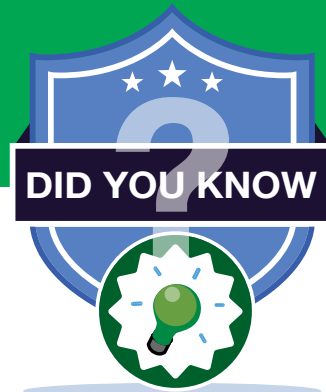


Unity Real Time™ Software

Analyze QC Performance Within a Lab Network

From the **Did You Know** series



For laboratory managers or quality control supervisors responsible for multiple sites or multiple instruments, it is often necessary to calculate lab or network statistics for a group of labs. Fortunately, with the Data Analysis Grid in the Unity Real Time Software, you can easily calculate lab or network statistics across multiple instruments or labs, allowing you to:

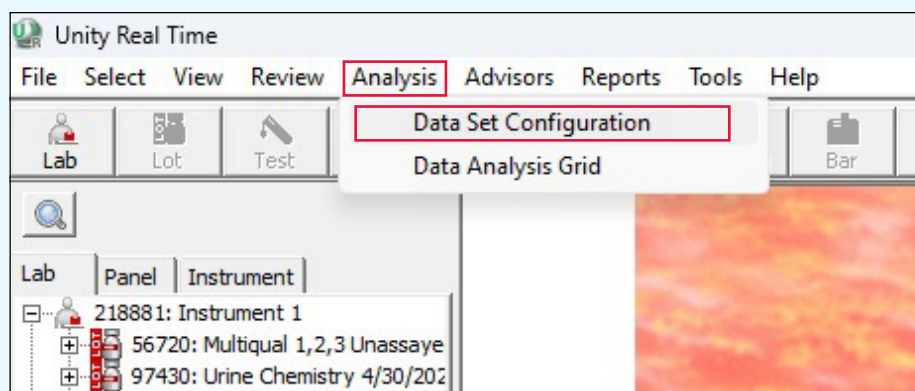
- See a simplified yet detailed view of performance
- Calculate statistics across instruments and labs for the same quality control product and lot number
- Review data warnings for all affiliate labs

If needed, affiliate reports can be generated and allow a group of labs to become their own affiliate group to monitor quality control (QC) performance within their network.

Keep reading to learn how to calculate statistics for a lab network with a Data Analysis Grid.

Configure the Data Analysis Grid Template

1. First, you'll need to configure your data sets. In the menu bar, select **Analysis > Data Set Configuration**.



- The **Data Set Configuration** settings will pop up. Enter a template name. In the example below, the template name is "Laboratory Statistics Template." This will be saved and is an easy way to use the same Data Analysis Grid settings later, so there's no need to set up your configuration every time.
- Data Set A will show your combined instrument statistics for all instruments within or across your laboratory sites. On the **Data Set A** tab, select **Your laboratory** and **Another Instrument**, which will reveal a table of instruments.
- Checkmark all the instrument models you want to combine in one data set. In the example below, two instruments have been selected.
- Next, either select **Cumulative** for cumulative statistics or select the radio button underneath to specify a different date range. Notice other date ranges are also available.

Data Set Configuration

Select 'Add' to create a new template or 'Update' to change an existing template.

Add Update

Enter a template name:

Laboratory Statistics Template Save Close

Data Set A | Data Set B | General

Your laboratory Consensus group

Current Instrument Peer

Another Instrument Method

All labs

Instrument	Description	Lab
<input type="checkbox"/>	Siemens Atellica IM Analyzer	Instrument 1 218881
<input checked="" type="checkbox"/>	Siemens Atellica CH Analyzer	Instrument 1 218881
<input checked="" type="checkbox"/>	Siemens Atellica CH Analyzer	Instrument 2 999913
<input type="checkbox"/>	Roche cobas u 411	Molecular and UA 999901
<input type="checkbox"/>	Roche cobas 8000	Instrument 1 218881
<input type="checkbox"/>	Other	Water Quality,temps, cou... 999911
<input type="checkbox"/>	CardinalHealth	Water Quality,temps, cou... 999911
<input type="checkbox"/>	Bio-Rad IH-500	Blood Bank 999991

Evaluation mean/SD

Cumulative

Today

From: 8/ 7/2024 12:00 AM

To: 8/ 7/2024 11:59 PM

1 month

6 months

Cumulative

6. After configuring **Data Set A**, click on the **Data Set B** tab to configure your individual instruments.

7. Data Set B allows you to configure up to 500 data sets. You can use this functionality to see your individual instrument statistics in the Data Analysis Grid.

Enter the number of instruments you'd like to view in your Data Analysis Grid. In the example below, there are two instruments, so you would enter "2." This will allow you to have two Data Set B's: Data Set B1 and Data Set B2.

8. To configure your first instrument, select **B1**. Then select **Another Instrument** and checkmark your first instrument.

9. Select **Cumulative** for cumulative statistics or select the radio button underneath to specify a different date range. Notice other date ranges are also available.

Select 'Add' to create a new template or 'Update' to change an existing template.

Add Update

Enter a template name:

Laboratory Statistics Template

Data Set A **Data Set B** General

Select the number of data sets to compare to Data Set A: (Between 1 and 500)

Select the Data Set B to configure below:

Data Set B1

Your laboratory Consensus group

Current Instrument Another Instrument

<input type="checkbox"/>	Instrument	Description	Lab
<input type="checkbox"/>	Siemens Atellica IM Analyzer	Instrument 1	218881
<input checked="" type="checkbox"/>	Siemens Atellica CH Analyzer	Instrument 1	218881
<input type="checkbox"/>	Siemens Atellica CH Analyzer	Instrument 2	999913
<input type="checkbox"/>	Roche cobas u 411	Molecular and UA	999901
<input type="checkbox"/>	Roche cobas 8000	Instrument 1	218881
<input type="checkbox"/>	Other	Water Quality.temps, cou...	999911
<input type="checkbox"/>	CardinalHealth	Water Quality.temps, cou...	999911
<input type="checkbox"/>	Bio-Rad IH-500	Blood Bank	999991

Peer Method All labs

1 month 6 months Cumulative

Evaluation mean/SD Cumulative

Today

From: To:

10. To configure your second instrument, select **B2**. Then select **Another Instrument** and checkmark your second instrument.

11. Select **Cumulative** for cumulative statistics or select the radio button underneath to specify a different date range. Notice other date ranges are also available.

12. If there are more than two instruments, repeat the selection for each instrument.

Select 'Add' to create a new template or 'Update' to change an existing template.

Add Update

Enter a template name:

Laboratory Statistics Template

Data Set A **Data Set B** General

Select the number of data sets to compare to Data Set A: (Between 1 and 500)

Select the Data Set B to configure below:

Data Set B2

Your laboratory Consensus group

Current Instrument Another Instrument

Peer Method All labs

<input type="checkbox"/>	Instrument	Description	Lab
<input type="checkbox"/>	Siemens Atellica IM Analyzer	Instrument 1	218881
<input type="checkbox"/>	Siemens Atellica CH Analyzer	Instrument 1	218881
<input checked="" type="checkbox"/>	Siemens Atellica CH Analyzer	Instrument 2	999913
<input type="checkbox"/>	Roche cobas u 411	Molecular and UA	999901
<input type="checkbox"/>	Roche cobas 8000	Instrument 1	218881
<input type="checkbox"/>	Other	Water Quality.temps, cou...	999911
<input type="checkbox"/>	CardinalHealth	Water Quality.temps, cou...	999911
<input type="checkbox"/>	Bio-Rad IH-500	Blood Bank	999991

Evaluation mean/SD Cumulative

Today

From: To:

13. Select the **General** tab.

14. The **General** tab allows for further customization of the report. Checkmark the following items: **Instrument, Unit, SDI, CVR, Bias %**, and any other items you'd like to see.

15. For the **Data reference set**, select **Data Set A**.

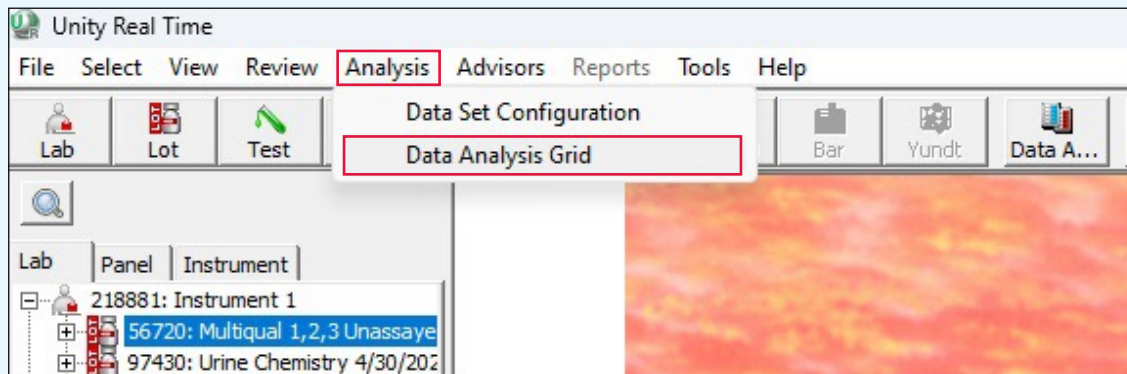
16. For the **Test Selection**, select **Current Lot**.

17. Click **Save** next to the template name to save the template.

The screenshot shows the 'Data Set Configuration' dialog box. At the top, there are radio buttons for 'Add' (selected) and 'Update'. Below that is a text field for 'Enter a template name:' containing 'Laboratory Statistics Template', with 'Save' and 'Close' buttons. The 'General' tab is selected. Under 'Select the items to be displayed on report headers', a red box highlights the following checked items: Instrument, Unit, SDI, CVR, and Bias %. Other items like Lab, Lab description, Method, Reagent, Temperature, QC Rules, CV Threshold, Bias % Threshold, TEB% Threshold, Acceptance Rate%, Standard Expanded Uncertainty, TE p<0.05, TEB%, Sigma, TEa, and RCV are unchecked. Below this is a 'Set font' section with a font size of 8. The 'Data reference set' section has 'Data Set A' selected. The 'Instrument scope' section has 'Compare data across instrument models (disables consensus group option)' unchecked. The 'Test Selection' section has 'Current Lot' selected.

View the Data Analysis Grid

1. After the Data Analysis Grid has been configured, return to the home screen and select your lot of interest. Then open the Data Analysis Grid by clicking **Analysis > Data Analysis Grid**.



2. Under **Template**, Select “Laboratory Statistics Template.” You will now see the combined instrument statistics for all your selected instruments in **Data Set A** and the individual instrument statistics in **Data Set B1** and **B2**. This table can be printed or exported as an .xlsx file, as needed.

Template		Lab: 218881		Lot: 56720 Multiquel 1,2,3 Unassayed		Matrix: Serum						
Laboratory Statistics Template		Data Set Configuration		Configure TEa		Configure Alert		Export		Print		Close
Level 1		Level 3		All Levels								
Data Set	Analyte	Instrument	Unit	Mean	SD	CV	Pts	Labs	SDI	CVR	Bias%	
A	Glucose	Siemens Atellica ...	mg/dL	55.56	2.47	4.45	1241	2				
B1		Siemens Atellica ...	mg/dL	55.59	2.38	4.29	623	1	0.01	0.96	0.05	
B2		Siemens Atellica ...	mg/dL	55.53	2.56	4.60	618	1	-0.01	1.03	-0.05	

Configure Alerts

1. If needed, you can configure alerts to highlight values that fall outside of your expected ranges. On the Data Analysis Grid, select **Configure Alert**.
2. Set your expected ranges for SDI and CVR.
3. If you would like to use individual targets by analyte for the CV and bias, select the corresponding **User Defined** option and enter values by analyte.
4. Click **Set Color...** to choose the color of your highlighted values.

Template: Laboratory Statistics Template | Lab: 218881 | Lot: 56720 Multiqual 1,2,3 Unassayed | Matrix: Serum

Buttons: Data Set Configuration | Configure TEa | **Configure Alert** | Export | Print | Close

Level 1 | Level 3 | All Levels

Data Set	Analyte	Instrument	Unit	Level	Mean	SD	CV	Pts	Labs	SDI	CVR	Bias%
A	Glucose	Siemens Atellica ...	mg/dL	1	55.56	2.47	4.45	1241	2			
B1		Siemens Atellica ...	mg/dL	1	55.59	2.38	4.29	623	1	0.01	0.96	0.05
B2		Siemens Atellica ...	mg/dL	1	55.53	2.56	4.60	618	1	-0.01	1.03	-0.05
A	Glucose	Siemens Atellica ...	mg/dL	3	349.13	13.80	3.95	1240	2			
B1		Siemens Atellica ...	mg/dL	3	349.13	13.56	3.89	622	1	0.00	0.98	0.00
B2		Siemens Atellica ...	mg/dL	3	349.14	14.05	4.02	618	1	0.00	1.02	0.00

Configure Alerts Thresholds Of Data Analysis

Alerts Thresholds

SDI ±

CVR

Sigma

Acceptance Rate%

CV

Bias%

TEB%

Set Color...

OK Cancel

Note: If your laboratory is affiliated with another laboratory, but both labs have different Unity Software installations, then you will not be able to use the Data Analysis Grid. However, You can contact Bio-Rad support to set up an affiliated report that will provide monthly statistics and summary reports for your lab with your monthly Unity reports posted on QCNet.

Contact Bio-Rad Support

Monday through Friday, 5 AM to 4 PM (PST)

Phone: 1-800-854-6737, option #4

Email: UnityReports@Bio-Rad.com

Affiliated Laboratory Comparison Report: Abbreviated Summary

This popular summary report provides a simplified view of performance for all your affiliated labs.

Unity											January 2020			
Affiliated Laboratory Comparison Report: Abbreviated Summary											Associated Regional Laboratory			
Unassayed Chemistry • Lot 12345 • Exp 01-Dec-2022											123 Main Street			
											Anytown, NY 12345-6789			
											Attention: Lab Supervisor			
123456	Reference Laboratory	234567	Western Laboratory	456789	Eastern Laboratory									
135789*	R&D Laboratory	345678	Central Laboratory	999999*	Southern Laboratory									
* Lab data was not available for processing for the date listed. Consequently no reports were generated for this lab during the reporting cycle.														
Albumin	Bromocresol Green (BCG)	g/dL	Level	Mean	SD	CV	# Points	Affiliated CVR	SDI	Peer CVR	SDI	Method CVR	SDI	
Roche MODULAR (ISE, D, P, E170)														
Affiliated Group			1	2.88	0.085	3.0	1324 (4 Labs)			1.11	-0.91	0.9	-0.42	
Peer Group				2.95	0.078	2.7	6698 (45 Labs)							
Method Group				2.93	0.102	3.5	33164 (435 Labs)							
123456	Reference Laboratory • Roche MODULAR			2.90	0.072	2.5	358	0.8	0.22	0.9	-0.67	0.7	-0.24	
234567	Western • Roche MODULAR			2.88	0.065	2.3	358	0.8	0.00	0.9	-0.90	0.7	-0.42	
345678	Central • Roche MODULAR			2.88	0.120	4.2	311	1.4	-0.06	1.6	-0.97	1.2	-0.47	
456789	Eastern • Roche MODULAR			2.89	0.072	2.5	297	0.9	-0.21	1.0	-1.13	0.7	-0.60	
Affiliated Group			2	4.58	0.084	1.8	1327 (4 Labs)			1.0	-0.69	0.7	-0.28	
Peer Group				4.64	0.083	1.8	6686 (45 Labs)							
Method Group				4.62	0.122	2.6	32710 (429 Labs)							
123456	Reference Laboratory • Roche MODULAR			4.60	0.064	1.4	358	0.8	0.22	0.8	-0.47	0.5	-0.13	
234567	Western • Roche MODULAR			4.59	0.056	1.2	357	0.7	0.07	0.7	-0.62	0.5	-0.23	
345678	Central • Roche MODULAR			4.57	0.119	2.6	312	1.4	-0.18	1.5	-0.88	1.0	-0.41	
456789	Eastern • Roche MODULAR			4.57	0.086	1.9	300	1.0	-0.16	1.1	-0.85	0.7	-0.39	
Roche cobas 6000/8000 Series														
Affiliated Group			1	2.86	0.121	4.2	561 (2 Labs)			1.08	-0.78	1.23	-0.70	
Peer Group				2.95	0.115	3.9	9376 (150 Labs)							
Method Group				2.93	0.102	3.5	33164 (435 Labs)							
123456	Reference Laboratory • Roche cobas 6000			2.86	0.113	4.0	280	0.9	-0.05	1.0	-0.78	1.2	-0.70	
123456	Reference Laboratory • Roche cobas 6000			2.87	0.128	4.4	281	1.1	0.05	1.1	-0.67	1.3	-0.57	
Affiliated Group			2	4.66	0.112	2.4	557 (2 Labs)			0.96	-0.17	0.92	0.41	
Peer Group				4.68	0.118	2.5	9406 (151 Labs)							
Method Group				4.61	0.122	2.6	32710 (429 Labs)							
123456	Reference Laboratory • Roche cobas 6000			4.65	0.102	2.2	278	0.9	-0.07	0.9	-0.25	0.8	0.32	
123456	Reference Laboratory • Roche cobas 6000			4.67	0.121	2.6	279	1.1	0.7	1.0	-0.12	1.0	0.44	

A quick review allows you to focus on key statistics to allow comparison between multiple instruments of a common make and model for statistical comparison of each lab's results.

- Provides the CVR and SDI for the peer, method, and affiliated groups to allow statistical comparison of each lab's results.
- You can request this report to appear in either SI or Conventional units, rather than both.

Standard for Each Test

- Lab Mean
- Lab SD
- Lab CV
- Number of data points reported
- CVR compared to the Peer Method and Affiliated groups
- SDI compared to Peer Method and Affiliated groups

Additional for Peer, Method & Affiliated Groups

- Mean
- SD
- CV
- Number of data points reported
- Number of labs reporting



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