Working with Hierarchies, Levels, and Attribute Relationships
Stratum.Viewer 6

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- Attribute Relationship
- Dimension
- Display Text
- Hierarchy
- Level

- [Member](#)
- [Time Hierarchy](#)

Getting Started

Access to Hierarchies, Levels, and Attribute Relationships

Your user profile level controls what you can do with hierarchies, levels, and attribute relationships.

See also: [Impact of Roles on What Data You can Access in Stratum.Viewer](#)

Hierarchies

User Profile Level	Edit	Remove
Casual		
Advanced	x	x
View Administrator	x	x
Security Administrator	x	x

Levels

User Profile Level	Edit	Hide	Show	Rearrange Order in Views	Apply New Sorts/Filters on Them	Edit Existing Sorts/Filters for Them
Casual						x*
Advanced	x	x	x	x	x	x
View Administrator	x	x	x	x	x	x
Security Administrator	x	x	x	x	x	x

*Note: Casual users can click an existing sort or filter icon to change the sort or filter. They will not see a Sort or Filter option when they right-click in the grid to access the grid pop-up menu.

Working with Hierarchies, Levels, and Attribute Relationships

Attribute Relationships

User Profile Level	Edit	Hide	Show	Remove	Rearrange Order in Views	Apply New Sorts on Them	Edit Existing Sorts for Them
Casual							x*
Advanced	x	x	x	x	x	x	x
View Administrator	x	x	x	x	x	x	x
Security Administrator	x	x	x	x	x	x	x

*Note: Casual users can click an existing sort or filter icon to change the sort or filter. They will not see a Sort or Filter option when they right-click in the grid to access the grid pop-up menu.

Introduction to Hierarchies, Levels, and Attribute Relationships

The levels from the hierarchies in your Stratum.Viewer environment are the foundation of your views. You can arrange levels in many different ways to create the desired view of your business data. Place one or more levels on both the rows or columns axis, or only a single axis. For views with multiple levels per axis, you can drill down and up by the levels or one of their members to focus in on a particular segment of your data. Also, you can use levels for filtering purposes on a single axis or in the view filter to filter the entire view.

Attribute relationships belong to levels and can be displayed in views as supplementary information about the level. Other useful functions of attribute relationships are building filters on an axis, creating an expression filter on individual levels, or setting up calculated measure items.

This view has a Customer Ship-To level visible on rows. You can see in the view explorer, on the right, that the Customer Ship-To level belongs to a hierarchy by the same name. One attribute relationship is displayed for the level on rows. The hyperlinked text for the level on rows can be clicked to drill down to the second level in the view, Product. The Product ABC Class level in the View Filter filters the entire view by member A.

Edit Attribute Relationships

1. In view explorer, right-click a level and select Edit Attribute Relationships.

2. In the Edit Attribute Relationships window, use one of the following methods to select the desired attribute relationships from the available selection list in the top portion of the window and move them to the selected list displayed in the bottom portion of the window. If needed, use the search fields at the top of the window to narrow down the attribute relationships to choose from.

   - Select the desired attribute relationship(s) from the available selection list and click Add. You can use Ctrl+Click and Shift+Click when selecting more than one attribute relationship.
   - Double-click an item in the list.
   - Click Add All to add all of the available attribute relationships from all pages in the selection list.

3. If there are multiple pages of attribute relationships in the available selection list and you did not use the Add All method during the previous step, use the provided navigation arrows ⏮ ◀ or ▶ ⏭ in the list to browse to other pages where you can select additional attribute relationships.

4. {Optional} Rearrange the order of the items in the bottom portion of the window by clicking them then clicking the up ⬆ or down ⬇ arrow buttons until they are each in the desired position.

Note: You can also wait to rearrange using drag and drop once the items are in view explorer or the view.

5. Click OK to return your selections to view explorer.

Edit Rows, Columns, or View Filter

1. Access the Edit window in one of two ways:

   In view explorer, right-click the Rows, Columns, or View Filter folder and select Edit.

   OR

   Right-click any level or attribute relationship within the grid or view filter and choose Edit. From the pop-up menu, choose Rows, Columns, or View Filter.

2. In the Edit window, use one of the following methods to select the desired hierarchies from the available selection list in the top portion of the window and move them to the selected list displayed in the bottom portion of the window. If needed, use the search fields at the top of the window to narrow down the hierarchies to choose from.

   - Select the desired hierarchy (ies) from the available selection list and click Add. You can use Ctrl+Click and Shift+Click when selecting more than one hierarchy.
   - Double-click an item in the list.
   - Click Add All to add all of the available hierarchies in the selection list.

3. If there are multiple pages of hierarchies in the available selection list and you did not use the Add All method during the previous step, use the provided navigation arrows in the list to browse to other pages where you can select additional hierarchies.

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4. {Optional} Rearrange the order of the items in the bottom portion of the window by clicking them then clicking the up ⬆ or down ⬇ arrow buttons until they are each in the desired position.

Note: You can also wait to rearrange using drag and drop once the items are in view explorer or the view.

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5. Click OK to return your selections.

Edit the Display Text for Levels

1. Right-click the level in the grid or view explorer, and select Properties.

2. Use the Display Text list in the level properties window to edit the display text:

   - Choose Value to display the value.
   - Or, choose an attribute relationship (only attribute relationships that have been added to the view can be selected as display text).

Note: If no attribute relationships are displayed in the view for the level, add them first using the instructions in Edit Attribute Relationships. Then follow the steps above for editing the display text.

Enable or Disable Repeating Values

1. Double-click the Rows or Columns folder in view explorer, the folder for whichever axis on which you want to control repeating values.

2. Use the Repeating Values property in the Rows or Columns Properties window to control repeating values:

   - Choose Yes to enable repeating values. Values will repeat for all level display text, level attribute relationships, headings for All Others (if Others Summary is enabled) rows or columns, sub-totals, and grand totals.
   - Choose No to disable the values. They will not display in any detail cells for the axis.

See also: Examples of Repeating Values in Views.

Enable or Disable Totals by Individual Level

1. Right-click the level in the grid or view explorer, and select Properties.

2. To enable totals for that level, select Yes for the Total property.

   OR

2. To disable totals for that level, select No for the Total property.

See also: Enable or Disable Totals by Axis.

Enable or Disable Totals by Axis

1. Right-click the axis icon for rows ⬇ or columns ➡, whichever axis for which you want to change all totals.

2. To enable totals for all levels on that axis, select Totals then Yes.

    OR

2. To disable totals for all levels on that axis, select Totals then No.

See also: Enable or Disable Totals by Individual Levels.

Hide or Show Attribute Relationships

Hide

Use one of these options:

- Right-click the attribute relationship in the view or view explorer, and select Hide.
- In the properties window for the attribute relationship, change the Visible property to No.

Show

Use one of these options:

- Drag the attribute relationship from view explorer and drop it in the desired location in the grid. The level for the attribute relationship must already be visible in the view.
- Right-click the attribute relationship in view explorer, and select Show.
- In the properties window for the attribute relationship, change the Visible property to Yes.

Hide or Show Levels

Hide

Use one of these options:

- Right-click the level in the view or view explorer, and select Hide.
- In the properties window for the level, change the Visible property to No.

Show

Use one of these options:

- Drag the level from view explorer and drop it in the desired location in the grid.
- Right-click the level in view explorer, and select Show.
- In the properties window for the level, change the Visible property to Yes.

Remove Attribute Relationships

1. Right-click the attribute relationship in view explorer, and select Remove.

    OR

1. Right-click the level for the attribute relationship in view explorer, and select Edit Attribute Relationships.

2. Locate the attribute relationship in the lower section of the Edit Attribute Relationships window, and do one of the following:

    - Double-click it.
    - Select it, and click Remove.

3. Click OK.

Remove Hierarchies

From View Explorer

1. Right-click the hierarchy, and select Remove.

    OR

1. Right-click the folder for the hierarchy -- Rows, Column, or View Filter -- and select Edit.

2. Locate the hierarchy in the lower section of the Edit window, and do one of the following:

    - Double-click it.
    - Select it, and click Remove.

3. Click OK.

Note: Removing a hierarchy removes the hierarchy and all its levels.

From the Grid

1. Right-click anywhere in the grid, and select Edit then either Rows, Columns, or View Filter (whichever area you want the hierarchies removed from in the grid).

2. Locate the hierarchy in the lower section of the Edit window, and do one of the following:

    - Double-click it.
    - Select it, and click Remove.

3. Click OK.

Examples of Repeating Values in Views

The following examples show comparisons of views with repeating values disabled and enabled. The second example shows how repeating values are carried over to Excel worksheets when views are exported to Excel.

Example 1 - Single Level Displayed on an Axis

This view has a single level displayed on rows and columns. A row and column is displayed for All Others data, and totals are displayed. Repeating values are disabled on rows and columns. No repeating values display in the detail cells marked in this example.

⊞✛ View Name: *Repeating Values 1*
↓|→ View Filter

⊽ Ship-To Region	SRgn Long Description	⊽ Distribution Center Warehouse State >> NC Current Month Daily Sales Amt	Previous Month Daily Sales Amt	All Others Current Month Daily Sales Amt	Previous Month Daily Sales Amt	Grand Total Current Month Daily Sales Amt	Previous Month Daily Sales Amt
50	Eastern U.S.	$673,579	$577,556	$658,948	$565,010	$1,332,527	$1,142,566
52	Midwest U.S.	$783,209	$671,557	$699,910	$600,133	$1,483,119	$1,271,690
54	Eastern Canada	$529,835	$454,304	$415,908	$356,618	$945,744	$810,921
All Others		$1,414,545	$1,212,892	$1,477,706	$1,267,049	$2,892,251	$2,479,941
Grand Total		$3,401,168	$2,916,309	$3,252,472	$2,788,810	$6,653,640	$5,705,119

Here is the view after repeating values are enabled for rows and columns.

⊞✛ View Name: *Repeating Values 1*
↓|→ View Filter

⊽ Ship-To Region	SRgn Long Description	⊽ Distribution Center Warehouse State >> NC Current Month Daily Sales Amt	NC Previous Month Daily Sales Amt	All Others Current Month Daily Sales Amt	All Others Previous Month Daily Sales Amt	Grand Total Current Month Daily Sales Amt	Grand Total Previous Month Daily Sales Amt
50	Eastern U.S.	$673,579	$577,556	$658,948	$565,010	$1,332,527	$1,142,566
52	Midwest U.S.	$783,209	$671,557	$699,910	$600,133	$1,483,119	$1,271,690
54	Eastern Canada	$529,835	$454,304	$415,908	$356,618	$945,744	$810,921
All Others	All Others	$1,414,545	$1,212,892	$1,477,706	$1,267,049	$2,892,251	$2,479,941
Grand Total	Grand Total	$3,401,168	$2,916,309	$3,252,472	$2,788,810	$6,653,640	$5,705,119

Example 2 - Multiple Levels Drilled to on an Axis

The second level has been drilled to on rows in this view. Rows are displayed for All Others data, and totals are displayed for all levels. Repeating values are disabled. No repeating values display in the detail cells marked in this example.

View Name: Repeating Values 2

View Filter

ABC Classification Code	Product Category	PCat Long Description	Current Month Daily Sales Amt	Previous Month Daily Sales Amt
A	200	Fresh Vegetables	$397,305	$340,666
	201	Canned Fruit	$1,079,221	$925,371
	208	Frozen Prepared Dinners	$404,965	$347,234
	All Others		$138,441	$118,706
	A Total		$2,019,933	$1,731,978
B	200	Fresh Vegetables	$89,290	$76,561
	201	Canned Fruit	$2,191,076	$1,878,724
	208	Frozen Prepared Dinners	$394,446	$338,215
	All Others		$520,832	$446,584
	B Total		$3,195,644	$2,740,083
All Others			$1,438,064	$1,233,058
Grand Total			$6,653,640	$5,705,119

Here is the view after repeating values are enabled for rows.

View Name: Repeating Values 2

View Filter

ABC Classification Code	Product Category	PCat Long Description	Current Month Daily Sales Amt	Previous Month Daily Sales Amt
A	200	Fresh Vegetables	$397,305	$340,666
A	201	Canned Fruit	$1,079,221	$925,371
A	208	Frozen Prepared Dinners	$404,965	$347,234
A	All Others	All Others	$138,441	$118,706
A	Total	Total	$2,019,933	$1,731,978
B	200	Fresh Vegetables	$89,290	$76,561
B	201	Canned Fruit	$2,191,076	$1,878,724
B	208	Frozen Prepared Dinners	$394,446	$338,215
B	All Others	All Others	$520,832	$446,584
B	Total	Total	$3,195,644	$2,740,083
All Others	All Others	All Others	$1,438,064	$1,233,058
Grand Total	Grand Total	Grand Total	$6,653,640	$5,705,119

Next is a comparison of the view results, in their differing states, after being exported to Excel. Repeating values only display in the second instance where the view itself had repeating values enabled.
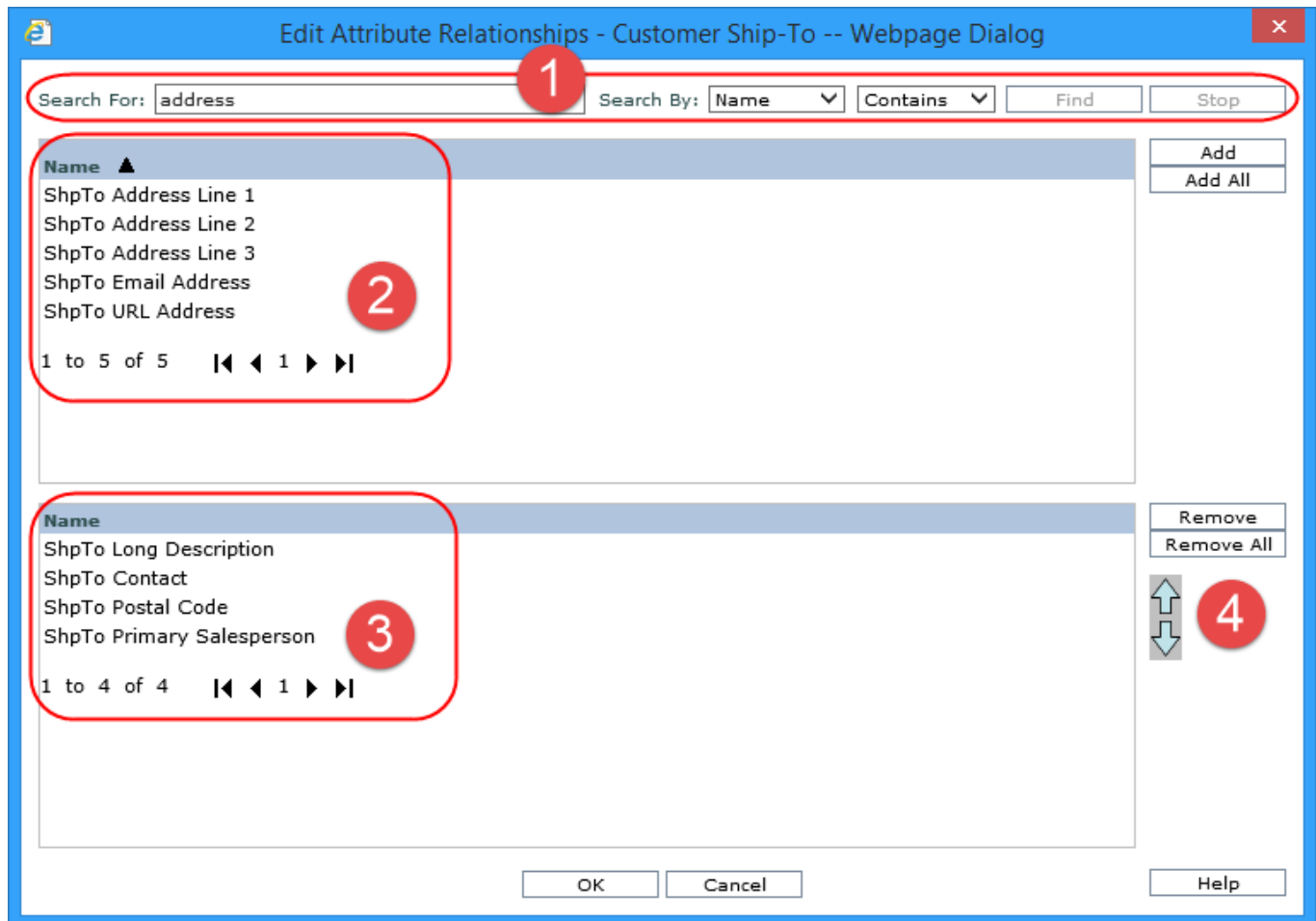
The export when repeating values were disabled:

ABC Classification Code	Product Category	PCat Long Description	Current Month Daily Sales Amt	Previous Month Daily Sales Amt
A	200	Fresh Vegetables	$397,305	$340,666
	201	Canned Fruit	$1,079,221	$925,371
	208	Frozen Prepared Dinners	$404,965	$347,234
	All Others		$138,441	$118,706
		A Total	$2,019,933	$1,731,978
B	200	Fresh Vegetables	$89,290	$76,561
	201	Canned Fruit	$2,191,076	$1,878,724
	208	Frozen Prepared Dinners	$394,446	$338,215
	All Others		$520,832	$446,584
		B Total	$3,195,644	$2,740,083
All Others			$1,438,064	$1,233,058
		Grand Total	$6,653,640	$5,705,119

Data - Repeating Values 2

The export when repeating values were enabled:

ABC Classification Code	Product Category	PCat Long Description	Current Month Daily Sales Amt	Previous Month Daily Sales Amt
A	200	Fresh Vegetables	$397,305	$340,666
A	201	Canned Fruit	$1,079,221	$925,371
A	208	Frozen Prepared Dinners	$404,965	$347,234
A	All Others	All Others	$138,441	$118,706
A	Total	Total	$2,019,933	$1,731,978
B	200	Fresh Vegetables	$89,290	$76,561
B	201	Canned Fruit	$2,191,076	$1,878,724
B	208	Frozen Prepared Dinners	$394,446	$338,215
B	All Others	All Others	$520,832	$446,584
B	Total	Total	$3,195,644	$2,740,083
All Others	All Others	All Others	$1,438,064	$1,233,058
Grand Total	Grand Total	Grand Total	$6,653,640	$5,705,119

Data - Repeating Values 2

Working with Hierarchies, Levels, and Attribute Relationships

Edit Attribute Relationships Window

①	Use the search properties to specify the criteria and the parameters by which to search for attribute relationships.
	Search For: - Enter a value in the Search For field. Multiple searches can be entered by separating them with a semicolon. If the Search For field is left blank, the available list displays all attribute relationships currently not attached to the view.
	Search By: - You can search by "Name."
	Contains, Starts With, Ends With - Select whether you want your search to contain the specified value, start with, or end with the specified value.
	Find - Click this button to execute the search, The list of attribute relationships is refreshed based on the search.

In the below example, we searched for attribute relationships containing "address" and five items satisfied the filter criteria.

Search For: address		Search By: Name ▼	Contains	Find	Stop
			Starts with		
			Ends with		Add
Name ▲					Add All
ShpTo Address Line 1					
ShpTo Address Line 2					
ShpTo Address Line 3					
ShpTo Email Address					
ShpTo URL Address					
1 to 5 of 5 |◀ ◀ 1 ▶ ▶|				

Available Selection list - Use this list to select attribute relationships for a level. The list area displays the names of the attribute relationships available for the level or returned by your search.

Use one of the following methods to select the desired attribute relationships from the available selection list in the top portion of the window and move them to the selected list displayed in the bottom portion of the window.

- Select the desired attribute relationship(s) from the available selection list and click Add. You can use Ctrl+Click and Shift+Click when selecting more than one attribute relationship.
- Double-click an attribute relationship in the list.
- Click Add All to add all of the available attribute relationships, from all pages, to the end of the selection list.

Selected list - Displays the attribute relationships selected for the level. These attribute relationships are not available for re-selection in the top portion of the window.

Use one of the following methods to remove attribute relationships:

- Select the desired attribute relationships(s) and click Remove. You can use Ctrl+Click and Shift+Click when selecting more than one attribute relationship.
- All selected items are removed from the selected list. Removed items no longer display in the selected portion but are available for selection in the top portion of the window. When removed from the selected list, the item is added to the end of the available list section.
- Double-click an attribute relationship in the list.
- Click Remove All to remove all attribute relationships, from all pages of the selected list.

Note: If an attribute relationship is referred to in a calculated measure item, you will receive a warning message that the calculated measure item will also be removed from the view.

Reorder buttons – use to reorder the selected attribute relationships.

⬆ - Moves the selected attribute relationship item(s) up one position at a time.

⬇ - Moves the selected attribute relationship item(s) down one position at a time.

In the example below, the ShipTo Primary Salesperson is moved to the first position by clicking the move up arrow button three times to move it up three positions.

Name	Remove
ShpTo Long Description	Remove All
ShpTo Contact	
ShpTo Postal Code	
ShpTo Primary Salesperson	

1 to 4 of 4 |◀ ◀ 1 ▶ ▶|

Name	Remove
ShpTo Primary Salesperson	Remove All
ShpTo Long Description	
ShpTo Contact	
ShpTo Postal Code	

Clicked 3 times to move up 3 positions

1 to 4 of 4 |◀ ◀ 1 ▶ ▶|

Edit Window

Edit Rows -- Webpage Dialog

Search For: [ ] ① Search By: Name ▾ | Contains ▾ | Find | Stop

Name ▲ ②
ABC Classification Code
Account Group Long Description
Accounting Group
Activity Account
Buyer
Commitment Identifer
Commitment Type
Commodity Code
Commodity Code
Company

Add
Add All

Name ③
Customer Ship-To
Customer Ship-To Country

1 to 2 of 2 |◀ ◀ 1 ▶ ▶|

Remove
Remove All
④

OK   Cancel   Help

①	Make selections from the entire list, or execute a search to narrow down the list. Use the search properties to specify the criteria and the parameters by which to search for hierarchies to add to the rows, columns, or view filter of a view.
	Search For: - Enter a value in the Search For field. Multiple searches can be entered by separating them with a semicolon. If the Search For field is left blank, the available list displays all hierarchies currently not attached to the view.
	Search By: You can search by "Name."

Contains, Starts With, Ends With - Select whether you want your search to contain the specified value, start with, or end with the entered value.

Find - Click this button to execute the search, The list of hierarchies is refreshed based on the search.

In the below example, we searched for hierarchies containing "customer" and eight items were retrieved.

| Search For: Customer | × | Search By: Name ✔ | Starts with ✔ | Find | Stop |

Name ▲	Add
Customer Class	Add All
Customer Parent	
Customer Priority	
Customer Ship-To Postal Code	
Customer Ship-To Sales Rep	
Customer SIC Code	
Customer Sold-To	
Customer Type	

1 to 8 of 8 |◀ ◀ 1 ▶ ▶|

Available Selection list - Use this list to select hierarchies for a row, column, or view filter. The list area displays the hierarchies returned by your search.

Use one of the following methods to select the desired hierarchies from the available selection list in the top portion of the window and move them to the selected list displayed in the bottom portion of the window.

- Select the desired hierarchy (ies) from the available selection list and click Add. You can use Ctrl+Click and Shift+Click when selecting more than one hierarchy.
- Double-click a hierarchy in the list.
- Click Add All to add all of the available hierarchies, from all pages. When a hierarchy is added, the hierarchies along with the default attribute relationship(s) are added to the view. The defaults are:

  - For non-time hierarchies – long description
  - Absolute time hierarchies – none
  - Based time hierarchies – all attribute relationships

Note: The available list will contain time hierarchies only if the view is defined with measure item set to time range "No". When time hierarchies are present, they will be ordered alphabetically along with the other hierarchies.

Selected list - Displays the selected hierarchies for the axis. These hierarchies are not available for re-selection in the top portion of the window.

Use one of the following methods to remove hierarchies:

- Select the desired hierarchy (ies) and click Remove. You can use Ctrl+Click and Shift+Click when selecting more than one hierarchy.
- All selected items are removed from the selected list. Removed items no longer display in the selected portion but are available for selection in the top portion of the window.
- Double-click a hierarchy in the list.
- Click Remove All to remove all hierarchies, from all pages of the selected list.

When a hierarchy is removed, all levels and associated attribute relationships are also removed. If one of the level(s) is referred to in a calculated measure item, the calculated measure item will also be removed.

4	**Reorder buttons** – use to reorder the selected hierarchies.
	⬆ - Moves the selected hierarchy (ies) up one position at a time.
	⬇ - Moves the selected hierarchy (ies) down one position at a time.
	In the example below, the UPC Global Number is moved to the last position by clicking the move down arrow button four times to move it down four positions.

Clicked 4 times to move down 4 positions

Grid

1	**Rows and Columns -** The grid displays levels along the rows and columns axis. You can create views with levels on one axis (rows or columns) or levels on both axes.

- **Header Cells -** Header cells contain names of levels and attribute relationships. In the above image, the row levels are Region and Customer Ship-To. The column level is Sales Dir. The other header cells are for their attribute relationships that were selected for display in the view.

- **Detail Cells -** Detail cells contain level member and attribute relationship values. In this example, the member values for first level on rows are 330 and 331. That set of cells is known as the display text. Next are the values for the Rgn Long Description attribute relationship. You have the option of designating an attribute relationship as the display text rather than the member value. The detail cells on the columns axis show the 231 member and Helen Briggs attribute relationship value.

- **Pop-up Menus -** Right-click objects to display actions that you can take related to that object or axis, such as editing hierarchies. See Grid Pop-up Menus.

- **Drag and Drop Enabled -** You can drag and drop levels and attribute relationships to change their order. Drag and drop within the grid or between the grid and view explorer. See Edit the Order of View Objects Using Drag and Drop.

- **Drill Path and Drilldown View Links -** If multiple levels have been defined for an axis, you can click on links in the grid to drill between levels. You can drill on level names (drill by header) or members (drill by detail). If a drilldown view has been assigned to an axis, the last level in the drilldown path for that axis will be a link -- click a link to display the drilldown view. See Drill Up or Down Within a View.

- **Sort and Filter Icons -** Icons display next to grid objects that have been sorted ▲▼ or filtered ▼. Pop-up labels display the sort and filter details when the cursor is moved over the respective icon. See also Use Sort and Filter Icons as Task Shortcuts.

② Measure Items - Measure items can be assigned to one axis, either rows or columns. If you create any distinct calculated measure items, you can position them before all other measure items or after all other measure items.

- **Double-click Enabled and Pop-up Menus -** You can double-click captions of regular measure items to access the Edit Measure Item window and double-click captions of calculated measure items to access the Expression window for editing purposes. You can also right-click measure items to display all actions that you can take related to that object or axis, such as inserting additional measure items. See Grid Pop-up Menus.

- **Drag and Drop Enabled -** You can drag and drop measure items to change their order. Drag and drop within the grid or between the grid and view explorer. See Edit the Order of View Objects Using Drag and Drop.

- **Drill Path and Drilldown View Links -** If a drilldown view has been assigned to the measure item axis, the measure items will display as links. Click a link to display the drilldown view. The grid shown above doesn't have a drilldown view assigned to its measure items axis. Here is what the grid would look like had a drilldown view been assigned.

- **Sort and Filter Icons -** Icons display next to measure items that have been sorted ▲▼ or filtered ▼. Pop-up labels display the sort and filter details when the cursor is moved over the respective icon. See also Use Sort and Filter Icons as Task Shortcuts.
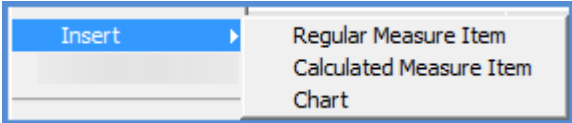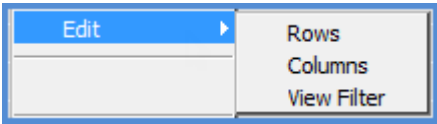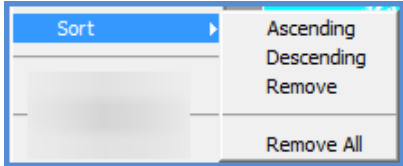
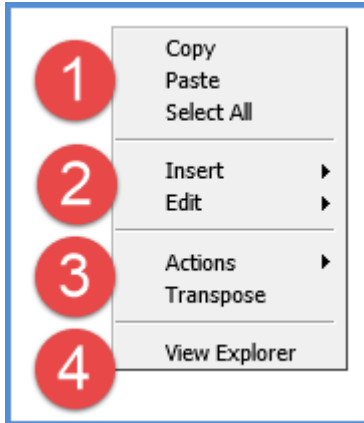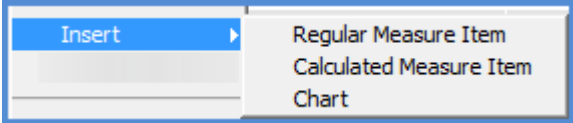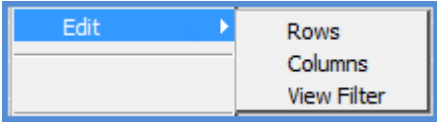|	
③	**Totals -** Grand totals and sub-totals are displayed in darker grey rows and columns. Totals can be displayed for some, all, or no objects in the view. You can control totals by measure items, individual levels, or an entire axis. Grand Totals that are on the same axis as measure items can be sorted and filtered.

④	**View Name -** Displays the view name. Right-click to display actions that you can take related to the overall grid, such as exporting to excel. See Grid Pop-up Menus.
	
	Expand View ⊞+ **or Collapse View** ⊞- **-** In collapsed mode, the grid displays a select number of rows and columns per page. The number of rows or columns that display per page is controlled by your administrator, but you can customize the setting with an Override View Page Size setting in your User Options. In expanded mode, all rows and columns are displayed. If you want to change the mode, click this toggle. The collapsed mode is recommended for views with large row and column counts.
	
	Axis Icons - An icon exists for rows ⬇ and columns ➡.
	
	   • **Pop-up Menus** - Right-click to display actions that you can take related to that axis, such as controlling the display of totals by axis. See Grid Pop-up Menus.
	
	   • **Filter Icons** - Icons ▼ display next to an axis that has been filtered. Pop-up labels display the filter details when the cursor is moved over the icon. See also Use Sort and Filter Icons as Task Shortcuts.
	
	View Filter - If you used this section to apply a filter to the entire grid, levels used in the filter will display here.
	
	   • **Pop-up Menus -** Right-click the View Filter header or levels in it to display actions that you can take related to that object or section of the grid, such as filtering levels in that section. See Grid Pop-up Menus.
	
	   • **Drag and Drop Enabled-** You can drag and drop levels in the view filter to change their order. Drag and drop within the grid or between the grid and view explorer. See Edit the Order of View Objects Using Drag and Drop.
	
	   • **Filter Icons** - Icons display next to levels that have been filtered ▼. Pop-up labels display the filter details when the cursor is moved over the icon. See also Use Sort and Filter Icons as Task Shortcuts.

Grid Pop-up Menus
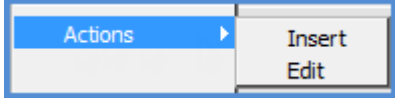
Right-click objects in views to display actions that you can take such as inserting measure items, transposing the grid, filtering objects in the grid, and so forth. Many of the functions can also be controlled through view explorer and the Properties window, giving you several ways to make changes. Options on pop-up menus vary by user. Your user profile level determines which options are available to you. The menus in these examples are for a user with an advanced level of access. Menus are displayed in alphabetical order.

Attribute Relationships Pop-up Menu

Right-click an attribute relationship to display actions that you can take related to that object or axis.
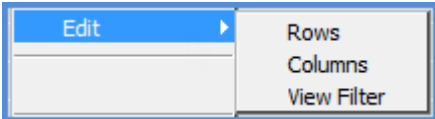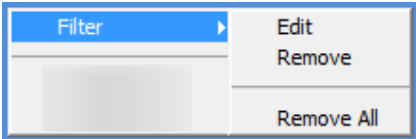
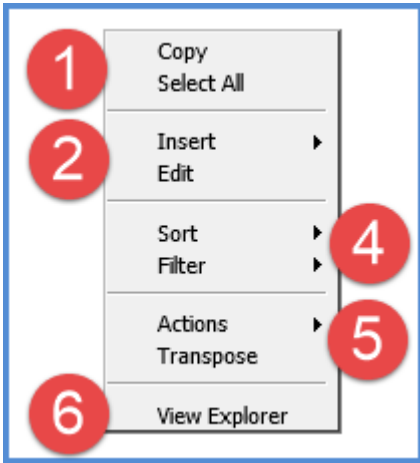|	
1	**Copy** - This option allows you to copy sections of a view that you have selected. **Paste -** Allows you to paste data into update enabled cells. This option only shows in planning enabled views. **Select All -** Use this option to select the entire grid.
2	**Insert** - The sub menu has options for Regular Measure Item, Calculated Measure Item, and Chart. The Insert Measure Item window will automatically refresh the grid when it is closed. The Charting Data Wizard will display when inserting a new chart. **Edit** - Edit the hierarchies on the rows, columns, or view filter.
3	**Hide** - When an attribute relationship is right-clicked and Hide is selected, the selected object is hidden from the grid. The Visible property for the attribute relationship changes to No. From view explorer, you can drag an attribute relationship back in the grid if needed, or you can change the Visible property to Yes.
4	**Sort** - Sort options are Ascending, Descending, Remove, and Remove All.

Working with Hierarchies, Levels, and Attribute Relationships

5	**Actions** – Use this option to insert new actions or to edit, process, or delete existing actions. **Transpose** - Use this option to change the axis for levels and measure items in the grid. Objects displayed in columns are switched to display in rows and vice versa.
6	**View Explorer** - This option allows you to open and close view explorer. If the Properties window is open when you close view explorer, the Properties window will also close. **Properties -** Click to maintain the attribute relationship properties including sorting and whether it is visible or not.

Axis Pop-up Menu

Right-click to display actions that you can take related to that axis, such as controlling the display of totals by axis.
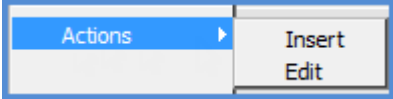
1	**Edit** - Edit the hierarchies on the rows, columns, or view filter.
2	**Totals** - Control whether totals are displayed for all levels on the axis by choosing Yes or No. The Totals Default property in the Properties window for the axis also changes to reflect your choice, as does the Totals property in the Properties window for each level on that axis. **Filter -** Filter options are Edit, Remove, and Remove All.
3	**View Explorer -** This option allows you to open and close view explorer. If the Properties window is open when you close view explorer, the Properties window will also close. **Properties** - Click to maintain the view properties including the name, description, type and view group.

General Pop-up Menu

Right-click within the grid to display actions that you can take such as transposing the rows, columns, and measure items.

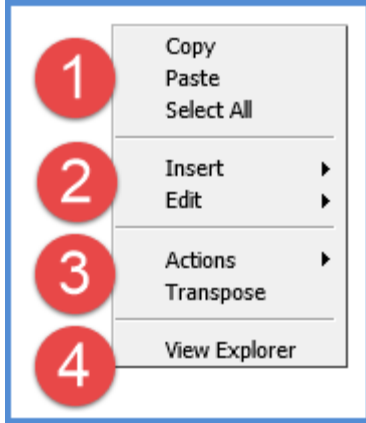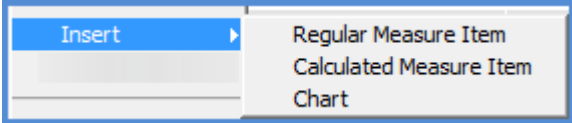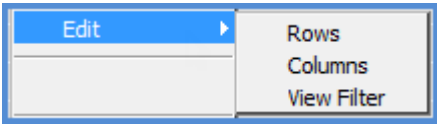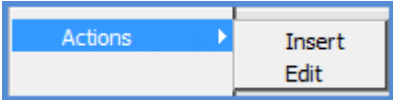|	
1	**Copy** - This option allows you to copy sections of a view that you have selected. **Paste -** Allows you to paste data into update enabled cells. This option only shows in planning enabled views. **Select All** - Use this option to select the entire grid.
2	**Insert** - The sub menu has options for Regular Measure Item, Calculated Measure Item, and Chart. The Insert Measure Item window will automatically refresh the grid when it is closed. The Charting Data Wizard will display when inserting a new chart. **Edit** - Edit the hierarchies on the rows, columns, or view filter.
3	**Actions** – Use this option to insert new actions or to edit, process, or delete existing actions. **Transpose** - Use this option to change the axis for levels and measure items in the grid. Objects displayed in rows are switched to display in columns and vice versa.
4	**View Explorer -** This option allows you to open and close view explorer. If the Properties window is open when you close view explorer, the Properties window will also close.

Measure Item Pop-up Menus (Detail and Grand Total Menus)

Measure items can be assigned to one axis, either rows or columns. Right-click the caption of a measure item in a detail row or column to display actions that you can take related to that object, such as inserting additional measure items or applying conditional formats.
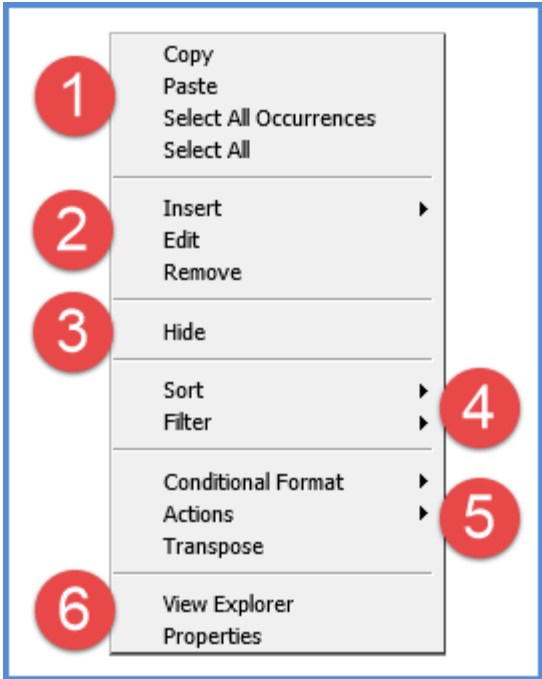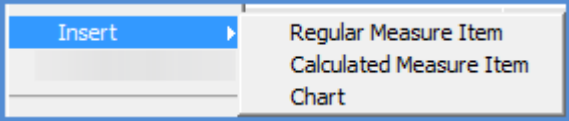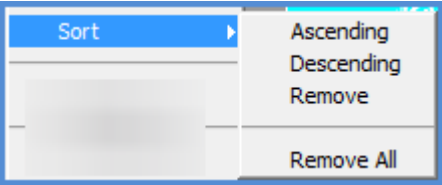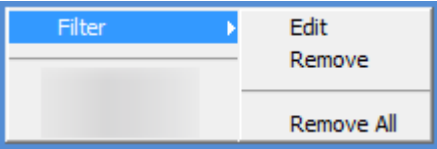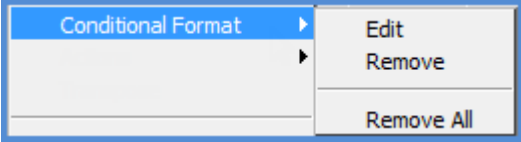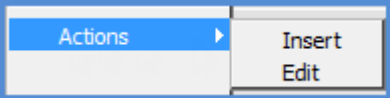
Or, right-click the caption of a measure item in a Grand Total row or column to work with values in that area of a view, such as by applying sorts and filters to them.

Descriptions follow of the menus for measure items in detail and Grand Total rows or columns.

1	**Copy** - This option allows you to copy sections of a view that you have selected.
	Paste - Allows you to paste data into update enabled cells. This option only shows in planning enabled views. This option does not display on the menu for Grand Totals.
	Select All Occurrences - Use this option to select data for all occurrences of that measure item in the active page of the View. This option does not display on the menu for Grand Totals.
	Select All - Use this option to select the entire grid.
2	**Insert** - The sub menu has options for Regular Measure Item, Calculated Measure Item, and Chart. The Insert Measure Item window will automatically refresh the grid when it is closed. The Charting

Data Wizard will display when inserting a new chart.

Edit - For regular measure items, opens the Edit Measure Item window with that measure item selected for editing. You can edit that measure item or any other regular measure items. For calculated measure items, opens the Expression window so you can edit the measure item expression.

Note: Another way to access the Edit Measure Item window or Expression window is to double-click the caption of the respective regular or calculated measure item.

Remove - Removes the measure item from the view definition without confirmation. It will no longer display in the view explorer. This option does not display on the menu for Grand Totals.

Hide - When a measure item is right-clicked and Hide is selected, the selected object is hidden from the grid. The Visible property for the measure item changes to No. From view explorer, you can drag a measure item back in the grid if needed, or you can change the Visible property to Yes. This option does not display on the menu for Grand Totals.

Sort - Sort options are Ascending, Descending, Remove, and Remove All.

Filter - Filter options are Edit, Remove, and Remove All.

Conditional Format – Use this option to edit or add conditional formatting on the measure item, There are also options for removing the conditional format on the active measure item or all measure items. This option does not display on the menu for Grand Totals.

 Actions – Use this option to insert new actions or to edit, process, or delete existing actions.

Transpose - Use this option to change the axis for levels and measure items in the grid. Objects displayed in columns are switched to display in rows and vice versa.

View Explorer - This option allows you to open and close view explorer. If the Properties window is open when you close view explorer, the Properties window will also close.

Properties - Click to maintain the measure item properties including the name, caption expression,

	type, pop-up labels, hyperlinks, and so forth. This option does not display on the menu for Grand Totals.

View Filter Pop-up Menu

Right-click the View Filter header to display actions that you can take related to that object or section of the grid, such as filtering levels in that section.
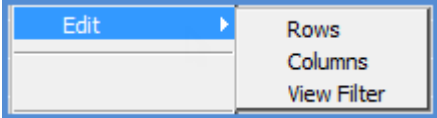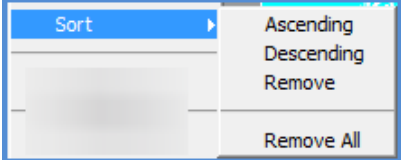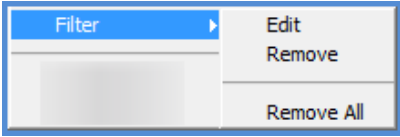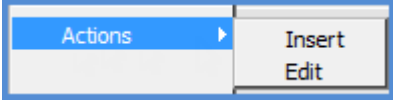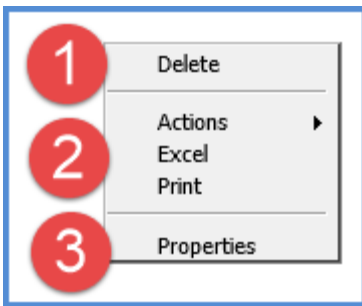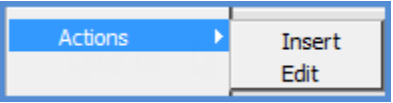

1	**Copy** - This option allows you to copy sections of a view that you have selected. **Paste -** Allows you to paste data into update enabled cells. This option only shows in planning enabled views. **Select All -** Use this option to select the entire grid.
2	**Insert** - The sub menu has options for Regular Measure Item, Calculated Measure Item, and Chart. The Insert Measure Item window will automatically refresh the grid when it is closed. The Charting Data Wizard will display when inserting a new chart. **Edit** - Edit the hierarchies on the rows, columns, or view filter.
3	**Actions** – Use this option to insert new actions or to edit, process, or delete existing actions. **Transpose** - Use this option to change the axis for levels and measure items in the grid. Objects displayed in columns are switched to display in rows and vice versa.
4	**View Explorer** - This option allows you to open and close view explorer. If the Properties window is open when you close view explorer, the Properties window will also close.

Levels Pop-up Menu

Right-click the level to display actions that you can take related to the level, such as editing the hierarchy.

1	**Copy** - This option allows you to copy sections of a view that you have selected.
	Paste - Allows you to paste data into update enabled cells. This option only shows in planning enabled views.
	Select All - Use this option to select the entire grid.
2	**Insert** - The sub menu has options for Regular Measure Item, Calculated Measure Item, and Chart. The Insert Measure Item window will automatically refresh the grid when it is closed. The Charting Data Wizard will display when inserting a new chart.
	Edit - Edit the hierarchies on the rows, columns, or view filter.
3	**Hide** - When a level is right-clicked and Hide is selected, the selected object is hidden from the grid. The Visible property for the level changes to No. From view explorer, you can drag a level back in the grid if needed, or you can change the Visible property to Yes.
4	**Sort** - Sort options are Ascending, Descending, Remove, and Remove All.
	Filter - Filter options are Edit, Remove, and Remove All.

⑤	**Actions** – Use this option to insert new actions or to edit, process, or delete existing actions. **Transpose** - Use this option to change the axis for levels and measure items in the grid. Objects displayed in columns are switched to display in rows and vice versa.
⑥	**View Explorer** - This option allows you to open and close view explorer. If the Properties window is open when you close view explorer, the Properties window will also close. **Properties** - Click to maintain the level properties including the filter, sort, totaling, visibility, and display text.

View Name Pop-up Menu

Right-click the view name to display actions that you can take related to the overall grid, such as exporting to Excel.

①	**Delete** - Choose Delete to delete the view with confirmation. Anyone can delete their own personal views, but only view and security administrators may delete global views.
②	**Actions** – Use this option to insert new actions or to edit, process, or delete existing actions. **Excel** - Click to initiate an export of the view to Microsoft Excel. **Print** - Click to print the active page of the view.
③	**Properties** - Click to maintain the view properties including the name, description, type and view group.

Properties Window for Attribute Relationships

1	**Sort** - Use to add, edit, or remove Ascending and Descending sorts.

Properties Window for Columns

1	**Drilldown View** – Assign a drilldown view if you want to drill from the last level displayed on columns to another view, for example, to a view with related or complimentary data to the originating view. Choose from views that you normally have access to in the application.
2	**Repeating Values** – Use to control whether or not duplicate column values display in the grid. Set the option to Yes if you want to see the following values repeated across the column detail cells in the grid: level display text, level attribute relationships, headings for All Others (if Others Summary is enabled), sub-totals, and grand totals.
3	**Totals Default** – Use to control whether or not Totals display by default for new levels inserted on columns. Leave the property set to Yes if you want all new levels that are inserted on columns to have totals displayed for them. Change to No if you want totals to be disabled for all new levels that you insert on columns. You can customize totals for new and existing levels in other ways using other settings: • Change totals for individual levels, one level at a time. Use the "Total" setting in the Properties window for individual levels to show or hide their totals. • Change totals for all levels on columns at once. Use the "Totals" option on the pop-up menu for the columns axis (right-click the columns axis icon ➡️) or by right-clicking the Columns folder in view explorer. Selecting Yes from the menu displays totals for all levels on columns and sets the "Totals Default" to Yes. Selecting No hides totals for all levels on columns and sets the "Totals Default" to No.
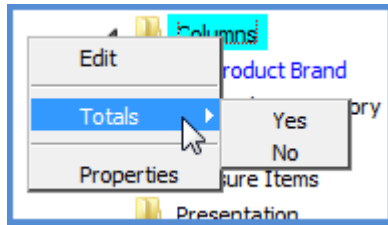
	Others Summary – Use to control whether or not All Others data displays in columns for filtered levels. Select Yes if you want the "All Others" columns to display. For example, if you have filtered a level by certain members, you could set Others Summary to Yes to see the sum of all other members not in the filter. Select No if you do not want All Others data to display.
④	**Relationship Filter and Empty Filter** – When the Relationship Filter is set to Yes, only the members that have data for the measures and time ranges defined in the view will display. When the Relationship Filter is set to No, all members will be displayed. This allows you to see members with and without data for the measures and time ranges defined in the view. You can additionally use the Empty Filter property. In order for the Empty Filter property to be set to Yes, the Relationship Filter property must be set to Yes. The empty filter will remove any columns where no data exists, but that were not removed by the relationship filter. This can occur when there is a level filter on the axis opposite the measure item axis.
⑤	**Axis Filter** – Use to work with an axis filter on columns: • Click the Browse button to add or edit a filter on the columns axis. An Expression window displays for setting up the filter. A pop-up label for this field displays expression criteria for an existing filter. • Click the "X" button to remove a filter.

Properties Window for Hierarchies

This window displays a read-only field that shows the dimension for the hierarchy.
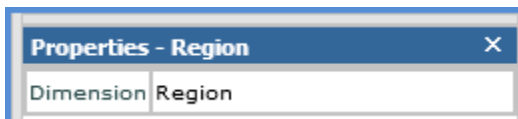
Properties Windows for Levels

1	**Filter and Sort** – Use to add, edit, or remove filters and sorts. • **Filter** – click the Browse button [...] to access the Select Filter Method window and either add or change a filter. If a filter already exists, the filter type displays in this field and a pop-up label shows filter criteria. • **Sort** - use the list provided to add Ascending or Descending sorts or to change or remove a sort.
2	**Display Text** – This property controls what displays in the first row or column for the level. The default is the level value. You can change it to any of the attribute relationships that have been made available in the view for the level.

Properties Window for Rows

1	**Drilldown View** – Assign a drilldown view if you want to drill from the last level displayed on rows to another view, for example, to a view with related or complimentary data to the originating view. Choose from views that you normally have access to in the application.
2	**Repeating Values** – Use to control whether or not duplicate row values display in the grid. Set the option to Yes if you want to see the following values repeated across the row detail cells in the grid: level display text, level attribute relationships, headings for All Others (if Others Summary is enabled), sub-totals, and grand totals.
3	**Totals Default** – Use to control whether or not Totals display by default for new levels inserted on rows. Leave the property set to Yes if you want all new levels that are inserted on rows to have totals displayed for them. Change to No if you want totals to be disabled for all new levels that you insert on

rows. You can customize totals for new and existing levels in other ways using other settings:

- Change totals for individual levels, one level at a time. Use the "Total" setting in the Properties windows for individual levels to show or hide their totals.
- Change totals for all levels on rows at once. Use the "Totals" option on the pop-up menu for the row axis (right-click the rows axis icon ⬇) or by right-clicking the Rows folder in view explorer. Selecting Yes from the menu displays totals for all levels on rows and sets the "Totals Default" to Yes. Selecting No hides totals for all levels on rows and sets the "Totals Default" to No.
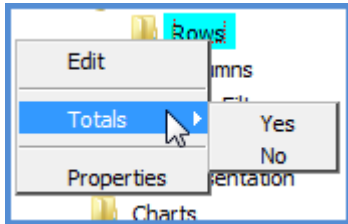
Others Summary – Use to control whether or not All Others data displays in rows for filtered levels. Select Yes if you want the "All Others" rows to display. For example, if you have filtered a level by certain members, you could set Others Summary to Yes to see the sum of all other members not in the filter. Select No if you do not want All Others data to display.

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④ **Relationship Filter and Empty Filter** – When the Relationship Filter is set to Yes, only the members that have data for the measures and time ranges defined in the view will display. When the Relationship Filter is set to No, all members will be displayed. This allows you to see members with and without data for the measures and time ranges defined in the view. You can additionally use the Empty Filter property. In order for the Empty Filter property to be set to Yes, the Relationship Filter property must be set to Yes. The empty filter will remove any rows where no data exists, but that were not removed by the relationship filter. This can occur when there is a level filter on the axis opposite the measure item axis.

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⑤ **Axis Filter** – Use to work with an axis filter on rows:

- Click the Browse button ⸬ to add or edit a filter on the rows axis. An Expression window displays for setting up the filter. A pop-up label for this field displays expression criteria for an existing filter.
- Click the "X" button to remove a filter.

View Explorer

The elements in view explorer are organized into a tree structure that has expandable/collapsible folders. Folders are described in the following table. Color-coding is used throughout to help you distinguish which items will be visible in the grid and which are hidden.

- **Items in blue text** – Any items currently shown in the grid. Their Visible property is "Yes" in their Properties window.

- **Items in black text** – Any items that are not actively shown in the grid, but that have a Visible property of "Yes." This means they will display in the grid once you reach them in the drill down path for the view.

- **Items in grey text** – Any items that have a Visible property of "No." For levels, this means they will not display in the grid as you drill through it. Attribute relationships, measure items, and charts displayed in grey text also will not display in the grid. You can right-click on them anytime and select Show to make change their Visible property.

When you click an item, it is highlighted in a bright blue box like the view name, "Customer Ship-To Sales," in the above example. When double-clicked, the Properties window of the active item opens at the bottom of the view explorer as shown in the above example. You can also right-click to invoke a pop-up menu of actions to take on items from view explorer.

1	**View name folder** – displays the name of the view. Double-click to access the [Properties window](#) for editing basic properties like the Name, Type, Planning, and View Group properties. Administrators can use the Owner property to change the owner of a view.
2	**Parameter Groups folder** – for parameter groups and parameters within each group. As you insert groups and parameters, they will display under this folder. Each group and parameter has a related Properties window. You can drag and drop groups and parameters within each group to rearrange them.
3	**Grid folder** – The folders for Rows, Columns, View Filters, and Measure Items are organized under the Grid folder. From the Grid folder, you can access a Grid Properties window which determines if the grid is visible and if paging is enabled for the grid display. **Rows and Columns folders** – All of the included levels and attribute relationships, grouped by hierarchy, display appropriately in the Rows and Columns folder. You can move hierarchies along with their levels and attribute relationships between the Rows, Columns, or View Filter by dragging and dropping them within view explorer or into the grid from view explorer. Properties windows exist for hierarchies, levels, and attribute relationships in these folders. Use them to hide or show items, set up filters or sorting, control totals, etc. • **Hierarchies** – This image displays next to the names of hierarchies. • **Levels** – Blue boxes next to a level indicate the level it is based for all the levels in its hierarchy. For example, a level with one box next to it would be the first level for its hierarchy. A level with two boxes next to it would be the second level available in its hierarchy, and so forth. • **Attribute Relationships** – This image displays next to the names of attribute relationships for levels.
4	**View Filter folder** – Levels included in the view filter. Setting up a view filter requires a level to be in the View Filter section and then applying a filter to that level. Drag or drop the desired level(s) into the View Filter section of the grid or into the View Filter folder of view explorer.
5	**Measure Items folder** – All measure items defined for this view display in the folder. You can edit, insert, remove and hide measure items from this folder. The Time Range controls the type of measure items that you can set up for the view – either measure items with time ranges (Yes) or measure items without time ranges (No). You can also use the Properties windows for individual measure items to change their caption, images, conditional formatting, pop-up labels, hyperlinks, filtering, sorting, totals, etc. • **Regular Measure Item** – This image displays next to regular measure items. • **Calculated Measure Item** – This image displays next to calculated measure items. • **Distinct Calculated Measure Item** – This image displays next to distinct calculated measure Items.
6	**Presentation folder** – The properties for this folder are used to set the default presentation format for the view (either Viewer or Excel) and to determine whether or not users will be prompted to choose the presentation format before the view opens for them.

	Chart folder – The Chart folder displays the names of any charts 📊 that you have created for a view. Charts displayed in blue are currently visible in the grid. Charts displayed in grey are hidden. Charts can be dragged and dropped in the folder to change the order in which they display in the grid.

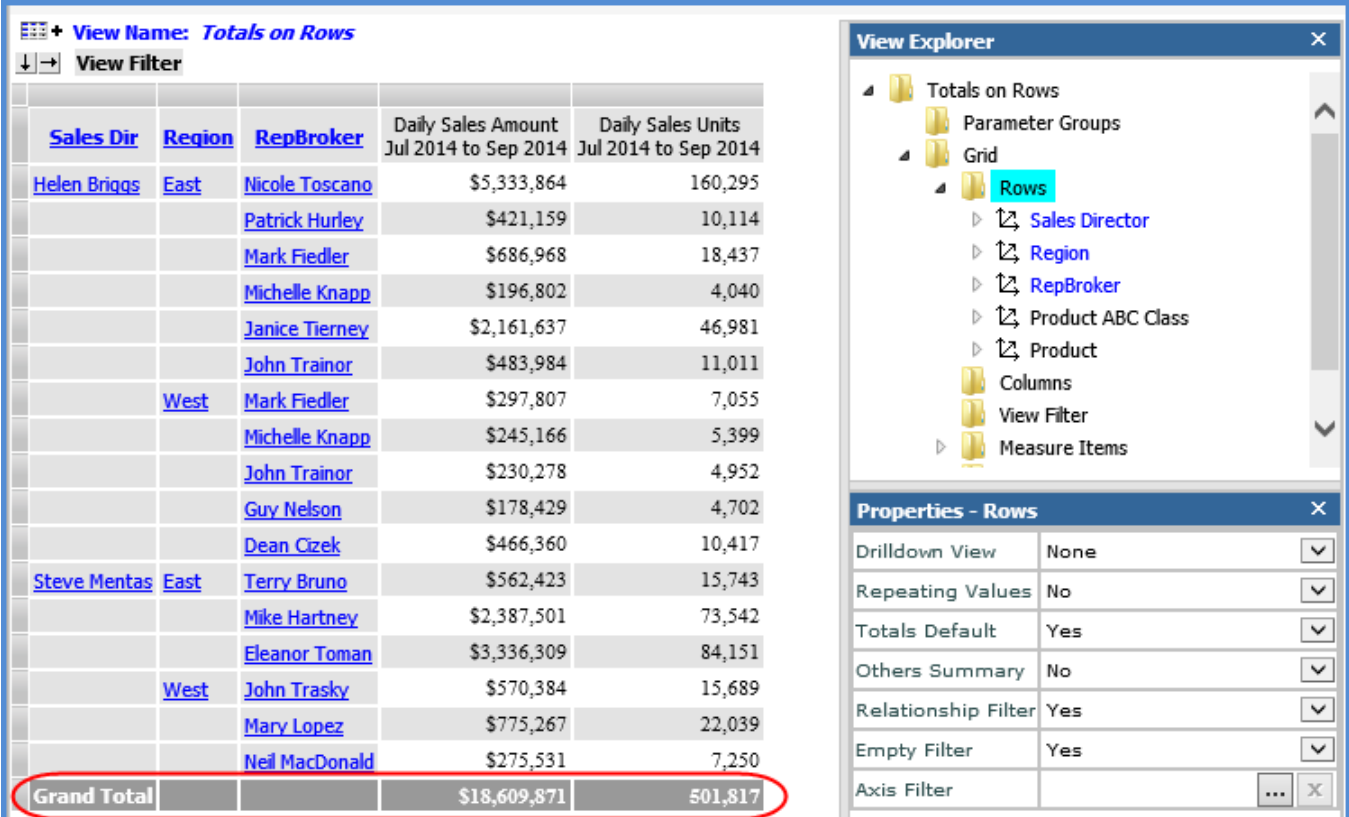# Advanced Concepts

Changing Totals by Axis vs. by Level

You can control totals by individual levels or by an entire axis. Changing totals for an entire axis is a helpful shortcut when there are many levels in the view definition and you want all their totals to be shown or all hidden. When you change totals by axis, all new levels added after the change will have their Total property set to match the Totals Default setting for that axis. For example, if the Totals Default is changed to No, then the Total property for a new level will be No. However, you can change the Total property for the new level to be different from the axis setting.

Note: Totals for measure items are controlled separately from totals for levels.

See also Enable or Disable Totals by Axis and Enable or Disable Totals for Levels.

Example 1

This view has five levels on rows. The third level has been drilled to in the view. The Totals Default for the rows axis is Yes, but some levels had their Total property customized to be different from the axis. Totals are hidden for Region and RepBroker.

Working with Hierarchies, Levels, and Attribute Relationships

The Rows axis filter is right-clicked. We select Totals then Yes from the pop-up menu.
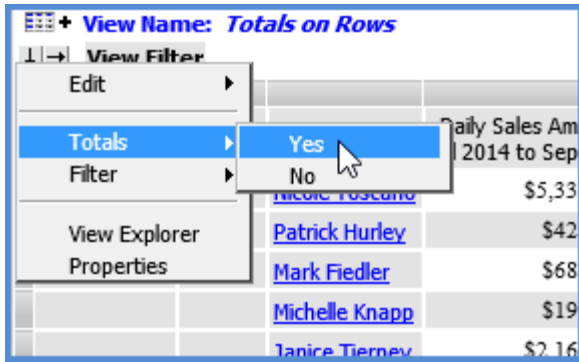
This action resets the Total property for all levels to Yes, and the Totals Default for the axis remains at Yes. There are now totals displayed for Region and RepBroker.

Sales Dir	Region	RepBroker	Daily Sales Amount Jul 2014 to Sep 2014	Daily Sales Units Jul 2014 to Sep 2014
Helen Briggs	East	Nicole Toscano	$5,333,864	160,295
		Patrick Hurley	$421,159	10,114
		Mark Fiedler	$686,968	18,437
		Michelle Knapp	$196,802	4,040
		Janice Tierney	$2,161,637	46,981
		John Trainor	$483,984	11,011
		East Total	$9,284,414	250,878
	West	Mark Fiedler	$297,807	7,055
		Michelle Knapp	$245,166	5,399
		John Trainor	$230,278	4,952
		Guy Nelson	$178,429	4,702
		Dean Cizek	$466,360	10,417
		West Total	$1,418,041	32,524
	Helen Briggs Total		$10,702,456	283,402
Steve Mentas	East	Terry Bruno	$562,423	15,743
		Mike Hartney	$2,387,501	73,542
		Eleanor Toman	$3,336,309	84,151
		East Total	$6,286,233	173,436
	West	John Trasky	$570,384	15,689
		Mary Lopez	$775,267	22,039
		Neil MacDonald	$275,531	7,250
		West Total	$1,621,183	44,978
	Steve Mentas Total		$7,907,416	218,415
Grand Total			$18,609,871	501,817

View Explorer

- Totals on Rows
  - Parameter Groups
  - Grid
    - Rows
      - Sales Director
      - Region
        - Region
          - Rgn Long Description
      - RepBroker
      - Product ABC Class
      - Product
    - Columns
    - View Filter
    - Measure Items
    - Presentation
  - Charts

Properties – Region

Filter	None	...
Sort	None	˅
Total	Yes	˅
Visible	Yes	˅
Display Text	Rgn Long Description	˅

Example 2

This view has several levels on columns, and currently one level is displayed. All the levels on the axis have totals enabled.

Customer Ship-To Country >>	CAN		USA		Grand Total	
Customer Sold-To	Daily Sales Amount Wk 1 2014 to Wk 38 2014	Daily Sales Units Wk 1 2014 to Wk 38 2014	▼ Daily Sales Amount Wk 1 2014 to Wk 38 2014	Daily Sales Units Wk 1 2014 to Wk 38 2014	Daily Sales Amount Wk 1 2014 to Wk 38 2014	Daily Sales Units Wk 1 2014 to Wk 38 2014
Wilder Foods -- Eastern Americ	$660,564	29,899	$2,854,169	132,380	$3,514,733	162,279
Wilder Foods -- Western Americ	$589,584	26,658	$2,726,610	124,154	$3,316,194	150,812
Harrington's -- Eastern	$289,968	9,453	$1,607,443	53,623	$1,897,411	63,076
GoodFoods -- Western	$1,199,784	47,735	$1,411,317	54,603	$2,611,100	102,338
Sumpter Dist'n -- Eastern Divi	$728,007	38,326	$1,004,869	45,497	$1,732,876	83,823
Olivieri Distributors			$868,596	33,834	$868,596	33,834
GoodFoods -- Eastern	$894,317	34,239	$785,322	29,829	$1,679,639	64,068
Midwest Providers			$722,701	31,099	$722,701	31,099
Penn Brands			$596,115	19,872	$596,115	19,872
Prestwick Brothers			$536,995	19,138	$536,995	19,138
Sumpter Dist'n -- Western Divi	$854,880	39,098	$479,472	22,589	$1,334,352	61,687
Southwest Foods			$419,940	18,081	$419,940	18,081
Harrington's -- Western	$479,625	16,129	$399,231	12,641	$878,857	28,770
Smith Distributors			$383,498	16,745	$383,498	16,745
St. Louis Distributors			$340,269	14,274	$340,269	14,274
Grand Total	$5,696,729	241,537	$15,136,548	628,360	$20,833,277	869,897

The Columns folder in view explorer is right-clicked. We select Totals then No from the pop-up menu.
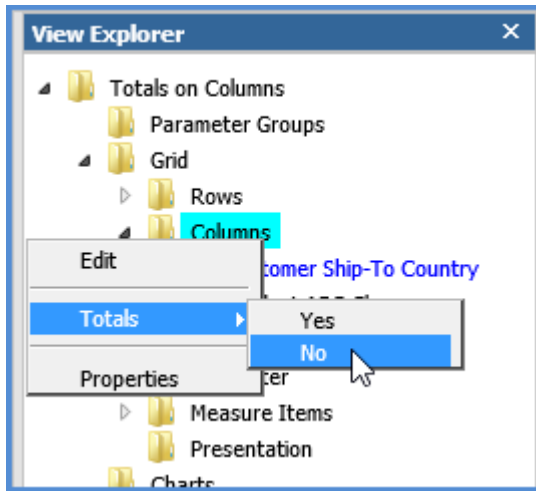
The Totals Default changes to No in the [Properties window](#) for that axis. In the refreshed view, totals for all levels on columns are hidden.

A hierarchy is added to columns and moved to be the first level on that axis. The Totals property for its level is set to No automatically, based on the Totals Default setting.

The Total property for the level is changed to Yes. Totals display in the refreshed view for the newly added level.

Impact of Roles on What Data You can Access in Stratum.Viewer

Security administrators set up roles for the user profiles or user profile groups of users who have a casual, advanced, or view administrator level of access to the application. Roles determine what data you will see when you run views, user filtering windows, and insert or edit measure items. You can be given full or partial access to dimensions which will impact the dimension members that you can see in views and filtering windows. Administrators can give you Read access to some or all measures, which impacts the measure items that you will see in your views and measure item windows. Your administrator also can give you Update access to measures for the purpose of doing planning updates in views.

Dimensions

Here is a view for someone whose role only permits access to Product Family 30. Only sales for Product Family 30 will display in the view for that user.

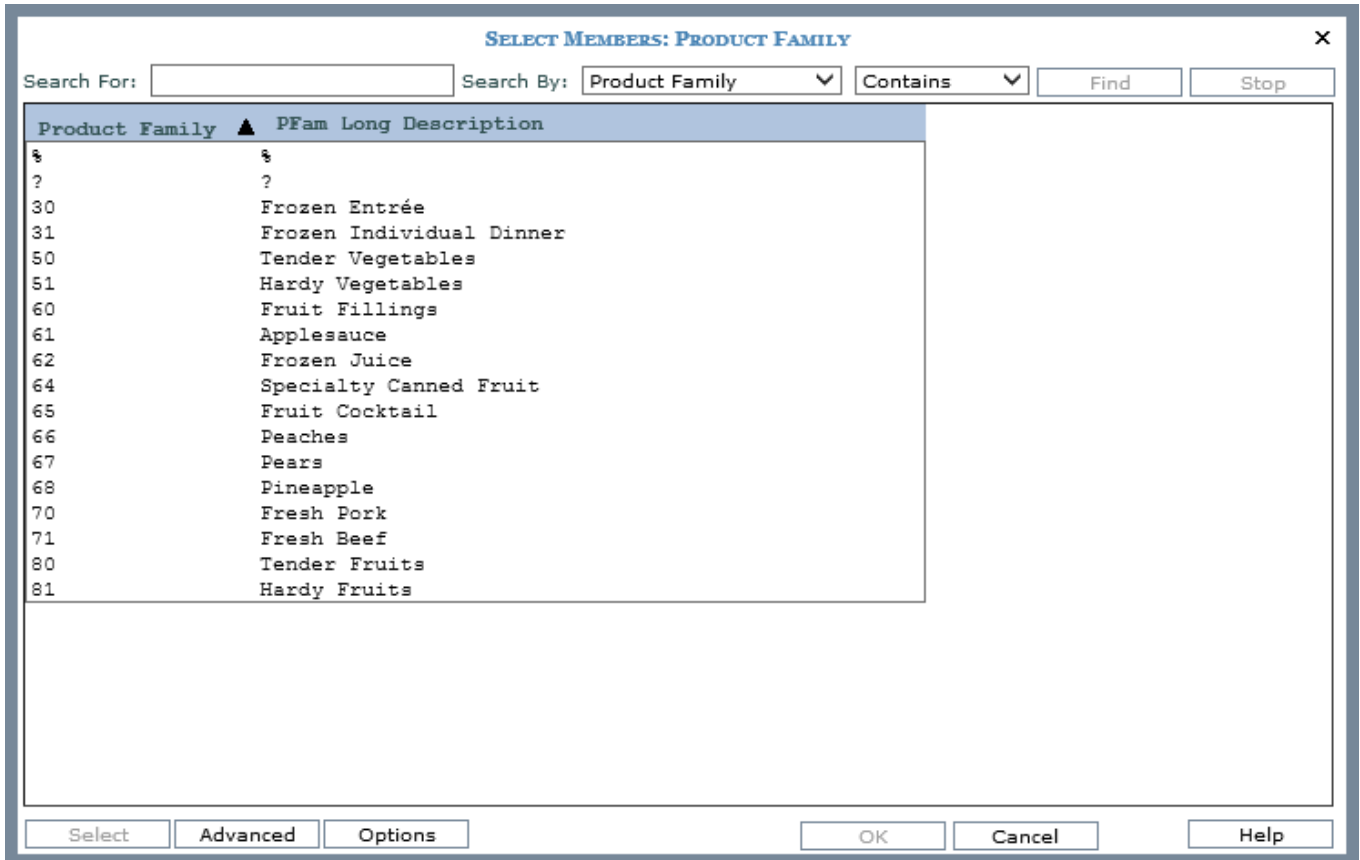*Working with Hierarchies, Levels, and Attribute Relationships*

Here is the same view run by a user with full access to the Product Family dimension. The view displays data for all Product Families.

Product Family	PFam Long Description	AS Sales Amount Q3 2014 to Q3 2014	AS Sales Units Q3 2014 to Q3 2014	AS Return Units Q3 2014 to Q3 2014
30	Frozen Entrée	$76,402,409	1,073,723	
31	Frozen Individual Dinner	$73,639,530	1,075,746	
50	Tender Vegetables	$104,864,201	2,442,620	(33,932)
51	Hardy Vegetables	$68,358,260	1,906,343	(14,198)
60	Fruit Fillings	$107,343,286	2,995,943	(25,270)
61	Applesauce	$113,169,665	2,974,860	(21,667)
62	Frozen Juice	$41,129,639	775,323	
64	Specialty Canned Fruit	$104,947,986	2,325,030	(14,986)
65	Fruit Cocktail	$132,563,642	3,292,466	(25,270)
66	Peaches	$177,024,731	4,387,291	(22,622)
67	Pears	$89,325,252	2,173,969	(12,719)
68	Pineapple	$93,811,943	2,718,289	(20,617)
70	Fresh Pork	$66,720,662	1,305,980	(12,623)
71	Fresh Beef	$59,170,835	1,290,657	(22,144)
80	Tender Fruits	$76,370,290	1,581,023	(162,885)
81	Hardy Fruits	$62,761,118	2,131,608	(28,301)
Grand Total		**$1,447,603,449**	**34,450,871**	**(417,236)**

Roles also impact the data that displays in the Select Members, Advanced Select Members, Paste Members, and Select User List Filter windows. Here is what the Select Members window looks like for the user with access only to Product Family 30.

Here is what the window looks like for a user with full access to the Product Family dimension.

SELECT MEMBERS: PRODUCT FAMILY   ✕

Search For: [   ]   Search By: [Product Family   ∨] [Contains   ∨] [Find] [Stop]

Product Family ▲	PFam Long Description
%	%
?	?
30	Frozen Entrée
31	Frozen Individual Dinner
50	Tender Vegetables
51	Hardy Vegetables
60	Fruit Fillings
61	Applesauce
62	Frozen Juice
64	Specialty Canned Fruit
65	Fruit Cocktail
66	Peaches
67	Pears
68	Pineapple
70	Fresh Pork
71	Fresh Beef
80	Tender Fruits
81	Hardy Fruits

[Select] [Advanced] [Options]   [OK] [Cancel]   [Help]

Next, consider a user list that contains three Product Family members including 30. The user with access only to Product Family 30 will see that member only when they click Show Details for the list.

All three list members display when the list members are viewed by a user with full access to the Product Family dimension.

Working with Hierarchies, Levels, and Attribute Relationships

Measures

A role controls which measures users are able to see. Below is a view defined to display two measure items based on some Actual Sales measures and two based on Budget measures. The user running the view has permission to see all Actual Sales measures but does not have permissions to any Budget measures. That means the view will only return the measure items based on Actual Sales for this user.

View Name: *Current Yr Sales and Budget by Family*
View Filter

Year >>	2014	
Product Family	Actual Sales Amount	Actual Sales Units
30	$150,730,578	1,981,468
50	$151,009,565	3,936,603
51	$43,478,041	1,312,546
60	$189,747,299	4,798,985
61	$249,530,401	5,964,705
64	$98,471,013	1,931,934
66	$50,712,234	1,376,167
68	$36,335,803	1,058,926
71	$91,162,973	1,288,539
Grand Total	**$1,061,177,906**	**23,649,873**

1 to 10 of 10 | 1 to 2 of 2

Here is the same view run by a user with access to all Actual Sales and Budget measures. That user has access to all measures in the view.

View Name: *Current Yr Sales and Budget by Family*
View Filter

Year >>	2014			
Product Family	Actual Sales Amount	Budget Amount	Actual Sales Units	Budget Units
30	$150,730,578	$202,186,419	1,981,468	2,022,056
50	$264,156,520	$317,777,286	5,811,765	5,584,174
51	$171,774,479	$206,418,890	4,506,336	4,334,357
60	$290,938,489	$368,768,693	7,288,046	7,583,477
61	$249,530,401	$285,145,726	5,964,705	5,388,661
64	$255,649,144	$297,432,454	5,039,548	4,694,518
66	$426,948,999	$517,656,667	9,350,728	9,031,445
68	$260,371,059	$313,945,578	6,710,988	6,580,443
71	$151,641,309	$182,685,848	2,852,499	2,782,626
Grand Total	**$2,221,740,978**	**$2,692,017,560**	**49,506,083**	**48,001,757**

1 to 10 of 10 | 1 to 4 of 4

Also note, the user with the role restrictions in this example will not see the measures in question in the Insert and Edit Measure Items windows. Here is the Insert Measure Item window for that user.
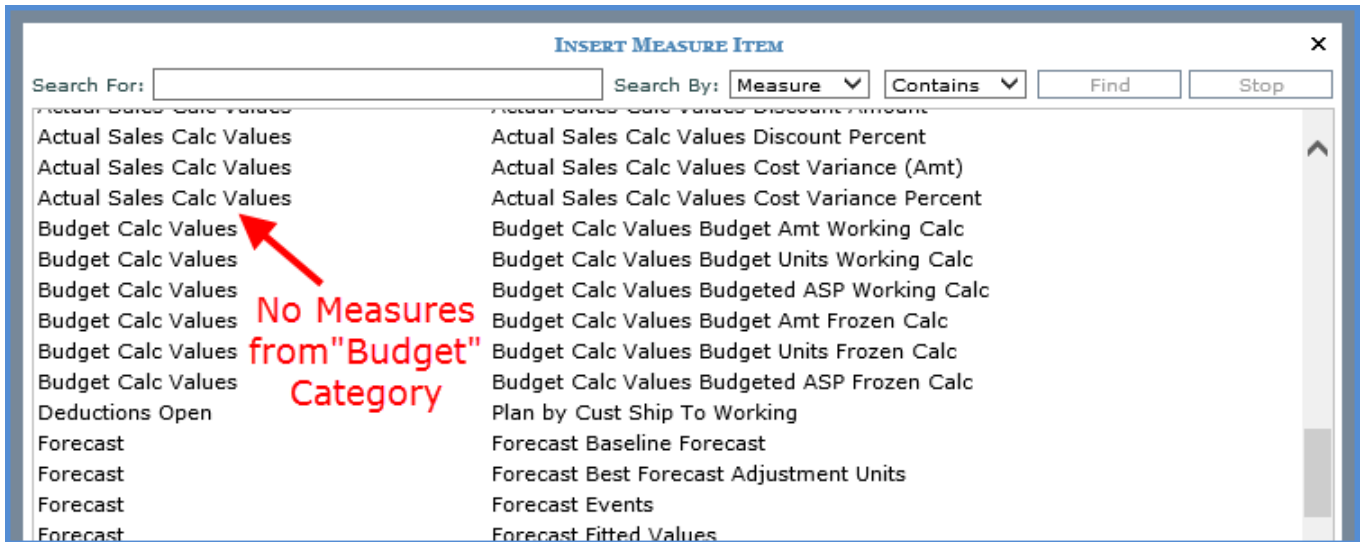
All Budget measures, both "Working" and "Frozen," display when the other user with full access uses the window.

Working with Hierarchies, Levels, and Attribute Relationships
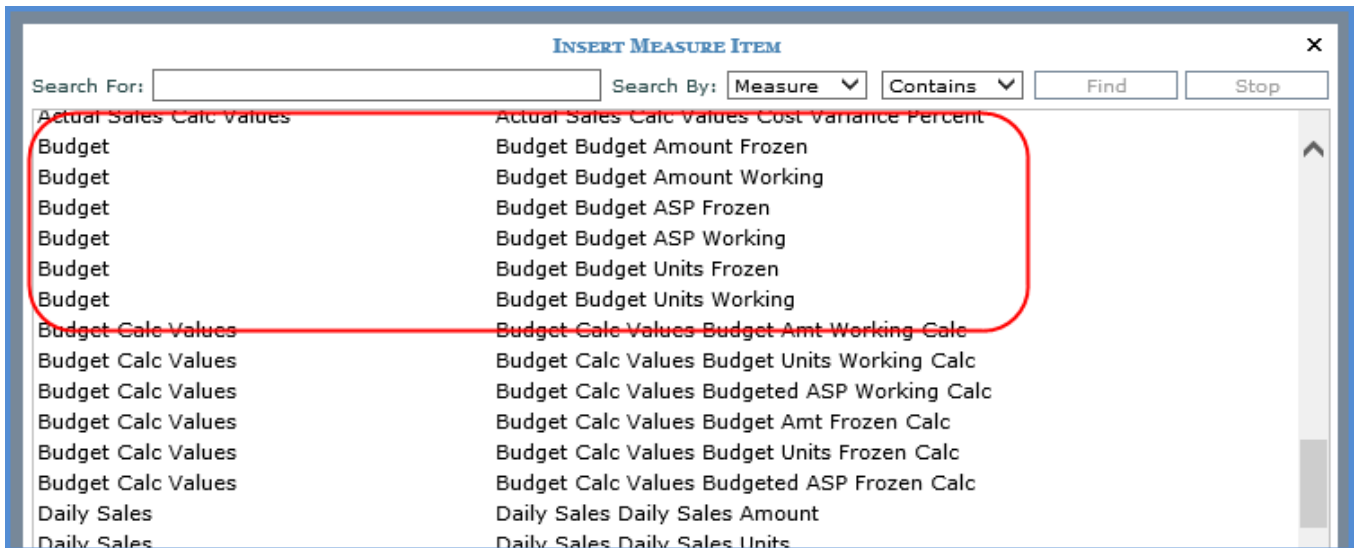
Measure Items Created from Stratum.Planner Calculated Values

Regardless of your role, all Stratum.Planner calculated values that are part of your environment will display in the Insert and Edit Measure items windows.

Notice that six Budget Calc Values showed for both users mentioned in our prior example. If a calculated value requires a regular measure to which you don't have access, then #ERR will be returned by the calculation in the Stratum.Viewer grid. For example, the marked measure item below is a calculation that requires data from the Budget Budget Amount Frozen and Budget Budget Units Frozen measures. A user with a role that permits him to see those measures will be able to see data returned in the view for the measure item.

View Name: Avg vs Budgeted ASP Current Month
View Filter

ABC Classification Code	Product	Actual Sales Calc Values Sales Avg Selling Price Sep 2014 to Sep 2014	Budget Calc Values Budgeted ASP Frozen Sep 2014 to Sep 2014
A	Applesauce 12oz BR* 0A	$36.27	$40.58
	Pear Slcs LS 12 oz BR* 0A		$41.46
	Pear Hlvs LS 12oz PL* 0A		$35.13
	Applesauce 12oz PL* 0A	$31.64	
	Apple Filling 12oz PL* 0A		$32.25
	Applesauce 106oz BR* 0A	$62.10	$69.21
	Applesauce 106oz PL* 0A	$51.13	$57.24
	Apple Filling 106oz PL* 0A	$50.32	$56.10
	Applesauce 12oz BR* 0B	$36.27	$40.58
	Pear Slcs LS 12 oz BR* 0B		$41.46
	Pear Hlvs LS 12oz PL* 0B		$35.13
	Applesauce 12oz PL* 0B	$31.64	
	Apple Filling 12oz PL* 0B		$32.25
	Applesauce 106oz BR* 0B	$62.10	$69.21
	Applesauce 106oz PL* 0B	$51.13	$57.24
	Apple Filling 106oz PL* 0B	$50.32	$56.10
	Applesauce 12oz BR* 0C	$36.27	$40.58

When a user who is not permitted to access Budget Budget Amount Frozen or Budget Budget Units Frozen runs the same view, that user sees results of #ERR.

⊞✦ View Name: *Avg vs Budgeted ASP Current Month*
↓→ **View Filter**

ABC Classification Code	▼ Product	Actual Sales Calc Values Sales Avg Selling Price Sep 2014 to Sep 2014	Budget Calc Values Budgeted ASP Frozen Sep 2014 to Sep 2014
A	Pear Hlvs LS 12 oz BR* 0A		#ERR
	Applesauce 12oz BR* 0A	$36.27	#ERR
	Pear Slcs LS 12 oz BR* 0A		#ERR
	Pear 6oz LnchPk LS 0A		#ERR
	Escalloped Apples 12 oz BR* 0A		#ERR
	Apple Filling 12oz BR* 0A		#ERR
	Pear Hlvs LS 12oz PL* 0A		#ERR
	Applesauce 12oz PL* 0A	$31.64	#ERR
	Apple Filling 12oz PL* 0A		#ERR
	Pear Hlvs LS 106 oz BR* 0A		#ERR
	Applesauce 106oz BR* 0A	$62.10	#ERR
	Escalloped Apples 106 oz BR* 0A		#ERR
	Apple Filling 106oz BR* 0A		#ERR
	Pear Hlvs LS 106oz PL* 0A		#ERR
	Applesauce 106oz PL* 0A	$51.13	#ERR
	Apple Filling 106oz PL* 0A	$50.32	#ERR
	Pear Hlvs LS 12 oz BR* 0B		#ERR
	Applesauce 12oz BR* 0B	$36.27	#ERR

Named Sets

Year to Date (YTD) named sets are created by Stratum.Connector for Viewer during the processing of the Analysis Services database for your Stratum.Viewer environment. There will be YTD named sets created for each single level, absolute time dimension. The named sets will consist of the time members for a year up to the current period -- for example, days in the year up to the current day, weeks up to the current week, months up to the current month, and quarters up to the current quarter.

This table shows examples of types of Stratum.Viewer dimensions that would and wouldn't have named sets.

Dimension	Hierarchy	Level(s)	Has a Named Set?
Weeks	Weeks	Weeks	Yes. This is an absolute time dimension with a single level.
Year Weeks	Year Weeks	• Year • Weeks	No. This is an absolute time dimension, but it has multiple levels.
Year Based Weeks Based	Year Based Weeks Based	• Year Based • Weeks Based	No. This is a based time dimension.
Product Brand	Product Brand	Product Brand	No. This is not a time dimension.

Named sets can be used in Stratum.Viewer for period based analysis and filtering levels from single level, absolute time dimensions. The named sets also can be used for setting up calculated measure items. More details:

- [Named Sets Created for Single Level, Absolute Time Dimensions](#)
- [Accessing Named Sets and Using them in Views](#)

Named Sets Created for Single Level Time Dimensions

Here are examples of named sets and their members that are created by Stratum.Connector for Viewer for single level, absolute time dimensions. Factors that determine the named sets are measure groups and their related Stratum.Server Structure Codes, the Based Periodic ViewSets in ViewGroups associated with the Structure Codes (excluding Based Year ViewSets), Categories in the Structure Codes, and Current Period information in the Stratum.Server database. For each Category in a Structure Code, a Named Set for each type of Based Periodic ViewSet is created.

Structure Code	ViewGroup Associated with Structure Code	Based Periodic ViewSets in the ViewGroup
Sales	Sales	Year Based
		Quarters Based
		Months Based
		Weeks Based
Inventory	Inventory	Year Based
		Quarters Based
		Months Based

		Weeks Based
Forecast	Forecast	Year Based
		Quarters Based
		Months Based

Additionally, the Structure Codes contain these Categories.

Structure Code	Category
Sales	Sales
Inventory	Inventory
Forecast	Forecast

Given this set up, Stratum.Connector for Viewer will create the following named sets. Their names consist of the Category name, a space, the text "YTD" (for year to date), another space, and the name of the Absolute Periodic ViewSet on which the Based Periodic ViewSet in the ViewGroup was based.

Structure Code	Named Set
Sales	Sales YTD Quarters
	Sales YTD Months
	Sales YTD Weeks
Inventory	Inventory YTD Quarters
	Inventory YTD Months
	Inventory YTD Weeks
Forecast	Forecast YTD Quarters
	Forecast YTD Months

Working with Hierarchies, Levels, and Attribute Relationships

More Information:

Named sets are comprised of members that make up the YTD Periods for the related Absolute Periodic ViewSet. Current Period information determines the member list for each named set. For example, if the current month in the Stratum.Server storage database is defined as April, the YTD Periods for the Months ViewSet would be January, February, March, and April. Given this, named sets such as Sales YTD Months and Forecast YTD Months would be comprised of the members January, February, March, and April.

Given the example named sets shown previously, if the Current Period was September 2014, then:

- The list of members for Sales YTD Quarters and other YTD Quarters named sets would be Q1, Q2, and Q3.
- The list of Members for Sales YTD Months and other YTD Months named sets would be January, February, March, April, May, June, July, August, and September.
- The list of Members for Sales YTD Weeks and other YTD Weeks named sets would be Week 1 through Week 38.

Accessing Named Sets and Using Them in Views

Named sets are accessed from the Select Named Set Filter window, which in turn is accessed from the Select Filter Method window when you are working with filters or working with expressions. Examples of using named sets follow. Remember, to use named sets you must be working with a single level, absolute time dimension such as Weeks, Months, Quarters, or Periods. When you are choosing a named set for a filter or expression, be sure that the set is relevant to the measure items in the view or expression. For example, if the measure item in a view is Actual Sales and you are filtering a level by a named set, choose one that pertains to Actual Sales rather than one pertaining to Budget.

Named Set Used for a Filter

The following view includes the Months level, which is from the Months time hierarchy and time dimension. Because the Months dimension is a single level, absolute time dimension, you can use the named sets for the Months level when working with the view. The Budget YTD Months named set was used to filter the level because Budget measure items are in the view. More information follows this image.

To set up the filter, the Months level was right-clicked and Filter then Edit was selected from the pop-up menu that displayed. In the Select Filter Method window, Named Set was selected, and OK was clicked.

Note: Another option in this window would have been to select Named Set, enter the name of the named set in the quick filter field, and click OK. In that case, the filter would be applied without accessing the Select Named Set Filter window.

The Select Named Set Filter window displayed, and the Budget YTD Months named set was selected. The window displayed the members in the named set. Then, OK was clicked to apply the filter.
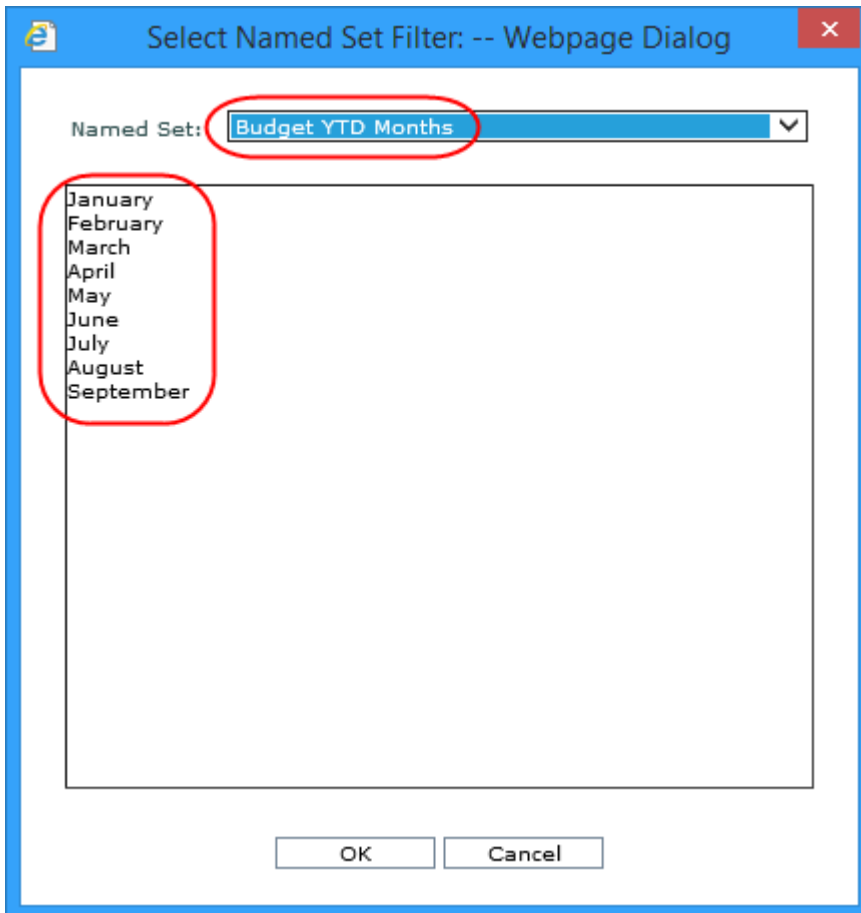
Named Set Used for a Calculated Measure Item

Here is an example of named sets used for calculated measure items. Both YTD calculated measure items use a named set in their expression. The calculated measure items take into account data from all months up to and including the current month for the last year and current year. More information follows this image.

Note: You can create a similar view using measure items with time ranges. The view would need to be one in which the Time Range property is enabled.

RepBroker	Current Yr YTD Sales Units	Last Yr YTD Sales Units
300	31,341,259	44,599,018
301	1,689,678	2,400,232
302	4,692,998	6,578,454
303	1,809,326	2,524,668
304	1,875,791	2,616,356
305	10,180,005	14,202,580
306	2,390,317	3,306,890
307	704,599	981,233
308	1,841,984	2,640,231
309	1,562,082	2,150,511
312	7,375,334	10,427,491
313	8,058,285	11,493,633
315	2,282,187	3,135,602
318	861,157	1,177,376
Grand Total	76,665,003	108,234,275

View Name: *RepBroker YTD Sales* — View Filter

The expression for the first measure item is:

IIF([Measures].[Data5 (Actual Sales Sales Units)] = null, null, Sum(CrossJoin({[Time].[Year Based Months Based].[Year Based].[Current Year]},{[Act Sales YTD Months]}),[Measures].[Data5 (Actual Sales Sales Units)]))

This expression uses the Act Sales YTD Months named set and the Actual Sales Sales Units measure item, which is part of the view definition but hidden from display. The expression has been optimized to check whether or not sales units data exists. The expression will be executed only for cases where there is data. Running the expression without this check could be time consuming.

Note: If the Actual Sales Sales Units measure item had not been a part of the view definition, the MDX for the related measure could have been typed directly into the expression. In that case, the expression would have been IIF([Measures].[Actual Sales Sales Units] = null, null, Sum(CrossJoin({[Time].[Year Based Months Based].[Year Based].[Current Year]},{[Act Sales YTD Months]}),[Measures].[Actual Sales Sales Units])).
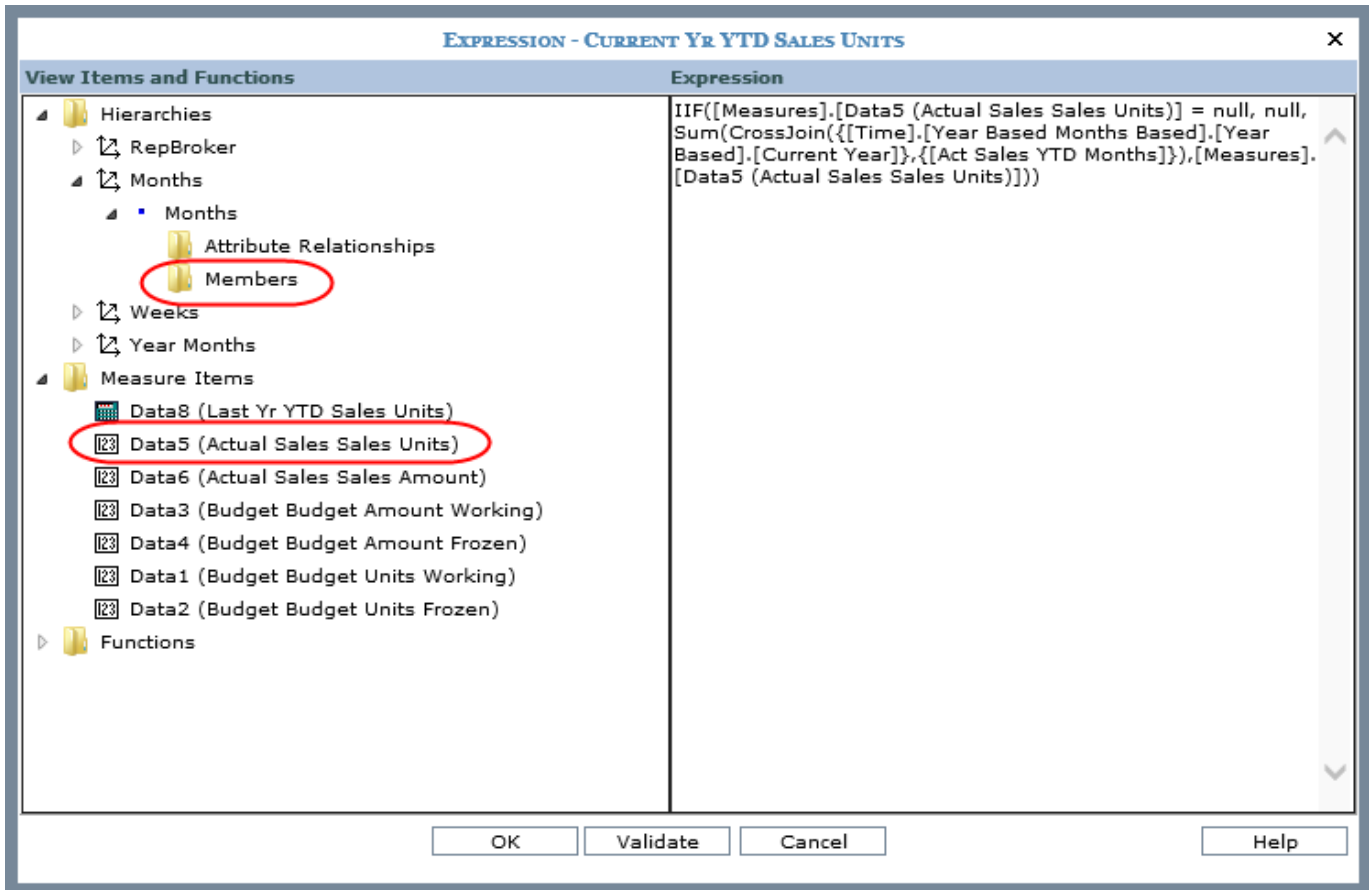
When building such expressions, you can enter the name of the relevant named set directly into the Expression window. Or, navigate to the appropriate level in the window and click its Members sub-folder to access the Select Filter Method window. For this measure item's expression, the Members sub-folder of the Months level was clicked to access the Select Filter Method window. Named Set was selected, and OK was clicked.
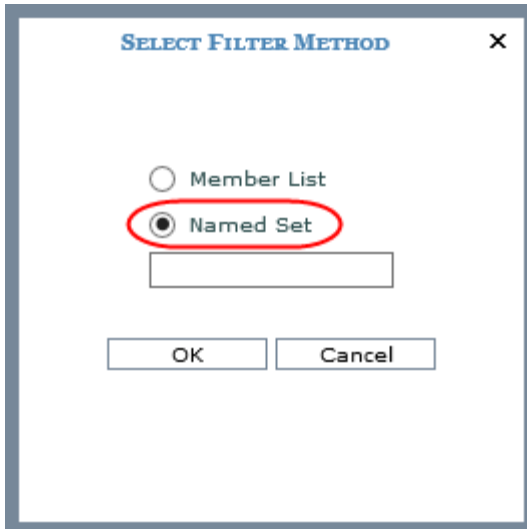
The Act Sales YTD Months named set was selected since the measure item in the expression is Actual Sales Sales Units.
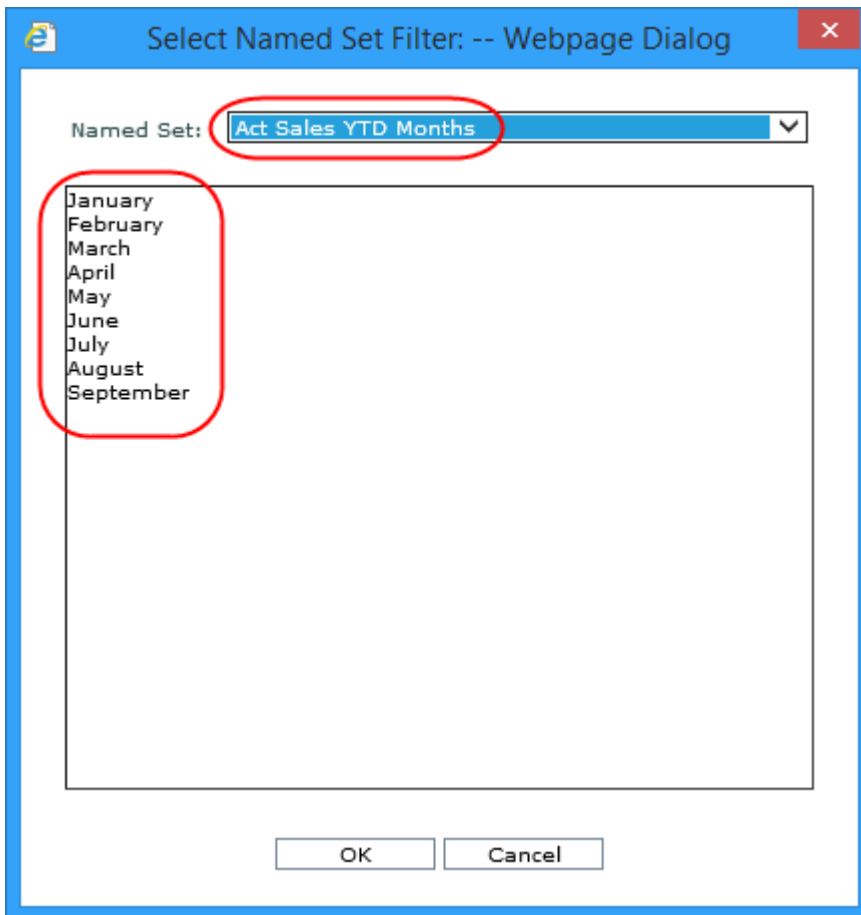
Frequently Asked Questions (FAQ's)

Can Levels be Removed?

Yes. You remove levels by removing their hierarchies. Use the Edit window or right-click a hierarchy in view explorer and select Remove.

What Happened to a Hierarchy that Used to be in my View?

Hierarchies can be removed when:

- The Time Range property for the view changes. That change can impact time hierarchies and measure items.
- The hierarchy or its dimension was removed from Stratum.Connector for Viewer and is no longer available to any users.

Example Time Range Property Changes

All time hierarchies will be removed from a view if you change the Time Range property from No to Yes. Changing the property to Yes lets you use measure items with time ranges in the view. In that case, time hierarchies are irrelevant and will be removed from the view.

Here is a view that has a Time Range property of No and a time hierarchy on columns.

Here is the view after the Time Range property was changed to Yes, and here is the related prompt that displayed to confirm the change. Time hierarchies were removed, as were all measure items (they did not have time ranges). Measure items with time ranges can be added to the view after this change to the Time Range property.
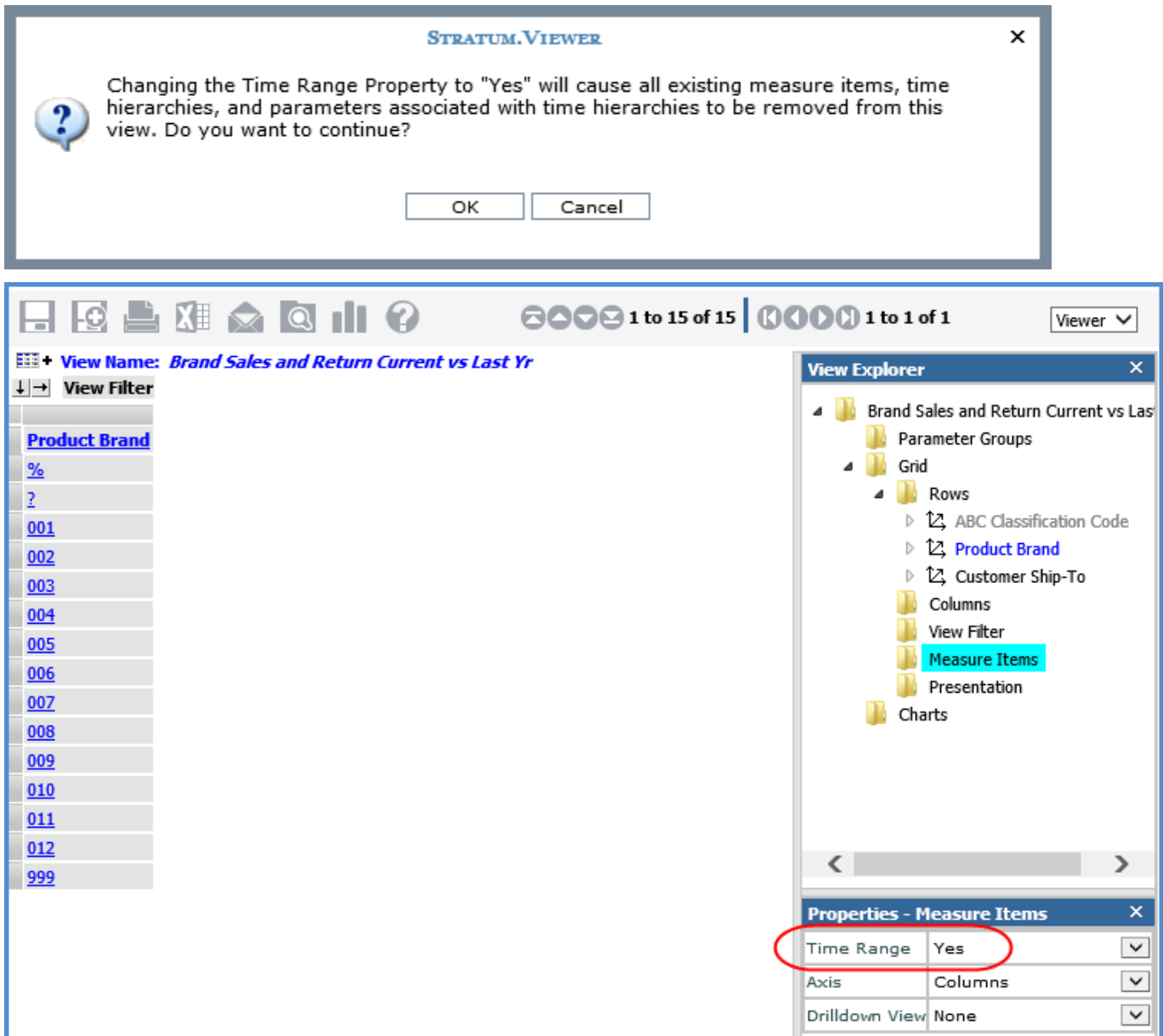
Why don't Totals Display in a View?

Totals will not display if they have been disabled:

- Totals can be disabled for individual levels and measures via the Totals property in their properties windows. If totals for all measure items have been disabled, no totals will display even if totals are enabled for levels.
- Totals can be disabled for all levels on rows and/or columns via the Totals properties on the axis icon pop-up menus ⬇ ➡.

Attribute Relationship

Attribute relationships provide supplementary, descriptive information about levels. For example, a Customer level may have members (Customers) with attribute relationships such as address, contact person, long description, phone number, and region.

Attribute relationships can be used in several ways, such as displayed on rows and columns of views, used for filtering purposes, and used to build user list expressions. They are also used as display columns and for searching purposes in the Select and Advanced Select Members windows.

Dimension

There is a 3-part structure of information within Stratum.Viewer that includes dimensions, hierarchies, and levels. Dimensions contain at least one hierarchy, which in turn contain at least one level, which in turn contain members. You can see an example of this structure in view explorer.

Dimension with Single Hierarchy

In this example, there is a Product Family hierarchy (⬚) with a Product Family level (▪) in the rows for the grid. The hierarchy belongs to a Product Family dimension, which you can see when you access the Properties window for the hierarchy.
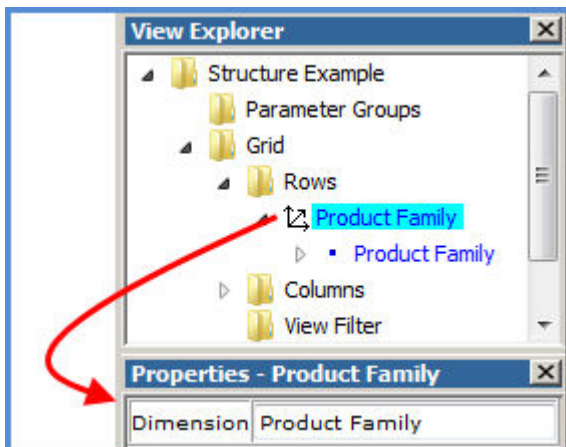
Dimension with Multiple Hierarchies

There are two time hierarchies in this example, and both belong to a Time dimension. The Year Months hierarchy ( ) has Year (") and Months (") levels. The Year Weeks hierarchy ( ) has Year (") and Weeks (") levels.
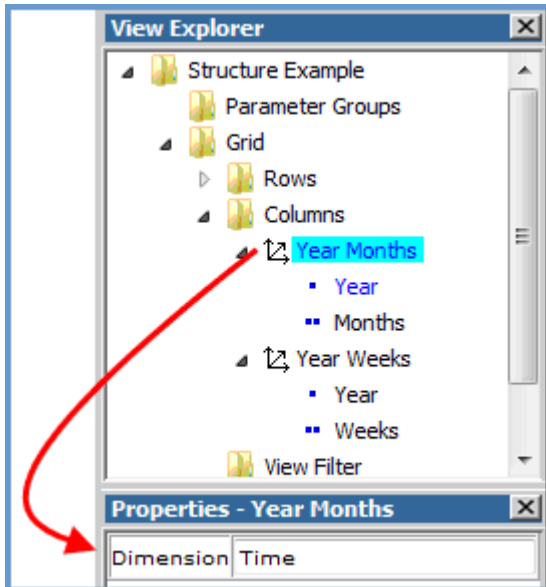
Display Text

It is the text that displays to identify the members of levels in rows or columns. Display text is set to the member values by default. You have the option of using an attribute relationship of the level as its display text.

The level on columns in this view uses value for display text.

View Name: *Daily Sales by RepBroker with View Filters*						
View Filter						
RepBroker >>	300	301	302	303	304	30
RepBr Long Description	Nicole Toscano	Patrick Hurley	Mark Fiedler	Michelle Knapp	John Trasky	Janice Tie
Daily Sales Amount Jan 2014 to Dec 2014	$387,457,865	$30,591,105	$71,521,380	$32,104,173	$41,434,348	$157,03
Daily Sales Units Jan 2014 to Dec 2014	789,468	49,195	122,763	46,036	77,344	23
Daily Sales Daily Sales Amount Jan 2013 to Dec 2013	$309,966,292	$24,472,884	$57,217,104	$25,683,338	$33,147,478	$125,62
Daily Sales Daily Sales Units Jan 2013 to Dec 2013	631,574	39,356	98,211	36,829	61,875	18

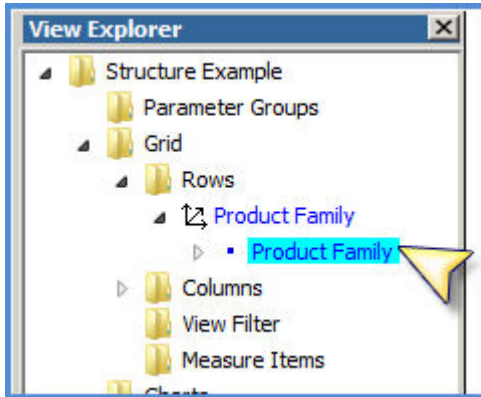This adjusted view uses the long description as display text.

Hierarchy

There is a 3-part structure of information within Stratum.Viewer that includes dimensions, hierarchies, and levels. Hierarchies belong to dimensions and contain at least one level, which in turn contain members. You can see an example of this structure in view explorer. In the following example, there is a Product Family hierarchy (⤵) with a Product Family level (▪) in the rows. The hierarchy belongs to a Product Family dimension, which you can see when you access the Properties window for the hierarchy.
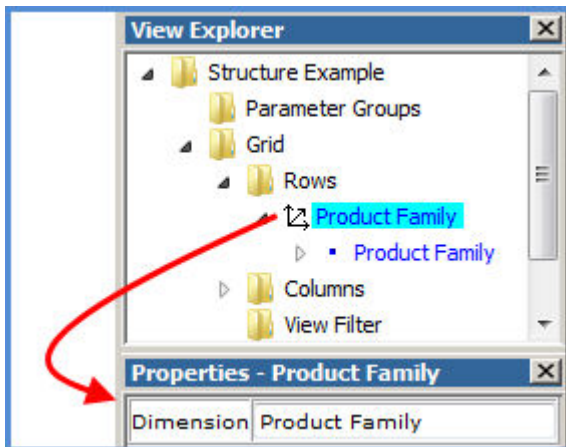
Level

There is a 3-part structure of information within Stratum.Viewer that includes dimensions, hierarchies, and levels. Levels belong to hierarchies and contain members. You can see an example of this structure in view explorer. In the following example, there is a Product Family level (▪) that belongs to a Product Family hierarchy (🖎) in the rows.

Levels can be used in several ways, such as displayed on rows and columns of views, used for filtering purposes, and used to build user list expressions.

Member

There is a 3-part structure of information within Stratum.Viewer that includes dimensions, hierarchies, and levels. Members belong to levels and represent the items of information for each level. You can see an example of members in the rows or columns of your views. Members can be displayed by their value or an attribute relationship. In the following example, there is a Product Family level on rows and five of its members are displayed by value. The PFam Long Description attribute relationship also displays for each member.

Members can be used in several ways, such as for filtering or sorting purposes in views and for building user list expressions.

View Name: *Daily Sales by Product Family*

View Filter

▲ Product Family	PFam Long Description	▼ Daily Sales Amount Jan 2014 to Sep 2014	Daily Sales Units Jan 2014 to Sep 2014
50	Tender Vegetables	$1,986,048	91,768
60	Fruit Fillings	$2,141,722	107,390
64	Specialty Canned Fruit	$1,505,100	56,595
65	Fruit Cocktail	$2,008,747	83,519
66	Peaches	$2,827,284	123,190
Grand Total		$10,468,899	462,461

Time Hierarchy

A time hierarchy is a hierarchy from the Time dimension. The Time dimension, its hierarchies, and its levels are a means of organizing the years and time periods (for example, days, weeks, months, and quarters) that will be available for use in setting up views. Stratum.Connector for Viewer creates the Time dimension, its hierarchies, and levels based on the Stratum.Server ViewGroups and View Sets associated with the measure groups selected for your Analysis Services database.

There are two time hierarchies in this example, and both belong to the Time dimension. The Year Months hierarchy ( ) has Year ( ) and Months ( ) levels. The Year Weeks hierarchy ( ) has Year ( ) and Weeks ( ) levels. Other examples of time hierarchies are Year Based Months Based, Rolling Year Based Months Based, and Months.