MicroStrategy Quick Guide: Derived Elements
ITS Business Intelligence Group

Derived Elements
Derived Elements can be used to group attribute values to a single row.

List Element
A “List” element combines a list of values into a group that you can label with any text.

In this sample report you retrieve year and month. Use derived list elements on the values of month to group the months into quarters. The metric values associated with the grouped values will be added together.

<table>
<thead>
<tr>
<th>Original Results</th>
<th>Results using Derived List Elements on values of Month</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculation Element
A “Calculation” element allows you to combine rows using mathematical functions.

In this sample report, you want to see how the quarters compare to the values for the full year. Use derived calculation elements to divide Q1 / Full Year. The metric values associated with the calculation element will have the calculation applied.
Filter Element

A “Filter” element allows you to combine rows using filter criteria rather than choosing elements from the list.

A practical use for this would be a case where you want to group all last names that begin with “S” without selecting every last name individually from a list. This option will apply the filtering to groups in future runs of the report where the data may change (e.g. last name “Smith” may not be in the current report results and therefore cannot be chosen in a derived list element, but in future runs of the report “Smith” will be grouped with the “S” derived element).

In this sample report, you want to group month names that begin with “J” without selecting January, June and July individually.
Create Derived Elements

1. Run a report
2. Right click on an attribute heading and click “Derived Elements...”

3. The “Derived Elements” editor window will appear. Click the arrow next to “New” to select the type of Derived Element to create.
4. Follow the appropriate instructions for the type of derived element that you want to create.

**List**

1. Click “List” as the new element type
2. Name the list element and click the green check box to save the name
3. Add elements to the list using the selector in the Definition window

4. Repeat steps 1-3 for each list element that you want to create

5. Click “Apply” and “OK” to apply the changes and close the derived elements editor.
Lists: Color Banding

1. While in the List editor, select a Derived Element list, and make sure the Selected items are highlighted.

2. To change the font color and background color, select Format. Change the Font color.
3. Select the Color and Lines tab. Change the Fill color. Then select OK.

4. Select another List and repeat the font color and fill color change process. Or click Apply, then OK, to finish.
Calculation

1. Click “Calculation” as the new element type
2. Name the calculation element and click the green check box to save the name

3. Use the Definition editor to select Elements (attribute values), Derived Elements (that you have already created), and/or numbers and select the function to use for the calculation. A preview of the calculation will appear as you build it.
4. Repeat steps 1-3 for each calculation element that you want to create
5. Click “Apply” and “OK” to apply the changes and close the derived elements editor.

**Filter**

1. Click “Filter” as the new element type
2. Name the filter element and click the green check box to save the name
3. Use the Definition editor to set the filter criteria.

6. Repeat steps 1-3 for each filter element that you want to create
7. Click “Apply” and “OK” to apply the changes and close the derived elements editor.
All Others
The Derived Elements editor adds an element titled “All Others” as the last element of every group of derived elements. This “All Others” element catches any attribute value that does not get grouped with the defined derived elements.

This element will be named “All Others” by default and can be renamed by clicking the rename icon while the “All Others” element is selected.

Element Properties
The following properties can be set with each derived element (including the “All Others” element). Click the “Properties” tab within the derived element editor to access the available properties. The properties will be set for the selected derived element.

- Derived Element behavior:
  - Consolidate items into one derived element – Select this option to combine all unused values to one element.
  - Keep individual items separate – Select this option to leave each unused value as its own row.
• Subtotal behavior (subtotals must be enabled for this attribute in order for these subtotal options to be used):
  o **Use this element when calculating subtotals** – Select this option to use the combined group to calculate a subtotal.
  o **Use the individual items that comprise this element when calculating subtotals** – Select this option to use the individual values to calculate subtotals.
  o **Do not use this element when calculating subtotal** – Select this option to ignore the element when calculating subtotals. This is recommended when attribute values span multiple derived elements to avoid double counting.

• All Other behavior:
  o **Do not include individual items in the All Other element** – Select this option to exclude the attribute values in this derived element from the All Other element.
  o **Include individual items in the All Other element** – Select this option to include the attribute values in this derived element in the All Other element.