TIBCO Spotfire® Metrics Optimizing KPI Authoring

Software Release 6.0
November 2013

Important Information

Contents

TIBCO Spotfire Metrics Documentation and Support Services

All TIBCO documentation is available in the TIBCO Documentation Library, which can be found here:

http://docs.tibco.com

Product-Specific Documentation

The following documents for this product can be found in the TIBCO Documentation Library:

- *TIBCO Spotfire® Metrics Release Notes*
- *TIBCO Spotfire® Metrics Prerequisites and Installation*
- *TIBCO Spotfire® Metrics User Guide*
- *TIBCO Spotfire® Metrics Optimizing KPI Authoring*
- *TIBCO Spotfire® Metrics License Agreement*

System Requirements

For a list of system requirements for this product and other TIBCO Spotfire® products, visit this site:

http://support.spotfire.com/sr.asp

How to Contact TIBCO Support

For comments or problems with this manual or the software it addresses, contact TIBCO Support as follows:

- For an overview of TIBCO Support, and information about getting started with TIBCO Support, visit this site:

  http://www.tibco.com/services/support

- If you already have a valid maintenance or support contract, visit this site:

  https://support.tibco.com

  Entry to this site requires a user name and password. If you do not have a user name, you can request one.

How to Join TIBCOmmunity

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http://www.tibcommunity.com

Optimizing KPI Set Authoring Overview

KPI Sets enable a set of data returned from a Data Source by a Query to be defined as KPIs.

TIBCO Spotfire® Metrics KPIs need the following defined.

Dimensions

Dimensions are the descriptive parts of a KPI such as:

* Geography
* Business
* Segment

Assign Levels to enable:

* KPI values to be shown at that level - for example, Area.
* Drilldown on KPIs - for example, Area -> Region.
* KPIs for each unique / distinct item in each dimension.

KPI Trend Dimension enables data to be trended for a KPI. Typically trended data in date / time-based data to present a historic data trend.

Measures

Measures are the values of the KPI and include the following:

* KPI - the main or principal value such as Revenue.
* Comparative - values to compare the main KPI value with such as Revenue Plan.
* Variance - the difference between the main KPI values and the comparative values.
* Supplementary - supporting values that can be used in calculations.

Thresholds enable a KPI to be presented in different colors based on the Variance to a certain Comparative.
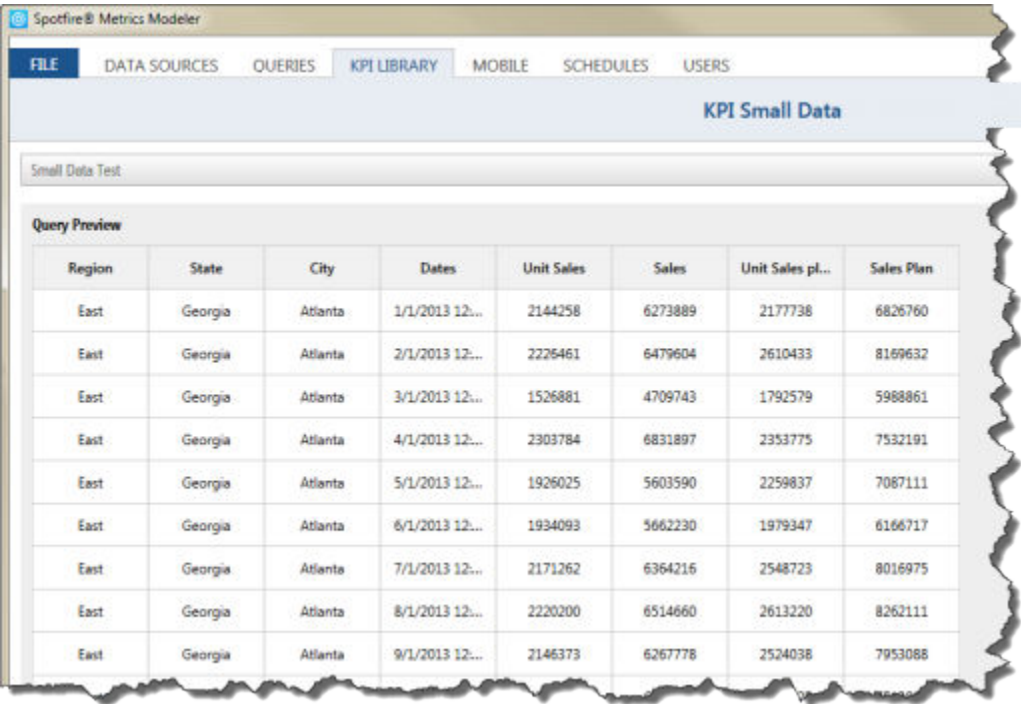
Key Design Guidance

When you design your queries and KPI sets, you should take certain design considerations into account.These include accounting for trending information, setting levels, creating filters, planning for the measures you want to include.

KPI Set Queries

When you establish your KPI Set, queries, you should take into consideration the optimal design.

- Your query result should include only the columns you want in the KPI Set. Avoid including extra columns.

- Your Query should include the lowest level of granularity you want for your KPIs, not necessarily the lowest level of detail that the data source has.

Trending

TIBCO Spotfire® Metrics can deliver trending information.

Spotfire Metrics automatically sorts the KPI Trend dimension if the column can be interpreted as a Date / Time. Date / Time can be interpreted on values such as the following

- `06-18-13`
- `June 2013`
- `6/30/2013`

and the like, but not on values such as the following:

- `FY 13`
- `Fiscal Period 01`

and so on.

Use sorting options as part of your query definition to return the correct sequence where you want to use values that are not Date / Time definitions for trending.

KPI Sets

KPI Sets add additional metadata to queries.

Metadata enables queries to present as KPIs to users on various devices. Metadata describes the following.

- Mapping of query dataset to KPI Set definitions.
- Threshold settings for visual indication of performance.
- Other formatting and presentation settings.

General Authoring Approach

- Begin with a query that has all the columns you need for your KPI Set, but limit the number of rows of data you use. This allows you to author and change things quickly without having a lot of processing time.
- After you have the KPI Set defined, you can remove the restriction on the Query and have the full dataset returned and processing.

The last row record returned at the lowest level of granularity is the value that will be assigned as the "current" KPI Value.

Level 1	Level 2	Level 3	Trend	KPI
Region	State	City	Dates	Sales
East	Georgia	Atlanta	1/1/2013	9,174,512
East	Georgia	Atlanta	2/1/2013	9,468,588
East	Georgia	Atlanta	3/1/2013	7,144,097
East	Georgia	Atlanta	4/1/2013	9,785,273
East	Georgia	Atlanta	5/1/2013	8,286,388
East	Georgia	Atlanta	6/1/2013	8,343,245
East	Georgia	Columbus	1/1/2013	8,595,095
East	Georgia	Columbus	2/1/2013	10,064,994
East	Georgia	Columbus	3/1/2013	5,913,576
East	Georgia	Columbus	4/1/2013	8,965,152
East	Georgia	Columbus	5/1/2013	7,508,485
East	Georgia	Columbus	6/1/2013	7,700,323
East	New York	New York	1/1/2013	10,194,092
East	New York	New York	2/1/2013	10,015,143
East	New York	New York	3/1/2013	8,158,740
East	New York	New York	4/1/2013	10,518,359
East	New York	New York	5/1/2013	8,384,971
East	New York	New York City	6/1/2013	8,740,535

KPI Current Values	Spotfire Metrics Aggregation = Sum	KPI Value	
Atlanta		8,343,245	
Columbus		7,700,323	Level 3
New York City		8,740,535	
Georgia (Atlanta + Columbus)	8,343,244 + 7,700,323	16,043,567	Level 2
New York (New York City)		8,740,535	
East (Georgia + New York)	16,043,567 + 8,740,534	24,784,102	Level 1

Levels

In general, the more dimension levels you assign to the KPI Set - the more KPIs you will create and the higher performance load you put on the TIBCO Spotfire® Metrics Mobile experience.

The more cardinality you have in a dimension - the more KPIs you will create.

The relationship between the levels is also important.

In the following example, `Region->State-City` is a 1:1 relationship; that is, `State` and `City` have only a single parent. The Level 4 ProductGroup has multiple parents—all Cities in fact—so at this level, the number of KPIs is the multiple of Cities and Product Groups:

Region	State	City	ProductGroup
East	Georgia	Atlanta	Milk
North	New York	Columbus	Yogurt
South	North Carolina	New York	Yogurt Drink
West	Ohio	Charlotte	Cheese Spread
	Pennsylvania	Raleigh	
	Virginia	Philadelphia	
	Illinois	Pittsburgh	
	Kansas	Arlington	
	Minnesota	Aurora	
	Oklahoma	Chicago	
	Wisconsin	Wichita	
	Florida	Minneapolis	
	Louisiana	Cincinnati	
	New Mexico	Cleveland	
	Texas	Tulsa	
	Arizona	Milwaukee	
	California	Miami	
	Colorado	Tampa	
	Nevada	New Orleans	
	Oregon	Albuquerque	
	Washington	Arlington	
4	**21**	**40**	**4**

4	21	40	40 * 4 = 160

A KPI Set with many dimension levels with lower levels containing high levels of cardinality can create a lot of KPIs especially when you have a multiple relationship between levels.

📝 | As good practice guidance, the recommendation is to limit the number of Dimensions per KPI Set to less than 5 or 6 levels.

📝 | When defining your KPI Set you can only assign a single column to each Level. If you have a column that will be used for the KPI Trend. Typically, you do not assign this as a level.

Filters

Filters enable users to navigate the KPI Set when they are viewing the KPIs in one of the following:

- TIBCO Spotfire® Metrics iPad client.
- TIBCO Spotfire® Metrics Android tablet client.
- TIBCO Spotfire® Metrics Windows 8 client.
- Another Spotfire Metrics Client.

As a general guideline, you can flag each Dimension assigned as a level as a Filter. However you should not flag the KPI Trend or Measures as Filters.

Setting Measures

TIBCO Spotfire® Metrics KPIs can possess either a single KPI measure value or a KPI measure, Comparative measure and Variance measure.

Define the Threshold Steps in the Add Threshold dialog.

Procedure

1. In the Add Threshold dialog, under **Threshold Steps**, define the Variance as either a value or percentage.
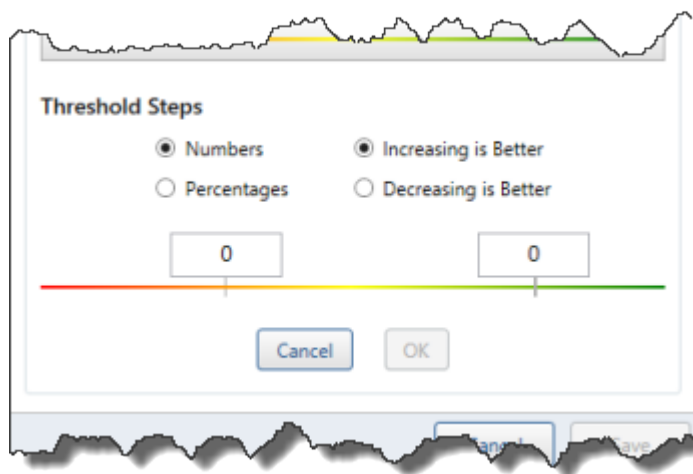
If you have Levels in your KPI Set, typically you would use the percentage variance calculation.

2. Add Thresholds for the KPI column to link the KPI, Comparative and Variance together.

3. Define the Threshold logic as one of the following:

   • **Increasing is Better**
   • **Decreasing is Better**

4. Define the Threshold Steps.

The Threshold steps set the color of the KPI value by comparing the Variance value to the Comparative value.

Sales	Sales Plan	VTP %		Red	Yellow	Green
8,343,245	8,544,918	-2.4%		-5%	<----->	5%

> 📋 If you want your KPIs to show just 2 colors (e.g. red and green) set the lower value and upper value as 0.

In the above example,

- Any variance that is -5% or below will show as red.

- Any variance that is +5% or above will show as green.

- Any variance that is between -4.99% and +4.99% will show as yellow.

The variance of -2.4% will show in this case as yellow.

> 📋 About Threshold Step:
>
> - If you have Levels set in your KPI Set, typically you will be setting the Thresholds as percentage values.
> - If you want your KPIs to show just 2 colors (for example, red and green), set the lower value and upper value as 0.

KPI Measures Checklist

When you set Measures, take this advice into account.

- Use the Aggregation setting per KPI, Comparative and Variance if you have Levels set in your KPI Set. The most common selection will be Sum.

- Take care to apply the formatting you want per KPI, Comparative and Variance. These formats are used to generate the formats for TIBCO Spotfire® Metrics clients. Having one place to do this can save you time in setting up the appearance of your KPIs.

- When creating a Variance using one of the Spotfire Metrics Variance calculations, always set the Aggregation to Sum if you have Levels defined in your KPI Set.

Best Practices for Editing and Updating KPI Sets

Take care when you edit or update your KPI Sets.

Take special care changing KPI Sets if you have used them in TIBCO Spotfire® Metrics Mobile. It is better to create a new KPI Set if you are trying something out, rather than edit the original. Remember you can use the same query.

Do

- Select, unselect Dimensions as Filters.
- Add additional Dimensions as LOWER Levels.
- Add additional Measures to your KPI Set as KPIs.
- Change Threshold Steps values.
- Edit a Variance definition by deleting the Threshold for the KPI in which the Variance definition is used.

Do Not

- Remove Dimension columns.
- Remove Measure columns.

Finally, create a Spotfire Metrics Feed to view your KPI Sets as you create them. They are very simple to create and allow you to view your KPIs as end users see them.