The next generation CONTROL®

version 10.3

Release Announcement

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CONTROL® 10.3 – Overview

CONTROL® 10.3 is all about putting more power to analyze, model, and present CONTROL® data into the hands of any Excel user.

With the introduction of Flex views, you can insert rows, columns and cells, add calculations, copy and paste, and format your view any way you like – all the while retaining the connection of the data on your worksheet to the underlying CONTROL® data and meta-data.

In addition to Flex views, there are a number of improvements and enhancements to the Information Navigator, and several refinements in object views and edit books to help make the job of the administrator easier.

Enhancements for the Information Navigator

Flex views

With decades of usage by thousands of users in a broad spectrum of industries, it is fascinating to observe the creative ways that CONTROL® data is used for business models, analyses, input templates, reports, and presentations. This is a crucial element in the value equation that CONTROL® brings to its customers.

Flex views are the next advance in empowering Excel users to access and manipulate CONTROL® data for any purpose they can imagine – with the same security, data integrity, and scope of applications that are the hallmark of CONTROL®.

In previous releases, we introduced scratchpads and Control Reference Functions (CRF) which delivered additional functionality in this area. While these features have been used successfully by many customers, they have limitations that restricted their use. Both features also require a deeper knowledge of CONTROL® than a typical Excel user would have.

Flex views are designed to overcome these limitations.

The goal of this feature is to marry the richness and power of the CONTROL® architecture to the familiarity, flexibility, and simplicity of Excel.

Here is just one example of a report that you can quickly create that references data from multiple models using this new functionality:

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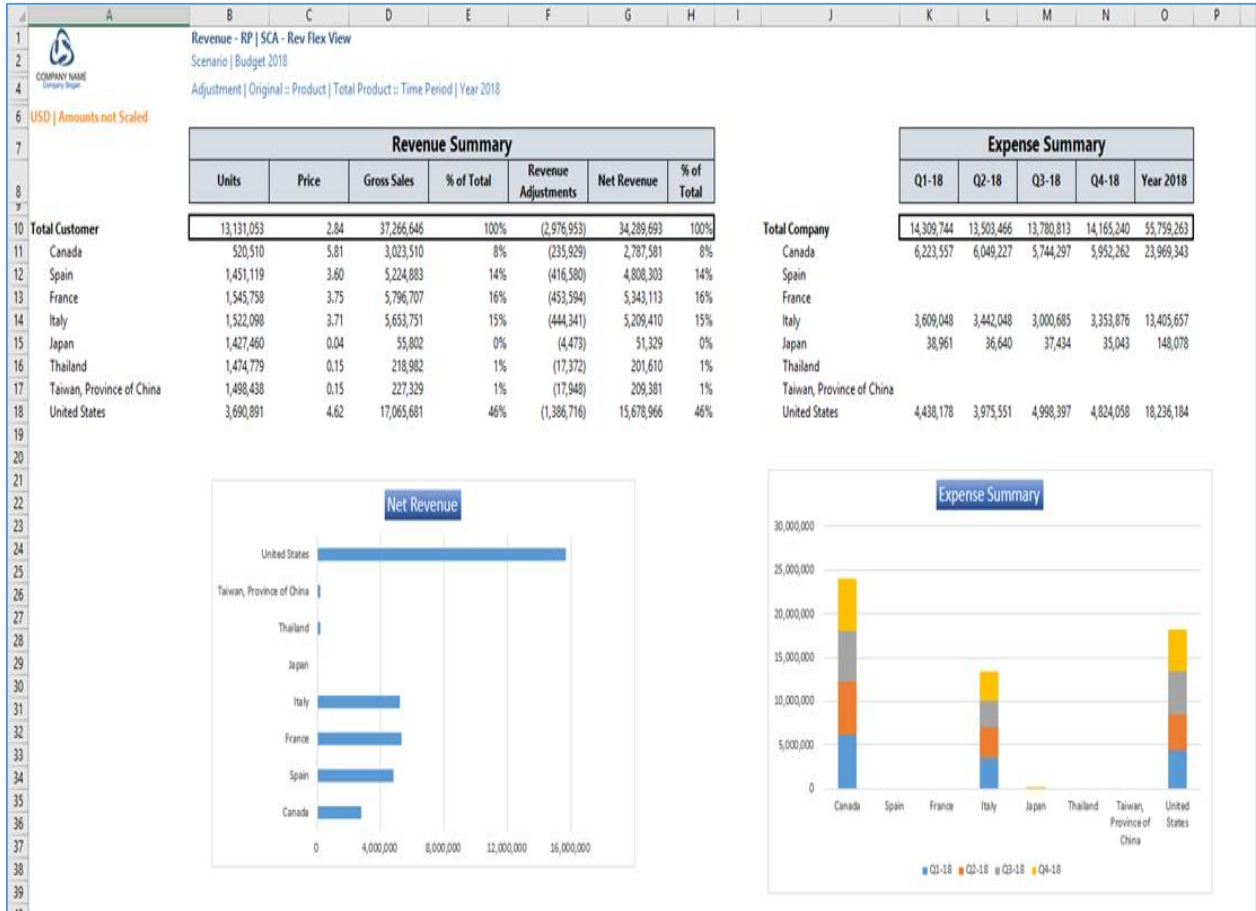
For a comprehensive review of Flex views, see the *Flex Views* document.

User navigation pane

After introducing the Object Navigation task pane in version 10.0, we received a lot of feedback on how easy it is to find and edit various CONTROL® objects. In fact, it became the preferred mechanism for administrators to choose and open books, views, and forms.

With 10.3, we are bringing the same convenience to Information Navigator users. The User Navigation task pane allows you to quickly browse and navigate to the same kinds of objects you can open from the CONTROL® Navigator ribbon.

The User Navigation pane shares the left-hand side of your screen with the Application Menu and the Object Navigation pane:
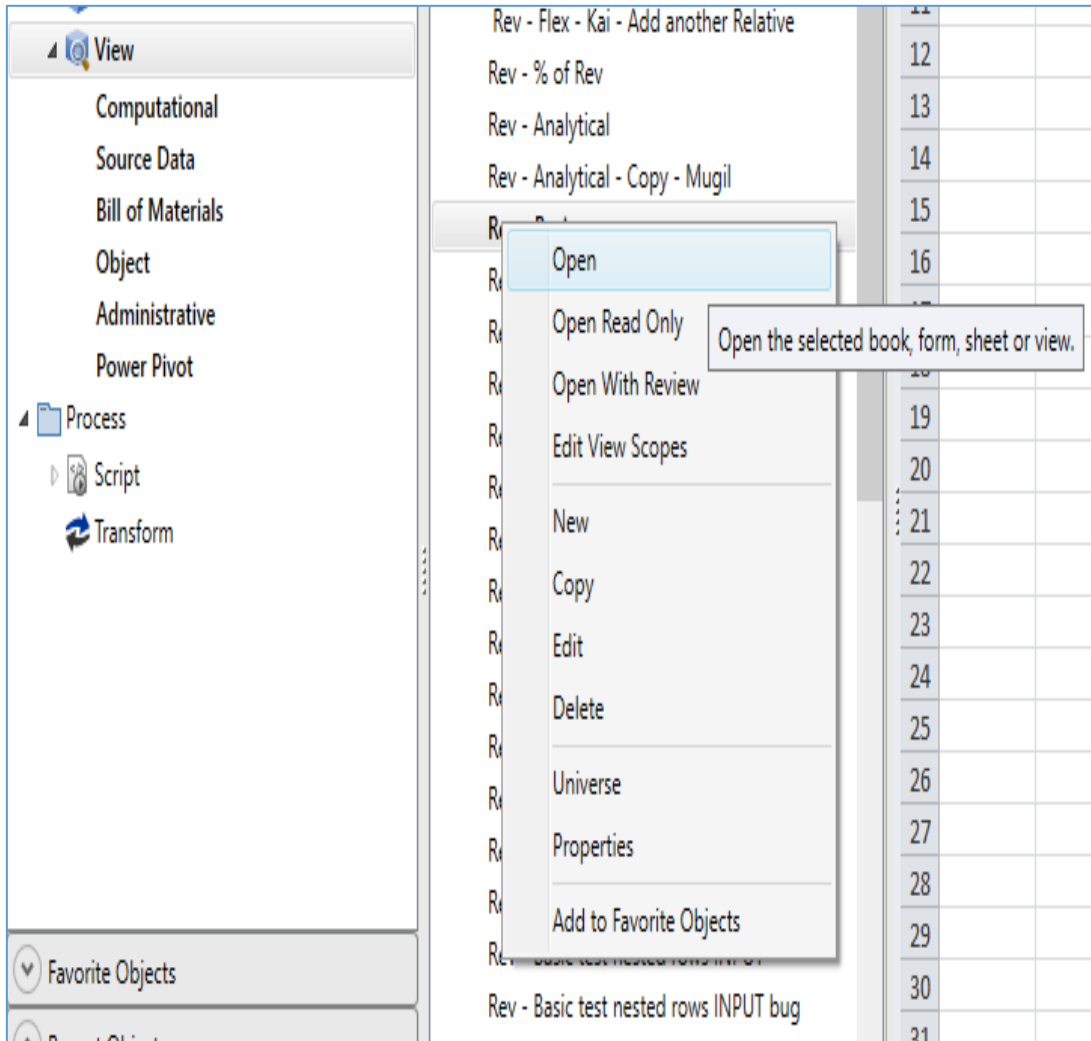
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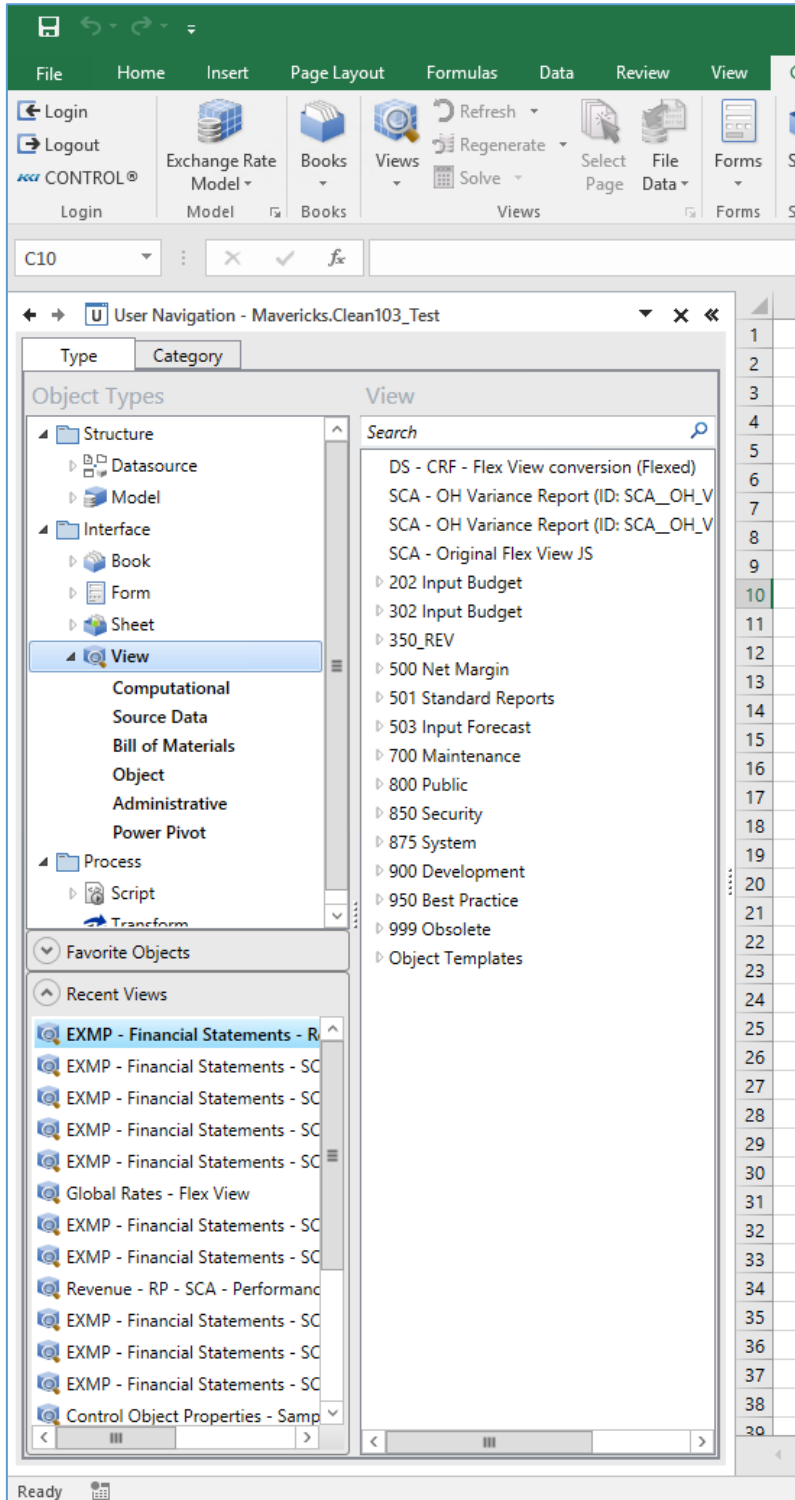
You select the class of object (view, book, etc.) and optionally the sub-class (computational, source data, etc.) on the left, then choose a specific object of that class on the right side of the pane or pick from the recent or favorite lists at the bottom.

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Double clicking executes the default action – opening a view, book, form or sheet; or running a script or transform. Double clicking on a model or data source will open a new view on that object.

Each object has additional actions, which vary by object class. These actions are found by right-clicking on the object. For a view, the options are:
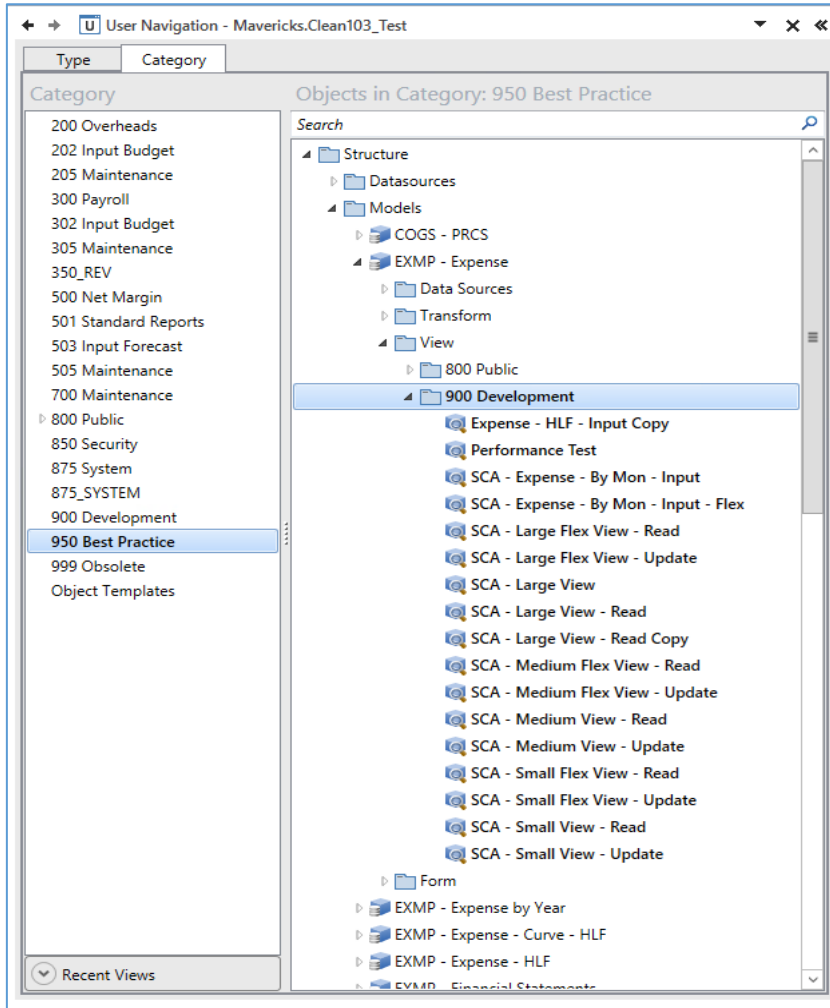

A tool tip explaining the action appears when you hover over the action name.

The User Navigation pane offers a second organization of the components of your application on the **Category** tab:

This tab lets you pick a category on the left, and then navigate to a model, the data sources mapped to or from the model, the views and forms used with the model, and so on. This is a more natural structure for exploring unfamiliar applications.

To switch between the **User Navigation** pane, the **Application Menu**, and the **Object Navigation** pane (if you are an administrator), use the drop-down list or right and left arrow buttons at the top of the pane:
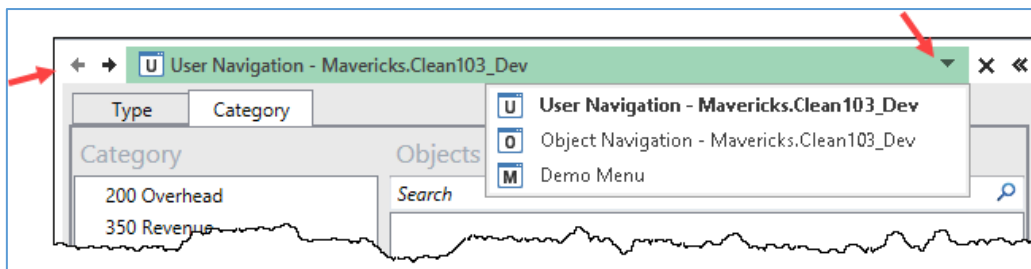
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Your administrator determines which panes you can see and your default pane by setting the **User Experience** and **Default Navigation** properties of your user object:
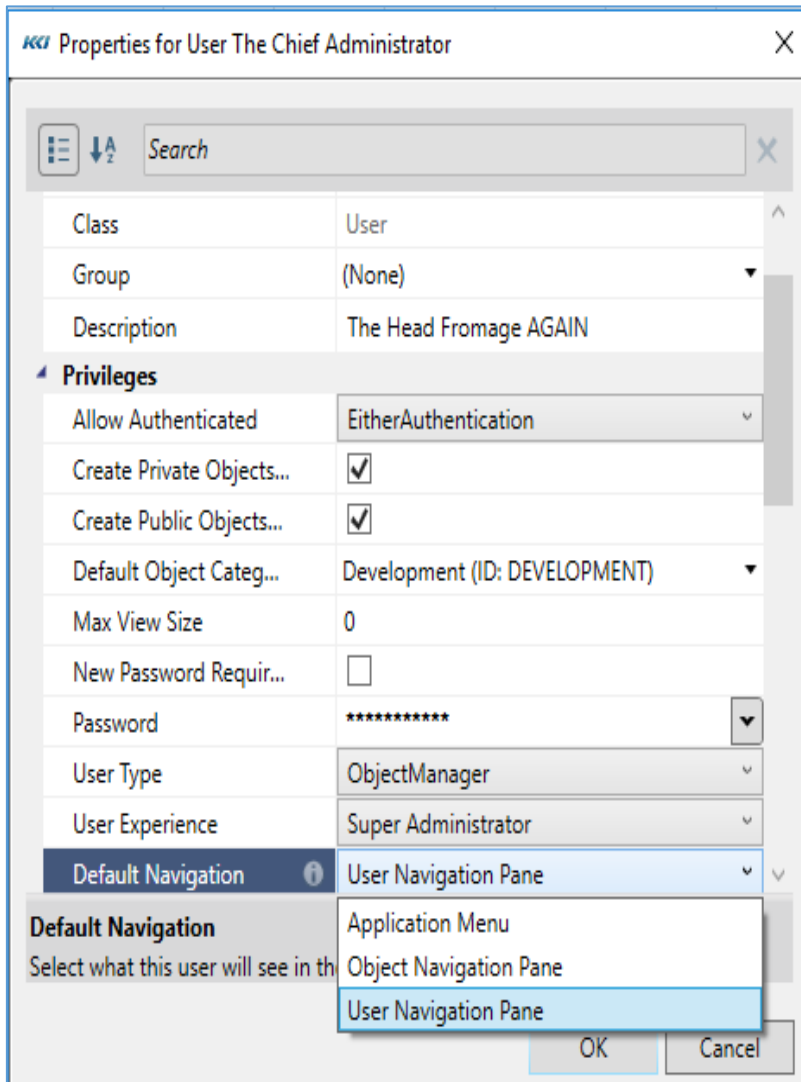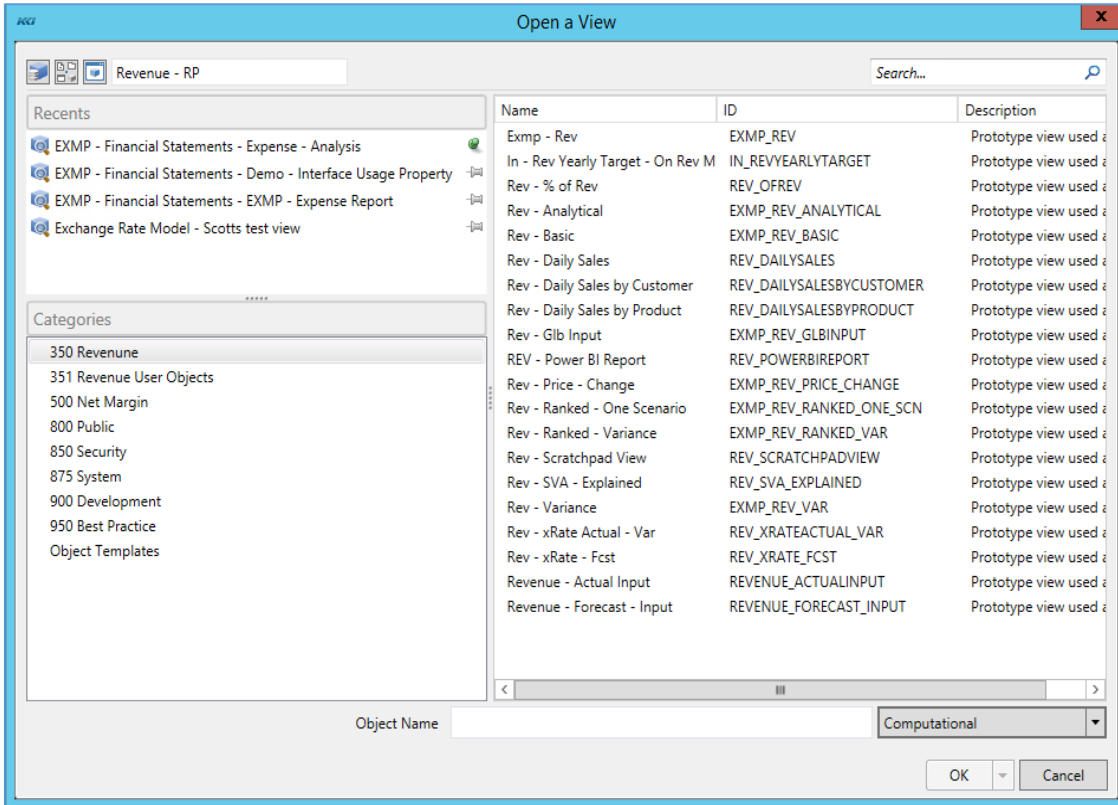

New object browsers

For users accustomed to navigating via the ribbon, the object browser dialogs have been redesigned to have a simpler yet more functional interface.
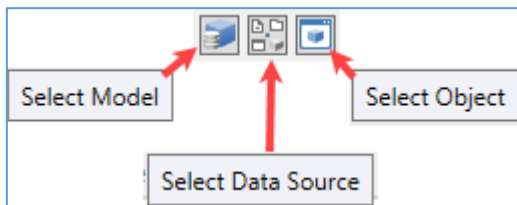
The differences are most visible in the **Open View** dialog:

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- The icons in the upper left corner let you select a model, data source, or object context by launching an appropriate sub-dialog.


- The search functionality now allows you to search through all the listed objects and locate only the objects that match the ID or name you enter. The search can be done on all the objects independent of category or can be limited to the selected category.
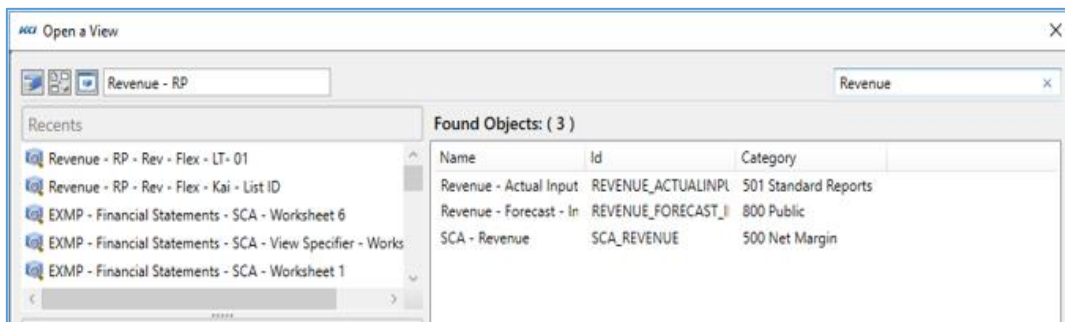
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- The **Recents** list now includes entries for all CONTROL® actions, including **New**, **Edit**, **Open**, **Run**, **Test**, and **Schedule**.

- You can click on the **Recents** header to sort your pinned objects.

- When typing into the **Object Name** box, auto-completion logic will list valid options for you.
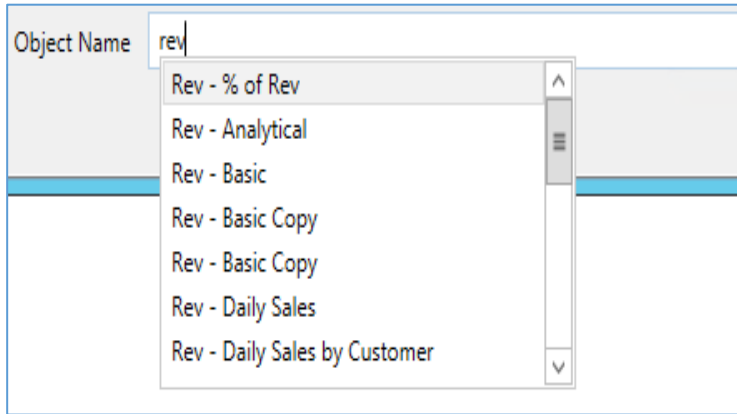
New drill to data

There is a new drill option that opens a view window on a new worksheet to help you explore any part of a Computational or Flex view in greater depth.

The new window is looking at the <u>same</u> data as the original view but reorganized in a way that provides greater detail without changing the configuration of the original view.

Here is an example of looking at Gross Sales in a 6-dimensional view:

Like every other drill operation, highlight the cell or cells you are interested in, right click, and select **Drill** > **To Data**:

A new worksheet is opened which presents the selected data in greater detail. You can:

- Navigate the view further on this worksheet – expand, show, rotate, etc.

- Enter data or perform solves – the original view will immediately reflect your updates.

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- Perform **Drill** > **To Data** (or other drill operations) from this worksheet.

- Close the drilled view window without altering your original presentation.

- Return to your original view and select **Drill** > **To Data** on other information, you wish to explore.

  Note: In previous releases, the option **Drill** > **Data** referred to drilling on an item in the view and replacing the contents of the current worksheet with the drilled data. In release 10.3, this option is now **Drill** > **Down**.

Ranking and bucketing in analytic custom dimensions

You can now easily see the numeric rank of dimension members in a computational view as compared to their peers – i.e. best store for sales, most profitable region, highest yielding investment, etc. (This feature was released on a limited basis in version 10.2 and is now generally available.)

Bucketing is very similar to ranking except that it divides the members into a specified number of groups. For example, it is common to group in quartiles (4 buckets) or quintiles (5 buckets).

In the context of hierarchical CONTROL® data, it is important to be able to distinguish rank and bucketing based on a level of detail. You typically would not want to compare the sales within a territory or a region to the sales within a single store, but you would want to compare a territory to other territories or a store to other stores. Ranking and bucketing allows you to define the appropriate logic.

In support of this enhancement, analytic custom dimensions now support the following new functions:

- **Rank**, **RankUp**, and **RankDown**. Rank is the same as RankDown, where a rank of 1 is assigned to the highest data value.

- **Average**, **Median**, **Min** and **Max**

- **Quartile**, **Quintile**, and **Decile**. The largest numeric values are in the lowest numbered grouping.

- **Bucket**, **BucketUp**, and **BucketDown**. Bucket is the same as BucketDown, and these functions are like Quartile except that they allow the specification of the number of buckets. (Quartile has 4 buckets, Quintile 5, Decile 10)

The general format of these functions is:

  rankingFunction[{member} %groupingOption On dimensionID] {In nBuckets}

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If the member is omitted, the Base member of the analytic dimension is used.

For example:

Rank[%WithinGroup On Product]

The grouping options are:

- **%Overall** – all data in the dimension is included in a single ranking.

- **%WithinGroup** – data within a parent-child group is ranked.

- **%WithinLevel** – data within the same level is ranked, independent of parentage.

- For consistency with other analytic functions, **%Total** is the same as **%Overall** and **%Group** is the same as **%WithinGroup**.

The dimensional specification options are identical to those currently supported for all other functions in analytic custom dimensions. The **dimensionID** can be a valid dimension ID, a subclass name (Variable, Organization, Scenario, or Time), or Organization_n to select the *n*th organization dimension-branch included in the view.

Here is a sample analytic custom dimension:

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Here is the view using this dimension:

NOTRANSLATION | Amounts not Scaled

Customer	Base Data	-Average Within Group Customer	-Median Within Level Customer	-Min Within Level Customer	-Max Within Level Customer	-Rank Up Overall Customer	-Rank Down Overall Customer	-Rank Down Within Group Customer	-Rank Up Within Group Customer	-Rank Down Within Level Customer	-Rank Up Within Level Customer	-Quartile Overall Customer	-Bucket3 Within Level Customer
Customer 0008	23,628	23,166	24,420	22,704	26,136	8	29	1	8	20	8	4	3
Customer 0007	23,496	23,166	24,420	22,704	26,136	7	30	2	7	21	7	4	3
Customer 0006	23,364	23,166	24,420	22,704	26,136	6	31	3	6	22	6	4	3
Customer 0005	23,232	23,166	24,420	22,704	26,136	5	32	4	5	23	5	4	3
Customer 0004	23,100	23,166	24,420	22,704	26,136	4	33	5	4	24	4	4	3
Customer 0003	22,968	23,166	24,420	22,704	26,136	3	34	6	3	25	3	4	3
Customer 0002	22,836	23,166	24,420	22,704	26,136	2	35	7	2	26	2	4	3
Customer 0001	22,704	23,166	24,420	22,704	26,136	1	36	8	1	27	1	4	3
-USA United States	185,328	82,418	74,646	26,136	185,328	35	2	1	8	1	8	1	1
Customer 0026	26,004	25,872	24,420	22,704	26,136	26	11	1	3	2	26	2	1
Customer 0025	25,872	25,872	24,420	22,704	26,136	25	12	2	2	3	25	2	1
Customer 0024	25,740	25,872	24,420	22,704	26,136	24	13	3	1	4	24	2	1
-FRA France	77,616	82,418	74,646	26,136	185,328	34	3	2	7	2	7	1	1
Customer 0023	25,608	25,476	24,420	22,704	26,136	23	14	1	3	5	23	2	1
Customer 0022	25,476	25,476	24,420	22,704	26,136	22	15	2	2	6	22	2	1
Customer 0021	25,344	25,476	24,420	22,704	26,136	21	16	3	1	7	21	2	1
-ITA Italy	76,428	82,418	74,646	26,136	185,328	33	4	3	6	3	6	1	2
Customer 0020	25,212	25,080	24,420	22,704	26,136	20	17	1	3	8	20	2	1
Customer 0019	25,080	25,080	24,420	22,704	26,136	19	18	2	2	9	19	2	1
Customer 0018	24,948	25,080	24,420	22,704	26,136	18	19	3	1	10	18	3	2
-TWN Taiwan, Province of China	75,240	82,418	74,646	26,136	185,328	32	5	4	5	4	5	1	2
Customer 0017	24,816	24,684	24,420	22,704	26,136	17	20	1	3	11	17	3	2
Customer 0016	24,684	24,684	24,420	22,704	26,136	16	21	2	2	12	16	3	2
Customer 0015	24,552	24,684	24,420	22,704	26,136	15	22	3	1	13	15	3	2
-THA Thailand	74,052	82,418	74,646	26,136	185,328	31	6	5	4	5	4	1	2
Customer 0014	24,420	24,288	24,420	22,704	26,136	14	23	1	3	14	14	3	2
Customer 0013	24,288	24,288	24,420	22,704	26,136	13	24	2	2	15	13	3	2
Customer 0012	24,156	24,288	24,420	22,704	26,136	12	25	3	1	16	12	3	2
-ESP Spain	72,864	82,418	74,646	26,136	185,328	30	7	6	3	6	3	1	3
Customer 0011	24,024	23,892	24,420	22,704	26,136	11	26	1	3	17	11	3	2
Customer 0010	23,892	23,892	24,420	22,704	26,136	10	27	2	2	18	10	3	2
Customer 0009	23,760	23,892	24,420	22,704	26,136	9	28	3	1	19	9	4	3
-JPN Japan	71,676	82,418	74,646	26,136	185,328	29	8	7	2	7	2	1	3
Customer 0027	26,136	26,136	24,420	22,704	26,136	27	9	1	1	1	27	1	1
-CAN Canada	26,136	82,418	74,646	26,136	185,328	27	9	8	1	8	1	2	3
-Total Customer	659,340	659,340	659,340	659,340	659,340	36	1	1	1	1	1	1	1

Some important details:

- As with other analytic functions, keywords may be used and will be evaluated in the model scope of the view.

- The ranking values are based on the data in the view and are not dependent on the orientation of the view.

- Data is ranked without taking an absolute value, so negative values will get a higher-ranking number in RankDown and a lower ranking number in RankUp.

- Two members with identical data values will get the same ranking, and the member with the next highest or lowest value will get a ranking 2 greater than the tied value.

- By default, data which is identically zero is NOT ranked, as this can cause the memory used to generate the view to grow dramatically. If you do need to have 0 values included, use **%WithinGroupZeros**, **%WithinLevelZeros**, or **%OverallZeros** as a grouping option.

- The Bucket functions require a suffix of **In *nnn***, where *nnn* is the number of buckets. For example, **BucketDown[%WithinGroup On Product] In 3** will divide the members of the product dimension into 3 buckets – high, medium, low.

## Comments and hyperlinks in analytic custom dimensions

This enhancement lets you show comments and hyperlinks in the body of your view, and use standard navigation operations like expand, compress, rotate, and drill to present commentary and data any way you like.

This new mechanism is an extension of analytic custom dimensions that were introduced in version 10.2.

Analytic custom dimension may contain one or more members whose formula is either:

- Comments[baseMemberID]

- Hyperlinks[baseMemberID]

You can omit the baseMemberID if there is a member with the ID of **BASE**:
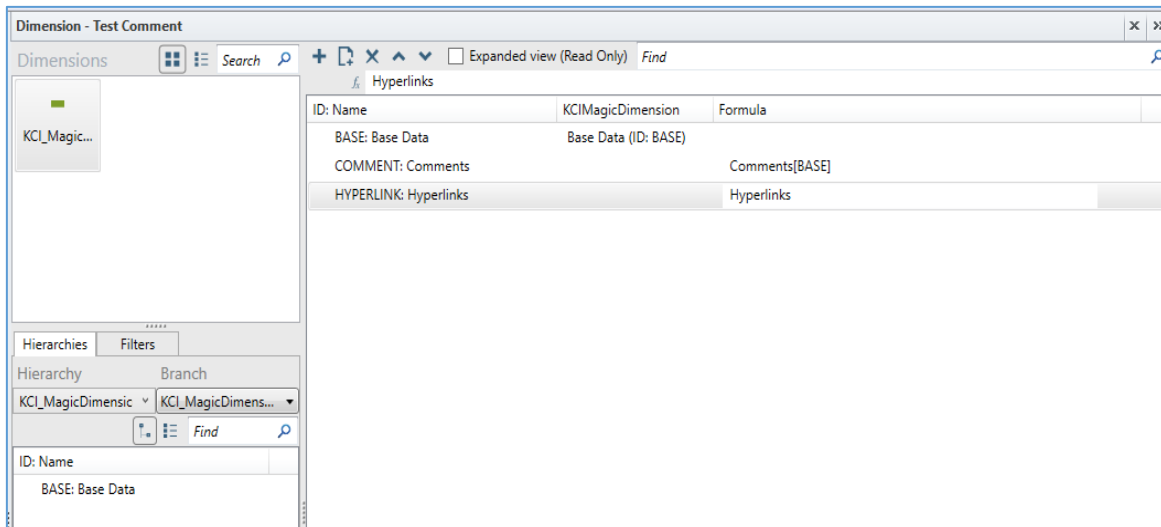
When you open the view with these members included, the comments and/or hyperlinks display in the rows and columns of the data area. In the example below, the view includes **Comments**.

A few important implementation notes:

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- The ReadOnly property of the custom member will determine whether the comment or hyperlink text can be updated

- The view scope's Comment Content property determines how the comments will be presented:

  - **All** will show all comments with the user name in brackets preceding the comment.

  - **Last** will show the most recent comment with the user name in brackets.

  - **Anonymous** will show the most recent comment without user identification.

- Partially unanchored comments cannot be shown in the body of the view

- Cell comments may be turned on, but should be used with caution when the comments are updateable, as updates to the cell comments will generally override the comments that appear as data

Lookups in custom dimensions

Custom members can translate distinct values to text strings using the new Lookup Level property of a custom member:

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The view displays the data the same way as a lookup level value for a variable.

Pages:	Department (CAN Canada)				
	EXMP - Expense | Expense - HLF - Input				
USD | Amounts not Scaled	Department | Canada				
	Expense - HLF Input				
FS - Account	Act Year 2017	Fcst Year 2018	-Fcst Adj Year 2018	Curve	Fcst Tgt Year 2018
Full Time Equivalent	425	453			453
Total Employee Compensation	58,588,304	58,817,787	(1,817,232)	4-4-5	57,000,555
Travel & Entertainment	2,623,357	2,633,632	0	4-4-5	2,633,632
Supplies & Services	4,481,568	4,499,122	0	4-4-5	4,499,122
Communications & IT	655,839	658,408	0	4-4-5	658,408
Freight & Shipping	787,007	790,090	0	4-4-5	790,090
Occupancy	1,311,678	1,316,816	0	4-4-5	1,316,816
Maintenance	983,759	987,612		Even	987,612
Insurance	655,839	658,408	0	Even	658,408
Utilities	655,839	658,408	0	Even	658,408
Depreciation & Amortization	2,951,277	2,962,836	0	Even	2,962,836
Other Expenses	7,345,848	7,231,044	0	Even	,231,044
-Total Overhead Expenses	81,040,315	81,214,163	(1,817,232)	Even / 4-4-5	,396,931

Important details:

- The custom member may be updateable, and if so, it must have base dimension definitions that allow posting to updateable (lowest level, write privileged) members of those dimensions.

- If there is a lookup level defined for both a custom dimension and a variable dimension in the view, the custom dimension's lookup level will be used for the custom member.

- If the custom member is expandable, then all the members resulting from the expansion will use the same lookup level.

- As with variables, the lookup level may be a level or an attribute that has a numeric ID.

- The look up value is stored in the model based on the members defined in the view and the members defined by the filter(s) of the custom member. Therefore, you should create a different model to store the look up data value(s), or filter your custom member to select unique members that are specific to your lookup value, so you do not overwrite your model data.

  In the example below, the Curve and Fcst Target members have the same filters for scenario and time. Therefore, you need to define the Curve member with a different model (Exmp – Expense – Curve – HLF). If not, then the data for both members would overwrite each other. Alternatively, instead of using a different model, you could filter for a different scenario, for example, Scenario Curve_Data.

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Expense - HLF Input (Dimension)					
Prototype view for Dimension - Custom View					
Updating: Clear and Insert Filter:					
Name	**ModelID**	**Read Only**	**Lookup Level**	**SCENARIO Selection**	**TIMEPERIOD Selection**
Curve	EXMP_EXPENSE_CURVE_HLF	N	HLF_CURVE	Filter(SCENARIO FCST)	Filter(YR &CURRENT_YEAR)
Fcst Target	EXMP_EXP_HLF	N		Filter(SCENARIO FCST)	Filter(YR &CURRENT_YEAR)

This is different from using look ups with variables because you cannot store data for a custom member, but only by the filtered members defined in the custom member.

Solve on calculated members in custom dimensions

Specialized logic for performing Solve on members of a custom dimension which are defined by formulas has been implemented in this release.

When a change in a computed custom member is detected, a one-dimensional solve is performed to allocate the changes to the operands in the member's formula. Any non-computed operand, which is defined to be read only, is implicitly locked, as are any operands defined with a lookup level. The solve process is recursive for any calculated operands.

After solving back to non-calculated custom members, the changes are propagated to the non-custom "sub-views", and the traditional solve logic is executed, respecting any implicit and explicit locks and any solve patterns.

Note: Solve does not work on calculated members of analytic custom dimensions or on calculated members defined with the Better/Worse (BW) function.

Here is an example of solving on the percent change for Bad Debt Expense.

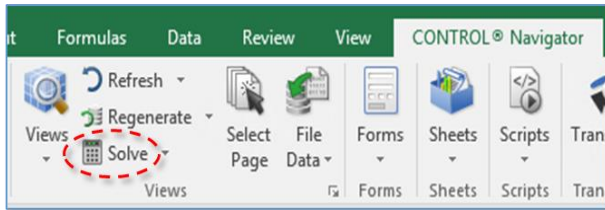|	Read Only Column	Updatable Column	Calculated Column	Calculated Column
	BUD vs FCST Variance			
FS - Account	**Budget Mar-2018**	**Forecast Mar-2018**	**-CY FCST vs CY Budget Var**	**-CY FCST vs CY Budget %**
Bad Debt Expense	59,982	60,584	(602)	-1.0%
Bank Fees	(8,119)	(5,000)	(3,119)	38.4%
Commissions and Fees Expense	50,192	45,248	4,944	9.9%
Legal and Professional Expense	48,630	42,875	5,755	11.8%
Office Expense	30,447	29,865	582	1.9%
Supplies Expense, Office	44,516	49,653	(5,137)	-11.5%
Training Expense	70,168	69,853	315	0.4%
-Supplies & Services	295,816	293,078	2,738	0.9%

- Update **Bad Dept Expense** percent change from -1.0% to 5.0%.

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	Read Only Column	Updatable Column	Calculated Column	Calculated Column
	BUD vs FCST Variance			
FS - Account	Budget Mar-2018	Forecast Mar-2018	-CY FCST vs CY Budget Var	-CY FCST vs CY Budget %
Bad Debt Expense	59,982	60,584	(602)	5.0%
Bank Fees	(8,119)	(5,000)	(3,119)	38.4%
Commissions and Fees Expense	50,192	45,248	4,944	9.9%
Legal and Professional Expense	48,630	42,875	5,755	11.8%
Office Expense	30,447	29,865	582	1.9%
Supplies Expense, Office	44,516	49,653	(5,137)	-11.5%
Training Expense	70,168	69,853	315	0.4%
-Supplies & Services	295,816	293,078	2,738	0.9%

- Click **Solve**.

- Since Budget data is locked only Forecast data is updated.

	Read Only Column	Updatable Column	Calculated Column	Calculated Column
	BUD vs FCST Variance			
FS - Account	Budget Mar-2018	Forecast Mar-2018	-CY FCST vs CY Budget Var	-CY FCST vs CY Budget %
Bad Debt Expense	59,982	56,983	2,999	5.0%
Bank Fees	(8,119)	(5,000)	(3,119)	38.4%
Commissions and Fees Expense	50,192	45,248	4,944	9.9%
Legal and Professional Expense	48,630	42,875	5,755	11.8%
Office Expense	30,447	29,865	582	1.9%
Supplies Expense, Office	44,516	49,653	(5,137)	-11.5%
Training Expense	70,168	69,853	315	0.4%
-Supplies & Services	295,816	289,477	6,339	2.1%

New CONTROL® ribbon commands

We added and removed some commands to the CONTROL® ribbons to support new functionality.

The CONTROL® Navigator ribbon includes a new **Flex Pane** command in the **Show/Hide** group to display the **Flex Pane** to help manage Flex formulas.

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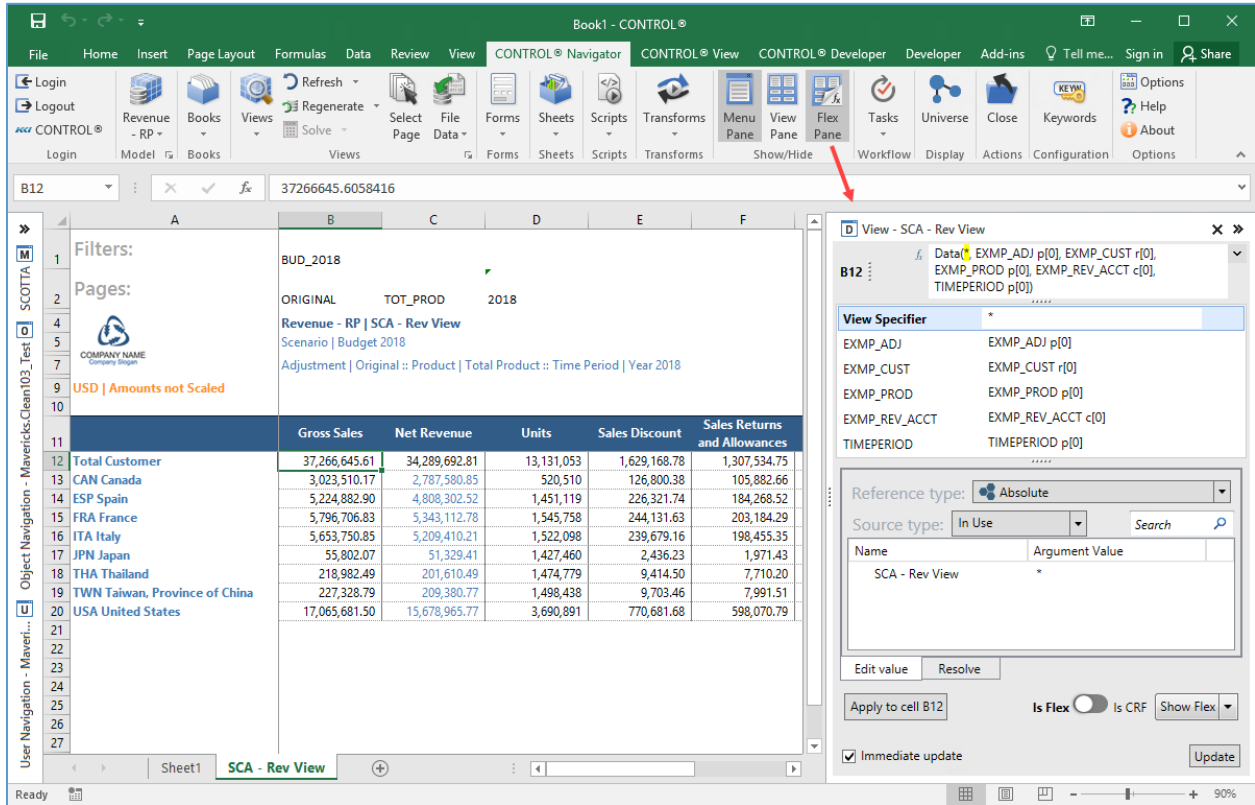
The CONTROL® View ribbon includes several new commands. The new **Flex View** group includes commands to manage Flex views.

In the **Format** group, we replaced **Filter and Page Rows** with the **Repeat Member Names** command.
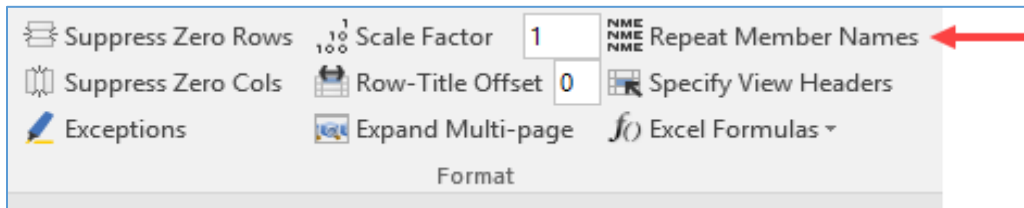
Users did not use the Filter and Page Rows command enough to warrant its placement on the ribbon. However, users requested the Repeat Member Names command, so they can easily repeat member names with nested dimensions.

Formatting a book's table of contents

You can now format the **Table of Contents (TOC)** template worksheet to have alternating row style formatting.

Follow these steps to set it up:

1. Open a Template sheet that includes the **TOC** worksheet.
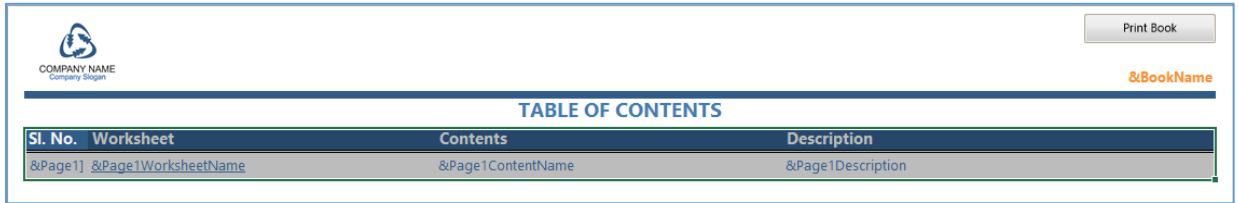
2. Highlight the column header row and the next row below it.

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3. From the **Home** tab, click the **Font Settings** dialog launcher to open the **Format Cells** dialog.
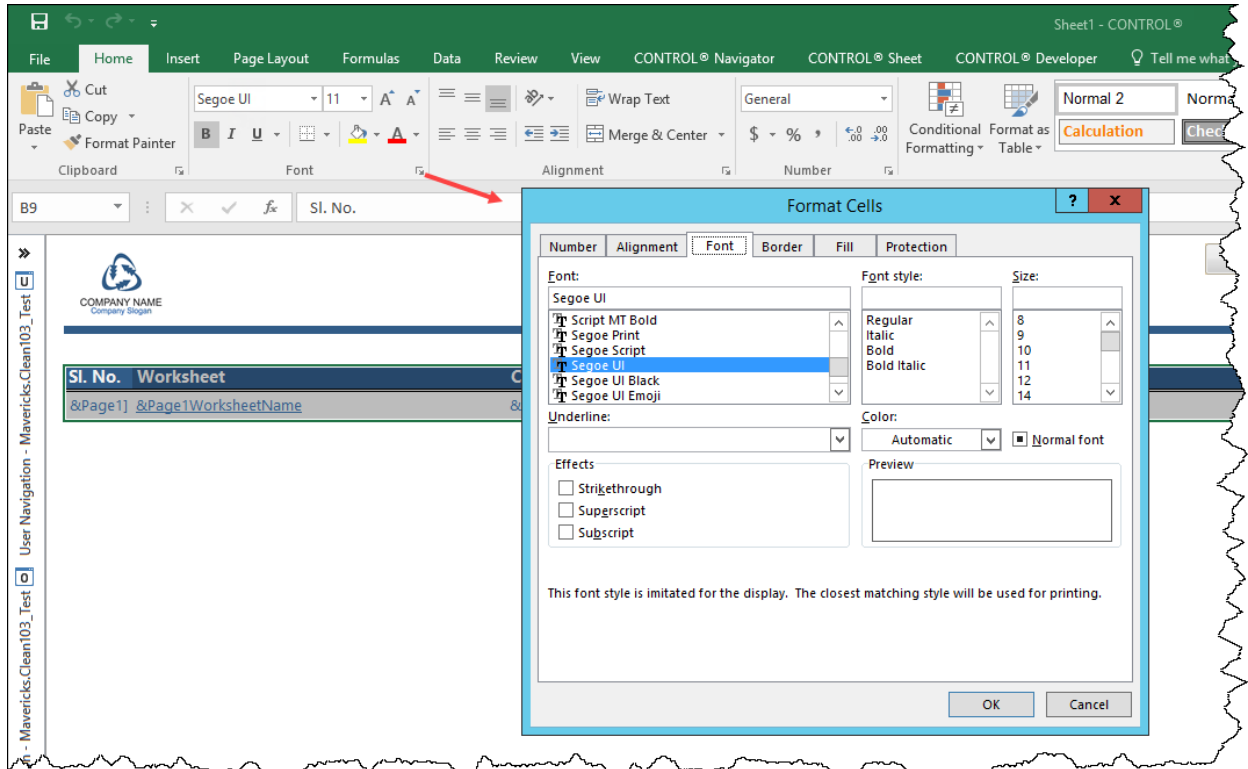
4. On the **Border** tab, under **Presets**, click **None**.

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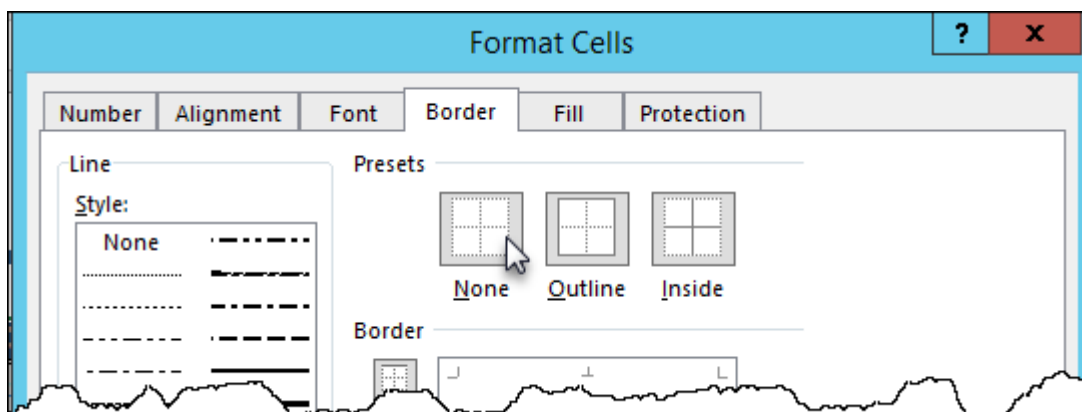
5. On the **Fill** tab, under **Background Color**, click **No Color**.
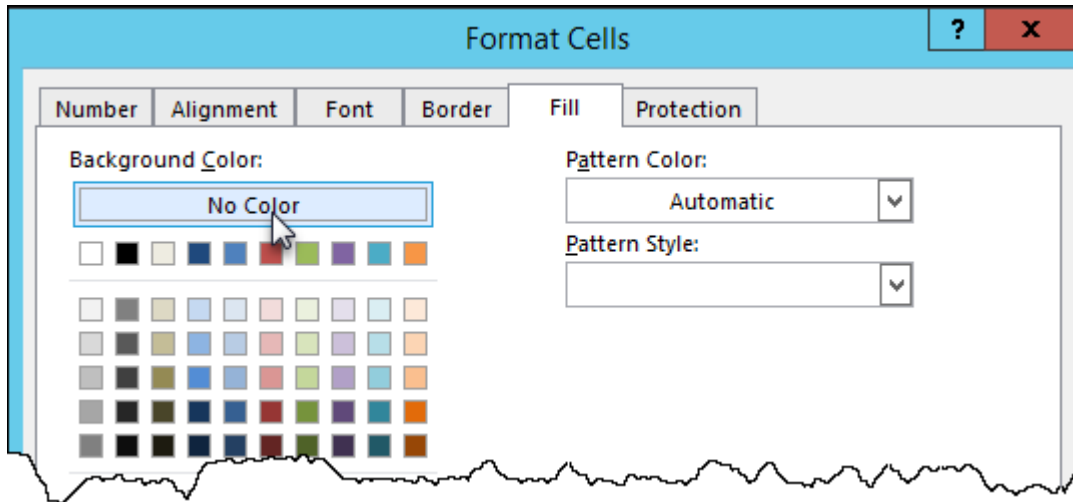
6. Click **OK** to save the changes.

7. From the **Insert** tab, in the **Tables** group, click **Table**.
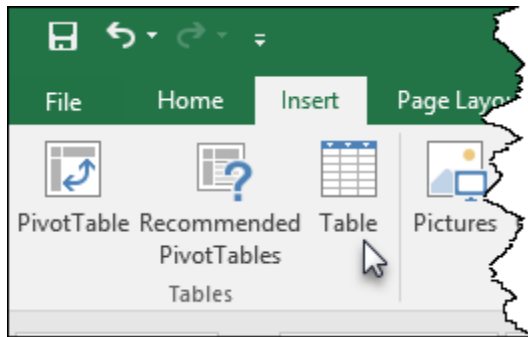
8. On the **Create Table** dialog, select the **My table has headers** option, and click **OK**.
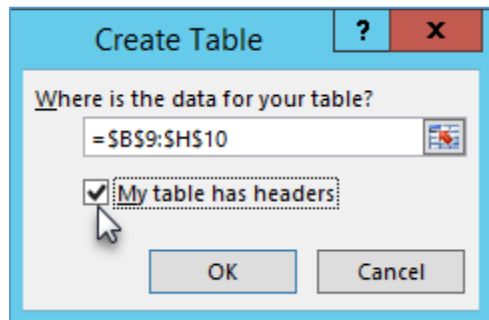
9. You can use the default table style, or from the **Table Tools Design** tab, you can select a different predefined format, or create a new table style.

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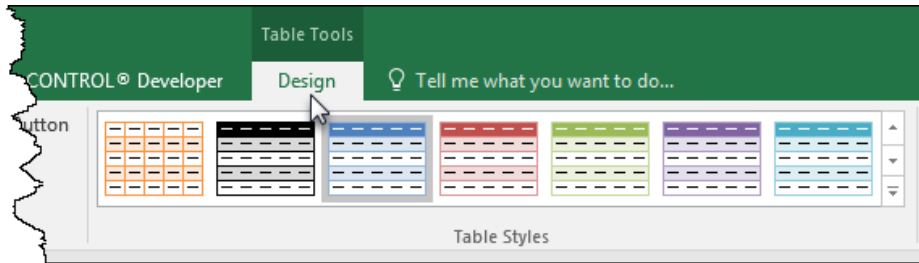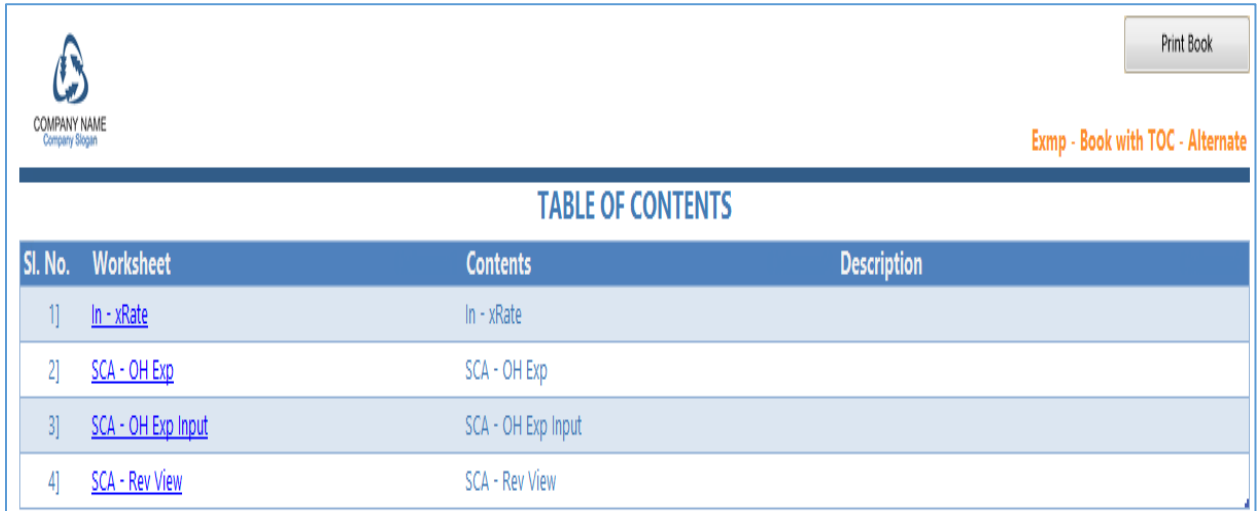
Note: Excel will add generic column names to any columns with no header, so you will need to change the font color to match the fill color for those column headers.

10. After defining the table style, you can either save the active **Template** sheet, or save it as a new **Template** sheet.
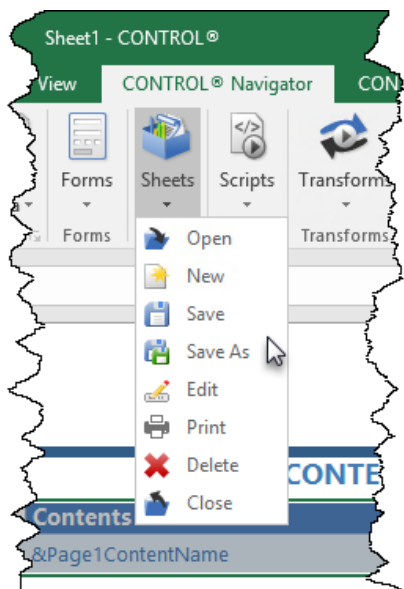
When you open a book that includes a table of contents, you will see the alternating row styles.

Enhancements for the administrator

Restoring applications using a code

One of the key goals of the re-imagining of the administrative interface in version 10 was to dramatically reduce the amount of time and effort required to build a sophisticated CONTROL® application.

KCI has been investing heavily in creating rich application templates for common financial applications – revenue planning, expense analysis, capital budgeting, employee cost projection, and more. We want our customers and prospects to share the benefits of this investment.

The manifest feature supports shipping collections of models, views, mappings, and other objects between CONTROL® installations, but each customer will have their own chart of accounts, product lists, and organization structures that needs to be "plugged in" to the application template.

To support the customized replacement of selected objects, we enhanced the manifest **Restore From** > **File** option to allow the substitution of object IDs when you restore them from a manifest. You define the replacement value by specifying a **Code** on the target system as shown below:

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The Code object specifies a list of source (or base) object IDs to be replaced with the matching target object IDs using the **{Object Class Name}Object ID** format as shown below:
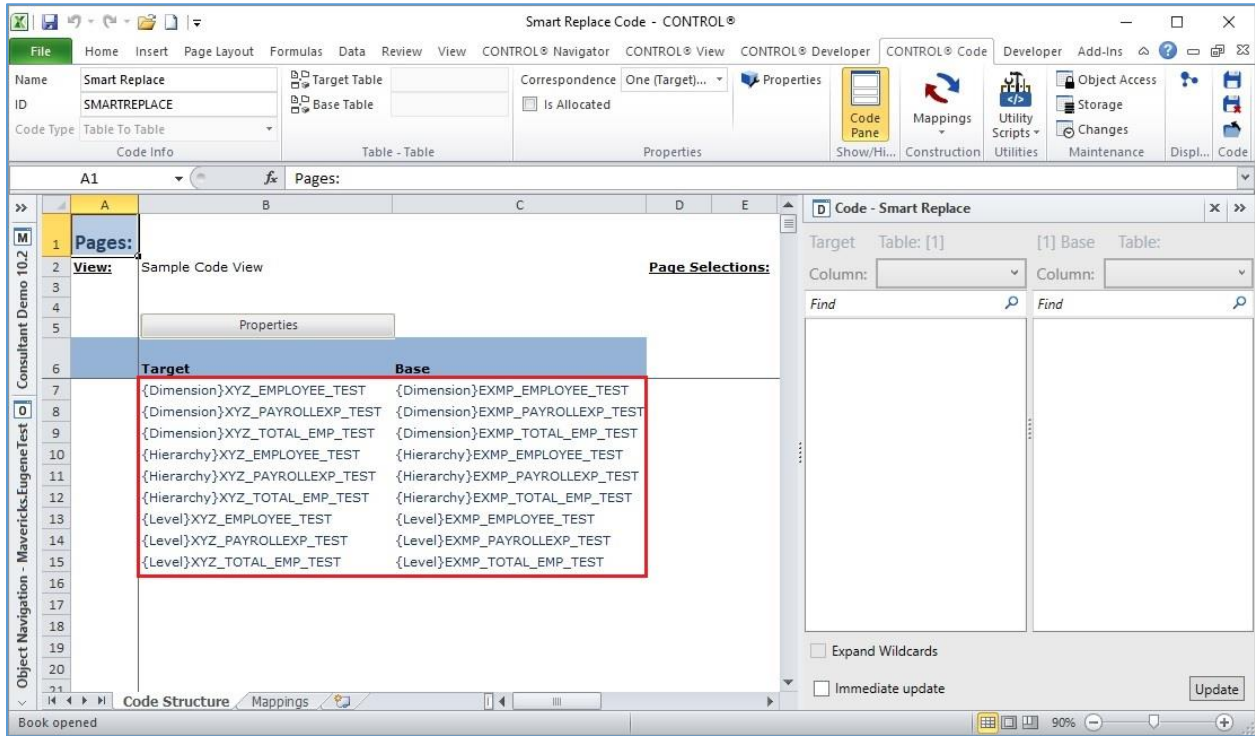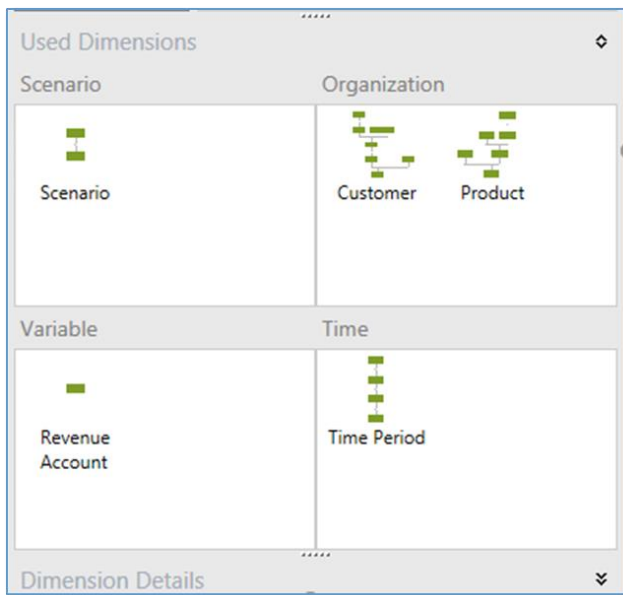
The recommended steps to accomplish the creation and distribution of large-scale applications is:

1. Build the application in a development environment, creating new objects as needed and using existing objects such as variable, scenario, and time dimensions as needed.

    EXAMPLE - Revenue Model Built in Development Database Environment:

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2. Identify the objects that need replacing to customize the application for the target environment – such as account, product, or employee dimensions and the related levels. We will call these **Placeholder** objects.

   *EXAMPLE - Revenue model built in development database environment:*
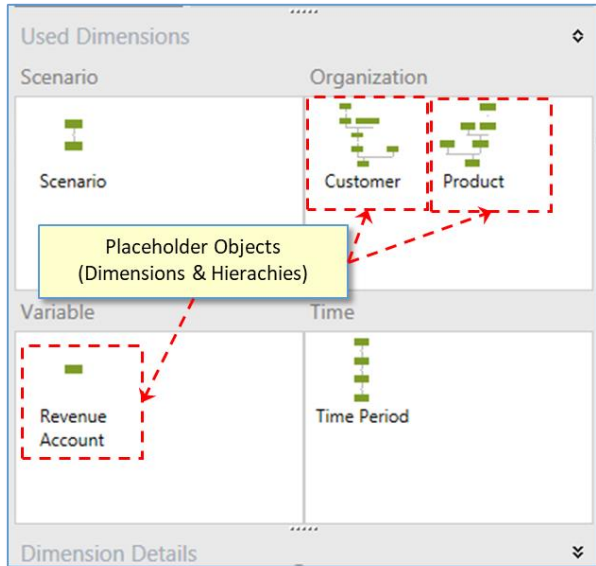
3. Create a manifest in the development environment containing all the objects required for the application except the placeholder objects. Store the manifest in a DCF file.

   EXAMPLE: For this example, all the replacement objects (Dimensions & Hierarchies) for the Revenue model already exist in the target database environment.   The manifest file will only need to contain the Revenue model object to restore into the target database environment. The Code object created in step 4 will take care of identifying the "placeholder" objects (in the development database environment) and the "replacement" objects (in the target database environment)

4. In the target environment, create a Code object that lists the placeholder objects in the **Base** column and their replacement objects in the **Target** column. Create any replacement objects that do not already exist.

EXAMPLE: Code object created in the target database environment
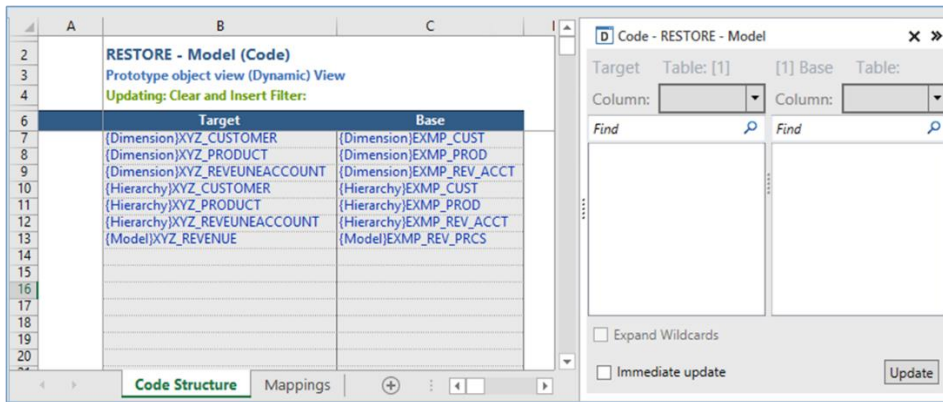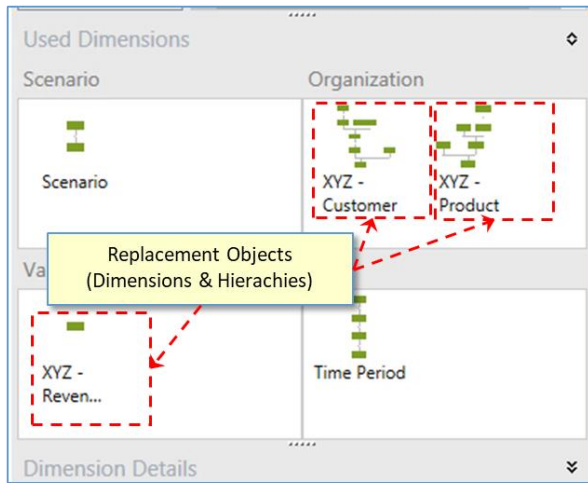

5. Restore the manifest DCF file in the target environment, specifying the Code you created.
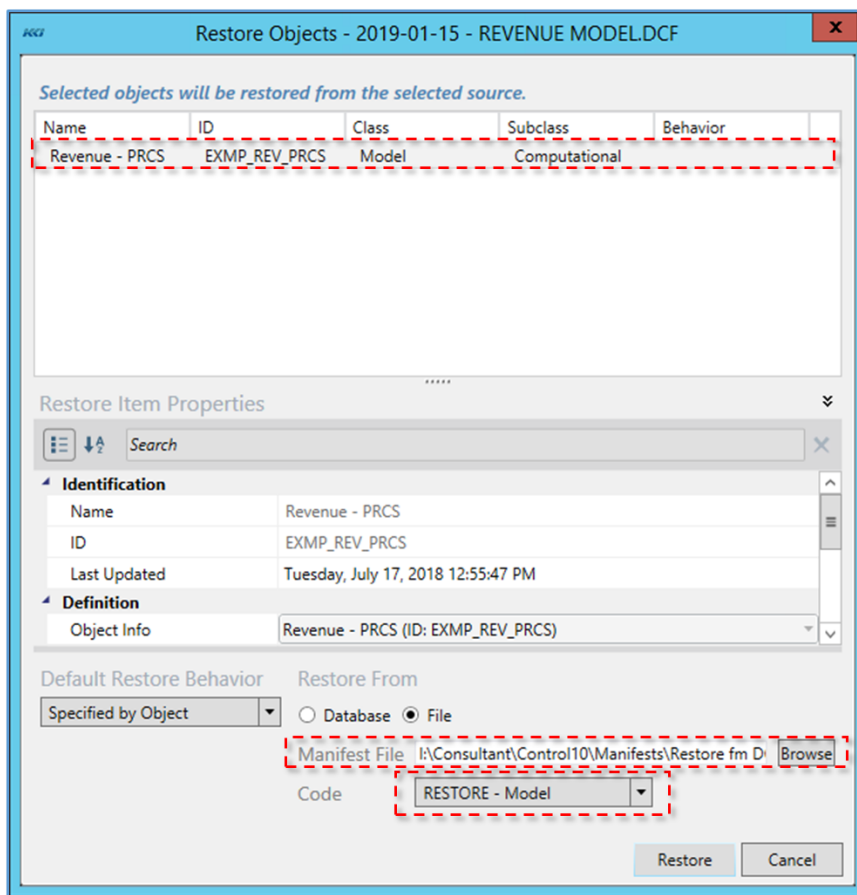
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EXAMPLE: Revenue model restored into target database environment

Miscellaneous enhancements

Scenario hierarchy object view rollup style

We changed the rollup style of the Scenario hierarchy object view in both the dimension and hierarchy edit books from "Tree" to "Table". This aligns it with the same rollup style used for Organization hierarchies, which improves the administration of multi-level scenario dimensions.

Dynamic hierarchy books

You can create dynamic hierarchy books for both organization and variable hierarchies. These books are very useful for managing hierarchies that include several primary branches. The books include a table of contents, a workbook sheet for instructions, and objects views, which generate automatically, for each branch.

There is an example of a dynamic organization hierarchy book in the **950 Best Practice** category named **EXMP - Customer - Dynamic Hry Book**.

Required objects

Object Views:

Organization hierarchy books: You need object views for both **Branch** and **Root** rollups.

Variable hierarchy books: You need object views for **Variable** rollups.

In addition, you will need one object view named **Full Rollups**.

Note: These object views are generic and reference any branch. You do not need to create object views for specific dimension branches.

Example object views: BranchRollups1, BranchRollups2, BranchRollups3, RootRollups1, RootRollups2, RootRollups3, VariableRollups1, VariableRollups2, VariableRollups3, Full Rollups, etc.

Sheet (Template):

The **GLB - TOC & Banner - Dynamic Hry Book** template.

Note: We will provide you with these objects upon request.

How to create a dynamic hierarchy book

You can create a new dynamic organization or variable hierarchy book by filling out the following book properties in a new book.

- **Dynamic Behavior:** DefineOnOpen or DefineOnOpenAndRegenerate

- **Dynamic Definition:** FullRollups(Hierarchy(EXMP_CUST))

  Note: EXMP_CUST in the Dynamic Definition above represents an Organization Hierarchy ID

- **Template Sheet:** GLB - TOC & Banner - Dynamic Hry Book

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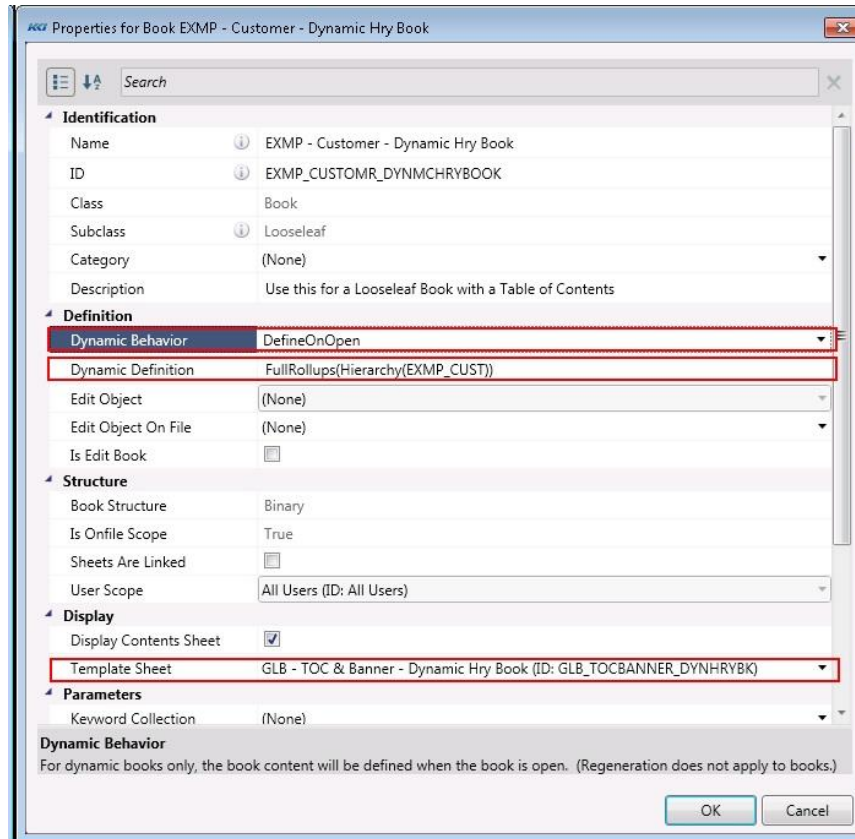
Adding a sheet object to a dynamic hierarchy book

You can add your own sheet to a dynamic hierarchy book by editing the dynamic hierarchy book object and adding the sheet to the **Content** of the book. You can determine the position that the sheet appears in the book by filling out the **Property Overrides** property using the following **Transient Property** syntax.

Syntax	Used to
_Position = 1	Put the Sheet in the first position (assumes origin 1)
_Position = Front	Put the Sheet in the First position
_Position = Front + 1	Put the Sheet in the second position
_Position = Back	Put the Sheet last
_Position = Back - 1	Put the Sheet second from the last
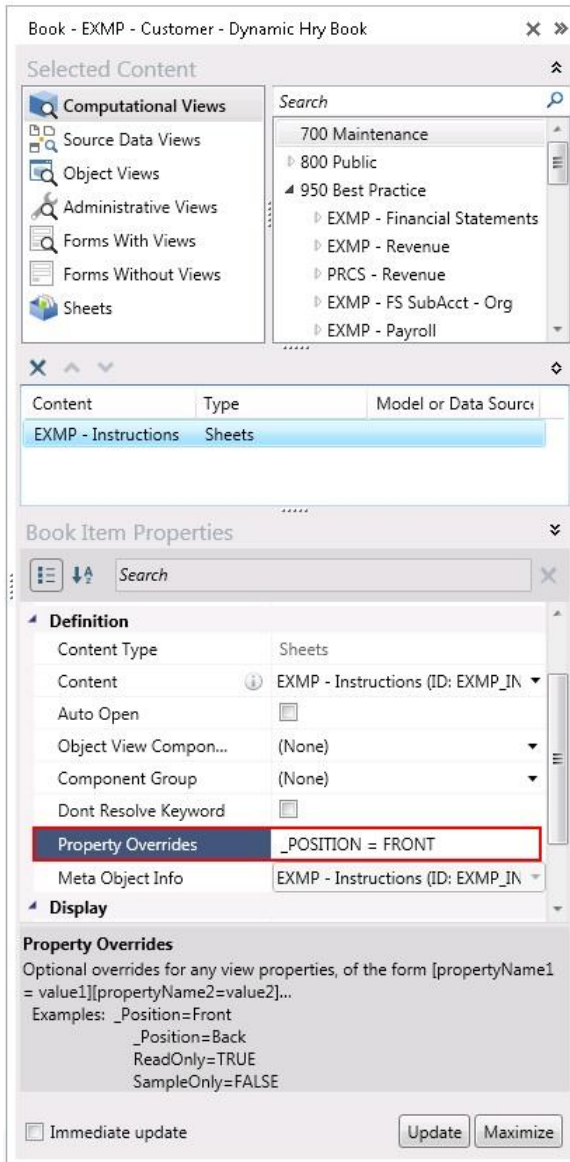
Note: With variable hierarchies, if you have levels with the **Is Sorted** property set to **As Listed**, then you may want to create and add additional object views for those levels. This way the user can add a new account to the level first, in the required position, and then update the hierarchy. You can add these level object views to the dynamic hierarchy book as well, and use the **Property Overrides** property to display these object views before the hierarchy object views. See the example below.

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