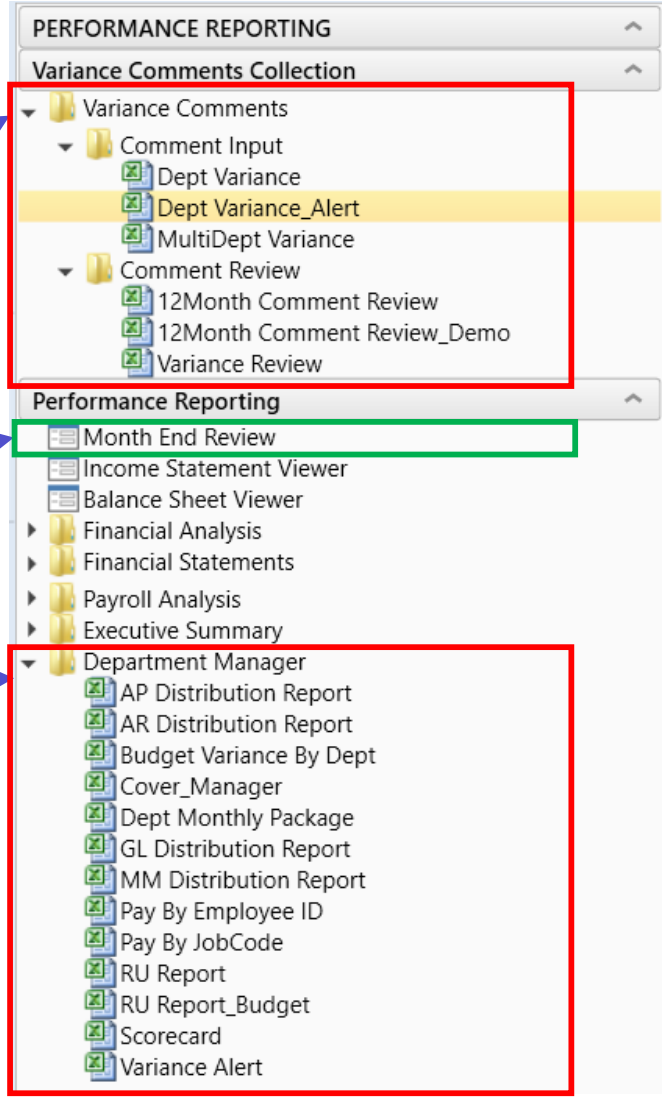
Month End Budget Variance Reporting

- Variance Comments Collection
  - Rate per Unit vs Amount Variances
  - Flexible budgeting

Performance Reporting Task Pane

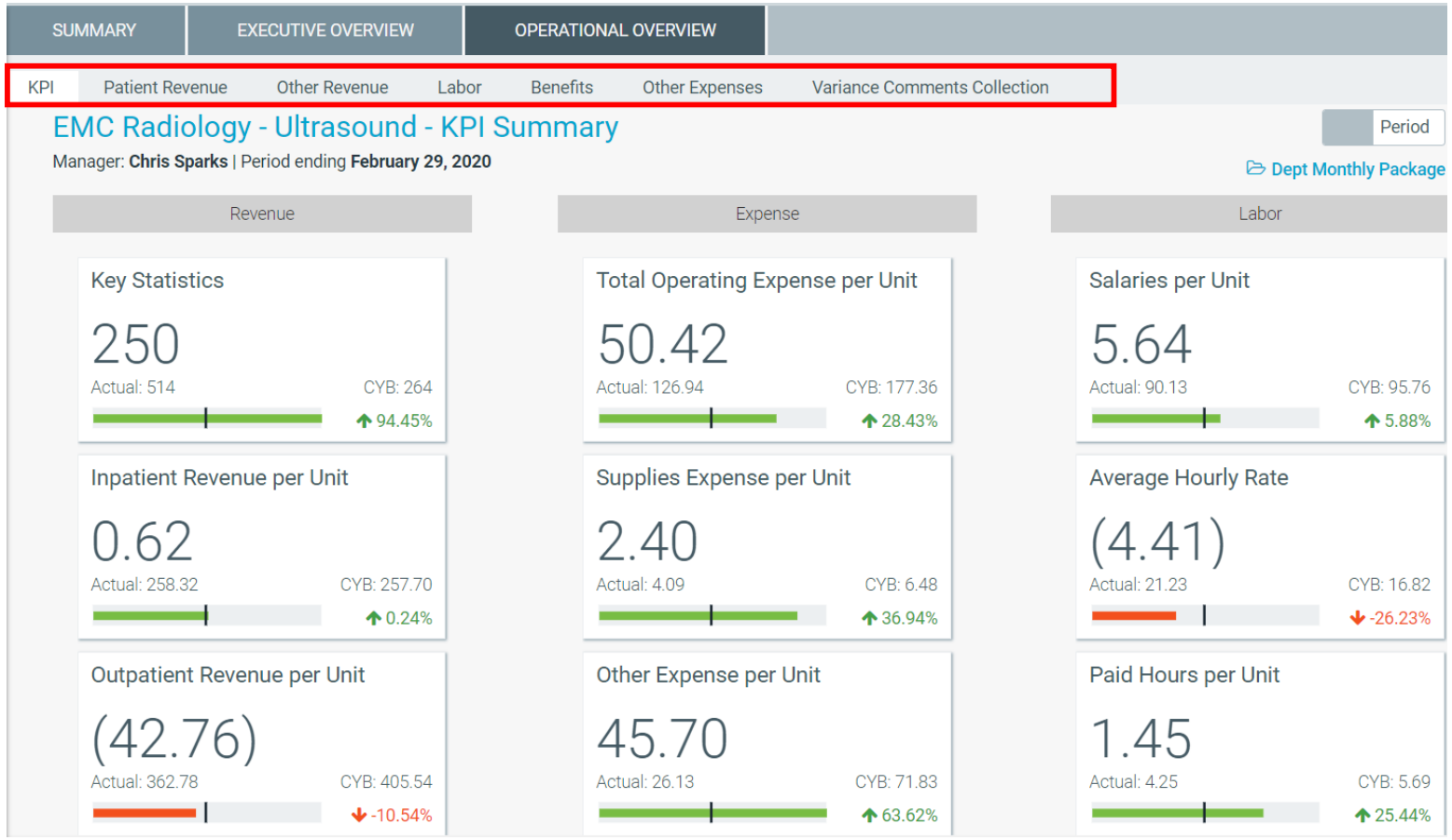
- **Main Menu | Open App Menus | Management Reporting**

- Options for Variance Analysis
  - Variance Comments Collection
  - Month End Review
  - Department Manager package



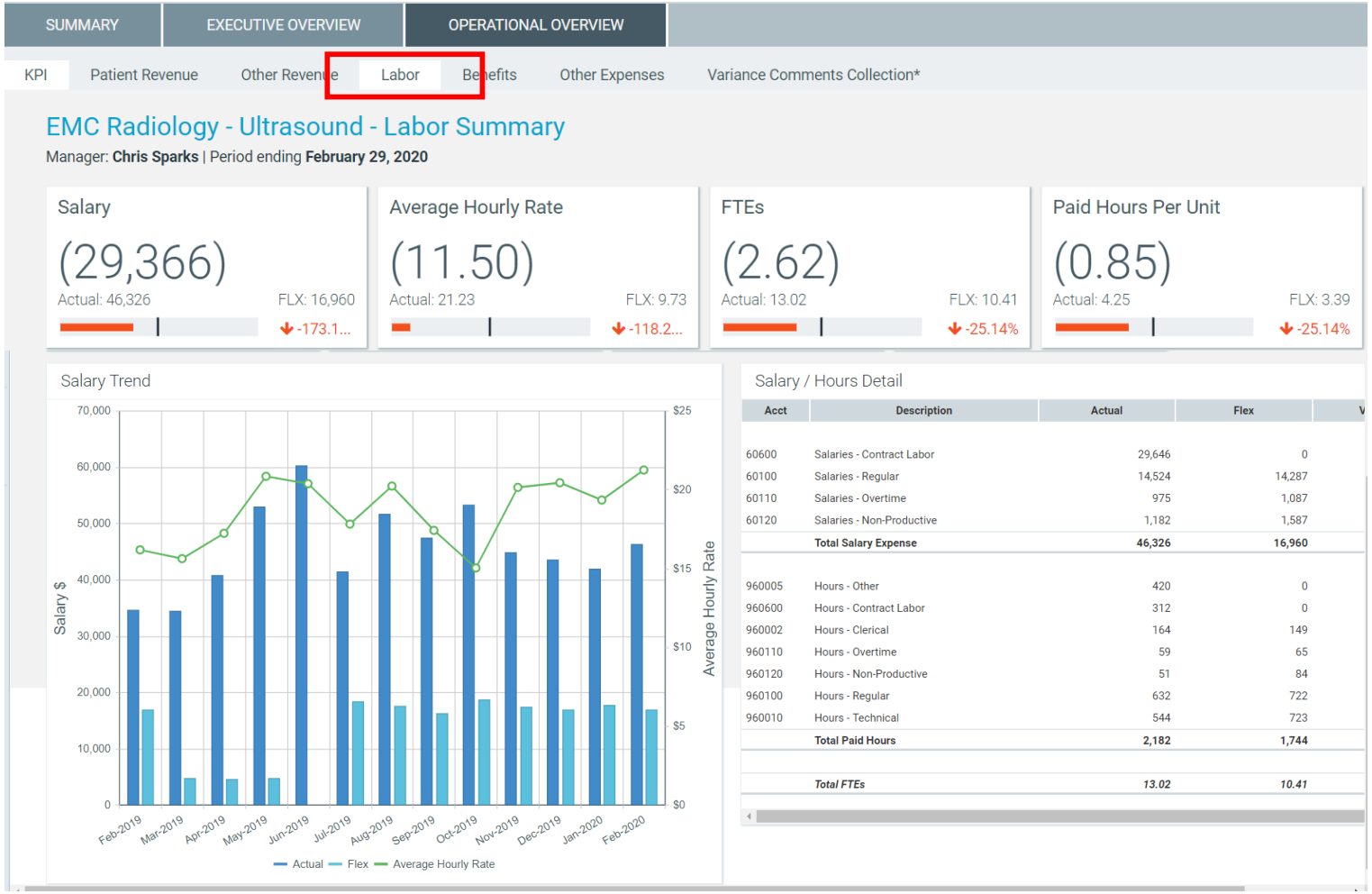
Month End Review Dashboard – Operational Overview - KPI

- Focus on:
  - Volume Variance
  - Rate per Unit KPIs
- Break out tabs for each category
  - Patient Revenue
  - Other Revenue
  - Labor
  - Benefits
  - Other Expenses
- Variance Comments Collection

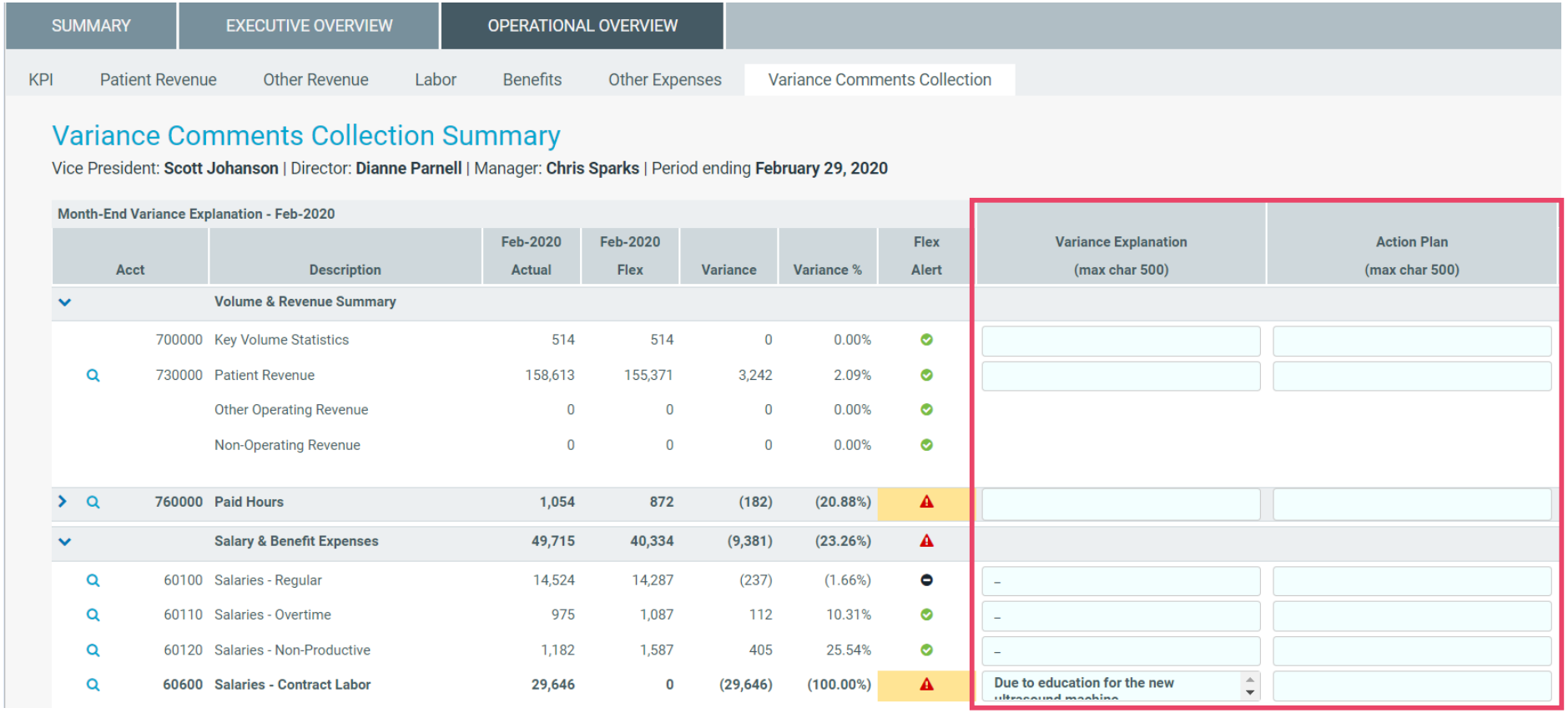


Month End Review Dashboard – Operational Overview - Labor

- Break out tab for Labor
- Focus on components of Labor Variance
  - Salary Dollars
  - Average Hourly Rate
  - FTEs
  - Paid Hours per Unit
- Salary Trend Graph (13 months)
- Account Level Detail



Month End Review Dashboard – Variance Comments Collection



SUMMARY | EXECUTIVE OVERVIEW | OPERATIONAL OVERVIEW

KPI | Patient Revenue | Other Revenue | Labor | Benefits | Other Expenses | Variance Comments Collection

Variance Comments Collection Summary

Vice President: **Scott Johanson** | Director: **Dianne Parnell** | Manager: **Chris Sparks** | Period ending **February 29, 2020**

Month-End Variance Explanation - Feb-2020

Acct	Description	Feb-2020 Actual	Feb-2020 Flex	Variance	Variance %	Flex Alert	Variance Explanation (max char 500)	Action Plan (max char 500)
	Volume & Revenue Summary							
700000	Key Volume Statistics	514	514	0	0.00%			
730000	Patient Revenue	158,613	155,371	3,242	2.09%			
	Other Operating Revenue	0	0	0	0.00%			
	Non-Operating Revenue	0	0	0	0.00%			
760000	**Paid Hours**	**1,054**	**872**	**(182)**	**(20.88%)**			
	Salary & Benefit Expenses	**49,715**	**40,334**	**(9,381)**	**(23.26%)**			
60100	Salaries - Regular	14,524	14,287	(237)	(1.66%)		–	
60110	Salaries - Overtime	975	1,087	112	10.31%		–	
60120	Salaries - Non-Productive	1,182	1,587	405	25.54%		–	
60600	**Salaries - Contract Labor**	**29,646**	**0**	**(29,646)**	**(100.00%)**		Due to education for the new ultrasound machine	

- Variance Explanations
- Action Plan for addressing variances
- Alert flags at summary category or account level
- Comments & Action Plans posted for all 12 months

Month End Review Dashboard – Rate | Volume | Efficiency

Variance Comments Collection Summary

Save

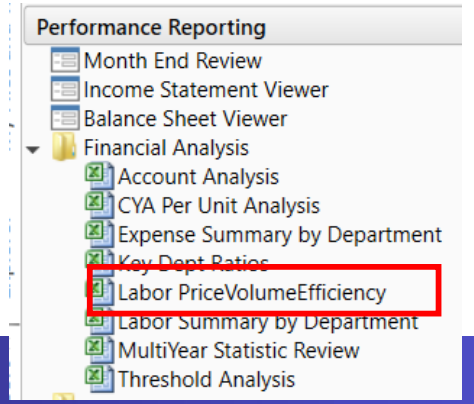
Vice President: **Scott Johanson** | Director: **Dianne Parnell** | Manager: **Chris Sparks** | Period ending **February 29, 2020**

Month-End Variance Explanation - Feb-2020

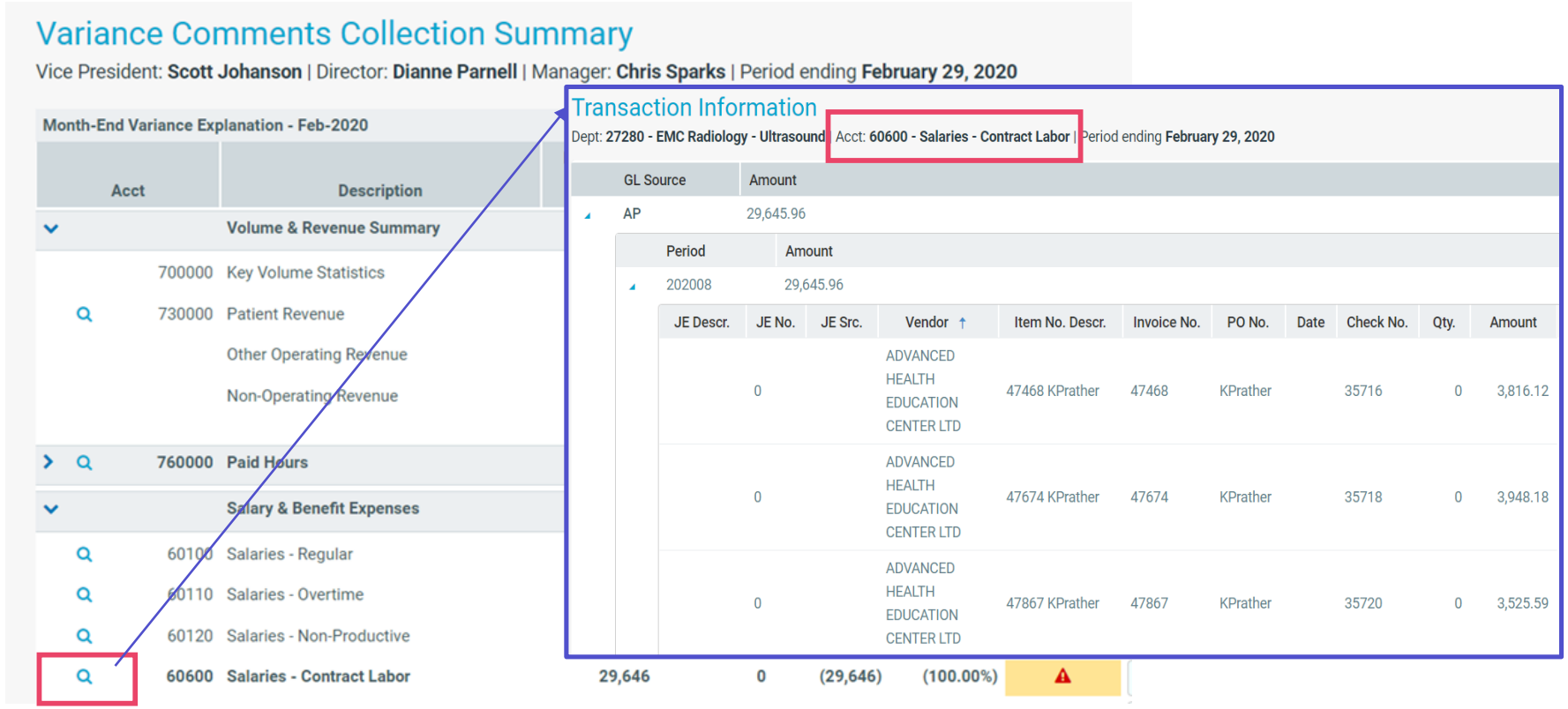
Acct	Description	Feb-2020 Actual	Feb-2020 Flex	Variance	Variance %	Flex Alert	Rate Volume Variance: Rate	Volume	Efficiency	12 mo. Alert
	Volume & Revenue Summary									
700000	Key Volume Statistics	514	514	0	0.00%		0	0	0	
730000	Patient Revenue	158,613	155,371	3,242	2.09%		3,242	0	0	
	Other Operating Revenue	0	0	0	0.00%		0	0	0	
	Non-Operating Revenue	0	0	0	0.00%		0	0	0	
760000	**Paid Hours**	**1,054**	**872**	**(182)**	**(20.88%)**		**(182)**	**0**	**0**	
	Salary & Benefit Expenses	**49,715**	**40,334**	**(9,381)**	**(23.26%)**		**(959)**	**0**	**(8,422)**	
60100	Salaries - Regular	14,524	14,287	(237)	(1.66%)		2,746	0	(2,983)	
60110	Salaries - Overtime	975	1,087	112	10.31%		339	0	(227)	
60120	Salaries - Non-Productive	1,182	1,587	405	25.54%		737	0	(331)	

- Rate Impact
- Volume Impact
- Efficiency Impact

- Flex Budget – No volume variance
- Tip – Use the Labor PriceVolumeEfficiency report to help with understanding the 3 categories



Month End Review Dashboard – Transaction Detail



Variance Comments Collection Summary

Vice President: **Scott Johanson** | Director: **Dianne Parnell** | Manager: **Chris Sparks** | Period ending **February 29, 2020**

Month-End Variance Explanation - Feb-2020

Acct	Description				
	Volume & Revenue Summary				
700000	Key Volume Statistics				
730000	Patient Revenue				
	Other Operating Revenue				
	Non-Operating Revenue				
760000	**Paid Hours**				
	Salary & Benefit Expenses				
60100	Salaries - Regular				
60110	Salaries - Overtime				
60120	Salaries - Non-Productive				
60600	**Salaries - Contract Labor**	**29,646**	**0**	**(29,646)**	**(100.00%)**

Transaction Information

Dept: **27280 - EMC Radiology - Ultrasound** | Acct: **60600 - Salaries - Contract Labor** | Period ending **February 29, 2020**

GL Source	Amount
AP	29,645.96

Period	Amount
202008	29,645.96

JE Descr.	JE No.	JE Src.	Vendor	Item No. Descr.	Invoice No.	PO No.	Date	Check No.	Qty.	Amount
	0		ADVANCED HEALTH EDUCATION CENTER LTD	47468 KPrather	47468	KPrather		35716	0	3,816.12
	0		ADVANCED HEALTH EDUCATION CENTER LTD	47674 KPrather	47674	KPrather		35718	0	3,948.18
	0		ADVANCED HEALTH EDUCATION CENTER LTD	47867 KPrather	47867	KPrather		35720	0	3,525.59

- ExpenseTransaction Detail available:
  - Payroll Data
  - Journal Entries
  - Accounts Payable
  - Materials Management
  - PO Received Not Invoiced
  - Link to document images
- Patient Revenue drill to:
  - Revenue & Usage
  - Provider Billing data

Report Writing Best Practices

Report Writing Best Practices

- GetData – When to use
- Checking for Unmatched Data
- Space for building reports

Formula - GetData

- Always use an AQ when possible
- Only use GetData for small data sets for which an Axiom Query (AQ) is unnecessary
- Often used for header data and to return variables used for queries and AQ filters
- Avoid adding GetData to AQ Calc Method rows to dynamically return data for each row\cell of the query

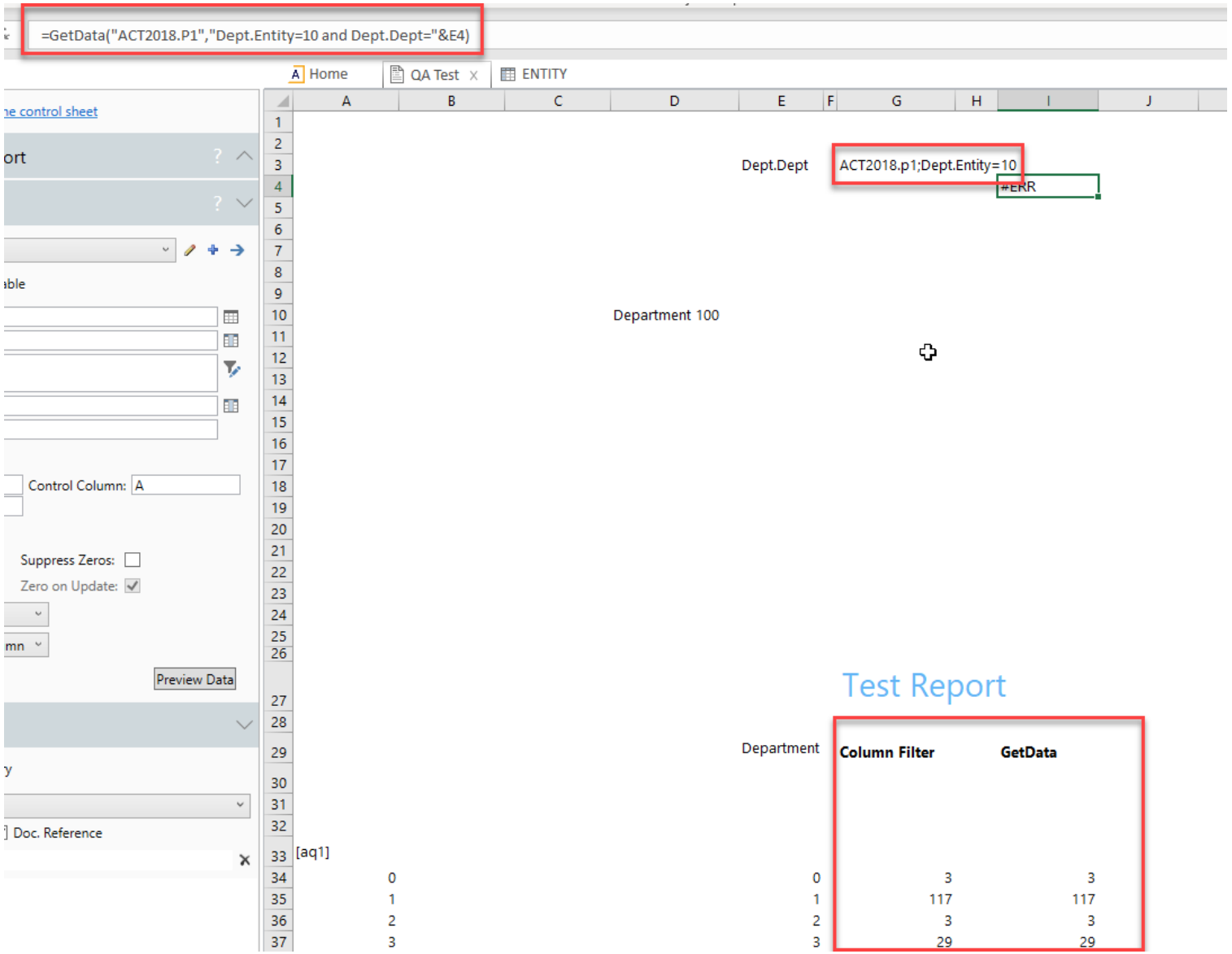
Performance Considerations

- GetData by itself is non-volatile but use caution when linking to a volatile function. The GetData will then behave as a volatile function
  - Example: Referencing a cell that contains a volatile function
- Avoid embedding another GetData function within the parameters of a GetData function. This configuration triggers multiple server calls and recalculations to resolve the "parent" GetData function, which can impact performance
- Avoid embedding multiple GetData functions within another function, such as an IF function. This type of construction results in each GetData function being handled using separate server calls, which can impact performance.

- NOTE – Each GetData is a single query of the database.

GetData Alternative

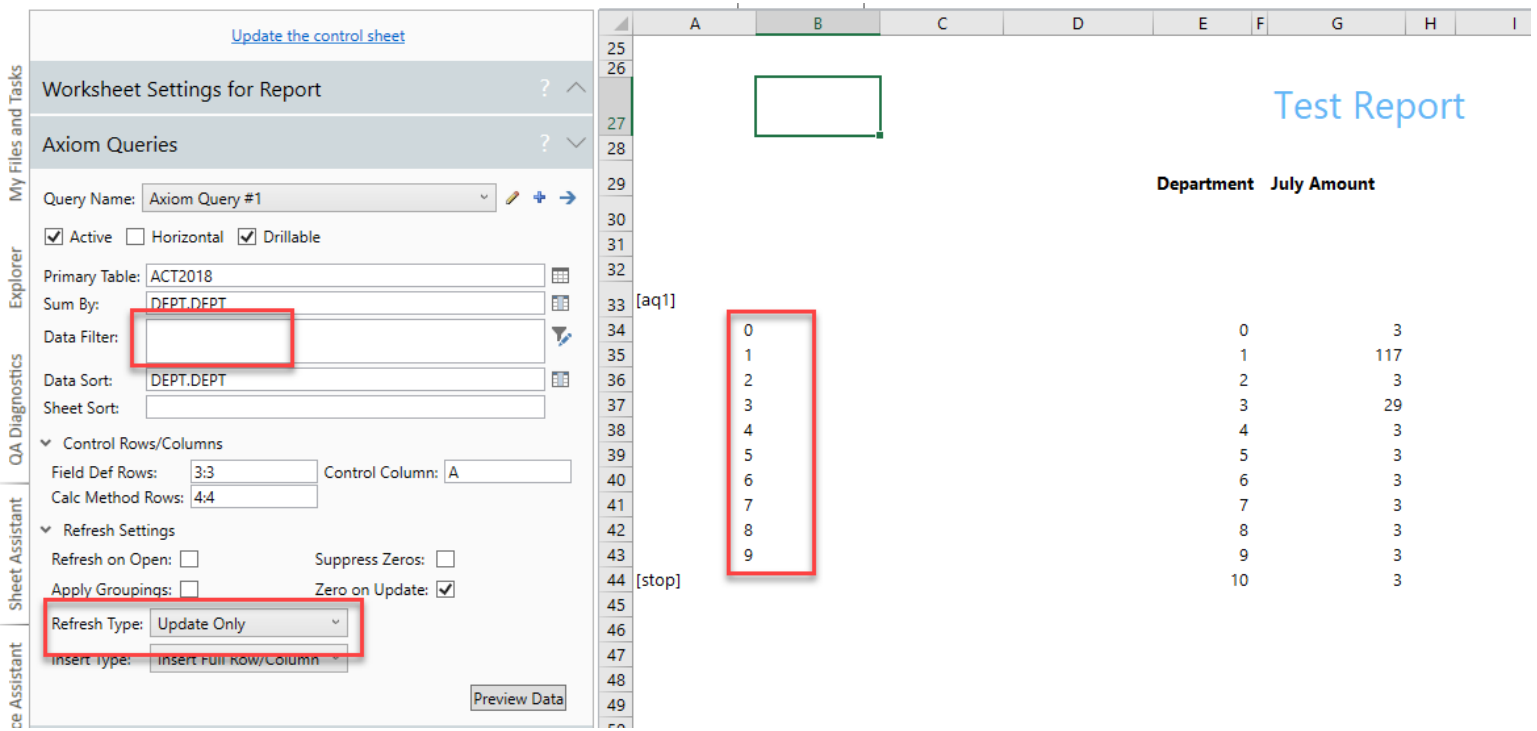
- Column and Range Filters can often be used to filter a query block and/or column by certain constraints, eliminating the need for a GetData on each row returned
- In this Example column G and column I return the same data set.
  - Colum G uses a Range Filter to only return P1 data for Entity 10.
  - Column I uses a GetData filter on Entity 10 and the current Dept for each row



Checking For Unmatched Data

- In some cases, an Axiom query may return data records from the database that are not placed anywhere on the sheet. This "orphan" data is known as *unmatched data* (or *non-matched data*).
- Unmatched data may occur in the following circumstances:
  - The data ranges for the Axiom query have filters defined, and the record does not match any of the filters.
  - The Axiom query is set to update only, and there are no matching keys for the record in any of the data ranges.
- Too much unmatched data can affect query performance
  - Example: if the query settings return 5,000 records from the database, but only 200 of those records are brought into the sheet. Assuming that you really only want those 200 records, it is recommended to define a data filter on the query (or as a sheet filter)

Unmatched Data Example



- Query is set to Update Only. It will only return data for the 10 departments defined in the Control Column
- With no Data Filter, the report will return every record in the ACT2018 table but will only insert 10 of those records into the worksheet
- Recommend adding a Data or Sheet Filter that matches the expected data returned by the update only query

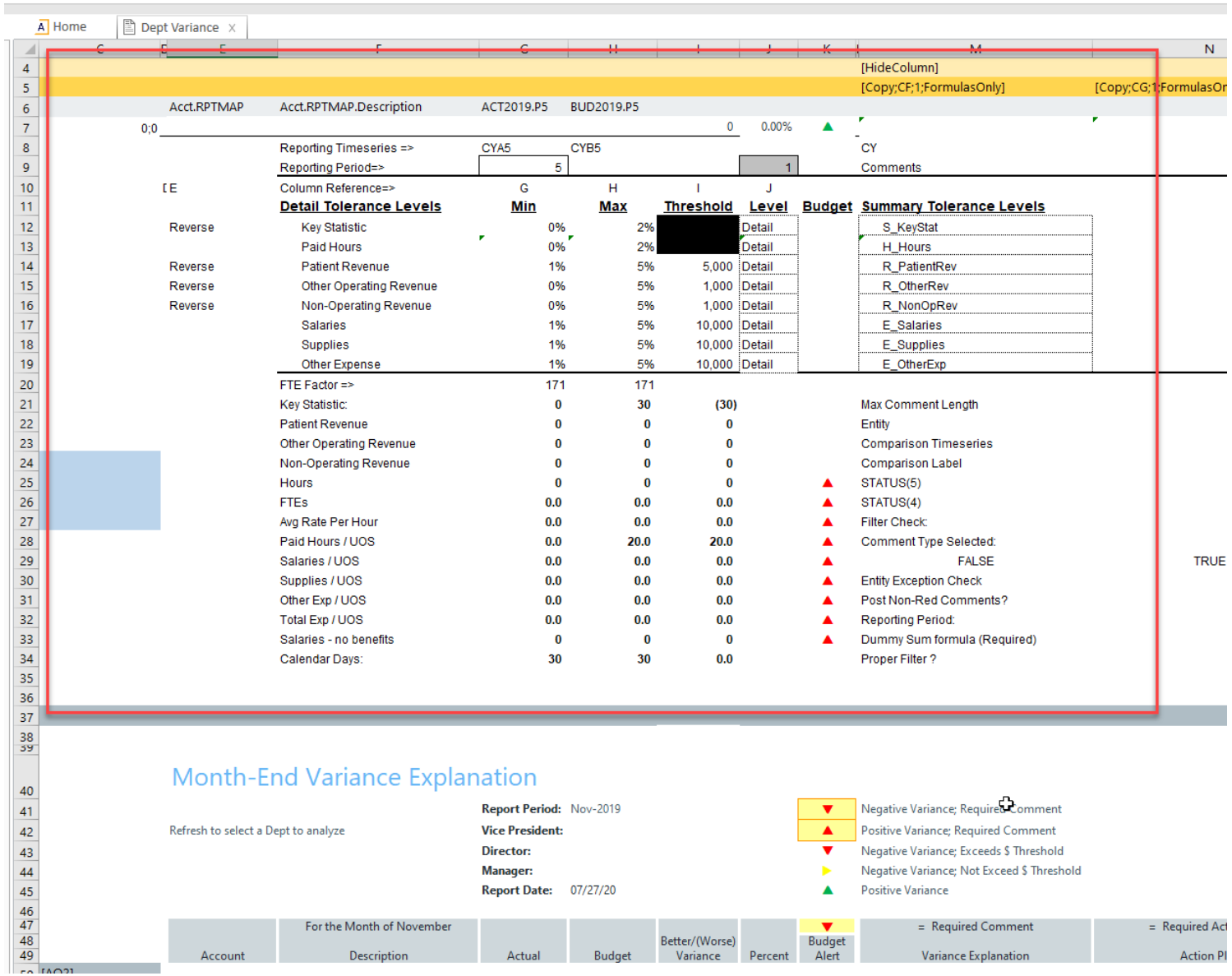
How to check for unmatched data

- Run QA Diagnostics to check for unmatched data
  - Can run the Find Unmatched AQ Data test
  - This is also included in the Refresh All Active AQs test
- Can also build a secondary AQ range to return just unmatched data
  - To use the UnmatchedData tag, create a data range tag as follows:
    - [AQ#;UnmatchedData]
    - [Stop]
    - Where # is the number of the Axiom query.
- More information found in the Help file article

  AX2087: Checking for unmatched data in an Axiom query

Working (Attic) Space

- Attic space are the rows and columns above and to the left of the report area viewed by end users
- This space is used to build the report logic and store data used to build the structure and content of the report
- This area is often hidden to end users via Freeze Panes



Working (Attic) Space

- Recommend 30 rows above the report area and 7 to the left (depending on the number of queries)
- Provides room to troubleshoot functions and formulas and test output
- In addition, this can make modifying and adding additional features easier as you will have left room to add new components
- If you do not allocate enough attic space, you may have to insert additional columns or rows which can break cell references, wreaking havoc on your report setup

QA Diagnostics

What does QA Diagnostics do?

- Checks reports for potential issues
- Runs a suite of tests to ensure reports are set up correctly and optimized

Why should you use it?

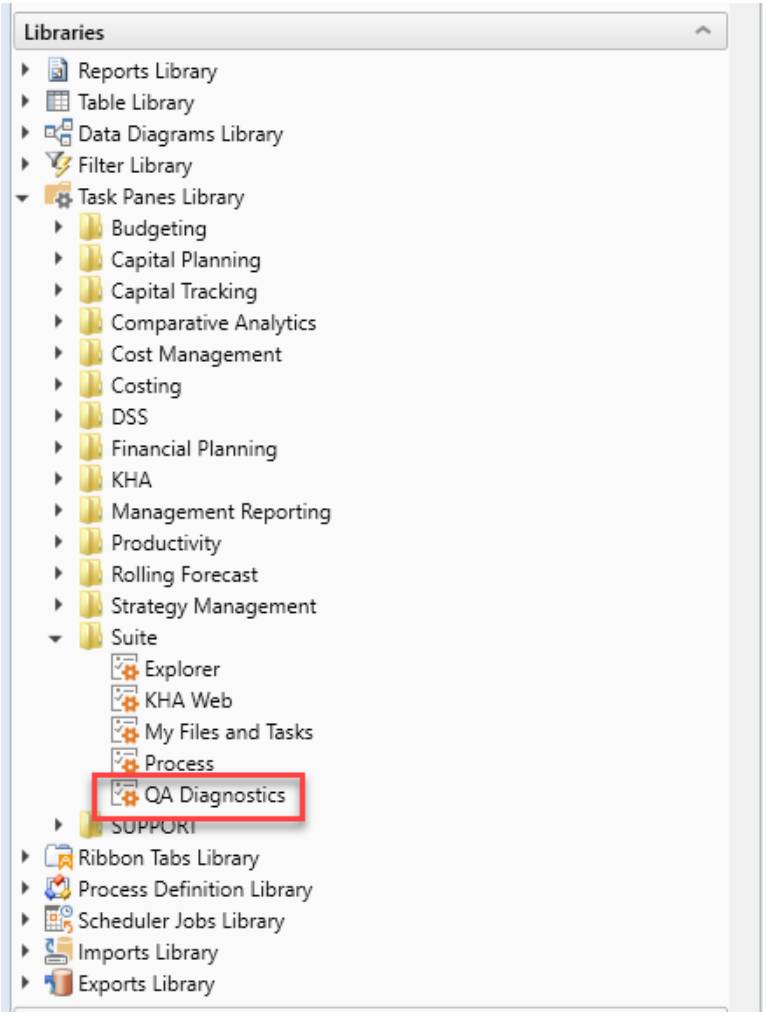
- Recommend running as part of the initial report creation process and on an ongoing basis when changes are made to a report
- When a report is opening or running slowly, or is returning an error, running diagnostics can often help diagnose the issue and point you in the direction of a solution
- Should be used in conjunction with manual testing to ensure the report runs as expected

How To Run QA Diagnostics

- QA Diagnostics can be found in:

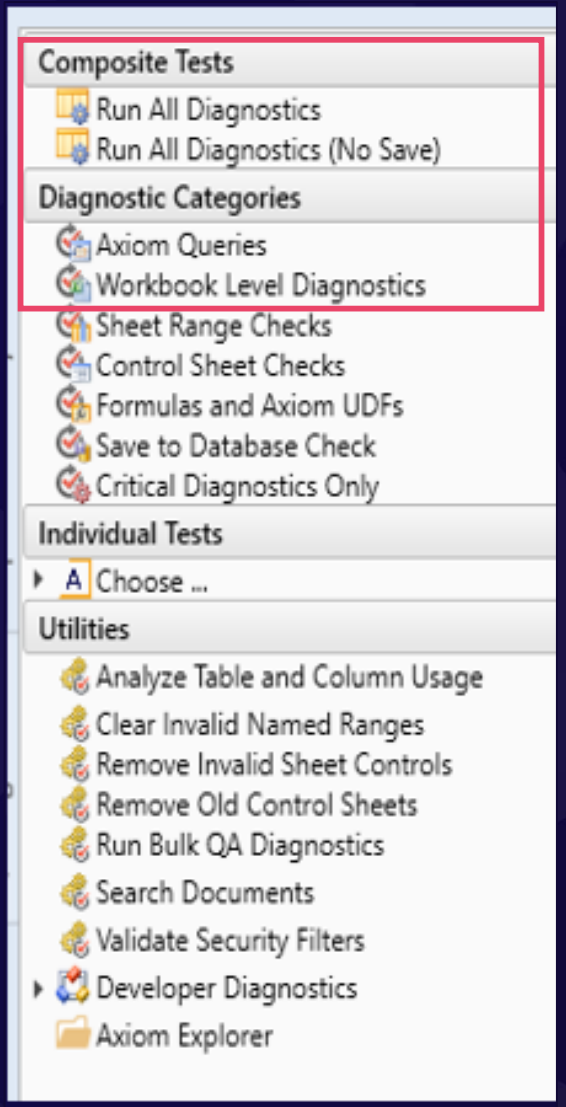
  Axiom | Task Panes Library | Suite

- If you open QA Diagnostics *without a report open*, you can run QA Diagnostics in bulk for an entire folder
  - This will run the utility for all spreadsheet files in the folder and all subfolders.
  - All tests will be run except for tests that require saving the file or performing a save-to-database
- If you open the QA Diagnostics task pane *while a report is open*, you can either run the full suite of diagnostics or various categories, and even individual tests
- Once complete, the results will open in your default web browser
- Can be run in either the Windows or Excel Client



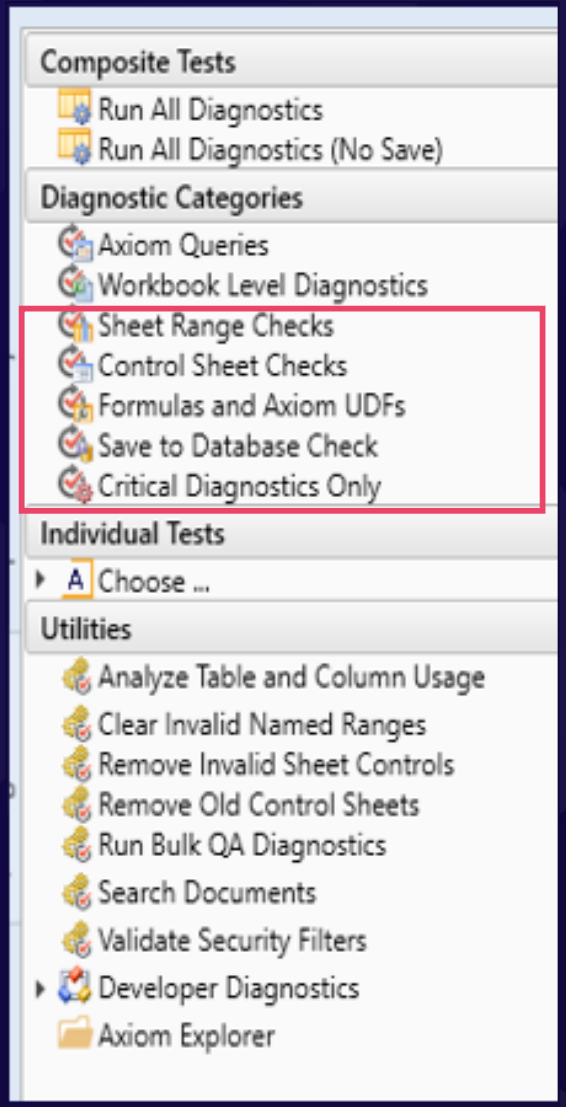
QA Diagnostics

- **Run All Diagnostics**: This will run the entire suite of diagnostics, including save-to-database and save file.
  - Do not recommend if the file is set up to save data to the database and you'd prefer it not
- **Run All Diagnostics (No Save):** This will run all diagnostic tests except the save data and save file checks.
- **Axiom Queries:** Will run all AQ diagnostics including:
  - Unmatched AQ data
  - Missing AQ tags
  - Validate refresh settings
- **Workbook Level Diagnostics:**
  - Checks file size
  - Check for any VBA
  - Validates sheet names
  - Total worksheets



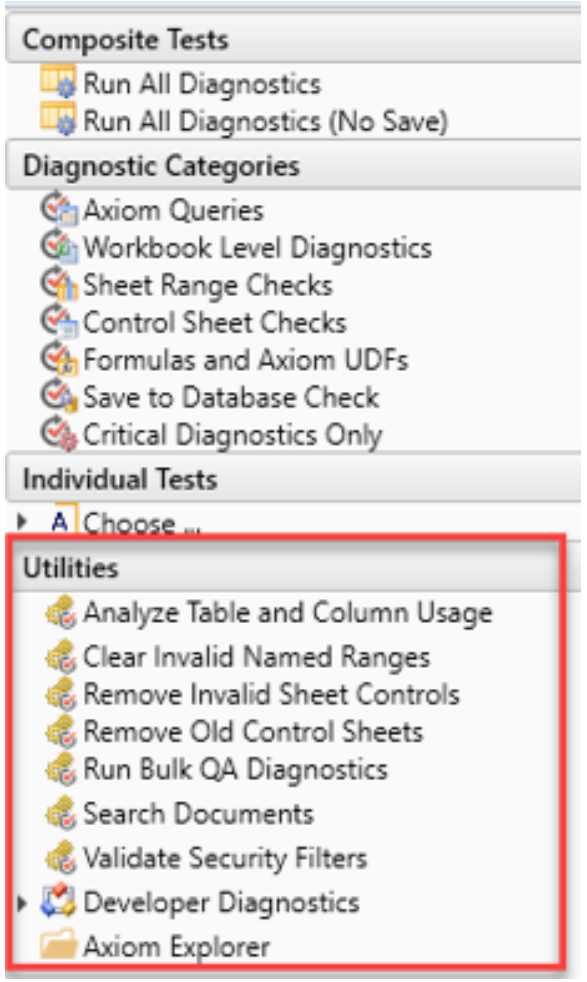
QA Diagnostics (continued)

- **Sheet Range Checks**: Check for data validation incompatible with Windows Client, checks named ranges, column and row number, and for merged cells (which can cause issues with file processing)
- **Control Sheet Checks**: Checks for old control sheet, invalid sheet controls, and invalid sheet filters
- **Formulas and Axiom UDFs**: This runs a suite of checks against all formulas in the workbook, including checking total number of formulas, formula length, circular reference, GetData Diagnostics (very important test!), formula error count, hidden formulas, etc.
- **Save to Database Check:** Check for any save errors
- **Critical Diagnostics Only**: This checks key areas of workbook for any major issues, including VBA checks, save errors, invalid sheet filters, merged cells, and formula error count

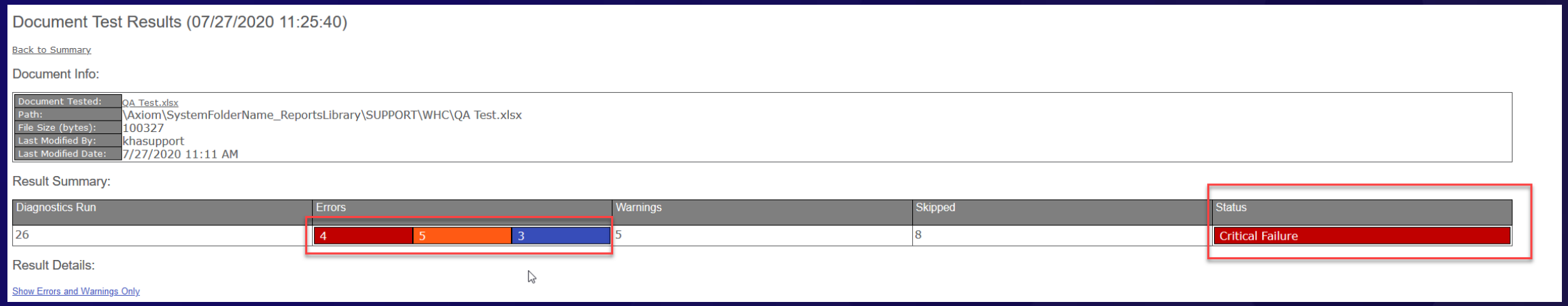


QA Diagnostics - Utilities

- **Clear Invalid Named Ranges**: Removes any invalid named ranges from the file
- **Remove Invalid Sheet Controls**: Removes any columns in the Control Sheet that do not correspond to a sheet name in the file
- **Remove Old Control Sheets**: Removes archived Control Sheets. These usually start with the prefix “Old_”
- **Validate Security filters**: This performs a general validate routine against security in the database and is not unique to the file opened. Most often used after making changes to security via Save-type-4 or Open Security in Spreadsheet



Interpreting QA Diagnostics



Document Test Results (07/27/2020 11:25:40)

Back to Summary

Document Info:

Document Tested:	QA Test.xlsx
Path:	\Axiom\SystemFolderName_ReportsLibrary\SUPPORT\WHC\QA Test.xlsx
File Size (bytes):	100327
Last Modified By:	khasupport
Last Modified Date:	7/27/2020 11:11 AM

Result Summary:

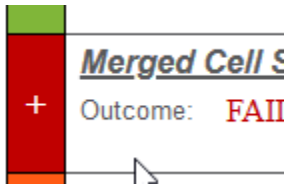
Diagnostics Run	Errors	Warnings	Skipped	Status
26	4 5 3	5	8	Critical Failure

Result Details:

Show Errors and Warnings Only

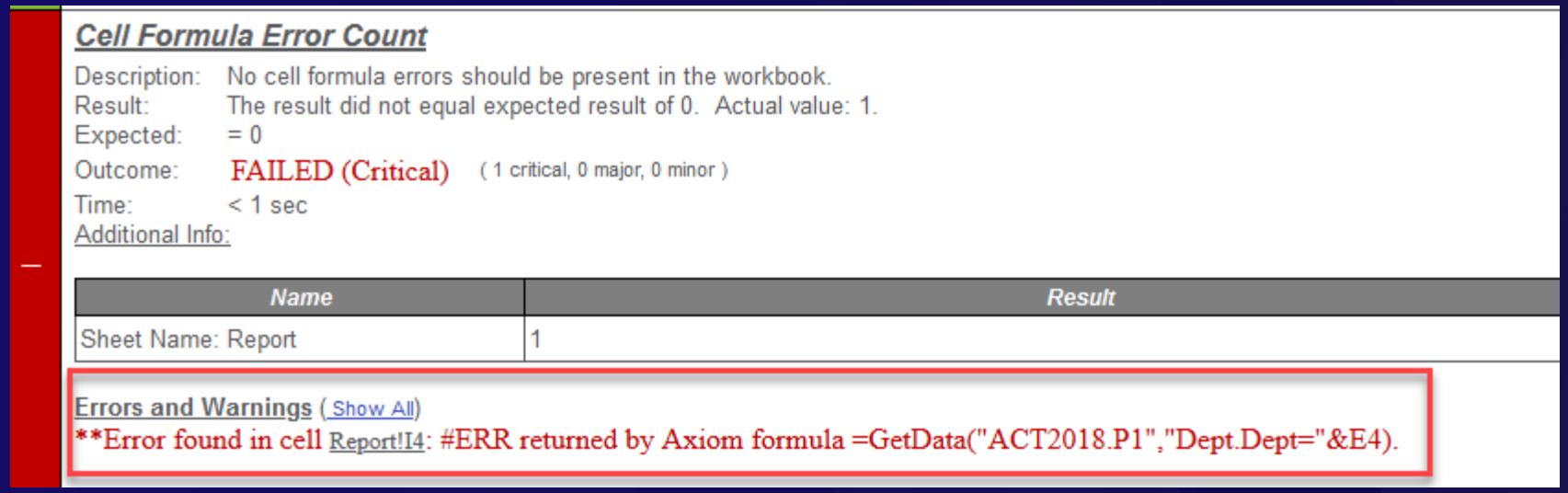
- 4 critical (red) , 5 major (orange), and 3 minor (blue) test failures
- Overall status of report: Critical Failure
- Recommend drilling into failures by scrolling down and expanding test sections

Interpreting QA Diagnostics



- Click '+' to view details of test
- **Merged cell scan** found columns with merged cells, which can cause issues when processing a snapshot. Can also return errors in the Window Client
  - Alternative: Center Across Selection found in Format Cells | Alignment
- **Large used range -** Columns are extending far out beyond content. Recommend resetting used range. Can reduce file size and improve performance
- **Max Row Number -** May be caused by large used range or AQ returning a large amount of records. Can impact file size and performance as well

Cell Formula Errors



Cell Formula Error Count

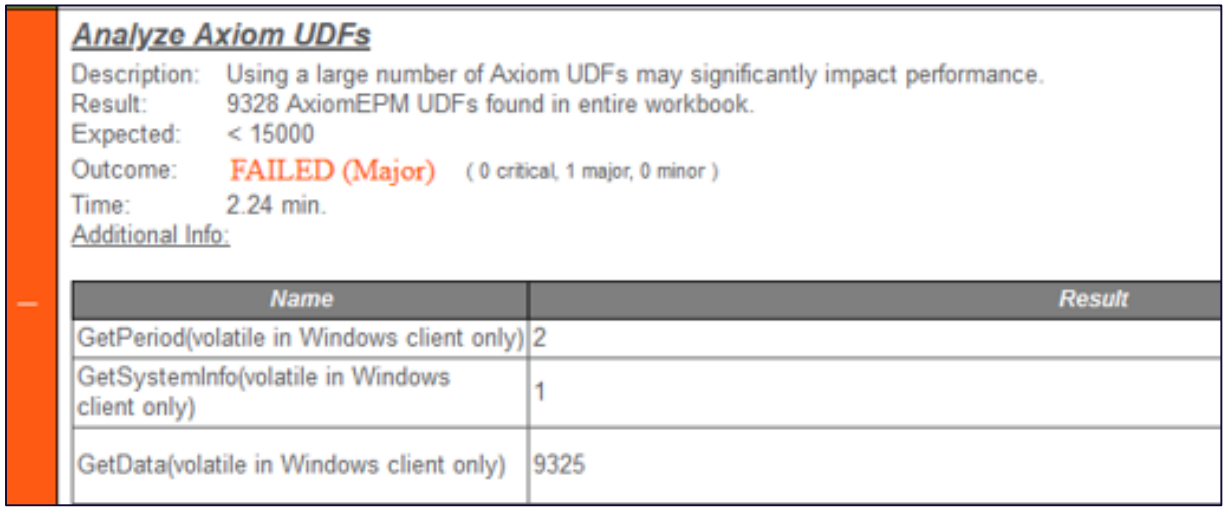
Description: No cell formula errors should be present in the workbook.
Result: The result did not equal expected result of 0. Actual value: 1.
Expected: = 0
Outcome: FAILED (Critical) (1 critical, 0 major, 0 minor)
Time: < 1 sec
Additional Info:

Name	Result
Sheet Name: Report	1

Errors and Warnings (Show All)
**Error found in cell Report!I4: #ERR returned by Axiom formula =GetData("ACT2018.P1","Dept.Dept="&E4).

- Found #ERR in a cell
- Can sometimes be ignored if expected
  - Ex. Formula referencing empty cell in Calc Method Row
- Provides location of each formula error in the report

User Defined Functions (UDFs)



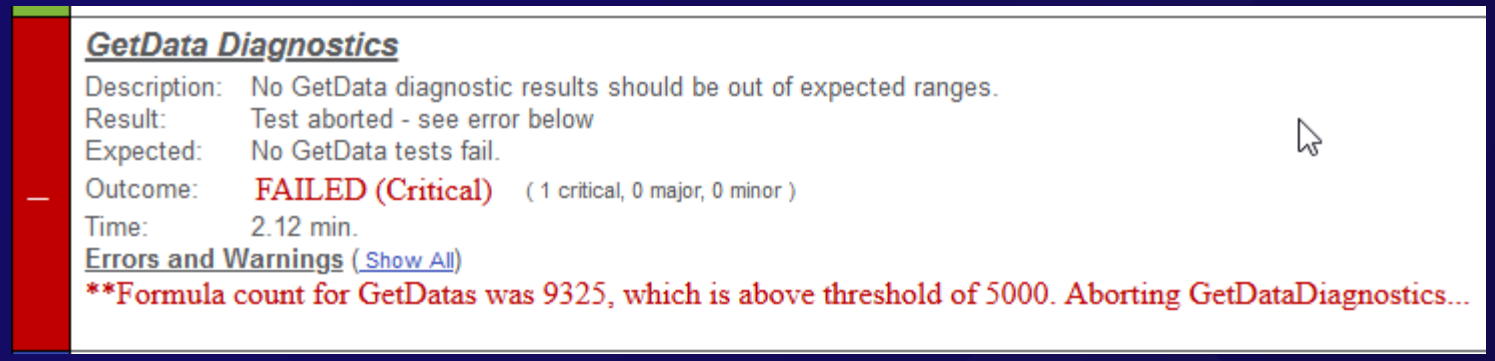
Analyze Axiom UDFs

Description: Using a large number of Axiom UDFs may significantly impact performance.
Result: 9328 AxiomEPM UDFs found in entire workbook.
Expected: < 15000
Outcome: FAILED (Major) (0 critical, 1 major, 0 minor)
Time: 2.24 min.
Additional Info:

Name	Result
GetPeriod(volatile in Windows client only)	2
GetSystemInfo(volatile in Windows client only)	1
GetData(volatile in Windows client only)	9325

- Checks for user defined functions. Provides a count of all functions
- Also includes a count of volatile function
  - Volatile functions trigger recalculation on every worksheet change, so they can have a drastic impact on worksheet performance
    - Some functions are volatile in only one client or the other
    - Most are volatile in both

GetData Diagnostics



- Very common cause of performance issues and report errors
  - Find large GetData error message
- Recommend no more than 1500 GetDatas
- Above 1500 you will start to receive errors and experience significant performance issues
- GetData Diagnostic will quit with an error if there are more than 5000 GetDatas

Performance Analysis

Performance Analysis

Description: AQ and GetData performance is affected by many factors, and expected refresh times may vary from implementation to implementation. If you find that your AQs are taking too long to refresh, you can use the Log Analyzer to
Result:
Expected: Refresh times are within expected range
Outcome: FAILED (Major) (0 critical, 3 major, 0 minor)
Time: < 1 sec
Additional Info:

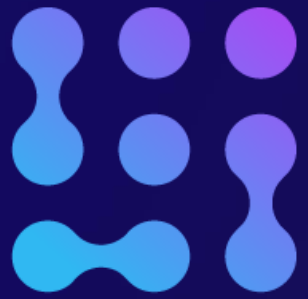
Action	Time in Seconds	Details
Total time spent refreshing AQs	123.476	The result was not less than 15. Actual value: 123.476.
Total time spent to calc the workbook	0.891	
Refresh AQs for sheet 'Report' in workbook 'QA Test.xlsx'	121.459	The result was not less than 10. Actual value: 121.459.
----->Refreshing Axiom Query Axiom Query #1	120.718	The result was not less than 10. Actual value: 120.718.
---------->Process AQ '1'	120.715	
Grouping/Ungrouping	0.041	

- Provides time for each component Axiom Query to complete it's refresh
- Can provide quantified real world performance metrics
- Can use the results to consider filtering data returned, reducing GetDatas, and other methods to reduce time to refresh

Questions and Answers

Please send suggestions for future webinars to

ClientRelations@kaufmanhall.com



SYNTELLIS

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