UIPlanner Detailed Model User Guide
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<td>656</td>
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<td>659</td>
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<td>Tolerance Check Value for Sequence</td>
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<td>Tolerance for Report</td>
<td>660</td>
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</tr>
<tr>
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<td>671</td>
</tr>
</tbody>
</table>
UIPlanner Overview

A diagram of the modeling process in UIPlanner is depicted below:

Scope
Modeling can be thought of in layers of functionality as depicted below. Calculations are at the heart of a model. Accounting processes surround calculations. Scenarios are created and compared. Results are analyzed. All of this is done in a collaborative environment.

Calculations
At the core of UIPlanner is the ability to process calculations. UIPlanner enables you to:

- Build powerful, transparent calculations
- Include both actual and planned results
- Process calculations over any set of items and timeframe
- Link together all elements of a plan
- Manage complex interdependencies efficiently
Accounting
Virtually all business plans incorporate financial information. Financial statements should adhere to accounting rules. UIPlanner includes a pre-built framework that allows you to:
- Manage differences between cash and accrual accounting
- Use two-sided accounting
- Produce integrated, verifiable financial statements
- Consolidate results by legal entity, line of business, etc.
- Generate elimination entries automatically

Scenarios
Business plans of any type typically present one or more scenarios. Powerful scenario management in UIPlanner helps you:
- Organize information into logical groups
- Answer what-if questions
- Lock data and scenarios for future reference
- Compare every detail of the plan across multiple scenarios

Analytical Tools
UIPlanner is a great platform to produce business plans of various types. UIPlanner provides reporting and analysis tools that enable you to:
- Produce flexible, useful reports
- Analyze business drivers, not just what has changed
- Create dashboards to manage performance
- Analyze results faster by drilling into charts and graphs
- Effectively analyze underlying business logic and information
- Automatically pull data into spreadsheets that you built.

The ability to effectively and efficiently analyze plans and actual results enables you to see trends, understand cause and effect, and of greatest importance, make better decisions.

Collaboration
It is very difficult to effectively collaborate using stand-alone spreadsheets. Good plans are built on a foundation of sharing information in an efficient and controlled process.

UIPlanner enables you to collaborate effectively, and to manage (and speed up) the planning process. Resulting plans are internally consistent. UIPlanner also increases communication and cross-training of staff. In summary, it enables you to:
- Share information with team members
- Enable independent work when appropriate
- Track all changes and who made them.
- Easily illustrate your processes
- Manage tasks and milestone completion

**Objectives**

UIPlanner Modeling was designed to support the following objectives:

**Efficiency**
- Avoid wasting time passing and reconciling data.
- Shorten turnaround time and accelerate investment recovery.
- Better utilize staff for analysis, not clerical tasks.

**Integration**
- Avoid disjoint spreadsheets and processes that are subject to error.
- Make forecasts consistent and avoid reconciling multiple models.
- Improve communication among key parties.

**Transparency**
- Calculations performed by others become accessible and understandable.
- Transparency can lead to better conclusions and results.
- Auditable results are more likely to be accurate and to withstand scrutiny.

**Calculations**

Build powerful, transparent calculations

**Why?**

Calculations serve a variety of purposes in planning and budgeting. In UIPlanner, all calculations are reportable. In fact, the terms calculations and reports are often used interchangeably in UIPlanner. Calculations are typically constructed for one or more of the following five purposes:

1. Calculate part of a plan such as revenue, project spending or taxes, etc.
2. Define inputs that are financial or non-financial (such as number of customers).
3. Present a report to management, such as an Income Statement or Balance Sheet.
4. Analyze the business drivers behind a change.
5. Check for reasonable or accuracy of a result.

**How?**

**Transparency:** With UIPlanner, you use the Calculation Editor to build transparent business logic. It is not uncommon for spreadsheets to be maintained and understood by only a single person. If you did have access to another person’s spreadsheet, you might see complex cell formulas such as “IF(A1=A3,MAX(D12,E20),SUM(Sheet1!C10:D21))” that only the author will understand. UIPlanner makes it easier for all users to understand the logic behind calculations.
Because transparency is so important in planning, UIPlanner uses accessibility and clarity to deliver complete transparency. Any authorized user can view or edit a calculation. There are no hidden processes or business logic.

Clarity is achieved first by breaking calculations into understandable pieces. Financial plans for large enterprises are inherently complex. UIPlanner promotes simplicity and enforces a rule that you can have no more than one function on a single line. UIPlanner cannot make a calculation that is inherently complex simple, but having the ability to see complex calculations one step at a time makes complex calculations much more understandable.

Another way that clarity is achieved is that you can see line labels in formulas to make calculations easier to understand, e.g., look at a formula and see “KWh used”, not “Sheet19!Q92”. If you change a label on a line from “Rate” to “Tariff Rate”, all references to that line change as well. (C: KWh used * D: Rate) is automatically updated to be [C: KWh used * D: Tariff Rate].

**Spreadsheet-like formulas:** UIPlanner assigns every line in your calculation a letter reference (e.g. A, B, C ... AA, AB, etc.) You simply enter a formula into a calculation much the same as entering formulas in a spreadsheet (e.g. “A + B”). All basic math functions are supported. You maintain the calculations and do not need the assistance of a programmer to write or modify a calculation.

**Verifiable and consistent:** Working in concert with the step by step approach described above is the ability to see a calculation result in its local context. For example, a calculation might be being processed over fifty bond issues over a sixty month period. Seeing a calculation result in its local context right next to the formulas and line labels makes a calculation easier to verify.

If you were not using UIPlanner in the example of a formula applying to fifty bond issues over a sixty month period, you could copy a formula into 3,000 (50 times 60) cells in a spreadsheet. When rushing to get a plan completed, someone might put an adjustment of “... +100000” into one of those 3,000 cells and then later forget that it is there. Outside studies have shown that this is one of the many factors contributing to significant error rates in spreadsheets. In contrast, by using UIPlanner and, therefore entering a formula only once, consistency is assured.
**Traceable:** When viewing or editing a formula, the line might be using one or more precedent lines and one or more other formulas may be depending on its result. In UIPlanner, you can trace dependencies within and across various calculations/reports.

**Leverage spreadsheets:** You can still leverage the advantages that spreadsheets provide. Spreadsheets are good means to capture numbers and display results. Using UIPlanner you can enter data via Excel and also send a report to Excel.

**Define any input:** Many input values are required in various calculations. You provide inputs by simply adding a line and then use the input function to indicate that the line's value will be entered or read into the system.

**Efficiency:** Efficiency is achieved by using pre-built functions that would be time consuming and inefficient to replicate such as tax depreciation, thirteen month averages, amortization factors, etc.

Navigation in UIPlanner is accomplished by making selections from the *Menu Item* list located at the top of all UIPlanner screens, or by selecting screen tabs you create.

As users work with a system, they develop their own preferences and style in how they like to use it. Some users gravitate towards the mouse, with right and left click actions. Other users prefer working with the keyboard, and like keyboard shortcut combinations. The navigation options in UIPlanner are designed to accommodate these differing user preferences:

- **Shortcut Key Combinations** – UIPlanner includes keyboard shortcut combinations to allow you to invoke many common events. A number of these are common throughout UIPlanner, and are available on all tabs. Additionally, because of the importance and complexity of the *Calculation Editor*, there are a number of shortcut key combinations specific to that screen.

- **Typing and Searching** – There are text search capabilities found throughout UIPlanner. A search option exists in the Export-to-Excel-Table class. Every table in the application which uses that class has a Search Table right-click option. If you enter a text string in the search field, it will scroll to the cell that has that text. There is a *Next* button
to iterate through all matches in the table. The search text-field at the top of all Indexed Search Dialogs starts with cursor focus in the text-field and focus on it, so that you can start typing without using your mouse.

- **Tree Views** - Two right-click options have been added to all tree objects (e.g. planning hierarchy tree view, or the planning ledger). They are Collapse Expand Tree Below This Node and Expand Tree Below This Node. These allow you to collapse or expand the tree with one click.

- **Export to Excel** - Tables in UIPlanner allow you to export to Excel or HTML by right-clicking at the top of the table.

- **Message Boxes** – All UIPlanner message boxes have focus on the OK buttons, so that all you have to do to clear them is press enter.

- **Right-Click Menus** – Many UIPlanner screens have unique menus accessed by a right mouse click on certain screen features. For these screens, the individual right-click menus will be detailed in the individual help sections.

**Menu Items**

Menu items are the primary navigational means to access screens used in UIPlanner (shown below). Menu items listed on your UIPlanner screen may be different than the example shown depending on your configuration and version. (See Manage Menus for more detail.) All menu items, however, function in the same way.

The screen print below shows menu items along the top. The menu item has been selected displaying the list of screens and options grouped under that item.

![Menu Items Example](image)

Each menu item will contain a drop-down list of related screens. The content of the menu items in this example are described below.

- **File** contains screens or options related to saving and refreshing the data base.

- **View** contains options that allow you to manage your stored preferences and set the display style for UIPlanner screens.
**Budget:** contains most of the UIPlanner Budget Subsystem screens.

**Budget Admin** contains administrator screens for the UIPlanner Budget Sub-system. Only budget administrators will have access to most of these screens.

**Calculations** contains screens and options used for the creation, running and maintenance of calculations in UIPlanner.

**Data** contains screens and options for the viewing, editing, and processing of data in UIPlanner.

**Accounting** allows you to perform accounting functions such as managing the ledger, posting associations, lag factors and inputting actuals.

**Scenarios** contains screens and options used for the creation and maintenance of scenarios.

**Analyze** contains additional analysis options, such as graphing and managing reports.

**Collaborate** contains tools to coordinate the various applications of UIPlanner, as well as ways to share information with other users, such as managing switchboards and work plans.

**Strategic Model** contains screens used in the operation of UIPlanner's Strategic Model application.

**Regulatory** contains screens related to allocations and assignments of report lines for regulatory reporting or analysis, such as Customer Revenue model and schedule management screens.

**Daily Cash** contains screens related to the Daily Cash Forecast module.

**Administration** contains screens and functions related to the administration of all areas of UIPlanner.

**Help** contains access to open the help system as well as documentation on recent releases of UIPlanner.

Again, please note that your menu configuration may differ in organization and/or content from this example.

---

**Screen Tabs**

Every time you open a screen, a new tab is created for the screen. There will be one tab for each screen that you have open. In the example below, there are four screens open, each with its own tab. To visit a screen that is already open, just click on the tab associated with the desired screen.
There are two ways to close a tab. The first way is to click on the small "X" on the right side of the tab label. The second is to right-click on the tab. This will open a small dialog box with three options for closing tabs. This options dialog box is shown below.

- **Close** (or CRTL-x) will close the selected screen tab.
- **Close Other Tabs** (or CRTL-y) will close all screen tabs except the one that is currently selected.
- **Close All Tabs** will close all screen tabs.

**Reorder Tabs**

Another right-click option allows you to change the order of the active tabs (see below). This allows you to put the tabs in a logical order.

**Color Context Panel**

You also have the ability to set the color of the tab backgrounds for each tab, to assist with navigation and identifying specific tabs. By right clicking on the tab you can choose its color.

**Right Click Drop Box**
In UIPlanner, most screens allow you to navigate by right-clicking your mouse. Shown below is a dialog box with navigation options available from the Run Sequences screen. This drop-down menu is available after selecting (highlighting) a report in a sequence.

Options presented in the drop-down menu are designed to show the most likely destination from the current screen position.

**Shortcut Key Combinations**

The global shortcut keys used in UIPlanner are as follows:

ESC The <escape> key closes the active screen/dialog box with some exceptions, e.g., the Calculation Editor.
CTRL-S Opens the View Pending Attribute Saves dialog box.
CTRL-W Closes the active dialog box. If no dialog box is open, it will close UIPlanner, prompting the user if there are unsaved changes.

**Login**

The Release ID of the UIPlanner software is displayed on the title of the login screen. (See below)
UIPlanner may be opened in a number of different ways, depending on your installation. In most cases, you will open UIPlanner by clicking an icon on your desktop:

![UIPlanner Icon](attachment:image)

Clicking on the UIPlanner icon will launch the **UIPlanner Login** screen. This screen has options for two databases:

1) The Enterprise DB (Oracle, SQL Server)
2) MS-Access

When the login screen opens, it will automatically display the database you last logged into. This will almost always be the Enterprise database. See the screen print below.
To log in to the selected database, simply click **OK** to continue the login process and open UIPlanner. More detailed information on the screen features and functions is provided below.

**Screen Layout:**

The top region of the screen, *Provide Login Information*, contains fields for your login ID and for you to select a version. The logon ID defaults to your network ID. The Version # drop-down list will display all current versions.

The middle of the screen is where you choose the database to use. If you select Enterprise DB, it will be populated with the database connection string information. If you select MS Access, it will display a drop-down list of recent local databases used, with the most recent one listed in the box.

The bottom region of the login screen contains a window that echoes information on the login process.

The **OK** button to launch the login process is located in the bottom right region of the screen.

**Log in to UIPlanner**

Once you open the *Login* screen, you need to choose whether to enter the production version (Enterprise) or a local MS Access copy.
**Enterprise DB**

As indicated above, virtually all of the time you will be logging into Production. Note that the Login screen will be populated with what you last logged into, so almost always you can just click OK. Below is an example where you last logged into the Enterprise database, Version 1.

When Enterprise DB is selected, the Login ID field is disabled. To log into the Enterprise DB, you must use your network ID, and this is pre-populated.

Also, the screen contains the database connection information (URL, ID and Password). This information is populated from the UIPlanner.bat file that launches the login and is maintained by the System Administrator. **You should not change the information in this field.**

If you want to log into a different version, select it from the Version # drop-down list in the top region of the screen. If you are not sure which version to pick, contact your system administrator for more information.
When you click **OK**, it will log you into the Enterprise DB, and the progress window will echo the login steps. Also, the login process will be echoed to the stack trace (or the error.txt file), depending upon your configuration.

**MS Access Local Database**

If you want to log into a local MS Access database, select the MS Access radio button. This will change the **LOGIN** screen. Rather than the database connection information, the screen will contain a drop-down list of your recently opened MS Access databases, with the most recent one listed first.

If you need to work with a database that is not listed, double-click in the **MDB file** field to open an Explorer Window (see below). Browse to find the database you want, and click **SELECT MDB**.

The path to your selected database will appear in the **LOGIN** screen. Click **OK** to complete the login process to the selected database.

Note that if you are using MS Access, you **CAN** change the login ID. This allows you to log in as a different user if your id is not yet in security for that local copy.
UIPlanner Detailed Model User Guide

Note: Clients will often use local MS Access database versions of their implementation for testing or for remote work. See Copy to Local Database for more information.

What To Do If You Encounter Problems

You enter a user ID and click OK, but receive the following message:

If you are logging into the Enterprise database, you are not yet added to UIPlanner security. Click CANCEL and contact your system administrator.

If you are trying to log into a local MS Access database, you either have mis-typed the User ID or you are not in security in that database. Click CANCEL and retry the User ID with one already in security. You may need to contact your system administrator (or whoever sent you the database) to obtain a valid User Id.

You receive this message when you click OK:

As indicated, UIPlanner cannot locate or recognize the database chosen. Contact your system administrator.

{XE "Model Overview Screen" /* MERGEFORMAT }Model Overview Screen
The **Model Overview** screen is a management tool that enables you to access key functionality of the model from a single screen. From this screen you can:

- View available switchboards and assign one switchboard as a “home”/default view.
- View and manage work plans.
- Find and edit data.
- View a graphical display of model report relationships.
- Run the model and automatically output a selected report batch.
- Display graph data.
Screen Layout:

The **MODEL OVERVIEW** screen consists of a series of six buttons aligned as a toolbar. This toolbar can be repositioned to the top of the screen, left side or as a floating panel.

1. **HOME** ("Switchboard") – a drop-down list is available (down arrow) that allows you to select a switchboard to view.
2. **TASKS** – a drop-down list is available (down arrow) that allows you to select a work plan to view.
3. **DATA** - a means of finding and editing data.
4. **LOGIC** - a graphical display that allows you to view report precedents and dependencies.
5. **RUN**– a drop-down list is available (down arrow) that allows you to select a report batch to output.
6. **GRAPH** - access to graphing capability.

List of Task or Operations That Are Performed With This Screen:

**View Switchboard:**
- Click **HOME**.
- Select a switchboard from the **Select Switchboards** drop-down list, e.g., Detailed Model, to view a desired switchboard (example is shown above).

**View and Manage Work Plans:**
- Click **TASKS**.

Note: The **VIEW AND MANAGE WORKPLANS** screen is launched. See below:
Find and Edit Data:

- Click **DATA**.

Note: The **FIND AND EDIT DATA** screen is launched. See below:
Display Logic:

- Click **Logic**.
  - Use the *Select Report to Graph Dependencies & Precedents* drop-down list to select a report, e.g., *Plant Account Detail*.
  - A graphical display will appear displaying relationships between the selected report and other model reports.
  - Double-click on one of the report’s precedents or dependents to see that report’s relationships to other reports.
Run Model and Produce Report Batches:
- Use the down arrow to select a report batch from the drop-down list.
- Click Run.

Note: The full model sequence will be run, and the Browse Reports screen will be launched displaying the report batch selected. The Report Batch Settings tab on the Browse Reports screen will determine the output display.

Graph Data:
- Click Graph.

Note: The Graph Results screen will be launched. See details under Graph Results.
UIPlanner features are listed by release number. This screen is designed to give users a listing of program files and the dates of their most recent modifications. Click the "X" in the top right corner to close the box.


**MODEL QUICK START**

This topic introduces some terminology and describes some commonly used screens. It provides a quick tour through the main screens of the Model, and illustrates a common way you would use those screens.

UIPlanner creates monthly and annual reports for business entities. Entities may be legal entities, departments, rate classes, or construction projects – any type of business concept that you want to report. Reports have lines, which may be input data or may be a formula.

For example, this is a small report:

```
<table>
<thead>
<tr>
<th></th>
<th>Jan 11</th>
<th>Feb 11</th>
<th>Mar 11</th>
<th>Apr 11</th>
<th>May 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>1,000</td>
<td>900</td>
<td>700</td>
<td>600</td>
<td>750</td>
</tr>
<tr>
<td>Sales (MWh)</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>155</td>
</tr>
<tr>
<td>Average Rate per MWh</td>
<td>150,000</td>
<td>135,000</td>
<td>105,000</td>
<td>90,000</td>
<td>116,250</td>
</tr>
</tbody>
</table>
```

This is how the report was defined:

```
<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula/Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Sales (MWh)</td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Average Rate per MWh</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Rate Revenue</td>
<td>B: Sales (MWh) * C: Average Rate per MWh</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>Label Only</td>
</tr>
<tr>
<td>E</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

The report has five lines. Line A has a special formula to indicate where you want the entity name, in this case “Residential.” Lines B & C are input, and line D is a formula.

Line E is a blank line.

You can display the report in Excel:

```
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 Budget Scenario</td>
<td>Jan 11</td>
<td>Feb 11</td>
<td>Mar 11</td>
<td>Apr 11</td>
</tr>
<tr>
<td>Residential</td>
<td>1,000</td>
<td>900</td>
<td>700</td>
<td>800</td>
</tr>
<tr>
<td>Sales (MWh)</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Average Rate per MWh</td>
<td>150,000</td>
<td>135,000</td>
<td>105,000</td>
<td>90,000</td>
</tr>
</tbody>
</table>
```

You input the data in Excel:
You open most screens in UIPlanner by making selections on the Main Menu. As you select screens, those screens become tabs. The next section shows the screens in UIPlanner for the report. You may want to start with **Browse Reports**, the most complex screen. See the example below displaying a Rate Revenue Report:

You select options for how you want to display your report on each of the levels on the report group tree on the left of the screen: **Report Batch, Report Group and Report**.

When the report tab is open, you have the option of selecting from three sub-tabs. When you activate the drill down sub-tab, you can access formulas used for the calculation of individual cell amounts. To do so, click on a cell. The upper part of the display area will display the formula used to calculate the value.
Next, activate the *Define Report Properties* tab, and select some more rate classes to display:

Re-select the *Browse Report: Rate Revenue* tab, to see more rate classes.
Now select the *Report Group* on the tree, and choose *Entity Across*. Note that when you select options selected for the report group, the options apply to all of the reports in the group.
When you click on the Rate Revenue report on the tree, the display changes as shown below:
Next, select the Report Batch *Training* and note how the right region of the screen changes. There are four sub-tabs with batch options:
Options you select on this screen apply to all of the reports in the report batch. This example only has one batch, i.e. *Training*, but you could have many. You use report batches to pre-select and save many options, so that a set of reports print the same way each time.

Check the batch, the *Revenue Reports* group, and two revenue reports, plus the *Display in Excel* option. Then, click **OUTPUT REPORTS**, and open an Excel report.

Each selected report is on a sheet. The *Scenario Info* sheet documents assumptions.

Note that the Report nodes on the tree have a right-click menu:
Next, select the Edit Calculations item from the UIPlanner menu, which opens the second most complex screen, the Calculation Editor:

You use this screen to define the logic of your reports.
The toolbar buttons perform various functions, such as "add a line", "delete a line", "format the line", etc. Hover the cursor over a button and a tool tip explains what it does.

Next, open the screen for editing time-dependent (monthly or annual) data:

This data is stored in a case. The screen shows all of the cases in the current scenario (upper left table). You might think of cases as alternate views of the future. In this example, the March Reforecast Case has new information to replace the data in the Budget Case. The Actuals Case is a special case containing only actual data. The system does not read data from the actual case in future periods.

Select the periods you want to edit in the upper right box. Select entities in the lower left table, and lines on the lower right table.

When you click **EDIT & RETURN** or **EDIT & CLOSE**, the system reads the data from the database, and sends it to Excel for editing. You can use formulas to change data, but note that the formulas are not saved. Only the resulting numbers are saved to the database.
Running the Model

Next you can run the model using the **Run Sequence Sets** screen:

Since you have changed the data, you need to re-process the reports. You can also turn on the **Context** section of the main screen. This is the **Show/Hide Scenario Info Panel** option in the **View** Menu. Also you can select a different scenario in the upper right drop-down list.
Reports on this screen process in order. Construction is before Plant Accounting, because the Plant Accounting report needs data from the Construction report. The second set of reports have circular logic – tax payments cause increases in short-term debt, which changes interest, which changes taxes. However, these changes do not affect O&M. Try to limit the number of reports in the circular logic to minimize run time.

Next, browse the report again. The drill-down shows the original input and the revised overlay data.

You may select compare reports options by touching the TRAINING batch, and the Scenario Compare Options tab:
Then display the compare report:
FILE

Selecting **Save** from the UIPlanner menu will save all attribute data you have changed, and update your active UIPlanner session with any changes made by others to the database.

You can view pending attribute saves by selecting **File** from the UIPlanner menu and then **View Pending Attribute Saves**.

This selection opens a dialog box displaying changes to attribute data that have not yet been saved. You have a choice to save or undo changes.

Attribute changes will be listed, showing old and new values:

If you would like to confirm all attribute changes displayed, click **Save**. The screen also gives you the option of undoing or re-doing select changes. Either select the box next to an individual change or click **Un-do All**. After clicking **Un-do All**, checks will appear in all the boxes listed and the **Un-do All** button will change to read **Re-do All**. If you decide to keep changes you have marked to be discarded, click on the box next to those changes or, where applicable, click **Re-do All**. Note that once you close the window, all checked changes (those to be un-done) will be discarded and will no longer be available to be saved.

**Select Scenario Screen**
The **SELECT ScENARIO** window provides a structured, simplified means for a user to select what scenario to process. While you can select a scenario to run using the drop down list on the Scenario Info Panel, the **SELECT ScENARIO** window provides all the information in a single screen and makes it easier to see the scenarios to choose from. You can filter scenarios by type or by group; the screen also displays the last ten scenarios you have used. You choose the one you want and hit the **SELECT** button. The window will close and the model will change to the scenario you selected.

**Screen Layout**

The **SELECT ScENARIO** window is laid out in two regions, each of which displays a list of scenarios. Each scenario has a radio button next to it - once you select a scenario, the Select button at the top of the screen changes to show that scenario name. Hitting this button will change to that scenario.

The left region has a list of scenarios available to run. Above this panel are two drop-down lists for filtering scenarios to show in the panel. One drop down list is for Scenario Type (Model, Budget, Customer Revenue, etc); the other is for Scenario Groups (as defined by the user).

The right region lists the last ten scenarios that you have opened. These are listed in order, and are not filtered by the choices on the left.

Note – archived scenarios cannot be run, and thus do not appear in the list of available scenarios. However, if you have recently archived one of the recent scenarios, it will still appear in the recents list, but you will not be able to run it. You will get a warning message to that effect.
List of Operations or Tasks That Are Performed With This Screen

Filter Scenarios:
You can filter the scenario list in the left region using the two drop down lists. One drop down list is for Scenario Type (Model, Budget, Customer Revenue, etc); the other is for Scenario Groups (as defined by the user – see **CREATING A SCENARIO GROUP**). See below:

![Image of filter scenarios](image)

Select a Scenario:
To select a scenario to run, choose the radio button next to the one you want to run. Note that label on the **SELECT** button will change accordingly. Use the **CANCEL** button to deselect a scenario.

![Image of select scenario](image)

To change to that scenario, just hit the **SELECT** button. The window will close, and UIPlanner will change to the selected scenario.
{ XE "Refresh UIPlanner" \* MERGEFORMAT }Refresh UIPlanner

Many operations in UIPlanner require a restart of the application before they can take full effect. The **Refresh** function allows you to accomplish this without exiting and logging back into UIPlanner.
Select **File**, then **Refresh** from the UIPlanner menu.
VIEW MENU

Preferences

The **Preference Manager** screen (also called **My Preferences**) is where you set various settings and choices that are user-specific rather than global across all users. These settings do not have any effect on model runtime or model results, and thus can be user-specific. These settings are generally in two categories:

1) User Interface – settings that determine how the model interface behaves for you. For example, you can choose to have:
   a. only reports that you have run appear on **Browse Reports**. This makes that screen more concise.
   b. “Locked” text on locked cases trails case name to assist in sorting cases (the default is “Locked” preceding the case name).
c. the last selection on the posting screen remembered, i.e., the last account selected so that when using the Account function, you do not have to drill-down to select the account.

2) Output – settings that allow you to decide where you want to save output data for Pull Reporting.

Note that this screen controls only some of the user preferences. Specifically, it controls the ones that can be reduced to a switch or path setting. There are many other user preference items throughout UIPlanner. For example, all of the settings for your User Batch on the Browse Reports screen are user preferences.

Also, UIPlanner saves under your user name the tabs you had open, selections on each tab and screen sizes at the end of your user session. The next time you open the model, it will open to the same as before.

There is one exception to this:

- **Run Sequences** - the sequence and report selections are set during your user session. Each time you re-open the model and want to run, you need to confirm the sequence and report checks. Also, the selection box to use the data in the User Temp Data case is session-specific. You need to check it each time you run.

The **Preference Manager** screen (like **Planner Properties**) changes relatively frequently. As features are added to UIPlanner, sometimes various users request User Preference or Planner Property switches to enable/disable them or to tailor how they behave. Also, as UIPlanner continues to evolve, certain User Preferences become no longer applicable.

The **Preference Manager** screen is a “modal” screen. It opens as a dialog box rather than a tab. You cannot do anything else in UIPlanner until you close it.

**Screen Layout:**

The **Preference Manager** screen consists of three tabs.

**System Behavior** – This tab has a series of checkboxes that allow you to control various aspects of how UIPlanner behaves. These include things like suppressing warning messages, or controlling how UIPlanner displays locked cases on the screen. This tab is shown above. See **System Behavior** for more details on this tab.
Output Options – This tab is where you can configure your own settings for two key data processes.

- Pull Reports, and
- User Temp Folder. The user preference for temp folder may need to be set if the default folder fails, or optionally set if the current temp folder is a network folder. A temp folder on C:\ is faster.

See Output Options for more details on this tab.

Delete/Copy Preferences – This tab is where you manage your user preferences. You can delete your own preferences or delete another user’s edit lock on a report (stored as user preference). You can also copy another user’s preferences.
For more information, see the following topics:
Delete/Copy User Preferences
Remove User Locks

From the Preference Manager screen you can either delete all of your User Preferences or just delete certain ones. Generally, you delete preferences if you are encountering an error in UIPlanner that appears to be related to the system trying to enable a certain screen or tab. Deleting your preferences resets the system settings to the UIPlanner default preferences.

**DELETE ALL PREFERENCES**
Generally, you delete preferences if you are encountering an error in UIPlanner that appears to be related to the system trying to enable a certain screen or tab. Deleting your preferences resets the system settings to the UIPlanner default preferences.

Clicking **DELETE ALL PREFERENCES** will delete all of the user preferences that you have set in previous and current sessions of UIPlanner. Note that you will not be prompted to confirm this action after clicking the **DELETE** button and there is no restore feature.

Note: Using the **Model Security** screen the System Administrator can delete all user preferences for a specific user. For example, if a user is having problems entering the system due to a screen issue, the System Administrator can delete all user preferences for him/her.

**DELETE SELECTED PREFERENCES**
If you know a specific preference or screen that you want to delete (but keep all others) clicking on this button will allow you to delete only certain preferences rather than ALL preferences, as described above. Generally, you will use this option to delete all preferences related to a specific screen. For example, if you are encountering an error whenever you try to open a specific screen, you might just delete your preferences to remove any invalid selections. To delete select preferences for a specific screen or form:

- Click **DELETE SELECTED USER PREFERENCES**

<table>
<thead>
<tr>
<th>Form</th>
<th>Key</th>
<th>Value</th>
<th>Delete/LinDelete</th>
<th>Restore Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM.UTILINC.P...</td>
<td>YPOS</td>
<td>274</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORTSEQ...</td>
<td>LR.3055933331</td>
<td>606</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM.UTILINC.P...</td>
<td>MILESTONE.STRU...</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORTSEQ...</td>
<td>LR.3055933332</td>
<td>1212</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TIME DEPENDENT...</td>
<td>YPOS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORT BATCH</td>
<td>ESAC.30617650</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORTSEQ...</td>
<td>405051.ENT</td>
<td>112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORT BATCH</td>
<td>ESAC.2066</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM.UTILINC.P...</td>
<td>YPOS</td>
<td>225</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANOTHER HEADER...</td>
<td>HEADER.FOOTER</td>
<td>215</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORT BATCH</td>
<td>INCLUDING.HEAD...</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORTSEQ...</td>
<td>405054.RUN</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCENARIO SELECT...</td>
<td>HEIGHT</td>
<td>497</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORT BATCH</td>
<td>NAME</td>
<td>TRAINING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORT BATCH</td>
<td>ESAC.2080</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORT BATCH</td>
<td>ESACGROUP.1602</td>
<td>1502</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PREFERENCES...</td>
<td>ENABLE.ENTRY...</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM.UTILINC.P...</td>
<td>UP.DOWN</td>
<td>263</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCENARIO SELECT...</td>
<td>VERB</td>
<td>62</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Click on the **Form** column to sort the preferences by form.
- Scroll to find the form/screen you want to purge.
- Check the box next to each of preferences for that screen. See below.
• When you close this window, the checked preferences will be deleted. Note - as with the DELETE ALL feature, you will not be asked to confirm the deletion.

Note: you can search any column by right clicking on the header. This will bring up the following dialog. Type in a text string and click OK. This is helpful if you do not know the underlying name for a screen/form.

COPY PREFERENCES

Copy User Preferences

This process first deletes all existing preferences, then copies another user’s preferences. Copy preferences to TRAINING from: YOUNGQUIST Tor Youngquist  

Check to confirm then: Copy
You can copy another user’s preferences to your own, if you want. You might do this if you have deleted all of your preferences and want to set them. Or in the case of a new user, he/she may want to have preferences set for them.

To copy preferences, select the user you want to copy FROM, and select the checkbox to confirm. Then, click Copy. This action will first delete all of your User Preferences, and then copy from that user.

UIPlanner maintains internal control to ensure that only one user at a time is editing a report. Each time a report is opened in the Calculation Editor, it notes that user has “locked” the report. Once they are through editing, the lock is supposed to be released. If for some reason the lock is not released, other users will get a warning message and will not be able to edit that report.

See Troubleshooting Report Editing for more information.

You can use the Remove User’s Lock button on the Preference Manager to force a delete of the edit locks on a report. Select a report using the drop-down list, then click Remove User’s Lock. This will purge any locks on that report and it will be available for editing. See below.
Show/Hide Scenario Panel

The Scenario Panel at the top of the UIPlanner window displays scenario, scenario group and, for Budget applications, active department information:

To toggle this display on and off, select View, then Show/Hide Scenario Info from the UIPlanner menu.

Select Sort Order Screen

You have the option of viewing all objects in either Alpha Order or Scenario order by clicking the buttons provided on the Select Order screen (shown above.) Alternately, you can select alpha or scenario order for specific
objects. When you are done making your selections, click OK to save your sort preferences. Note that selecting Alpha Order will cause UIPlanner to display entities without regard to their place in any established rollup.

To access this screen, select the Sort Order Preference menu item from the UIPlanner menu.

The Display Style Windows and Display Style Metal menu options enable you to format the display in one of two ways.

These options allow you to change the look and feel view style used on your computer screen. You can experiment by changing styles and selecting the one you prefer. Functionally, there is no difference between the two screens.

**Metal Style**

```
{XE "Metal Style" \* MERGEFORMAT }
{XE "Windows Style" \* MERGEFORMAT }
{XE "View Display Style" \* MERGEFORMAT }
{XE "Screen" \* MERGEFORMAT }
```

**Windows Style**
When the setting is changed, the dialog box below will open indicating that you must restart the application for the change to take effect.
Sequencing reports and sequence sets is the process UIPlanner uses to organize reports. Sequencing determines the order in which reports will be run. Each sequence set is made up of multiple sequences. Each sequence is made up of a set of reports.

Sequences can be set with unique tolerance, iteration, and iteration method settings.

Each sequence set contains a number of sequences. Although any number of sequences can be created, typically, the three described below are used.

Once sequences are created they can be added to any sequence set. If a sequence is used in more than one sequence set, changes to the sequence will be reflected in all sequence sets in which it is used.

**Feeder Report Sequence**

This sequence contains detailed reports which are calculated and posted to the planning ledger. Generally these reports are processed one time, i.e., one iteration.

**Financial Reports Sequence**

This sequence generally contains reports that create financial statements and allocations. The sequence normally has a high number of iterations because results on reports are dependent on each other. For example, short term debt, is dependent on tax payments, which are dependent on income taxes, which are dependent on short term interest expense. All need to be iterated until an acceptable difference is achieved (tolerance).

Note: Careful consideration should be made on reports included in this sequence as well as their order and iteration method.

**Ratio, Statistical and Summary Reports**

This sequence contains reports that are summary or analytic in nature. Financial statement report data, having been run in prior sequences and posted to the planning ledger, are available for use.
The example below displays three sequences and various control settings. (See **RUN SEQUENCES SCREEN** for more details).

### Run Order

All reports in each sequence are run in order. Sequences are processed from left to right, and reports in each sequence are run from top to bottom. Reports not placed in a sequence are not run.

As reports are run you will see them change color on the screen. You select the color desired on the **PREFERENCE MANAGER** screen.

The **MANAGE SEQUENCE SETS** screen contains an **ADVANCED PROPERTIES** button. The more complex options are available on a dialog that is launched when you click **ADVANCED PROPERTIES**.

These more advanced property options are detailed below.

### Tolerance and Iteration
All reports in a sequence will be processed according to the tolerance and iteration settings for that sequence. Individual report settings for iteration and tolerance will override sequence settings for that report. See Group Reports.

Tolerance and iteration always work together in UIPlanner. The system will continue to process reports for the specified maximum number of iterations (number of times), or until the largest change in any number in the last time period is less than the tolerance value, whichever comes first.

**Iteration Method**

Each sequence contains iteration method options. This refers to the processing of reports, either down or across. Both methods process all entities for all time periods in all reports, but in a different order.

**Iterations Across** processes each report for all time periods then processes the next report for all time periods. The first report is run, then the second, then the third, etc., each for all time periods before proceeding to the next report. When this process is complete, the second iteration will repeat the process, if iteration is set to more than one.

This iteration method is generally used when there is minimal interdependency between reports.

**Iterations Down** processes all reports in order for the first time period, then all reports for the second time period, then all reports for the third time period, etc. When this process is complete the second iteration will repeat the process, if iteration is set to more than one.

This iteration method is generally used when there is significant interdependency between reports.

**Solve More Interdependencies by Looping across all Sequences.**

UIPlanner’s great ability to solve complex interdependencies has been further expanded. The discussion that follows is primarily aimed at users already familiar with the nuances of UIPlanner’s iterative logic and who are concerned with refining how they solve simultaneous equations.

You loop across sequence sets, not just within a sequence set. Consider the following example:

- **Sequence 1**: contains calculations for O&M, Fuel, Revenue and Bonds along with an estimate of AFUDC rates.
• Sequence 2: contains Plant and Construction
• Sequence 3: contains Interest, Taxes, and Goal Seeking
• Sequence 4: contains Ratios and Statistics

In this example, let us assume you want UIPlanner to use AFUDC rates based on a projected balance sheet (which itself depends on AFUDC rates and Closings to Plant). The ability to iterate across sequences allows you to do this. An example is shown below:

Based on the settings at the top of screen, the processing order would be as defined in the table below:
Beginning in pass #3, AFUDC would come from the projected Balance Sheet, not from the assumptions in the Inputs and Feeders sequence.

**Report Sequence Subsets**

You have the ability to take the core Detailed Model sequence and create a predefined subset to run. Then when you select this subset to run, you see only the reports you want to run. If you want to run other reports, you can always go back to that subset and add more reports to it. This allows you to run only certain reports without having to go to the core sequence and un-select all of the other reports not to run. This has benefits of performance (running only certain reports), efficiency (not having to select/un-select reports), and accuracy (not having to worry about accidentally leaving off reports you want to run). A sequence subset for running only the construction and plant related reports is shown below.

<table>
<thead>
<tr>
<th>Overall Iteration #</th>
<th>Sequence Set Processed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Inputs &amp; Feeders</td>
</tr>
<tr>
<td>1</td>
<td>Construction &amp; Plant</td>
</tr>
<tr>
<td>1</td>
<td>Interest, taxes &amp; Goal Seek</td>
</tr>
<tr>
<td>2</td>
<td>Inputs &amp; Feeders</td>
</tr>
<tr>
<td>2</td>
<td>Construction &amp; Plant</td>
</tr>
<tr>
<td>2</td>
<td>Interest, taxes &amp; Goal Seek</td>
</tr>
<tr>
<td>3</td>
<td>Construction &amp; Plant</td>
</tr>
<tr>
<td>3</td>
<td>Interest, taxes &amp; Goal Seek</td>
</tr>
<tr>
<td>4</td>
<td>Construction &amp; Plant</td>
</tr>
<tr>
<td>4</td>
<td>Interest &amp; taxes</td>
</tr>
<tr>
<td>5</td>
<td>Construction &amp; Plant</td>
</tr>
<tr>
<td>5</td>
<td>Interest, taxes &amp; Goal Seek</td>
</tr>
<tr>
<td>5</td>
<td>Ratios &amp; Statistics</td>
</tr>
</tbody>
</table>
Run Sequence Sets

You run reports in UIPlanner via sequence sets. UIPlanner runs by processing a series of reports. The **Run Sequences** screen runs (executes) reports set up in report sequence sets. A driver report determines over what Entity Group those calculations will loop. When running sequences, the reports in the **Calculation Editor** loop over an entity group for the time setting of the active scenario.
Screen Layout:

The **RUN SEQUENCES** screen contains action buttons near the top, and displays sequences in the active sequence set in the body of the screen. As reports run in the sequence and are completed, their entry on the screen will change color to indicate that the report has been run.

Each sequence in the sequence set is displayed in the order that it will be run, from left to right. The reports are displayed in each sequence in the order that they will be run, from top to bottom.

**Alternate Panel View.**

You have the option to display the **RUN SEQUENCES SCREEN** in an alternate view, with a panel on the left listing the report sequences. The right side of the screen will list the reports in whatever report sequence you select on the left. This alternative layout was created because some UIPlanner implementations had four or even five sequences, and they were difficult to see in the standard columnar view. The single panel view provides more efficient screen real estate for these multiple sequences. See below.

Note that this is display only. The **RUN SEQUENCES** screen functions the same regardless of which view you choose. When you run the model, the reports will run in the proper order and will iterate. The iteration results will be shown in the left panel, under each sequence.

Selection of this alternate view is a **USER PREFERENCE**. *(Run Sequences: Use Selectors & Single Panel)* You can switch views without exiting the model. Just change your user preference and close and reopen the Run Sequences screen.

**Pass and Change**
UIPlanner displays the number of iterations and the tolerance from the last iteration near the top of each sequence.

![Image of UIPlanner interface showing iterations and tolerance]

**Right Click Navigation**

Right click the active report to open a navigation menu list (shown below). Select the desired screen. The selected screen will be opened and the relevant options will be displayed.

<table>
<thead>
<tr>
<th>Run</th>
<th>Report</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️</td>
<td>Short-term Rollover &amp; Interest</td>
<td>Browse Report</td>
</tr>
<tr>
<td>✔️</td>
<td>Income Statement</td>
<td>Edit Time Data</td>
</tr>
<tr>
<td>✔️</td>
<td>Balance Sheet</td>
<td>Edit Attributes</td>
</tr>
<tr>
<td>✔️</td>
<td>Cost-of-Capital - Legal Entity</td>
<td>Edit Calculation</td>
</tr>
<tr>
<td>✔️</td>
<td>Cost of Capital - Jurisdiction</td>
<td>Manage Reports</td>
</tr>
<tr>
<td>✔️</td>
<td>Jurisdictional Working Capital</td>
<td>Drilldown</td>
</tr>
<tr>
<td>✔️</td>
<td>Role Base</td>
<td>View Calculation</td>
</tr>
<tr>
<td>✔️</td>
<td>Jurisdictional Earnings</td>
<td>Trace Dependencies &amp; Precedents</td>
</tr>
<tr>
<td>✔️</td>
<td>Revenue Requirements</td>
<td></td>
</tr>
<tr>
<td>✔️</td>
<td>Income Tax - State</td>
<td></td>
</tr>
<tr>
<td>✔️</td>
<td>Income Tax - Federal</td>
<td></td>
</tr>
<tr>
<td>✔️</td>
<td>Common Stock</td>
<td></td>
</tr>
</tbody>
</table>

**List of Operations or Tasks That Are Performed With This Screen:**

- **Run Sequence:** This button initiates a sequence run. When you run sequences, the model refreshes all of the data and then runs all of the reports that you have checked in the displayed sequence. Click the arrow to the right to open a drop-down list and select one of four options:
  - **Compile & Run** – select to compile all checked reports in a sequence set before running that sequence.
  - **Run - No Compile** – select to run sequence sets without compiling reports. This option runs all checked reports, but does not precompile them. If any report has been changed, and thus needs to be compiled, you will be given a warning message and will need to do a Compile and Run.
  - **Read Published Results** – Local (option available if the sequence has been published – See Publish Results for details.)
  - **Read Published Results with Time Check** (option available if the sequence has been published).

- **Publish:** Select the location to receive published results from the drop-down list. (See Concept - Publish Reports or more details.)

- **Cancel Run:** Terminates the sequence set run while it is executing.

- **User Temp Data Case:** Selecting this check box allows you to use a temporary data case for this run. This is saved as a user preference until you un-select the box. See Using a User Temp Data Case for details.
• **Select Output Batch**: Select a report batch to be output from the drop-down list of report batches.

• **Show Search Panel**: Select to display a panel for searching report context at the bottom of the screen

• **Run All**: Selecting or un-selecting one of these boxes will select or un-select all reports in the sequence.

---

**What to Do If You Encounter Problems**

**Model Run Errors**

If you are running a report sequence, you may get a text message that indicates that UIPlanner has encountered missing or invalid relationships, or that data needed for posting results or for consolidating results is missing. Note that UIPlanner will still finish running and will use all information that it has.

See [Troubleshooting - Model Run Errors](#) for more information.

**Visibility/Security Errors**

If the Run Sequences screen shows “Description Suppressed by Security” instead of the report names, this indicates that you do not have security rights to view these scenarios. You need to contact the System Administrator to modify your security rights, as appropriate. See [Troubleshooting - Visibility/Security](#) for more information.

**Compile Errors**

If you are running the model and get a “**COMPILATION ERROR**” message box, this indicates that there are serious errors in a report calculation that prevent it from compiling. See [Troubleshooting - Compile Errors](#) for more information.

**Memory Issues**

If the UIPlanner application suddenly becomes unresponsive, you may be running out of memory. See [Troubleshooting - Running Low On Memory](#) for more information.
When you run sequences, the model refreshes all of the data and then runs all of the reports that you have checked in the displayed sequence. The **RUN** button has two options: Compile and Run and Run – No Compile. See the screen print below:

There are two choices for running the model. Click on the down arrow next to the Run button, and select from the following two options. Note that when you do, the caption on the button changes accordingly. Then select the Run button.

- **Compile and Run** – this option compiles all checked reports and runs them in the sequence order.
- **Run – No Compile** – this option runs all checked reports, but does not precompile them. If any report has been changed, and thus needs to be compiled, you will be given a warning message and will need to do a Compile and Run.

**Publish Results**

From the **RUN SEQUENCES** screen, instead of rerunning the model, you can read the current scenario back from published results. If you have previously published the scenario and you use this option, the model is not rerun. This option can be a major time saver, since it does not require you to rerun the model. In addition, it can help prevent errors, as it ensures
that no changes are made before running. Note that if you wish, you can still run the current scenario.

The **RUN** button has four options, two of which are Read Published Results and Read Results with Time Check. See the example screen below. See Run Sequences Screen for details on the other two options (Run - No Compile and Compile & Run).

One thing to note – if you have NOT previously published that scenario, or it is not available in the folder you designated for published results, these options will not appear. See PUBLISH RESULTS for more information.

The two Read options are:

- **Read Scenario From Published Results** – select this option, and the button label will change. Select the button, and the model will read back in all the results. The reports change color immediately – you can go directly to Browse Reports.
- **Read Results with Time Check** - select this option, and the button label will change. Then select the button. If you use the time-check option, the time-stamp on the records on the cases in the scenario is compared to the publish time stamp, and if any data has been updated, the scenario is recalculated. This is an important safety check, to ensure that you have the most current data.

**Manage Sequence Sets**

```plaintext
{XE "Sequence" /* MERGEFORMAT */}{XE "Manage Sequence Sets" /* MERGEFORMAT */}{XE "Screen" /* MERGEFORMAT */}Manage Sequence Sets Screen
```
The **MANAGE SEQUENCE SETS** screen is used to create, delete or modify report sequences sets and subsets. It is also used to set sequence iterations and tolerances, and to define whether to iterate across or down.

**Screen Layout:**

Along the top of the screen are controls for naming and controlling the active sequence. The body of the screen displays each sequence in the active sequence set.

**List Of Operations or Tasks That Are Performed With This Screen:**

**Select Report Sequence Set to Manage**

- **SEQUENCE SET**: Drop-down list that displays all sequence sets. Upon selecting a sequence set, all sequences within the selected sequence set will be displayed.
**NAME:** Displays the name of the active (selected) sequence set. The sequence set name can be changed by entering the new name in the display box.

**CREATE SEQUENCE SET:** Opens the **ADD OBJECT** Dialog Box where a new sequence set can be added.

**COMPILE SEQUENCE SET:** Compiles all reports in the active sequence set.

**TYPE:** Drop-down list used to define sequence sets, e.g., model sequence sets can be defined as Model, Customer Detail, Cost Accounting, etc.

### Select Report Sequence Subset to Manage

**SEQUENCE SUBSET:** Drop-down list that displays all sequence subsets. Upon selecting a sequence subset, all sequences within the selected sequence set will be selected.

**CREATE SEQUENCE SUBSET:** Opens the universal **ADD OBJECT** Dialog Box where a new sequence subset can be added.

**ADVANCED PROPERTIES:** Opens the **SET ADVANCED PROPERTIES FOR DETAIL MODEL** dialog box, which is used to set overall iterations and sequence tolerances/iterations (shown below).

![Set Advanced Properties for Detail Model](image)

**Actions on each sequence**

Each sequence set can contain multiple sequences. Each sequence in the active sequence set will be displayed on the screen.
### Name:
Change the name of the sequence.

### < Left > Right: Moves the sequence to the right or left in the sequence set.

### Remove Sequence: Deletes this sequence from the sequence set.

### Tolerance: Sets the Tolerance for this sequence.

### Iteration: Sets the number of iterations for this sequence.

### Iterate Across or Down: Sets the iteration as across or down.

### Add Report: Opens a dialog box displaying all reports. Select reports for addition to the sequence.

### Remove Report: Removes the active report from the sequence.

### Up and Down Arrow buttons: Up and down arrows at the bottom of each sequence will move the active report up or down in the sequence.

The bottom region of the screen contains two lists: *Report* and *Looping*, displaying the report name and the entity group it is run over.

### Create or Add Sequence buttons
**Add Existing Report Sequence:** Opens a dialog box displaying all sequences in the active scenario. Select a sequence from the list, to add it to the active sequence set.

![Add Existing Report Sequence](image)

**Create New Report Sequence:** Creates a new blank sequence in the active sequence set.

```{XE "Sequence" /* MERGEFORMAT */{ XE "Remove:Report" /* MERGEFORMAT */{ XE "Remove" /* MERGEFORMAT */{ XE "Report:Remove" /* MERGEFORMAT */{ XE "Report" /* MERGEFORMAT */{ XE "Add" /* MERGEFORMAT */Add or Remove a Report from a Sequence

**Adding a Report to a Sequence**

- Open the *Manage Sequence Sets* screen.
- Select the desired sequence set.
- Click *Add Report* in the sequence to which you want to add the report.

![Add Report to Sequence](image)

The *Add Report To Sequence* dialog box will open:
UIPlanner Detailed Model User Guide

- Check report(s) in the list and click OK. The selected report(s) will be added to the bottom of the sequence list.
- Move the report to the desired position in the sequence using the arrows at the bottom of the sequence section.
- Select Save from the UIPlanner menu.

Removing a Report from a Sequence

- Open the Manage Sequence Sets screen.
- Select the desired sequence set.
- Highlight the report you want to remove from a sequence and click REMOVE REPORT at the top of the sequence section. The selected report will be removed from the sequence.
- Select Save from the UIPlanner menu.

Edit Calculations

{ XE "Postings" \* MERGEFORMAT }{ XE "Functions" \* MERGEFORMAT }{ XE "Reports" \* MERGEFORMAT }{ XE "Calculation Editor" \* MERGEFORMAT } Concept - Calculation Editor
The **Edit Calculations** screen (also referred to as the “Calculation Editor”) is the main means of customizing UIPlanner to fit your needs without the need to modify the UIPlanner software. It allows you, the user, to encode your own business logic. There is no need for custom SQL or Java code for each client. The underlying architecture of UIPlanner is that once you make a change to a report, it is immediately available to all users. When you save the change and ‘compile’ the report your java version compiles the report logic so that it runs fast (compile is the equivalent of making an .exe file).

The **Calculation Editor** is the tool you use to build reports, which are custom calculations that are used to implement your business logic. Reports and lines are key dimensions of UIPlanner. UIPlanner runs by processing a series of reports. A driver report determines over what Entity Group those calculations will loop. When running sequences (**Run Sequences** screen), the reports in the **Calculation Editor** loop over an entity group, for the time setting of the active scenario.

Reports (calculations) are all user definable. The **Calculation Editor** is laid out in a grid, with lines for logic and columns for labels and formulas. You enter formulas and functions line by line to build out the business logic in a simple, logical way. Reports are built using spreadsheet-like formulas utilizing a) standard mathematical operators, b) UIPlanner’s numerous built-in functions, or c) a powerful logical testing capability.
The **Calculation Editor** has a feature (local context) that greatly helps in building reports and analyzing results. When you run the model with the report in the sequence, you can come back to the **Calculation Editor** and see the results in the grid (for a specific entity and time period). You can then scroll through time and see results change on the fly. This can be very helpful when you are building a complex calculation/report and want to see the results of the detail calculations.

Finally, navigation is accomplished in several, straightforward ways, i.e., via command buttons, right-clicks, and short-cut keys.

**Edit Calculations Screen**

The **Calculation Editor** is the tool used to build reports. It can be accessed via the:

- **UIPlanner** menu
- **Run Sequences** screen (by right-clicking on a select report and selecting Edit Calculation from the drop-down list)
- **Browse Reports** screen (by right-clicking on a selected report in the Report Tree)
- **Group Reports** screen (using the **Edit Calc** button)

**Screen layout:**

The **Calculation Editor** is divided into three main regions:
A. Top Region – Displays the report being edited, local context and line context (described below).

B. Center Region – Control buttons used for line editing / formatting and report actions. See Control Button Panel for more details.

C. Lower Region – Calculation Grid containing report calculation lines. See Calculation Grid for more details.

List of Tasks or Operations that are performed with this Screen:

The Top Region of the Calculation Editor is comprised of several sections:

Select Report

Report: drop-down list of all reports in UIPlanner. You need to select a report calculation to view or edit.

Left and Right arrows: pointer to the last report(s) selected.

Down arrows: drop-down list of recently accessed reports.

Local Context

If you view a report calculation after running the model, the Local Context column will display report results for a specific entity/time period.

Entity: drop-down list of entities in the Entity Group defined for the active report. Select the entity for which you want to display results in the local context column of the Calculation Grid. Note: You must compile and run reports in order to see results.

Period: Select the period you want displayed in the local context column of the Calculation Grid.

Line Context

Each line in the Calculation Grid can be assigned a series of characteristics.

(X) = : displays the content of the active line in the Calculation Grid.

Line Usage: defines how the line will be used in a report (formula, label, etc.)

Line Visibility: defines the visibility of the line in a report (Always Show, Always Hide, etc.)

Month to Annual: defines how the line will be displayed on a report in the annual view (sum of months, ending balance, etc.)

Annual to Month: defines how annual input for time dependent data will be stored in UIPlanner and interpreted when used in the report.

See Line Context – Edit Calculations for more detailed information.
**What to Do if you encounter problems**

**Compile Errors:**
When you click **SAVE AND COMPILE** as you are building a report, you may get a “Compilation Error” message box.

This message indicates that there is an error in a report calculation. It can be a number of things, for example: a) you have not supplied all required arguments for a function, or b) you have put in illegal syntax. The compilation error message box gives you information to find the source of the error. It gives you report (its object ID), the line, and the reason for the error.

See Troubleshooting - Compile Errors for more information

**Report Editing:**
If you try to open the **CALCULATION EDITOR** to edit a certain report and get a message box such as “Report is checked out to . . . username”, this indicates that another user is editing that report. Note: A report can be edited by only one user at a time.

Click **OK** to open the **CALCULATION EDITOR**. Note that you will be in view mode only. See Troubleshooting - Report Editing for more information.

Control buttons (shown above) are displayed in a strip in the middle region of the **CALCULATION EDITOR**. These buttons are organized into four types of “actions”:

- **Line Action** buttons – perform specific tasks related to one or more lines in the report.
- **Line Format Action** buttons – perform formatting on a report line.
- **Report Lines Action** buttons – perform specific tasks that apply to ALL lines in a report.
You can hover over each button to see the action it performs. There are also shortcut keys for many actions. Also, by right-clicking in the formula columns, a drop-down list is available to perform specific actions:

Note: This center region of the screen also includes the Copy check box. (See Calculation Grid – Calculation Editor for more detailed information.) Also, you can use the <esc> shortcut key any time to undo your current edit.

### Line Action Buttons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Action</th>
<th>Description</th>
<th>Shortcut key</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Add Line Icon" /></td>
<td>Add Line</td>
<td>Adds a blank line at the bottom of the report Calculation Grid.</td>
<td><strong>CTRL-A</strong></td>
</tr>
<tr>
<td><img src="image" alt="Insert Line Icon" /></td>
<td>Insert Line</td>
<td>Inserts a line above the selected (highlighted) line.</td>
<td><strong>CTRL-I</strong></td>
</tr>
<tr>
<td><img src="image" alt="Insert From Clipboard Icon" /></td>
<td>insert from Clipboard</td>
<td>Inserts a line(s) above selected line from the Clipboard</td>
<td><strong>CTRL-R OR CTRL-DELETE</strong></td>
</tr>
<tr>
<td><img src="image" alt="Remove Line Icon" /></td>
<td>Remove Line</td>
<td>Removes the selected line(s) (or block remove, if range checked in MM-Mark lines for block move in – See Select Columns to Display)</td>
<td><strong>CTRL-R OR CTRL-DELETE</strong></td>
</tr>
<tr>
<td><img src="image" alt="Remove Section of Lines Icon" /></td>
<td>Remove Section of Lines</td>
<td>Removes a section (“block”) of selected lines. See Calculation Grid for details on block moves.</td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Recover Deleted Icon" /></td>
<td>Recover Deleted</td>
<td>Recovers a deleted line or lines, and inserts them below the</td>
<td></td>
</tr>
</tbody>
</table>
### Line Format Buttons

Note: In the **CALCULATION EDITOR**, you set formatting for line labels in the label column and for data in the *Local Context* column.
<table>
<thead>
<tr>
<th>Icon</th>
<th>Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>Bold</td>
<td>Toggles the contents of the active cell to Bold.</td>
</tr>
<tr>
<td>i</td>
<td>Italic</td>
<td>Toggles the contents of the active cell to Italic.</td>
</tr>
<tr>
<td>u</td>
<td>Underline</td>
<td>Toggles the contents of the active cell to Underline. The down arrow to the right of this icon enables you to specify the underline or cell border format.</td>
</tr>
<tr>
<td>h</td>
<td>Align Left</td>
<td>Aligns the contents of the active cell Left.</td>
</tr>
<tr>
<td>h</td>
<td>Align Center</td>
<td>Aligns the contents of the active cell Center.</td>
</tr>
<tr>
<td>h</td>
<td>Align Right</td>
<td>Aligns the contents of the active cell Right.</td>
</tr>
<tr>
<td>h</td>
<td>Indent Left</td>
<td>Indents the contents of the active cell left. Each time the Indent is pressed, the cell contents will be further indented. This can be reversed by Clicking on Indent Right</td>
</tr>
<tr>
<td>h</td>
<td>Indent Right</td>
<td>Indents the contents of the active cell right. Each time the Indent is pressed, the cell contents will be further indented. This can be reversed by Clicking on Indent left.</td>
</tr>
</tbody>
</table>
### Select Color

Select a color for the active cell or row. A color select dialog box will appear, you can color the active cell or the active line with options in the color dialog box.

### Assign Number Format

Available when a value is selected in the *Local Context* column on the **Calculation Grid**. Select a format option from the drop down list.

---

### Report line Action Buttons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Action</th>
<th>Description</th>
<th>Shortcut Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Info Icon]</td>
<td>Show full line name</td>
<td>Toggles the line reference letter in all formulas to include the Line Name as well. This toggle button also controls the display of report line references in the <strong>FUNCTION EDITOR</strong> dialog box.</td>
<td><strong>CTRL-N</strong></td>
</tr>
<tr>
<td>![Cloud Icon]</td>
<td>Make formula lines from empty label</td>
<td>Makes all lines with empty labels formulas. Sets any line in the Calculation Grid with empty formula labels to formula lines. The down arrow to the right allows you to make a line a comment (<strong>CTRL-_/</strong> or line label (<strong>CTRL-’</strong>).</td>
<td><strong>CTRL-L</strong></td>
</tr>
<tr>
<td>Icon</td>
<td>Action</td>
<td>Description</td>
<td>Shortcut key</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td>Show/Hide Formula Usage</td>
<td>Toggle button to show or hide the Line Context area of the screen.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Show/Hide Long Formulas</td>
<td>Toggle button to show or hide the long formula in the Line Context area of the screen.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Edit Line Settings in Excel</td>
<td>Exports only those format and line attribute type columns to Excel. See Edit Line Settings in Excel for details.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select Columns to Display</td>
<td>Opens the SELECT COLUMNS TO DISPLAY dialog box.</td>
<td></td>
</tr>
</tbody>
</table>

**Report Action Buttons**

<table>
<thead>
<tr>
<th>Icon</th>
<th>Action</th>
<th>Description</th>
<th>Shortcut key</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Save</td>
<td>Saves and compiles the current report.</td>
<td>CTRL-S</td>
</tr>
<tr>
<td></td>
<td>Undo All</td>
<td>Undo all changes made since the last save.</td>
<td>CTRL-Z</td>
</tr>
<tr>
<td></td>
<td>Open Calculation</td>
<td>Opens the SELECT REPORT dialog box.</td>
<td>CTRL-O</td>
</tr>
<tr>
<td></td>
<td>Assign Postings</td>
<td>Opens the DEFINE POSTINGS screen.</td>
<td>CTRL-P</td>
</tr>
<tr>
<td></td>
<td>Limit Entities to Run</td>
<td>Opens the SELECT ENTITIES NOT TO RUN dialog box.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Edit Time Data</td>
<td>Opens the EDIT TIME DATA screen.</td>
<td>CTRL-T</td>
</tr>
<tr>
<td></td>
<td>Compile</td>
<td>Compiles the currently active report</td>
<td></td>
</tr>
</tbody>
</table>
Compile All  Compiles all reports listed on the **RUN SEQUENCES** screen.

Export to HTML  Exports and opens an HTML file displaying the active report. **CTRL-T**

Split Screen  Displays a second **Calculation Grid**. The current report or a second report can be viewed and edited from this additional grid.

View Generated Source  Displays the Java code generated for the active report.

Launch Help  Opens the UIPlanner **HELP** dialog box.

---

**Calculation Grid - Calculation Editor**

The **Calculation Grid** region of the **CALCULATION EDITOR** looks like Excel, with line labels and cells displayed vertically and Excel-like functionality.

Using the **Calculation Grid**, you can build reports (calculations) using spreadsheet-like formulas. The grid display is controlled via the **SELECT COLUMNS TO DISPLAY** dialog box in that you define which columns to display there. As formulas are the key elements of this grid, you will typically keep the following columns displayed, as a minimum (See **Select Columns to Display** for details):

- **Ref**
• Line Label
• Formula-forecast
• Formula-actual

The Formula-forecast and Formula-actual columns are the core of the Calculation Grid. They allow UIPlanner to process logic differently depending upon whether the period being processed is actual or forecast. The functionality in these columns is powerful in that it incorporates the use of mathematical operators, conditional statements, and numerous UIPlanner functions. (See Formulas for details.)

A vast array of actions can be taken to facilitate the build-out of reports in the Calculation Grid. These can be sub-divided as:

• Line Actions – tasks related to one or more lines in the reports.
• Line Format Actions – tasks related to formatting report lines individually or in blocks.
• Report Lines Actions – tasks that apply to ALL lines in the report.
• Report Actions – tasks related to the entire report.

These actions, which are discussed in detail below, are accomplished in several, straight-forward ways, via: control buttons in the middle region of the Calculation Editor, right-clicks and short-cut keys.

Line Actions – Calculation Grid

See Control Buttons for a complete discussion of control buttons and shortcut keys associated with the line-related actions.

• Add or Insert: You can add a line at the bottom of the Calculation Grid or insert a line (or lines from a Clipboard) above the selected line.

  Note: When a new line is added, it automatically defaults to a Formula line type as most report lines are formulas. Also, the default for a new line is Dollars (000) without Actuals (Annual-to-Month setting, see Line Context). There is also a user preference (Preference Manager screen) that gives you the option to set the default to Dollars (000) with Actuals.

• Remove: You can remove a selected line or section (“block”) of lines. For a block delete, first check MM-Mark lines for block move in the Select Columns to Display dialog box to display the MM column on the grid. As this block remove action is for a range, you only need to select (i.e., check the check box in the column) the first and lines you want to delete. Also, note that if the range includes lines that are referenced by lines outside the block, the delete button will not be
enabled. You need to either modify the range or remove the dependency before the **REMOVE** control button will be enabled.

- **Move**: You can move selected line(s) up or down one line using one of the shift buttons.
- **Copy / Paste**: You can copy/paste a selected line or a block of lines. You also have the option to **Copy Formula Only** (via the arrow to the right of the **COPY** button). Unlike a “full” copy, this will not insert a new line, but will only copy the formula onto an existing line. Note that it will copy both the forecast formula and actual formula (if there is one).

To copy a block of lines either within a report or from report to report, use the MM column (discussed above under “Remove”). Check the first and last lines to copy, and then copy/paste the lines where you want them to go. You do not need to add blank lines first. Note that line references within the block of lines to be copied will be updated when they are pasted depending upon whether the lines they reference are inside the block or outside of it. References to lines outside the copy block will be copied unchanged, while references to other lines within the copy block will be updated with the new line numbers.

Since references to lines outside the copy block retain the original line and the copy lines feature can be used across reports, note that a reference to the original line can be brought to the new report. This is appropriate when you copy a block of lines with a **COPY FROM()** function. However, if you copy a block of lines with a **SUM DOWN()** function, it would be appropriate to include the line referenced in the **SUM DOWN()** function in the copy block so that the target report uses the relative position approach and not the original line approach.

- **Recover Deleted Lines**: You can recover deleted lines or groups of lines (i.e., insert previously deleted lines under a selected line) using the **RECOVER DELETED LINES** button. See Recover Deleted Lines for details.

- **Open FUNCTION EDITOR**: You can open the **FUNCTION EDITOR** dialog box using a control button, clicking `<CTRL-F>` on your keyboard, or right-clicking when you select a line in either the Formula-forecast or Formula-actual columns.

**Line Format Actions – Calculation Grid**

You can utilize the control buttons in the formal panel to format individual or blocks of lines. You can “block” format by first checking the MM-Mark lines for block move in the **SELECT COLUMNS TO DISPLAY** dialog box to first display the MM column on the grid. As the block format is for a range of lines, you only need to select (i.e., check the checkbox in the MM column) the first and last lines you want to affect. Note: You can also copy formats on a series of lines using the Copy checkbox on the format panel. To start, check the box
then format the line you want copied. Select the line(s) to which you want to copy the format and then uncheck Copy when you are done.

See **CONTROL BUTTONS – CALCULATION EDITOR** for the specific control buttons and steps for line formatting. You can toggle the **CALCULATION EDITOR** display to show or hide the format buttons using the **SHOW/HIDE FORMAT PANEL** control button. When the format buttons are displayed, they are only activated when you select a line when in the **Line label** or **Local Context** columns of the Calculation Grid.

Note that formats set in the Calculation Grid are carried forward to the report displayed on the **BROWSE REPORTS** screen, and to Excel upon export.

**Report Lines Actions – Calculation Grid:**
Several actions affect a set of report lines. These are used to:

- **MAKE FORMULA LINES**
- **SHOW/HIDE FORMULA USAGE**
- **SHOW/HIDE LONG FORMULA**
- **EDIT LINE SETTINGS IN EXCEL** (see **Edit Line Settings in Excel**)
- **SELECT COLUMNS TO DISPLAY**

See **Control Buttons – Calculation Editor** for a complete description of control buttons and shortcut keys associated with the above report lines-related actions.

**Reports Actions – Calculation Grid**

See **Control Buttons – Calculation Editor** for a complete description of report-related actions and the associated control buttons and shortcut keys.

- **Open Calculation:** While you are in the **CALCULATION EDITOR** you may want to open another report to edit. There are a number of navigational techniques.
  - Use the << and >> arrows in the **Select Report** region at the top of the **CALCULATION EDITOR**.
  - Open a report directly from the drop-down list in that top region, or
  - Use the **OPEN CALCULATION** button which is more convenient.
Click this button to open the **SELECT REPORT** dialog box which consists of a drop-down list of all reports. Select the desired report to be opened for editing. Note: This dialog box has text search. You can type in the box and it will show all reports with that text in the name. See the example below where “bal” is entered.

![Select Report Dialog Box]

```
{XE "Line" /* MERGEFORMAT */ {XE "Calculation Editor" /* MERGEFORMAT */ {XE "Line Context#Annual_to_Month" /* MERGEFORMAT */ {XE "Line Context" /* MERGEFORMAT */ Line Context (Edit Calculations screen)
```

Each line on the **Calculation Grid** can be assigned a series of characteristics defining the format and display of the line when the report is run. These four characteristics are described below along with options that you may select.

**Line Usage**: defines how the line will be used in the report.
- *Formula* – most common use of a line. See **Formulas – Calculation Editor** for detailed information.
- *Comment* - used to place comments on the calculation whenever the author wants to write an explanation.
- *Label Only* - used as label line. Typically used to label sections of the report.
- *Place Holder for Entity Description* – prints the name of the entity currently being processed (typically set as the first line in the report).
- *Place Holder for Sub-Entity Description* - prints sub-entity names on the report. This is used only when the report is run over two or more entities.

**Line Visibility**: used to show or hide lines on a report.
- *Always show* - Line is always displayed. This setting is the default.
- **Always hide** - Line is never displayed. This may be used for comment lines, or "If" statement lines that are not wanted on the final report.
- **Suppress if all zero** - If all months are zero the line will not be displayed.

**Month to Annual**: defines how annual totals will be displayed on a report. Typical reports will have monthly columns with a total. The default setting is to total the months and display that total in the annual column. However, there are situations where you will not want a total displayed in the annual column. Below are the options:

- **Total (sum of months)** - Total column will be the sum of the months. This is the default setting for all lines in a report.
- **Beginning Balance** - Beginning balance of the year
- **Peak Value** - Peak value in the last 12 months
- **Ending Balance** - Last monthly value
- **Average Value** - Average of the monthly values (12)
- **No Annual Value** - Annual column will be blank.
- **Rolling 12 Month's Total** - Total of the last 12 months
- **13 Month Average Value** - Average value using the last 13 months
- **2 Point (Beg+End)/2 Average** - Beginning and ending average

**Annual to Month**: defines how annual input for time dependent data will be spread across the months in a report. The Annual to Month characteristic defines how monthly data is determined when annual data is entered in time-dependent data. All time-dependent data is stored as 12 monthly numbers in UIPlanner. If time-dependent data is input as one number for each year (annual), you must define how to spread this annual number back to months.

- **Dollars (000) with Actuals** – Annual value is divided by 12 to generate monthly values.
- **Dollars (000) without Actuals** – Annual value is divided by 12 for the monthly values.
- **Percent – divided by 12 for Monthly** – Allows you to enter the annual percent as an integer either monthly or annually. UIPlanner will put the annual percent in all months.
- **Percent – same value for month or annual** - Total value is used for each monthly value.
- **Peak Value** – Highest value in the time period.
- **Average Value** – Annual value is divided by 12 for the monthly values.
- **Statistics with Actuals** – Amounts that are non-dollar and therefore will not be scaled.
- **Statistics without Actuals** – Amounts that are non-dollar and therefore will not be scaled.
The functionality in the Formula-forecast and Formula-actual columns (shown above) may be grouped as follows:

- Mathematical Operators
- Conditional statements
- UIPlanner functions

**Mathematical Operators**

Formulas are easily created on report lines in the *Edit Calculation* screen. They are based on the reference line letter and the standard convention for the order of mathematical expressions.

Variables in formulas are line reference letters.

Line reference letters in the "Ref" column are used to create formulas in the Formula-forecast and Formula-actual columns. This is more easily seen when the *Show Full Line Name* icon on the control button panel (See Control Buttons) is toggled to hide line names as shown below. This displays the “pure” formulas on each line.
Calculations

Formulas are entered by typing in the *Formula-forecast* and *Formula-actual* columns on a selected (highlighted) line. You can simply type in the line reference in these columns (A, B, C, etc.) and the desired mathematical operators as shown above.

Allowable operators are the standard mathematical operators:

- Addition
- Subtraction
- Multiplication
- Division
- Open Parentheses
- Close Parentheses
- Exponent

**Conditional Statements**

"If - end if" statements are available in UIPlanner reports. The "if - end if" statements are control flow statements used in your report to execute certain lines on your report calculation if conditional tests evaluate to true.

Four of these statements are allowed: "if", "end if", "else" and "Else if". After typing one of these statements in the *Line label* column of the Calculation Grid, the line will change color to help distinguish and delimit the "if" logic in your report. When you type "If" in the *Line label* column the "end if" line will also be added and both lines will be colored. "else" and "else if" lines can be added as needed by typing them in the Line label column.
The condition test which yields a true or false answer is typed in the line formula (Formula-forecast or Formula-actual column) using the following expressions:

- < Less than
- > Greater than
- <= Less than or Equal
- >= Greater than or Equal
- <> Not Equal
- = Equal

"If" statements follow standard programming logic. An example of conditional statement syntax in a bonds report is shown below.

Note: Additional operators, e.g., “and” and “or”, are valid in conditional statements.

**UIPlanner Functions**

UIPlanner’s **FUNCTION EDITOR** provides a wide array of functions that can be used in report logic. The **FUNCTION EDITOR** dialog box (shown below) is accessed from the **CALCULATION EDITOR** by selecting a report line in one of the formula columns and either:

- clicking the Function Editor icon (See Command Buttons),
- pressing <CTRL F> on your keyboard, or
- right-clicking and selecting **FUNCTION EDITOR**.

![Function Editor Dialog Box](image-url)
Notes:
The **CALCULATION EDITOR** remembers the last function used and presents it as a suggestion. Thus, if you are adding several account functions on a report, it will default to that first, so you do not have to search for the account function every time. It also allows you to type in a formula if you already know the function and any arguments. If you type “=” to enter a function, as you type the start of the name of that function a list of functions will be shown. Use the up/down arrows and the enter button to make your selection. Then as you continue typing, any required function arguments will be presented. This process is shown below.

---

{ XE "Columns" /* MERGEFORMAT */ XE "Selecting Columns to Display" /* MERGEFORMAT */ XE "Calculation Editor" /* MERGEFORMAT */ XE "Calculation Grid" /* MERGEFORMAT */

Select Columns To Display
Screen layout:

The **SELECT COLUMNS TO DISPLAY** dialog box allows you to define the columns that are displayed in the **CALCULATION GRID**. This dialog box is accessed via the **SELECT COLUMNS TO DISPLAY** control button on the center region of the **CALCULATION EDITOR** screen (see Control Buttons for more details). When you select specific check boxes and then click **CLOSE**, the calculation grid automatically is refreshed displaying those columns.

Although the entire set of columns can be displayed simultaneously, for practical purposes you would typically select only a subset of those columns. For example, the example above shows columns that are most often displayed on the grid. See below for the resulting grid display.
While you can edit all line attributes directly in the Calculation Grid, you can also export to Excel line attributes across all lines and edit them there. This is very helpful if you want to edit a number of lines. Below are the line attributes eligible for editing in Excel.
See below for the resulting Calculation Grid Display.

Upon clicking the Edit Line Settings in Excel button on the Calculation Editor, the columns and data are exported to Excel for editing.

You can edit and add attribute lines in Excel and then import them back into the Calculation Editor. UIPlanner has built in functionality for editing in Excel, as described further in the Edit Attributes in Excel.

The Function Editor dialog box is accessed from the Calculation Editor by selecting a report line in one of the formula columns and either:
• clicking the Function Editor icon (See Command Buttons - Calculation Editor),
• pressing <CTRL F> on your keyboard, or
• right-clicking and selecting Function Editor.

The Function Editor has search capability. Two search options are displayed if you select the checkboxes Show Tree Selection and Show Quick Search:
• Show Tree Selection – Displays a tree view of the functions (shown on the left above) which is used to see the functions grouped by type.
• Show Quick Search – Displays a “quick search” option (shown on the right above) which is used if you know the names of the various functions. This option allows you to type in any part of a function name, and as you type, it shows all functions with that text string anywhere in the function name.

The example above shows both options for the Copy From function. On the left, the Copy From function has been found in its place on the tree view (under the Financial group). Alternatively, by typing in ‘copy’ on the right, all functions with ‘copy’ somewhere in the name are shown in the list, including ones with ‘copy’ in the middle or at the end of the name.

The middle section contains a short description of the selected function. Below the description, there is a section listing the parameters associated with that function, and any current values.

Select the desired function (e.g., Copy From), select the Parameter Values, some of which are optional, and click OK to utilize the function for that report line. Note: All functions support an optional argument Sign?. The default is no. If Switch Sign is selected, the return value is negated.

Wide Calculation Editor (Group by Shared Labels)

Wide Calculation Editor Screen

The Wide Calculation Editor is a variant of the standard Calculation Editor that is used to build and modify groups of reports that share common line labels. It is a simplified view, in that a number of the buttons are removed, and it does not have Local Context. What it does do as an extension of the standard Calculation Editor is that it allows you create a group of related reports, and to see their formulas side by side. Below is an example of a wide report group calculation in the Wide Calculation Editor.
When you add a line, it adds that line to all reports. However, you can enter different formulas on each report for the same line. Finally, when you click **SAVE AND COMPILE**, the **CALCULATION EDITOR** compiles and saves all reports in the group.

There is a separate menu item for accessing the **WIDE CALCULATION EDITOR**.

Note that you can post from a report in a Wide Group – just select it in the standard **CALCULATION EDITOR**.

For more information, see **CONCEPT – WIDE REPORTS**.

**Screen layout:**

The **WIDE CALCULATION EDITOR** is divided into two main regions.

The top region is where you:
- Select which group to edit or create a new Wide Report group
- Use the "Add Report" drop-down list to add a new report to the group if you are already editing a Wide Report group
- Delete a report from a Wide Report Group.

The bottom half of the screen is essentially the **CALCULATION EDITOR** for the selected group. It has a limited selection of action buttons across the top, and below that is the standard calculation editor grid. Note that each of the reports in the group show up as columns, with the line labels in the left hand column.
Note that the calculation grid portion of the screen does not display postings, local context or the actuals formula, as these would be impossible to display for a grid with multiple reports. If you want to edit a report in the **STANDARD CALCULATION EDITOR**, you can access it using a right-click option on the blue list of reports.

List of operations or tasks that are performed with this screen

**CREATE A WIDE REPORT GROUP**
**MODIFY REPORTS – WIDE REPORT GROUP**
**WIDE REPORTS - BUILD A CALCULATION INSIDE A METHOD**
**ADD/DELETE A REPORT - WIDE REPORT GROUP**

Share Calculations

{XE "Share Calculations" \* MERGEFORMAT }
{XE "Screen - Share Calculations" \* MERGEFORMAT }
{XE "Calculations" \* MERGEFORMAT }

Share Calculations Dialog Box

The **SHARE CALCULATIONS** dialog box is used to set up the sharing of calculation logic from one report to another. Sharing calculations allows you to specify that the lines and logic from one report is used in another. This
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reduces maintenance needs, since any change you make to the first report is reflected in the second.

Note that the processing is identical in the two reports. If you want to use the same lines in the reports but have different logic in the two reports, you should use the Wide Calculation Editor.

Screen Layout:

This is a very straightforward screen. The drop-down list at the top lists all reports in the model. The report area below lists all reports in the model that have no lines defined. Note: In order to share calculations, the report you are sharing with must be completely blank to start.

List Of Operations And tasks That are Performed With This Screen:

Share a Report Calculation

1. Create a new, blank report and name it appropriately (use Group Reports). Make sure you specify the entity group it is to run over, but do not check the box for an initial line for entity. The report must exist, but have no lines.

2. Open the Share Calculations screen. Select the report you want to share (the source report) from the drop-down list.

3. Select the new blank report in the Select Reports to Share With area.

4. Click OK. You will get a message box confirming the action. Click OK again. Note that you cannot undo this action – once the lines are shared, the reports are permanently linked.

5. Click Refresh from the UIPlanner menu. When you go to the Calculation Editor, this new report will have all the same lines as the source. Note that the top information bar lists the report name and the report it is shared with. See below.
Limit Entities to Run

{XE "Limit Entities to Run" /* MERGEFORMAT */}{XE "Screen - Limit Entities to Run" /* MERGEFORMAT */} Limit Entities to Run Screen
The purpose of the **Limit Entities To Run** screen is to give you control over which entities will be run for a specific report. This screen behaves differently for 1D reports and 2D reports:

- For 1D reports, you indicate which entities NOT TO RUN
- For 2D reports, you indicate which entities TO RUN

By default, 1-dimensional reports are run for all entities, so you will generally not even need to open this screen for most reports. For 2D reports, you need to define a rule, using this screen. Generally, the only time users will open the Limit Entities to Run screen will be for 2-Dimensional reports.

One item to note and be cognizant of – when you first create a 2-D report, you will need to open the **Limit Entities to Run** screen and set the settings. If you do not do this, that report will not run ANY entities. This gives rise to an issue commonly faced by users. When users create a 2-Dimensional report, they sometimes forget to open this screen and define the Entities to Run rule. Then when they run the model, they get no results.

The **Limit Entities To Run** screen is invoked from either a menu item or from within the **Calculation Editor**.
Screen Layout:

The *LIMIT ENTITIES TO RUN* screen is divided into two regions:

The top of the screen contains drop-down lists which you can use to set processing rules.

The bottom of the screen contains a grid that lists the entities (or entity pairs – for 2-Dimensional reports). You can manually check entities to set processing rules. Note that the entity selections are case-specific, allowing winner logic. The screen shows the winners.

List of Operations or Tasks That Are Performed With This Screen:

**Set Processing Rules for 2D Report**

While you can manually select entity pairs to run (see below), most commonly users will define processing rules. In this case, the report follows a rule set and dynamically chooses the entity pairs based on the rule set. This is the most common setting for the *LIMIT ENTITIES TO RUN* Screen. The rules are set in the top region of the screen. Below are some of the settings available to you.
Process Entities/Entity Combinations where Time Data Exists – with this setting, the model run only those combinations where there is data to process. This option is helpful in entity structures that are “sparsely populated”, with limited and scattered combinations.
Run All Entities/Entity Combinations – with this setting, the model will run all combinations
Use Entities/Entity Combinations from Another Report – this setting allows you to choose another report from which to set the entities to run. This way, if you have previously set combinations in another report, you can mirror those in the current report.

Note regarding choosing an option to use vs. processing speed: Depending upon the number of combinations, you should consider first setting the rule to be “Run All Entities/Entity Combinations”, and only making it more restrictive if there are issues with processing time. With processing speed of most computers, in many cases you should be able to run all pairs with no impact on speed. You might only need to tailor the settings in the Limit Entities to Run screen if you encounter performance issues with these settings.

Manually Select Entity Pairs to Run

There may be cases where you want to specifically designate the entity pairs to run. Select the case from the dropdown list. Then check the entities to run. You can check all or uncheck all using the buttons to the left, or you can select full rows or columns using the top row or left hand column. Below is an example.

In this case, the report will only be run for the checked entity pairs. It is advisable to use this option only when the list of entities is relatively stable. Otherwise, if new entity pairs are added, they will not be run unless you manually add them.
Exclude Entities for Processing – 1D Report

There may be cases where you want to limit the entities to run for a 1-dimensional report. For example, there may be a report that you want to run only for a certain entity (or entities). You thus turn the report OFF for all other entities. What you do in this case is to use the **LIMIT ENTITIES TO RUN** screen to turn OFF those entities. Below is an example.

In this case, this report will NOT be run for the checked entities. Note that the checkbox selections are made in the Base Attribute case.

What to do if you encounter problems

**NO RESULTS OR INCOMPLETE RESULTS – 2D REPORT:**

You ran a 2-Dimensional report, but got either no results at all, or incomplete results (entity pairs you expected were not returned.) This situation could arise if:

a) You did not set a processing rule for the 2-D report
b) You set a rule that returned no pairs

c) You manually set the pairs to run and new pairs were found.

Review the rules you set for the 2D pairs.

Trace Precedents and Dependencies

The Trace Precedents and Dependencies screen allows you to see all the precedents and dependents for an entire report or an entire report sequence. You use the drop-down list to select a report sequence or a specific report. This is a major extension of the current trace dependents...
feature in the **Calculation Editor** (which works on a single line in a report). Below is an example showing the trace for a single report. Key features include the following:

- You can limit the trace to only links to other reports. If unchecked, the trace results will show intra report results as well.
- You can choose to see line formulas instead of dependencies.
- Trace results can be exported to MS Excel or a text file.

**Push From Report to Report**

```
{ XE "Push from Report to Report" \* MERGEFORMAT }
{ XE "Regulatory" \* MERGEFORMAT }
{ XE "RegSmart" \* MERGEFORMAT }

Push From Report to Report Screen
```

**Concept – Push from Report to Report**

The "Push from Report to Report" functionality was developed to allow the user to take data from one report/entity and copy it to a specific line on another report/entity – without the need for any association or relationship between the two.

Under most circumstances, users will use the **Copy From** or **Rollup** functions in the destination report to ‘pull’ the data from the other report. However, these functions require that there be an association between the entities involved in the two reports. In some cases, it may be too difficult or too complicated to define the needed relationships. For example, the user may have a report for sales of LLPEs and wants to record the proceeds and gain/loss on the correct owning entity. Rather than try to build all the pointers and mappings, it may be easier to just take the proceeds and gain/loss for each sale and “push” each one to the right destination LLPE.

Below is an example of the **Push from Report to Report** screen with several transactions configured as indicated above.
To configure a transaction to be “pushed” from one report to another, follow these steps:

- Select the report, line and entity that you want to push. This is on Line 1. In the above example, we want to go to the Sale of LLPE report, and get the common equity for the propane entity.

- Choose the report, line and entity where you want it pushed (where it should end up). Note that you can take one amount and push it to more than one entity. Use additional lines for multiple pushes. In the above example, the objective is to take the common equity of the propane entity that was sold, and put it on the Sale of LLPE – Proceeds report for two entities – the parent and the elim co.

- Open the Calculation Editor and select the destination report.

- In this report, indicate that the relevant lines are to be populated using Push from Report to Report by selecting the function: Line is a Target of Push from Report/Line/Entity
Data

Core Object Editor

Core Object Editor Screen

The Core Object Editor screen is the primary screen for editing object data within UIPlanner. This screen allows editing of any object related record. Care should be taken when using this screen. Object data, if deleted, cannot be reversed. Inadvertent deletions can produce compile or report run errors, or go unnoticed and yield invalid results.

Screen Layout:

The Core Object Editor screen is comprised of two regions:

1. **Top "Select Objects to Edit" region**, which contains two drop-down lists, a series of preset filters for delimiting object selections, and one button, as defined below:

   **Object Type:** This drop-down list contains a list of object types. Selection of an object type will limit what is in the Filter By drop-down list, which is used to further limit your selection.

   **Note:** The objects in the list may be limited by a preset filter, which are selected using the checkboxes to the right of the drop-down list. Hover over the boxes to view the labels. The two preset filters that are used by model users are:

   - **Model objects** – basic, e.g., reports, lines, entities, etc.
   - **Model objects** – extended, e.g., line attribute, case group, report batch, etc.

   If no preset filters are selected, all object types are listed in the "Object Type" drop-down list.

   **Filter By:** This drop-down list is limited by the Object Type selection. For example, when Report is selected, the "Filter By" list will include report groups and when Line is selected, the list will include reports. In some cases there are no additional filtering options available. Once you have made your selections from the two drop-down lists, the results will appear on the bottom region of the screen.

   **Note:** Orphan entities, e.g., entities that may remain after their entity group has been deleted, are identified using the "Filter By" list. To identify orphan entities, select Entity in the Object Type drop-down list.
Then scroll to the bottom of the "Filter By" drop-down list and select "Orphan Entities." In the example below, the list of entities in the bottom region of the screen now includes only those orphan entities.

Load Data: Click **LOAD DATA** to refresh the results of the search.

2. **Bottom region**, which includes a series of sub-tabs. Each sub-tab, listed below, displays a different screen panel.

   - **Object ID**: This tab is pictured at the top of this section. It displays each object and the internal Object ID. This information is not editable. However, you can search for a specific item and find its Object ID. Or, you can specify the Object ID and click **FIND** to find the specify item associated with that *Object ID*. This information can also be exported to Excel or HTML.
   - Interface Codes
   - Delete
   - Owner Group
   - Visibility
   - Case-Name
   - Order
   - Instance-Name/Code/Order
   - Data Finder
   - Alerts

**Additional Filters on Core Object Editor**

**Preset Object Filters**: In order to make it easier to use this screen when viewing and editing objects, there are a series of preset filters denoted by checkboxes. You apply the filters by choosing the appropriate check box. Note that due to space limitations, the check boxes do not have description labels; instead the descriptions are in the form of tool tips that show up if you hover over them. When you select a filter, it will limit the list of items in the Object Type drop-down list. The current filters are:

   - **Model Objects - Basic** - this limits the Object Type to the most commonly viewed Model items:
     - Accounts
- Case
- Reports
- Account Rollups
- Entity
- Scenario
- Attribute Definitions
- entity Group
- Calculations
- Lines

- **Model Objects - Extended** – this contains the remaining Model Object Types, such as Allocation Path, Allocation Scheme, Custom Column Set, Report Sequence, Report Sub Sequence, etc.

  - Accounts
  - Case
  - Reports
  - Account Rollups
  - Entity
  - Scenario
  - Attribute Definitions
  - entity Group
  - Calculations
  - Lines

- **Budget Objects - Basic**– this limits the Object Type list to the most commonly viewed Budget items:

  - Attribute Definition
  - Entity Group
  - Calculation
  - Line
  - Case
  - Report
  - Entity
  - Scenario

- **Budget Objects – Extended** – this list contains the remaining Budget Object Types, such as DataSet Definition, Loading Definition, Loading Filter, Stored Procedure Definition, and Validation Rule Set, to name a few.

- **System Objects** – this limits the list to several key System level items, such as Calc Function, Q2 and UIMenuItem.

These filters are combinable; if you select Model - Basic and Model - Extended, you get the members of both. These filters can help simplify
working with the **CORE OBJECT EDITOR**. Below is an example of the Model – Basics list:

![CORE OBJECT EDITOR](image)

**Case Type Filters:** For the Case Objects, you can filter by case type. *Edit Groups* is a filter option for entities on the **CORE OBJECT EDITOR**. The filter drop-down list distinguishes entity groups from edit groups.

The top level account nodes (Revenue, Expense, etc.) are listed in the filter list for account rollups on the **CORE OBJECT EDITOR**.
This tab of the **CORE OBJECT EDITOR** displays interface codes for the selected Object group (Entity, in the example shown above). The active interface cases are shown as columns.

You can edit Interface Codes in Excel by right-clicking on the header row. Select the **EDIT IN EXCEL** option.
The **DELETE** tab on the **CORE OBJECT EDITOR** enables you to delete objects. A listing of entities in the selected entity group **Planning Entity** is shown in the example above.

Objects are identified for deletion using the **CORE OBJECT EDITOR** screen, then deleted in mass upon the next Save. *Care should be taken when deleting objects. Once objects are deleted, they cannot be recreated easily. Inadvertent deletions can produce compile, report run errors, and yield invalid results.*

- Open the **CORE OBJECT EDITOR** and click the **DELETE** tab.
- Select the desired **Object Type** from the drop-down menu.
- Limit the object type further by making a selection from the **Filter By** drop-down list.
- Using the check boxes in the **Delete** column, select the objects to be deleted. Objects marked for deletion will be deleted the next time you **Save**. (Double-click the column header to toggle select all.)
- Note that the **Not Visible** column identifies those objects that are currently tagged as not visible. See the **Visibility** tab.

The screen print below illustrates marking specific Planning Entities to be deleted.

Objects marked for deletion can be seen on the **VIEW PENDING ATTRIBUTE SAVES** dialog box. *Case value* will be indicated **To be Deleted**.
Delete Limit –
You can right click on the header of the **CORE OBJECT EDITOR’S DELETE** tab table to specify the maximum number of deletes you can do at a time. Different databases have different delete count per save – this allows you to set the amount appropriately (the default is 1,000). Also, if you routinely add large numbers of entities, this can make it easier to delete large batches (if need be). If a user tries to do a mass delete by double-clicking on the header, the model will check only up to the maximum and display a warning message: “Delete exceeds limit of ‘xxxx’. To delete more, do a save”. Note that when you set the limit, it is global for all users, and it applies to all objects that can be deleted using the **CORE OBJECT EDITOR**.

The **OWNER GROUP** tab contains owner group data for each object in the database.
Columns explained:

**Object**  This column displays the object selected, e.g., scenario.
**Owner Group**  The second column displays the owner group for this object.

Owner groups can be added to any object by clicking the owner group column on the desired line. A list of owner groups will be displayed for selection, as shown above.

You can edit Owner Groups in Excel by right-clicking on the header row. Select the **EDIT IN EXCEL** option.

The **Visibility** tab contains core object data for each object in the database, data for each attribute case in the scenario, and the winner.

**Object**  This column displays the list of objects selected.
**Winner**  The second column displays the winner Property value based on the attribute cases in the scenario. The example above displays the winner of the two attribute cases.
**Remaining columns** will display visibility property values for all attribute cases in the active scenario. The example above contains three attribute cases.
Winner logic is shown on this tab from right to left. Note that the first object AFUDC Rate Schedules has a winner visibility value of True. This value is the result of the last attribute case (far right) indicating True.

The **Case-Name** tab displays the names of selected objects by case, as well as the winner of all attribute cases in the scenario. The **Case-Name** tab for entity groups is shown above. This example shows object names for the scenario by each case in the scenario.

**Columns explained:**

**Instance Default:** Displays the Object name.

**Name in Case:** Displays the name value of all cases in the scenario. In this example there is only one available case.
The **ORDER** tab is used to change the internal order of objects. This tab will display all cases in the active scenario, and a winner, where more than one case is available.

**Touch Cell under Case:** To activate (make active) the correct object, and case, select the desired cell on the screen.

F7=Move Up: F7 will move the active object up in the list

F8=Move Down: F8 will move the active object down in the list

F9=Renumber: F9 will renumber the objects in the active case beginning at 0.0.

**Features**

- Negative numbers and numbers with decimals are valid. Order will appear from lowest to highest.
- Arrange objects in alphanumeric order by checking the box *Show in Alpha-Order* then pressing F9.
- Object order is updated the next time you save your changes by selecting **File** then **Save** from the UIPlanner menu.
- The Winner column will change as objects are reordered in any case to reflect the new winner.

**Ordering Objects**

Objects are ordered within UIPlanner by order number. Several screens allow order changes by highlighting an object and pressing the up and down arrows or a similar button. This approach is convenient and commonly used. However, when significant changes to object order are necessary, the **CORE OBJECT EDITOR** screen can be used.

*Care should be taken when reordering objects. Once reordering is done, it cannot be reversed easily. Inadvertent changes to object order can produce compile and report run errors, and yield invalid results.*

- Go to the Order tab on the **CORE OBJECT EDITOR**.
- Select the desired **Object Type** from the drop down list.
- Limit the selected object type further by making a selection from the Filter By drop-down list.

The screen example below shows the Bond Issues entity group entity order.

- Place your cursor on an entity row and the case column you want to reorder.
- Two methods can be used to change the order of the active object. Type in a new order number, or press F7 and F8 to move the selected object up or down in order. Order changes will display immediately on the screen.
- Order changes displayed on this screen will be made permanent the next time you select File, Save from the UIPlanner menu.

The Instance table with in the UIPlanner database contains the basic elements of all database objects. These elements are displayed on the Instance-Name/Code/Order tab.

The screen example below shows the Bond Issues entity group entity order.
Object: Displays the object name. The object name is unchangeable.

Default Name: Displays the Default name for the object. The default name can be changed.

Default Code: Typically only Budget system objects need a unique default code. This code is generally assigned when budget records are loaded into the system.

Default Order: Displays the Default order for the object.

The Default name and Default order can be modified in a Scenario via winner logic applied to multiple cases.

The Core Object Editor includes a Data Finder tab. Once you select an item in the list, you can click Find All Data, and UIPlanner will return a listing (exportable to Excel) of all cases with that data. The default is Attribute Cases. You can choose to include interface or formula cases as well.
Alerts are an optional layer of security. They allow the System Administrator to tag an item so that if a user changes it, the system will display a warning message (an Alert) notifying the user that they have changed the item. They can choose to undo the change or proceed to save (as long as they have appropriate security).

Note that the Alert mechanism does not prevent the item from being changed. It merely warns the user that they are about to change an important item. This helps prevent accidental or unintended changes, while not completely locking the items down. Alerts are a ‘softer’ alternative to using security to lock these items down.

Some items that are candidates for alerts:

- Planning Entity Attributes – Rollup Hierarchy, Legal/Segment structure, etc.
- Scenario Settings – actuals date, start date, years to run
- Attributes that should not change – Revenue Schedule -> Fuel Clause, Revenue Schedule -> Revenue Class or Bond Issue->Legal Entity.
- Accounts – put alerts on all of the accounts in the Planning Ledger. This would display an alert if an account was moved or deleted.
- Postings – Q2s for Line - Post Switch or the various Post Q2’s. This would display an alert if a user changed a posting.

**Setting Alerts**

Alerts are set on the **Alerts** tab of the **Core Object Editor**. You select the **Object Type**, and the relevant items to tag, using the check boxes. You can also put in a specific message to be displayed. In the example above, alerts are set on several of the attributes of planning entity.

**Alert Message and User Options**
If a user changes one or more of the tagged Attributes, when they go to save, the system will display a warning message (or the tailored message, if appropriate). The user can then choose to accept the changes, discard all changes, or cancel the save (they might wish to go back and undo the specific change).

**On-the-Fly Alert Message**

If a user wishes, they can elect to have the system to display the alert message on the fly, as soon as they have made the change, rather than at Save time. This is a user preference.

Note that this message just alerts the user right when the change was made. They will have the various options available when they go to save. On-the-fly Alert Messages were made a user preference, because some users may not want to have the warning messages displayed every time they make a change.

**Security over Alerts**

The right to set Alerts is an Administrative option with its own Security setting.

**Preferences**

```
{ XE "Preference Manager Screen" /* MERGEFORMAT */
  XE "Preferences" /* MERGEFORMAT */
  XE "My Preferences" /* MERGEFORMAT */
  Preference Manager Screen
```
The **Preference Manager** screen (also called **My Preferences**) is where you set various settings and choices that are user-specific rather than global across all users. These settings do not have any effect on model runtime or model results, and thus can be user-specific. These settings are generally in two categories:

1) **User Interface** – settings that determine how the model interface behaves for you. For example, you can choose to have:
   a. only reports that you have run appear on **Browse Reports**. This makes that screen more concise.
   b. “Locked” text on locked cases trails case name to assist in sorting cases (the default is “Locked” preceding the case name).
   c. the last selection on the posting screen remembered, i.e., the last account selected so that when using the Account function, you do not have to drill-down to select the account.

2) **Output** – settings that allow you to decide where you want to save output data for Pull Reporting.

Note that this screen controls only **some** of the user preferences. Specifically, it controls the ones that can be reduced to a switch or path setting. There are many other user preference items throughout UIPlanner. For example, all of the settings for your User Batch on the **Browse Reports** screen are user preferences.
Also, UIPlanner saves under your user name the tabs you had open, selections on each tab and screen sizes at the end of your user session. The next time you open the model, it will open to the same as before.

There is one exception to this:

- **Run Sequences** - the sequence and report selections are set during your user session. Each time you re-open the model and want to run, you need to confirm the sequence and report checks. Also, the selection box to use the data in the User Temp Data case is session-specific. You need to check it each time you run.

The **Preference Manager** screen (like **Planner Properties**) changes relatively frequently. As features are added to UIPlanner, sometimes various users request User Preference or Planner Property switches to enable/disable them or to tailor how they behave. Also, as UIPlanner continues to evolve, certain **User Preferences** become no longer applicable.

The **Preference Manager** screen is a “modal” screen. It opens as a dialog box rather than a tab. You cannot do anything else in UIPlanner until you close it.

**Screen Layout:**

The **Preference Manager** screen consists of three tabs.

- **System Behavior** – This tab has a series of checkboxes that allow you to control various aspects of how UIPlanner behaves. These include things like suppressing warning messages, or controlling how UIPlanner displays locked cases on the screen. This tab is shown above. See **System Behavior** for more details on this tab.

- **Output Options** – This tab is where you can configure your own settings for two key data processes.
  - Pull Reports, and
  - User Temp Folder. The user preference for temp folder may need to be set if the default folder fails, or optionally set if the current temp folder is a network folder. A temp folder on C:\ is faster.

See **Output Options** for more details on this tab.
Delete/Copy Preferences – This tab is where you manage your user preferences. You can delete your own preferences or delete another user’s edit lock on a report (stored as user preference). You can also copy another user’s preferences.

For more information, see the following topics:
Delete/Copy User Preferences
Remove User Locks
From the **Preference Manager** screen you can either delete all of your *User Preferences* or just delete certain ones. Generally, you delete preferences if you are encountering an error in UIPlanner that appears to be related to the system trying to enable a certain screen or tab. Deleting your preferences resets the system settings to the UIPlanner default preferences.

### DELETE ALL PREFERENCES

Generally, you delete preferences if you are encountering an error in UIPlanner that appears to be related to the system trying to enable a certain screen or tab. Deleting your preferences resets the system settings to the UIPlanner default preferences.

Clicking **DELETE ALL PREFERENCES** will delete all of the user preferences that you have set in previous and current sessions of UIPlanner. Note that you will not be prompted to confirm this action after clicking the **DELETE** button and there is no restore feature.

**Note:** Using the **Model Security** screen the System Administrator can delete all user preferences for a specific user. For example, if a user is having problems entering the system due to a screen issue, the System Administrator can delete all user preferences for him/her.

### DELETE SELECTED PREFERENCES

If you know a specific preference or screen that you want to delete (but keep all others) clicking on this button will allow you to delete only certain preferences rather than ALL preferences, as described above. Generally, you will use this option to delete all preferences related to a specific screen. For example, if you are encountering an error whenever you try to open a specific screen, you might just delete your preferences to remove any invalid selections. To delete select preferences for a specific screen or form:
- Click **DELETE SELECTED USER PREFERENCES**

![Delete Selected Preferences dialog](image1.png)

- Click on the *Form* column to sort the preferences by form.
- Scroll to find the form/screen you want to purge.
- Check the box next to each of preferences for that screen. See below.

![Delete Selected Preferences dialog](image2.png)

- When you close this window, the checked preferences will be deleted.
  Note - as with the **DELETE ALL** feature, you will not be asked to confirm the deletion.

Note: you can search any column by right clicking on the header. This will bring up the following dialog. Type in a text string and click **OK**. This is helpful if you do not know the underlying name for a screen/form.
COPY PREFERENCES

You can copy another user’s preferences to your own, if you want. You might do this if you have deleted all of your preferences and want to set them. Or in the case of a new user, he/she may want to have preferences set for them.

To copy preferences, select the user you want to copy FROM, and select the checkbox to confirm. Then, click Copy. This action will first delete all of your User Preferences, and then copy from that user.

UIPlanner maintains internal control to ensure that only one user at a time is editing a report. Each time a report is opened in the Calculation Editor, it notes that user has “locked” the report. Once they are through editing, the lock is supposed to be released. If for some reason the lock is not released, other users will get a warning message and will not be able to edit that report.
See **Troubleshooting Report Editing** for more information.

You can use the **REMOVE USER'S LOCK** button on the **Preference Manager** to force a delete of the edit locks on a report. Select a report using the drop-down list, then click **REMOVE USER'S LOCK**. This will purge any locks on that report and it will be available for editing. See below.

The **Output Options** tab of the **Preference Manager** is used to define model output and related scenario actions:

**Pull Reports / Strategic Model**

The top region is where you can define your preferences for sending data to pull reports, as well as settings for the Strategic Model Excel interface (if applicable).
Below are descriptions of the various settings and options.

- **Store Pull Reporting As Text** – this checkbox turns on the functionality to store Pull Report data. Use the dialog box to select a file folder – this folder will be used unless you override on a Report Batch level (see Browse Reports). Note – the MS Access MDB option is no longer available.

- **Pull Reports: Months & Years vs Years Only** – select one of the two options, to send both monthly and annual data or just annual (saves space)

- **Erase Pull Report Text Results From Prior Reports** – if checked, when you send a pull report dataset, it will first erase prior exports from that scenario, to avoid possible obsolete data. Note, if you use the zip option, prior exports are always deleted. Note that accompanying this option are drop-down plists for selecting the Scenario, Case and report batch needed for the Strategic Model to run from Excel.

- **Enable UIput & Run From Excel Option** – this option is available on the Strategic Model. If checked, the model will listen for data sent from a Pull Report, and will save that data. With the Run from Excel option, the model will rerun and send out revised Pull Reports.

- **Enable Pull Report Drilldown Listener** – this checkbox turns on the functionality to allow you to select a cell in a pull report and drill back into the associated UIPlanner report. See Drill Down Into UIPlanner From A Pull Report for more information.

{ XE "System Behavior" /* MERGEFORMAT */{ XE "How To Define My System Behavior" /* MERGEFORMAT */{ XE "User Preferences" /* MERGEFORMAT */System Behavior Tab }}}}
This tab on the **Preference Manager** allows you to control how the system behaves as you interact with it. It consists of a series of check boxes. These include things like suppressing warning messages, or controlling how UIPlanner displays locked cases on the screen.

Below are detailed descriptions of each of the System Behavior User:

- **DO NOT SHOW DATA FROM TIME-DEPENDENT EDITOR - JUST SAVE:** If checked, this option will suppress the *Prepare to Save* dialog box that displays the changed time data rows returned from the MS Excel Time Data template. Any changed data will be saved automatically, without this intermediate window.

- **WRITE ALLOCATION TXT FILES:** Check this box to allow allocation values to be written to a text file that can be opened by Excel. However, this information is also available via the *Browse Reports* Screen Drilldown option.

- **ONLY SHOW REPORTS THAT HAVE BEEN RUN ON BROWSE REPORTS:** When this box is checked, the *Browse Reports* screen report tree will not display any reports or report groups that were not run in the last run on the *Run Sequences* screen. See below for an example.
• **FOR NEW LINES, SET TO DOLLARS WITH ACTUALS (DEFAULT IS WITHOUT)** – If this box is checked, any new report lines added in the Calculation Editor will be configured as Dollars with Actuals.

• **ENABLE PULL-REPORT DRILLDOWN LISTENER** – this checkbox turns on the functionality to allow you to select a cell in a pull report and drill back into the associated UIPlanner report. See Drill Down Into UIPlanner From A Pull Report for more information.

• **ON TIME-DEPENDENT EDITOR STORE SELECTED ENTITIES TO EDIT BY REPORT NOT GLOBALLY** – If this box is checked, in the Time Data Editor, your user preferences will remember entity selections by individual report. The default is across all reports (e.g., if you select specific planning entities on one report, when you select a different report also by planning entity, it will use that same selection).

• **REMEMBER LAST SELECTION ON POSTING SCREEN** – If this box is checked, the Posting screen will remember the last selected expense or revenue account selected in the account tree, making it easier for you to perform multiple successive posts.

• **LOCKED TEXT ON LOCKED CASES TRAILS CASE NAME** – If this is checked, when a case is locked, the term "Locked" is appended to the case name (e.g., “Case Name – Locked”). If unchecked, locked cases will be displayed as "Locked - Case Name." Keeping “Locked” after the case name makes it easy to sort cases by name. See below:
• SUPPRESS "HIGH LEVEL ROLLUP" NOTICE WHEN OPENING BUDGET GRID – n/a for Model

• SUPPRESS SECURITY MESSAGES WHEN EDITING – Each time a screen sends a value to the attribute table the security is checked before it goes to the save list. If this box is checked, you will not get warning messages until you hit Save.

• SHOW DRILLDOWN IN ACTUALS PERIODS FOR EXCEL REPORTS – If this box is checked, BROWSE REPORTS will show values from lines that are posted during actual periods.

• SUPPRESS "OK TO CLOSE?" WHEN CLOSING SYSTEM – If checked, you will not get the below confirmation dialog when you close UIPlanner (either by the “X” or <ctrl> w). UIPlanner will close immediately.

• LINE BY ENTITY - ZERO SUPPRESS BY LINE – If this option is checked, when you run a report Line-by-Entity in BROWSE REPORTS, any lines that are zero in all periods will not be shown in the report results.

• HIDE CLOSE-TAB “X” BUTTONS – If checked, open tabs will not display the “X” for closing them.

• CREATE LEDGER RUN-TIME REPORTS - This selection will send posted Planning Ledger values by LLPE to be written a text file. Note that this User Preference needs to be enabled if you are using the Daily Cash module of UIPlanner.

• POPUP DESCRIPTION ON SEQUENCES - This selection will displays the report description (Report\Entity Group) upon mouse-over of a report name in a sequence set.
• **SHOW DATA ALERTS ON-THE-FLY** - When this box is checked, any alerts attached to an object in the **CORE OBJECT EDITOR** will display immediately as that item is edited. Otherwise the alert will not display until a Save is invoked. See **Core Object Editor: Sub Screen - Alerts** for more information.

• **RUN SEQUENCES: USER SELECTORS & SINGLE PANEL** – If checked, the Run sequences screen will be formatted in the alternate view, with a list of sequences on the left, and the right panel will show only the reports for the selected sequence. Note that you can switch the view on the fly. Just change this preference here and just close/open the Run Sequences screen to switch the view.

• **SELECT EXCEL EDITOR/REPORT FORMATTING MACRO FILE** - n/a, as the RS_Ed.xls has been replaced by the UIPlanner.xla.

• **OVERRIDE REPORT COLOR SCHEMES IN RUN SEQUENCES** - Clicking either button opens a color palette that allows you to select the highlighting color for reports as they are being run and as they are finished running in the BROWSE REPORTS screen.

See below where an alternate color scheme has been selected.
• DEFINE ATTRIBUTE FORMATTING FOR EXCEL EDITING – Click on this button to select the Excel number format for the attributes of a chosen entity groups. See below.

![Define Attribute Formatting for Excel Editing](image)

• ASSIGN KEYBOARD SHORTCUTS TO MENU ITEMS – You can assign keystrokes (CTRL plus a keyboard character) to any UIPlanner menu item. The steps are as follows:

![Assign Keyboard Shortcuts to Menu Items](image)

• Click on the CREATE button to designate a new shortcut:
• Select a menu item and click OK to move to the next step:

Make your selection and click OK to complete the operation. The shortcut will be added to the list.

You will need to exit and re-open UIPlanner for the shortcut to be enabled.

Note – use the REMOVE button to delete any shortcut that you have assigned. You cannot delete the system default shortcuts.
Define Other Preference Items: Preference Manager

Additionally, at the very bottom of the screen are some additional User Preference settings:

- **SELECT EXCEL EDITOR/REPORT FORMATTING MACRO FILE** - N/A, as the RS_Ed.xls has been replaced by the UIPlanner.xla.
- **OVERRIDE REPORT COLOR SCHEMES IN RUN SEQUENCES** - Clicking either button opens a color palette that allows you to select the highlighting color for reports as they are being run and as they are finished running in the **BROWSE REPORTS** screen.

See below where an alternate color scheme has been selected.
- **DEFINE ATTRIBUTE FORMATTING FOR EXCEL EDITING** – Click on this button to select the Excel number format for the attributes of a chosen entity groups. See below.

![Define Attribute Formatting for Excel Editing](image)

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![Assign Keyboard Shortcuts to Menu Items](image)

Click on the **CREATE** button to designate a new shortcut:
Select a menu item and click **OK** to move to the next step:

Make your selection and click **OK** to complete the operation. The shortcut will be added to the list.

You will need to exit and re-open UIPlanner for the shortcut to be enabled. Note – use the **REMOVE** button to delete any shortcut that you have assigned. You cannot delete the system default shortcuts.

**Add Objects**

```plaintext
{XE "Objects" /* MERGEFORMAT */ {XE "Add Objects" /* MERGEFORMAT */ {XE "Add" /* MERGEFORMAT */ {XE "Screen" /* MERGEFORMAT */ Add Object Dialog Box
```
The **ADD OBJECT** dialog box is used throughout UIPlanner to create objects. The dialog is opened from numerous screens, typically via an **ADD** or **CREATE** button.

**Screen layout:**

The top section of the screen contains drop-down lists that vary depending on the type of objects being added. In most cases, the first selection is Parent and second selection is Optional Security Group (Owner), as shown above for the Add Entity dialog. These selections differ when adding reports and cases.

The middle section of the screen contains the area to enter the new object to be added. Multiple objects can also be added at one time by pasting in a list from another source (e.g., MS-Work and Excel).

The bottom section of the screen contains all existing objects of a given type as well as their order. By highlighting an object in the list prior to adding the new object(s), you can select where in the list the object(s) will appear.

**List of Tasks or Operations that are performed with this Screen:**

Note: Click **CANCEL** at any time to close the dialog without saving data.
1. **Select parent**: Select a parent from the drop-down list. Parent
defaults to an Entity Group when adding entities as you select a parent
on the tree prior to clicking CREATE. In some cases, e.g., **ADD REPORT
BATCH** dialog and **ADD SCENARIO** dialog, no parent is required.

Note: When adding reports and cases, the **Select parent** drop-down list is
replaced with a **Select Entity Group** or **Select Case Type** list, respectively.
(See **Add Report Dialog** and **Add Case Dialog** below).

2. **Optional Security Group (Owner)**: If a security structure exists
where owner groups are associated with the new object, e.g., report or
case, select the owner group from the drop-down list.

3. **Enter or Paste Name(s)**: Enter or paste object names in the space
provided. Each object should be entered on a separate line. Note: Some
objects may require a code in addition to the object name. These are
typically budget objects. When entering codes with objects, the object
name should be entered then the | key followed by the code.

4. **Select line to insert below**: To insert objects at a particular
location in the list, highlight an object in the list. All objects added will
be inserted immediately below the highlighted line.

5. **Save to disc**: Check box if you want to save all objects to the
database. If this box is not checked before you add the objects, you can
alternatively click **File|Save** from the UIPlanner menu to save the new
objects to the database.

6. **Add Objects Listed Below**: Click button to add all objects
entered.

**Add Report Dialog – Additional notes**

![Add Report Dialog]

When the **ADD REPORT** dialog box opens, the default Entity Group is Planning
Entity. Be careful to select the appropriate entity group over which the
report will be run. (Note: You do have the ability to change the entity group on the GROUP REPORTS screen if required.)

Additionally, when adding a new report from the GROUP REPORTS screen the ADD REPORT dialog will contain the additional control options below.

Add initial line for Entity Description: When this item is checked, the first line of the new report will contain a line usage format of "Placeholder for Entity Description" (see below)

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula-forecast</th>
<th>Formula-actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Balance Sheet</td>
<td>Place Holder for Entity Description</td>
<td>Place Holder for Entity Description</td>
</tr>
</tbody>
</table>

Create for Validation: When this box is checked, the report will be identified as a validation type report and two additional drop-down lists will be added to the top of the screen. (As validation reports are specific to budget scenarios, this check box should not be selected when in the Detailed Model.)

Select Cluster Group: Define the cluster group used in this validation report.

Select dimension: Define the dimension of the validation report.

Add Case Dialog – Additional notes

When the ADD CASE dialog box opens, a Select Case Type drop-down list replaced the Parent list that exists on most ADD OBJECT dialog boxes (see above). The default case type is Overlay. Be careful to select the appropriate case type. You also have the option to select an owner group for the new case(s).
Edit Attributes

An attribute definition is a placeholder for data (facts) about entities within an entity group. Attribute definitions are defined for the entity group. Attributes are defined for the entity group. **Attribute data** is then entered for each entity within the entity group. Entity groups must exist prior to assigning attributes for the group. Entities must exist prior to entering attribute data. The example below shows the Bond entity group, with attributes shown across the top and attribute data shown in the body of the chart for each bond entity.

<table>
<thead>
<tr>
<th>Attribute Data</th>
<th>Issue Date</th>
<th>Retire Date</th>
<th>Interest Rate</th>
<th>Type</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bond 1</td>
<td>August 15, 1994</td>
<td>August 15, 2024</td>
<td>7.13%</td>
<td>First Mortgage</td>
<td>Parent Co.</td>
</tr>
<tr>
<td>Bond 3</td>
<td>June 30, 2008</td>
<td>June 30, 2038</td>
<td>6.50%</td>
<td>Pollution Control</td>
<td>Parent Co.</td>
</tr>
</tbody>
</table>

Attributes can take two forms. Typically an attribute will represent a fact about the entity such as issue date, shown in the chart above. In many cases an association attribute will be used. An association is used in UIPlanner as a pointer to another entity group. This is an important concept and a powerful tool in creating dynamic and flexible reports.

In the chart above, two attributes are associations: *bond type* and *owner*.
The **Edit Attributes** screen is the core screen for maintenance and creation of entity groups and attributes. Here you can see all entity groups, entities and attributes that exist in the system, add or change attribute definitions and add new entity groups and entities.

**Screen layout:**

This screen has two major regions. Along the left region is the entity group tree, which shows the selected super entity group, entity group, and entities. In the example above, the super entity group selected (highlighted) is **Budget** and the entity group selected is **Project**. No individual entity is selected. The "+" symbol next to the entity group "**Project**" indicates that individual entities exist for that group.

The center right region of the screen displays differently depending on the active entity group tree node. The entity group tree node becomes active when highlighted.

**Super entity group is active:** Select a super entity group on the entity group tree on the left side of the screen. No information will be displayed on the right side of the screen.

**Entity group is active:** Select an entity group in the tree. The **Define Attributes for Entity Group** region is displayed to the right of the tree:
**Individual Entity is Selected:** Click on the + next to the selected entity group to view all entities in that group. Next, click on one of those entities. The attribute and association information for the selected entity will populate the right side of the screen in the *Assign Attribute Values for Entity* region.

List of Tasks or Operations that are performed with this Screen:
Entity Group Level Actions

When an entity group is selected, the right hand side of the screen will be populated with the associations and attributes for that entity group:

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Option Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Date</td>
<td>Date (YYYYMM)</td>
<td></td>
</tr>
<tr>
<td>In Service Date</td>
<td>Date (YYYYMM)</td>
<td></td>
</tr>
<tr>
<td>End Date</td>
<td>Date (YYYYMM)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Pointer to another entity</td>
<td>Department</td>
</tr>
<tr>
<td>Flight For A&amp;E</td>
<td>Yes or No</td>
<td></td>
</tr>
<tr>
<td>Score</td>
<td>Input parameter value (data...)</td>
<td></td>
</tr>
<tr>
<td>In-Budget</td>
<td>Yes or No</td>
<td></td>
</tr>
<tr>
<td>Pointer to Plant Account</td>
<td>Pointer to another entity</td>
<td>Plant Account</td>
</tr>
<tr>
<td>Project Driver</td>
<td>Pointer to another entity</td>
<td>Project Driver</td>
</tr>
<tr>
<td>Outage Type</td>
<td>Pointer to another entity</td>
<td>Outage Type</td>
</tr>
</tbody>
</table>

This grid allows you to define attributes for each entity in the selected entity group. Note that associations are attributes that are pointers to another entity group whereas other attributes require data entry.

Each line contains three fields:

- **Name**: This field may be edited.
- **Type**: Attribute type defines the type of data to be collected. The drop box selections are described below.

<table>
<thead>
<tr>
<th>Drop down selection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total (sum of the months)</strong></td>
<td>Used to input any value or text.</td>
</tr>
<tr>
<td><strong>Percent - divided by 12 for monthly (e.g. Interest rates)</strong></td>
<td>Used to input any value or text.</td>
</tr>
<tr>
<td><strong>Percent - same value for months or annual (e.g. Tax Rates)</strong></td>
<td>Used to input any value or text.</td>
</tr>
<tr>
<td><strong>Pointer to another Entity</strong></td>
<td>This is a special attribute that serves as a pointer to another entity group. When this type is selected the option set drop box will appear to select the entity group you want to point.</td>
</tr>
<tr>
<td><strong>Input parameter value (dollars, rates, rates, etc)</strong></td>
<td>Used to input any value or text.</td>
</tr>
<tr>
<td>----------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td><strong>Date ( YYYYMM)</strong></td>
<td>Used to input a year and month date.</td>
</tr>
<tr>
<td><strong>Yes or No</strong></td>
<td>Used as yes or no variables. When this attribute is called from a Report <em>Function</em>. &quot;Yes&quot; will return a value of 1, &quot;No&quot; (or null) will return the value of 0.</td>
</tr>
</tbody>
</table>

- **Option Set:** Option set is only relevant if the attribute type is "pointer to another entity". Select the desired entity group from the drop-down list.

When an entity group is selected, note that each association and attribute line on the grid is preceded by a small round "O" button and a small round "T" button. By clicking on one of these, you can:
- View the Relevant Tree (for an Association only)
- Open the One Parameter Editor (for an Attribute only)

There are three actions you can perform for the selected entity group:
- Create a New Attribute
- Link an Attribute to an Entity Group
- Remove a Link

**Entity Level Actions**

When an entity is selected, you can do the following thing:
- Select the Rollup Period
- Add Comments for the Entity
- Change the Entity Level Name

To change an entity name, edit it in the text box. You can specify names by case – use the drop down list to select the case. Note that you can also change names using the **CORE OBJECT EDITOR**.

**Tree View Actions**

At the bottom of the tree view on the left side of the screen, there are four buttons which allow you to do the following things:
Create: Create a new super entity group, entity group, or entity.
Refresh: Refresh changes to an entity group or entity.
Copy Attributes: Copy the characteristics from one entity to another.
Create and Edit: Create and edit a new entity group, or entity.

In addition, regardless of where you are on the tree, right-click on that node to:

- Export Tree Structure to Excel
- Collapse or Expand Tree Below the Node
- See Number of Nodes Below. See example below where there are 33 entities (bonds) below the selected entity group (bonds-detailed model).

Note: The above options are available for most tree structures within UIPlanner. Other options vary.

What to Do If You Encounter Problems:

If you change attribute data but it does not change on the screen, this indicates that the case is locked or you do not have security rights to edit the data. You need to contact the System Administrator to unlock the case or to modify your security rights, as appropriate. See Troubleshooting - Editing Data for more information.

If there are entities or entity groups that you know exist but you do not see them on the Edit Attributes screen, this indicates that you do not have security rights to view these entities. You need to contact the System Administrator to modify your security rights, as appropriate. See Troubleshooting - Visibility/Security for more information.
Select an Entity Rollup Period

When an individual entity is selected in the Edit Attributes screen, the values for that entity's associations and attributes are displayed on the right side of the screen:

Attributes and associations can be changed over time. Upon selecting a rollup period other than One, the display will change to allow entry of a date for the change and the new association beginning at that time. This feature is commonly used to forecast future organizational changes.
If an individual entity is selected in the **Edit Attributes** screen, the right side of the screen will contain an area in which to add comments:

- Enter the desired comment:

```
Owner and plant account will change in second rollup period beginning 4/10/2010
```

When you are done with entry, select **File** then **Save** from the UIPlanner menu to save the comment.
Entity Associations or Attributes may be organized into a tree structure. To view an Association or Attribute tree, follow these steps:

- In the **EDIT ATTRIBUTES** screen, select a super entity group.
- Select an entity group, such as *Project* as shown below.
- Click on an association or attribute to highlight it.
- Click on the round "T" button to the left to view the tree structure of the selected association or attribute:

You can either scroll down the tree or use the search box to locate an item by character string.
Click **OK** to close this window.

The **Edit Attributes** screen displays a tree of entity groups and entities for a selected super entity group. There are various action buttons available below the tree depending on whether an entity group or an entity is selected. The **Create** button is available for both types of items.
To create an entity within an entity group, highlight the entity group, e.g., *Project* in the example above.

Click **CREATE**, which opens the **ADD OBJECT** dialog box.

Add the entity, e.g. *Tucson Test Project*, and it will appear in the appropriate section of the tree when you return to the **EDIT ATTRIBUTES** screen:

```
{ XE "Entities" /* MERGEFORMAT */ { XE "Create" /* MERGEFORMAT */ { XE "Entity Group" /* MERGEFORMAT */ Create an Entity Group
```
Open the **Edit Attributes** screen.

- Highlight any super entity group from tree on the left side of the screen.
- Click **CREATE** at the bottom of the tree to open the **ADD OBJECT** Dialog Box.
- Add the new entity group using the **ADD ENTITY GROUP** Dialog Box.
- The dialog will close, and the new entity group will appear on the tree.
- If you want the newly created entity group assigned to a super entity group, see **Assign Entity Groups to a Super Entity Group** for instructions.

---

**Create an Entity**

- Open the **EDIT ATTRIBUTES SCREEN**.
- Highlight the entity group to which you want to add an entity(ies).
  - Note: If the entity group has not been created, it must be created first. See **Create an Entity Group**.
- Click **CREATE** at the bottom of the entity group tree display to open the **Add Object dialog box**.
- Add the new entity using the **ADD ENTITY** Dialog Box.
- When the dialog box closes, the new entity will appear on the tree.

**Create and Edit Button**

The **CREATE AND EDIT** button on the Attribute Editor allows you to create an entity, assign it to a Security Group, and populate attribute data, time dependent data, interface codes and set the order, all from one screen. Below is an example of a screen displayed after an entity has been created. This example shows the attribute data screen ready for entry. Note the radio selections for populating the other data elements for the entity just created.
Note: The CREATE AND EDIT dialog also allows you to view existing entities. This provides a central point to view or edit all data related to an entity. The screen references and leverages existing screens to minimize the learning curve.

Create Attributes for an Entity Group

Attribute definitions are placeholders for attribute data values. Typically, attributes definitions are assigned to entity groups, and attribute data is assigned to each entity in the entity group.

- Open the EDIT ATTRIBUTES screen.
- Highlight the desired entity group from the Entity Group Tree along the left side of the screen (shown below).
- Click the **CREATE** button near the top of the right hand section of the screen.
- Note: Single attribute definitions are objects in UIPlanner. The **CREATE** button above will open the **ADD OBJECT** Dialog Box.
- Once you have added the new definition, locate the new attribute definition and assign the attribute **Type** and attribute **Option Set** via the drop boxes to the right of the attribute name (shown below).

Attribute definition type defines the type of data to be collected. The drop box selections are described below.
<table>
<thead>
<tr>
<th>Drop down selection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (sum of the months)</td>
<td>Used to input any value or text.</td>
</tr>
<tr>
<td>Percent - divided by 12 for monthly (e.g. Interest rates)</td>
<td>Used to input any value or text.</td>
</tr>
<tr>
<td>Percent - same value for months or annual (e.g. Tax Rates)</td>
<td>Used to input any value or text.</td>
</tr>
<tr>
<td>Pointer to another Entity</td>
<td>This is a special attribute that serves as a pointer to another entity group. When this type is selected the option set drop box will appear to select the entity group you want to point.</td>
</tr>
<tr>
<td>Input parameter value (dollars, rates, rates, etc)</td>
<td>Used to input any value or text.</td>
</tr>
<tr>
<td>Date ( YYYYMM)</td>
<td>Used to input a year and month date.</td>
</tr>
<tr>
<td>Yes or No</td>
<td>Used as yes or no variables. When this attribute is called from a Report Function, &quot;Yes&quot; will return a value of 1, &quot;No&quot; (or null) will return the value of 0.</td>
</tr>
<tr>
<td>Pointer to a named filter</td>
<td>This is a special attribute that serves as a pointer to a filter group. When this type is selected the option set drop box will appear to select the filter group you want to point.</td>
</tr>
</tbody>
</table>

After you have made your selections, select **File** then **Save** from the UIPlanner menu to complete the operation.

Now that you have created a new attribute definition, see **Input Attribute Data** for more information.
When an entity group is selected in the **Edit Attributes** screen, one of the options available is the ability to link an attribute of the selected entity group to another entity group.

- Select the entity group from the entity group tree.
- Click **Link Attribute to Entity Group**. The following dialog box will be displayed:

![Select Entity Group & Attribute Definition](image1)

- Click in the **Entity Group** field to open a list of available options, and select one. Next, click **OK**:

![Entity Group](image2)

- Click in the **Attribute Definition** field to open the available list and select one. Next, click **OK**:

![Attribute Definition](image3)

- Click **OK** again to return to the **Edit Attributes** screen.

>{XE "Removing a Link to an Attribute Group" /* MERGEFORMAT }
>{XE "Attributes" /* MERGEFORMAT }{
**XE "Edit Attributes" \* MERGEFORMAT \}Remove a Link to Entity Group**

When an entity group is selected in the *Edit Attributes* screen, one of the options available is to remove any links from an attribute to another entity group. If a link exists that is no longer needed, use the removal feature to remove the link.

Highlight the link row, *not* the original attribute, then click **Remove Link to Entity Group**.

{ **XE "Copy Attribute Data Screen" \* MERGEFORMAT \}**

**XE "Attributes" \* MERGEFORMAT \}Copy Attribute Data Screen**

You can copy attribute and association values from one entity to one or more other entities in the same entity group. The *Copy Attribute* dialog box is launched from a button under the entity tree on the *Edit Attributes* screen.

- Select the entity to be copied.
- Click **Copy Entity** to open the dialog box below:
- Select the entity to copy from in the drop-down list in the top left region of the screen.
- Check the target entity or entities (Accept Copy boxes on the right region of the dialog).
- Check all or only some attribute/association values to Copy (left region).
- Click Do Copy when you have made your selections.

Note: As a time-saving measure, the copy function can be used to populate one or more new entities that will share all or most of the attribute or association values of an existing entity. After the copy is complete, only the values that need to be changed for the new entities need to be edited.

Note: As a time-saving measure, the copy function can be used to populate one or more new entities that will share all or most of the attribute or association values of an existing entity. After the copy is complete, only the values that need to be changed for the new entities need to be edited.

On the left side of the Edit Attributes screen, below the entity tree, there are up to four action buttons available, depending upon whether an entity group or entity is selected in the tree. One button that is enabled for both selections is Create and Edit.
- Select the category for which you would like to create and edit a new object, such as a specific entity.
- Click Create and Edit. The following dialog box will open:
Click on the **CREATE** button in the top left region of the dialog and enter a name for the new entity or entity group, e.g., *new project*.

Click **OK** to create this entity (or entity group) and return to the **CREATE AND EDIT** dialog.

Click **Attributes** (located in the top right section of the **CREATE AND EDIT** dialog). The attributes for the selected entity will be displayed:
- Select the values for each of the attributes. Next, click **OK** to close this screen and return to the **EDIT ATTRIBUTES** screen. Your new entity or entity group will appear in the appropriate place on the tree.
- Select **File** then **Save** from the UIPlanner menu to save the new entity or entity group and its attributes.

**One Parameter Editor**

```
{ XE "Parameters" /* MERGEFORMAT */}{ XE "One Parameter Editor" /* MERGEFORMAT */}{ XE "Screen" /* MERGEFORMAT */}One Parameter Editor Screen
```
The **One Parameter Editor** screen displays attribute data in a multidimensional screen layout. You can view, enter or edit attribute data in a variety of screen configurations.

**Screen Layout:**

This screen is similar to an Excel Pivot table. Table selections are made from drop-down menus along the top of the screen. Results are displayed in the body of the screen.

**List Of Operations Or Tasks That Are Performed With This Screen:**

First, a word about report attributes. While entities can have many attributes, reports do not have attributes. However, in this screen the report attribute displayed is the actuals date. Report actuals date is assigned, if needed, to each report on this screen (or the **Calculation Editor** screen). The report data will override the default actuals date for the active scenario.

Selections are made from left to right at the top of the screen. The **Select Super Group** drop-down list limits menu choices presented in the **Select Entity/Edit/Report Group**, which in turn limit choices presented in **Select Attribute or Case**. These three drop-down menus control the display in the body of this screen.
**Select Super Group:** This drop-down menu limits the *Entity/Edit/Report Group* drop-down list.

<table>
<thead>
<tr>
<th>Select Super Entity Group</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Super Entity Group</td>
<td>This selection will cause the Entity/Edit/Group drop-down list to display all entity groups and edit groups.</td>
</tr>
<tr>
<td>A listing of all Entity Groups</td>
<td>A selection of any listed super entity groups will cause the Entity/Edit/Group drop-down list to display all entity groups and edit groups in the super entity group.</td>
</tr>
<tr>
<td>All Reports Groups</td>
<td>This selection will cause the Entity/Edit/Group drop-down list to display all report groups, and the <em>All Reports</em> option.</td>
</tr>
</tbody>
</table>

The result of selections from the *Select Super Entity* drop-down list will be either a listing of entity groups or reports.

**Select the Entity/Edit/Report Group and "Attribute or Case":**

The table below describes the resulting choices from the super group selections.

<table>
<thead>
<tr>
<th>Entity/Report Group</th>
<th>Attribute or Case</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Report</td>
<td>Show All Winners</td>
<td>The Objects column will show all reports in the report group. The body of the report will show the actuals date winner for each report.</td>
</tr>
<tr>
<td>Any Report</td>
<td>Any Case from the list</td>
<td>The Objects column will show all reports in the report group. The body of the report will show the actuals date override for each report.</td>
</tr>
<tr>
<td>Any Report</td>
<td>Actuals Date</td>
<td>Upon selecting actuals date, the objects column will show all reports in the report group. The body of the screen will show all cases with an actuals date override and a winner.</td>
</tr>
<tr>
<td>An Entity Group</td>
<td>Show All Winners</td>
<td>This choice will display entities in the Objects column and the case winner values for each attribute in the body of the screen.</td>
</tr>
<tr>
<td>An Entity Group</td>
<td>Any Case from the list</td>
<td>Upon selecting a case, the Objects column will show all entities for the</td>
</tr>
</tbody>
</table>
entity group. The body of the screen will show all attribute values for each entity.

| An Entity Group | Any Attribute from the list | The objects column will show all entities for the entity group. The body of the screen will show all cases and the winner values. |

Edit groups are a *Select Group* option on the *One Parameter Editor*. Edit groups are filtered by the super entity group (when selected) based on their associated entity group.

**Select Sort Behavior:** This drop-down list provides various options for sorting the results shown in the body of the screen. The sort options, e.g., alpha sort, scenario sort, user defined entity sort, etc., will depend on how the screen has been delimited.

**Special Features:**

Right-click the header of a column in the grid to display an options menu (shown below):

<table>
<thead>
<tr>
<th>Assignment Values for Selected Attribute (Right Click to Copy, Fill &amp; Export)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object description</td>
</tr>
<tr>
<td>CHI 4.50% PMB due May 15, 2020</td>
</tr>
<tr>
<td>CHI 5.5% PMB due 2/1/2023</td>
</tr>
<tr>
<td>CHI 5.5% Senior Notes due 2/1/2023</td>
</tr>
<tr>
<td>CHI 5.625% Pollution Control Bond due 2/1/2023</td>
</tr>
<tr>
<td>CHI 6% Pollution Control Bond due 2/1/2023</td>
</tr>
<tr>
<td>CHI 6.2% Senior Notes due April 1, 2023</td>
</tr>
</tbody>
</table>

**Edit in Excel:** See *Edit Attribute Data in Excel* for details.

**Export to Excel** - Click *Export to Excel* to export to Excel. This functionality differs from Edit in Excel (above) in that data is exported to Excel without the ability to save changes directly to the database.
Export Data in HTML Format - Any data displayed in the body of this screen can be exported in HTML format by right clicking the body of the displayed data and selecting the Export to HTML item from the options menu.

Search Table - Select the final item from the header right-click menu to search for table rows that contain a specific character string:

Other options are available to help you enter attribute data. Right click while hovering over an input cell to open the following dialog box:

The table below describes how to use each menu choice.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy</td>
<td>Copy current cell to the clipboard</td>
</tr>
<tr>
<td>Paste</td>
<td>Paste clipboard to the current cell</td>
</tr>
<tr>
<td>Copy from Above</td>
<td>Copy from the cell above the active cell</td>
</tr>
<tr>
<td>Fill From Above</td>
<td>Fill data in all cells above the active cell from the first cell above found with data</td>
</tr>
</tbody>
</table>
Attribute data can be entered for each entity in an entity group using the One Parameter Editor screen. Attributes must be created prior to entering attribute data. See Create Attributes for an Entity Group.

Before you can enter any data, you must select the appropriate objects to be displayed.

- Select the appropriate case in the Select Attribute or Case drop-down list.
- Select the appropriate super entity group in the Select Super Group drop-down list. This selection will limit the entity groups displayed.
- Select the desired entity group or the report group from the Select Entity/Edit/Report Group drop-down list.

Enter attribute data

After completing the steps above, an attribute table will be displayed showing entities on the left with attributes in columns to the right (shown below).
- Attributes that are defined as a Pointer to another Entity will have a drop-down list to select the appropriate entity group. Select the desired entity group from the list.
- Attributes defined as Yes or No will have a drop-down list for selection of either a Yes, No, or Null.
- Attributes defined as a Date (MM/YYYY) will display a date finder dialog box for date selection.
- The remaining attribute types require direct data entry. It is important that you understand the intended use of the attribute data so that data entry is consistent.
- Comments can also be entered for each entity if desired.

**Report Attributes**

As indicated above, Reports are included in the **ONE PARAMETER EDITOR**. This is a handy way to see (and edit) the Actuals Date. See below:
**Edit in Excel**

You can edit Attribute Data from the One Parameter Editor in Excel by right-clicking on the header row. Select the **EDIT IN EXCEL** option. You must first be on an editable view (Show Winners is not editable). Below is an example from the above Bond entity group:

<table>
<thead>
<tr>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds/Detailed Model/Base Attribute Case</td>
<td>Planning Entity</td>
<td>Issue Type (e.g. FMB)</td>
<td>Sink Day</td>
<td>Reacquisition Day</td>
<td>Issue Date (yyyy/mm)</td>
<td>Retire Date (yyyy/mm)</td>
</tr>
<tr>
<td>CHI 4.50% FMB due May 15, 2013</td>
<td>Chicago Electric</td>
<td>First Mortgage Bond</td>
<td>Aug-02</td>
<td>May-13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI 5.00% FMB due July 1, 2042 (Planned)</td>
<td>Chicago Electric</td>
<td>First Mortgage Bond</td>
<td>Jul-12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI 5.5% FMB due Nov 1, 2035</td>
<td>Chicago Electric</td>
<td>First Mortgage Bond</td>
<td>Nov-09</td>
<td>Nov-35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI 5.5% Senior Notes due May 15, 2017</td>
<td>Chicago Electric</td>
<td>Senior Notes</td>
<td>Nov-05</td>
<td>May-17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI 5.625% PCB due May 15, 2033</td>
<td>Chicago Electric</td>
<td>Pollution Control Bond</td>
<td>10</td>
<td>Mar-02</td>
<td>May-33</td>
<td></td>
</tr>
<tr>
<td>CHI 5.75% Due Sep 1, 2040 (Planned)</td>
<td>Chicago Electric</td>
<td>First Mortgage Bond</td>
<td>Sep-10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI 6% PCB due Jan 1, 2009</td>
<td>Chicago Electric</td>
<td>Pollution Control Bond</td>
<td>Sep-01</td>
<td>Jan-09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI 6.2% Senior Notes due April 1, 2013</td>
<td>Chicago Electric</td>
<td>Senior Notes</td>
<td>Apr-33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI 6.5% FMB due Nov 1, 2036</td>
<td>Chicago Electric</td>
<td>First Mortgage Bond</td>
<td>Nov-36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI 6.50% FMB due Jun 1, 2028</td>
<td>Chicago Electric</td>
<td>First Mortgage Bond</td>
<td>May-02</td>
<td>Jun-28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI 6.625% FMB due Nov 15, 2008</td>
<td>Chicago Electric</td>
<td>First Mortgage Bond</td>
<td>Nov-08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI 6.75% FMB due Nov 1, 2037</td>
<td>Chicago Electric</td>
<td>First Mortgage Bond</td>
<td>Dec-02</td>
<td>Nov-37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI 6.875% FMB due Dec 1, 2009</td>
<td>Chicago Electric</td>
<td>First Mortgage Bond</td>
<td>Jan-02</td>
<td>Dec-95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI 7.25% FMB due Aug 1, 2024</td>
<td>Chicago Electric</td>
<td>First Mortgage Bond</td>
<td>Aug-24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHI 9.47% Debenture due March 1, 2008</td>
<td>Chicago Electric</td>
<td>Debenture</td>
<td>Sep-02</td>
<td>Mar-08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corp 5.5% Senior Notes due Dec. 1, 2010</td>
<td>UI Energy/Parent</td>
<td>Senior Notes</td>
<td>Dec-10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corp 5.875% Senior Notes due April 1, 2016</td>
<td>UI Energy/Parent</td>
<td>Senior Notes</td>
<td>Apr-96</td>
<td>Apr-16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corp 6.0% FMB due Aug 1, 2010</td>
<td>UI Energy/Parent</td>
<td>First Mortgage Bond</td>
<td>1</td>
<td>Jan-08</td>
<td>Aug-20</td>
<td></td>
</tr>
<tr>
<td>Corp 6.2% Senior Notes due April 1, 2023</td>
<td>UI Energy/Parent</td>
<td>Senior Notes</td>
<td>Apr-03</td>
<td>Apr-23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corp 6.5% Senior Notes due April 1, 2013</td>
<td>UI Energy/Parent</td>
<td>Senior Notes</td>
<td>Apr-91</td>
<td>Apr-13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prairie Gen 5.60% FMB due Sept. 15, 2033</td>
<td>Prairie Gen</td>
<td>First Mortgage Bond</td>
<td>Sep-33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prairie Gen 5.65% Due Jan. 1, 2025</td>
<td>Prairie Gen</td>
<td>Other LTD</td>
<td>Jun-95</td>
<td>Jan-25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SG 4.75% Note due Nov 1, 2020</td>
<td>Suburban Gas</td>
<td>Senior Notes</td>
<td>Nov-10</td>
<td>Nov-20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Group Entities**

```xml
{XE "Entities" /* MERGEFORMAT */ {XE "Entity Group" /* MERGEFORMAT */ {XE "Concept" /* MERGEFORMAT */ Concept - Entities and Entity Groups}

Entities, within the context of UIPlanner, are placeholders for data. Entities, entity groups and super entity groups are the structure UIPlanner uses to organize all data. Several examples below from the **EDIT ATTRIBUTE** screen show examples of entity groups and the entities within the group.

- **Bond Issue** entity group with each bond as an entity.
  ```xml
  [Bond Issue]
  [Corp 5% FMB Due 6/1/20]
  [Corp 5.875% Senior Notes due April 1, 2016]
  [Corp 5.875% Senior Notes due April 1, 2011]
  [Corp 5.5% Senior Notes due Dec. 1, 2008]
  [Corp 5.5% Senior Notes due April 1, 2012]
  [CHI 5.5% Senior Notes due 2017 (New Issue)]
  [CHI 6.2% Senior Notes due April 1, 2033]
  ```

- **Bond Issue Type** entity group with each bond type as an entity.
- **Electric Revenue Class** entity group with each revenue class as an entity.

- **Legal Entity** (operating company) entity group, with each legal entity as an entity.

Nearly all data is organized by entity group structure. Allocation factors, rate schedules, and even groupings of other entities are all used in UIPlanner to organize data. Regardless of how your entities are structured, the simple rule is to think of an entity group as a collection of entities and each entity containing data about itself.

Note: Entity groups must be created before entities are created. Entities are then added to entity groups. Individual entities cannot exist separate from an entity group. Super entity groups are optional, but recommended, allowing you to separate entity groups into categories by function or type.

The **Group Entities** screen is used for viewing and modifying the entity group structure.

**Screen layout:**

The entity group tree structure is located along the left side of the screen. Action buttons along the top portion of the screen are used to modify the entity group tree.
List Of Operations Or Tasks That Are Performed With This Screen:

**Search Tree:** Input the text you want to search for. Using the up and down arrows, move to the entity groups with that text.

**Selected Node:** Indicates the active node on the entity group tree.

**Filter Children:** This feature will filter entity groups within the selected super entity group.

**Collapse All:** When this box is checked, all entity groups will be collapsed displaying only super entity groups in the tree.

**Create Super Entity Group:** Opens the *ADD OBJECT* dialog box which enables you to create a new super entity group in the entity group tree. After adding the new super entity group using this dialog, that new group will appear at the selected location on the entity group tree.

**Add Entity Group:** Opens a dialog box with all entity groups. Select the entity group to add to the active super entity group.

**Remove:** Removes the active entity group from the super entity group tree node to which it currently belongs.

---

**Assign Entity Groups to a Super Entity Group**

1. Open the *GROUP ENTITIES* screen.
2. Highlight the super entity group in order to add an existing *entity group* to it.
3. Click *ADD ENTITY GROUP*. The *ENTITY GROUP* dialog box will open with all entity groups listed.
4. Select the desired entity group from the drop-down list and click *OK*. The selected entity group will be added to the highlighted super entity group.
5. Entity groups can also be created in a super entity group. See *Create an Entity Group*.

---

**Share Attribute Definitions**

**Share Attribute Definitions Dialog**
Copy Attributes

Copy Attributes Dialog Box
Editing Attribute Data in Excel

The Edit Data in Excel process is accessible from the three following screens:

- **ONE PARAMETER EDITOR** screen, where you can edit attributes and associations of entities.
- **CALCULATION EDITOR** screen, where you can edit line attributes.
- **EDIT ALLOCATIONS** screen, where you can edit allocation data.
This process will be demonstrated using the **One Parameter Editor**. But the functionality is identical when editing line attributes.

- Right-click on a column header on the One Parameter Editor screen.
- Click **EDIT IN EXCEL** to launch Excel.

Note: The controls on the **One Parameter Editor** become disabled when Excel launches. The controls will become re-enabled when you conclude your Excel edit or if you leave the One Parameter Editor tab.

- Once in Excel, you can directly type in or edit the data there, using all of the functionality of Excel, such as cut/paste, copy, etc.
- When you are done, click the “X” to close the screen. You will then be prompted as to whether you want to save the data to the database. This process is shown in the diagram below.

![Diagram](image)

- Before the save is executed, UIPlanner will perform spell checks against valid values. When it does not find an exact match, it will prompt you with a suggested value.
  - For drop-down type selections (e.g. - Associations, Yes/No, Range Formats, etc.), a custom spell-checker is provided that looks for the best match within the valid entry set. Therefore, if you make a best guess, or provide the start of the intended name, or some identifying portion of the text, the spell-checker will detect your intentions and confirm your meaning prior to updating your change.
  - UIPlanner will only require you to confirm one correction per identical Excel text entry per attribute type. If you misspell or...
abbreviate an entry and drag it down, you only have one confirmation message to approve.

- The spell-check confirmation dialog gives you an opportunity to choose a different entry if the spell-checker guesses wrong, or can find no appropriate match for your entry.
- If you select a new value on the spell-check confirmation dialog that choice will be set for all identical Excel text entries for the given attribute.
- The spell-checker is not case sensitive. It first looks for exact matches, then identical starting characters, with ties going to the smaller word, then highest percent of shared characters.
- For dates, any entry that Excel identifies as a date will be converted to the UIPlanner format of YYYYMM.

See below for an example of the spell-check prompt process.

Note: If you return to UIPlanner and leave the **ONE PARAMETER EDITOR** tab prior to ending your MS Excel edit session, your unsaved changes currently in MS Excel will not be made.

**Formatting Attribute Data in Excel**

As a User Preference you can set how certain attribute data will show up in Excel.
Go to the **Preference Manager** screen and click **Define Attribute Formatting for Excel**. This will open the **Define Attribute Formatting for Excel** dialog box.

Select the entity and then the format(s) for a given attribute(s). This formatting will be reflected when editing attributes in Excel.

See below for an example for formatting attributes for **Bond Issue**.

Note: Dates cannot be formatted as noted above. When editing date attributes in Excel they will now be displayed as MMM YYYY instead of YYYYMM. Users find this presentation more readable. All Excel date formats and the UIPlanner YYYYMM format are still acceptable as inputs when editing in Excel. See the example above. Note the Issue Cost Percent is now formatted as specified above on the **Preference Manager** screen.

**Edit Time Data**

```plaintext
{ XE "Time Data" /* MERGEFORMAT */{ XE "Edit Time Data" /* MERGEFORMAT */{ XE "Screen" /* MERGEFORMAT */Edit Time Data Screen
```
The **EDIT TIME DATA** screen (typically referred to as the **TIME DATA EDITOR**) is the tool used to view, edit, or delete time dependent data. Time dependent data is stored by year and month, as opposed to attribute data, which is a single value for all time.

The **TIME DATA EDITOR** is report-centric. All time dependent data is stored by report in any line that is designated as 'input' (in either the forecast or the actual column of the report). Upon selecting a report, you can edit any data on these input lines. This screen launches Excel as an input mechanism. Time dependent data can be populated in UIPlanner in two ways:

1. Using **TIME DATA EDITOR** through the Excel interface, and
2. Using the **MODEL IMPORT** screen.

All of the selections you make on this screen (by report) are saved as user preferences so that the next time you open the screen it will remember your choices.

The **TIME DATA EDITOR** can be accessed in multiple ways, for example:

- UIPlanner menu item
- **GROUP REPORTS** screen
UIPlanner Detailed Model User Guide

- **Calculation Editor** screen
- **Run Sequences** screen
- **Manage Sequences** screen
- **Browse Reports** screen

Note: Ledger data is accessed using the **Input Actuals** screen. It is laid out slightly differently, but has the same functionality

**Screen layout:**

All time data is stored in a report by case, entity, line, and time period. Hence, the **Time Data Editor** is organized in regions based on these five dimensions. The sixth region launches actions once you have defined the data.

The six regions of the **Time Data Editor** screen are:

A. **Select Report** (top uppermost left region) – Drop-down list of all reports.
B. **Select Cases to Edit** (top left region) – Grid of all cases for the active scenario and associated control buttons/check boxes.
C. **Select Time Period and Formatting** (top right region)
D. **Select Entities / Edit Groups to Edit** (center left region) – Grid containing all entities and edit groups for the selected report.
E. **Select Lines to Edit** (center right region) – Grid containing the selected report’s line labels.
F. **Action Panel** (lower region) – Control buttons used for data related tasks (view, edit, delete, etc.).

Other Options Available:

- Select **Excel Template Order**
- Using **UIPlanner Assisted Data Selection**

**List Of Operations Or Tasks that Are Performed With This Screen:**

**A. Data Selection**

1. **Select Report to Edit** (Note: You can only edit one report at a time)
2. **Select Case(s) to Edit**
3. **Select Entity(ies)/Entity Group(s) to Edit**
4. **Select Line(s) to Edit**
5. **Select Time Period and Formatting**
6. **Select Excel Template Order**
B. Initiate View, Edit or Delete

1. **VIEW EXISTING DATA**
2. **EDIT DATA AND RETURN**
3. **EDIT DATA AND CLOSE**
4. **DELETE DATA**
5. **DELETE TEMP DATA**
6. **Close TIME DATA EDITOR**

Once you have configured your data selection, you have several choices of what task to do next. A series of action buttons are available on the lower region of the **TIME DATA EDITOR**. This functionality is the core of the **TIME DATA EDITOR** screen.

You can launch MS-Excel to enable you to enter, delete or edit data, or you can merely view the data in a dialog window. Note that until you have made a selection in all dimensions, these buttons will not be enabled.

1. **VIEW EXISTING DATA**: Opens a dialog to display existing data for viewing only. See below.

![Existing data from database](image)

Note that the screen only displays data with non-zero rows. It is more concise than the Excel template which shows all combinations, whether they have data or not. Like most data dialogs in UIPlanner, this screen can also be exported to Excel.

2. **EDIT AND RETURN**: Launches the Excel template editor, and upon exiting Excel reopens the **TIME DATA EDITOR**. See [Edit Time Data in Excel](#) for details.

3. **EDIT AND CLOSE**: Launches the Excel template editor, but then upon exiting Excel closes the **TIME DATA EDITOR**.

4. **DELETE DATA**: Enables you to erase one period of data. Once you have selected the Cases, Entities, and Lines, if you use the drop-down list to
select a single period. You are prompted to confirm the delete by entering a specified number (to prevent accidental deletes). See below.

To erase multiple periods of data, you need to go to Excel (See How to Edit Time Data).

5. **CLOSE**: Closes the **TIME DATA EDITOR**.

Finally, the **TIME DATA EDITOR** screen is where you can delete all data from your **User Temp Data Case**:

6. **DELETE TEMP DATA**: Deletes the **User Temp Data** which includes results for your data only for each scenario. See **Using a User Temp Data Case**.

**What to Do If You Encounter Problems**

*Time Data* – You make time data changes and when you hit Save, you get an error message.

**Why it happens and what to do about it:**
This probably indicates that the case is locked or you do not have security rights to edit the data. See **Troubleshooting - Data Editing** or **Troubleshooting - Visibility/Security** for more information.

*Visibility* – There are entities or scenarios that you know exist but you do not see them on the **EDIT TIME DATA** screen.
Why it happens and what to do about it:
These indicate that you do not have security rights to view these entities or scenarios. See Troubleshooting - Visibility/Security for more information.

Select Report to Edit
Select a report from the drop-down list of all reports in order to edit that report’s time data.

Select Case(s) to Edit – Time Data Editor
Select the desired case(s).
- **ALL** – Click to select all cases.
- **NONE** – Click to un-select all cases.
- Individually select cases using the check-boxes next to the case names.
- Have UIPlanner populate the selection for you. See UIPlanner Assisted Data Selection – Time Data Editor.

Select Entities to Edit: Select the desired entities. (Note that if the report is a 2-dimensional report, there will be two entity lists.)
- **ALL** – Click to select all entities.
- **NONE** – Click to un-select all cases.
- Individually select entities using the check boxes next to the entity name.
- Have UIPlanner populate the selection for you. See UIPlanner Assisted Data Selection – Time Data Editor.

Edit Group: Select an Edit Group (if applicable) from the drop-down list as desired to further limit the entity list.
**Reverse Entity Order:** If you are editing data for a 2-dimensional report, you can choose to view the two entities in either order.

Select Lines to Edit: Select the desired line(s).
- **ALL** – Click to select all lines.
- **NONE** – Click to un-select all lines.
- Individually select lines using the check boxes next to the line name.
- Have UIPlanner populate the selection for you. See [UIPlanner Assisted Data Selection – Time Data Editor](#).

You can only enter data on lines designated as ‘input’. However, you have the option to show all lines in the report by un-checking the **Only Inputs** box. When you edit a report, as soon as you designate a line as ‘input’, it will appear in this list.

Select Time Period:
- **Start Year:** Select the start year.
- **Years to Edit:** Select the number of years in total to edit.
- **Years by Month:** Select the number of years to edit by month.
- **One Period:** This option enables you to edit a single month/year. If you select a date, the Excel template will display only that month/year. The layout of the rows and columns is determined by the ordering you selected.

This option is very helpful if you are editing or viewing data across several lines for each entity for a specific time period, such as year-end Plant in Service and Accumulated Depreciation across all Plant Accounts, or Principal Outstanding and Interest Payable across all Bonds (as shown below). This option also supports 2-D reports.
Excel Format: The default for viewing data in Excel is how the data is formatted on the BROWSE REPORTS screen. However, you have the option to use this drop-down list to select another format.

- General – no formatting
- Line Format – format specified on the BROWSE REPORTS screen for that line.
- User specified formats – e.g., #,##0, #,##0.0, etc.

Order: Use the drop-down list to select one of the following options for organizing the Excel template:

- Case-Line-Entity
- Case-Entity-Line
- Line-Case-Entity
- Line-Entity-Case
- Entity-Case-Line
- Entity-Line-Case

Depending upon what data you are trying to edit and how the data is populated, these multiple ordering options can be very useful in organizing and facilitating editing.
UIPlanner Assisted Data Selection - Time Data Editor

The **Time Data Editor** has a useful feature that allows you to have UIPlanner set the check boxes on the screen for you based on the existence of data. If you set the check boxes in one or both of the other dimensions, you can have UIPlanner fill in the check boxes for you for a selected dimension (case, entity or line). In the example below, the user proceeded as follows to have UIPlanner select the entities:

- **Select Report and Cases to Edit:**
  - Select *Actuals* case by checking the box.
- **Select Lines to Edit** region:
  - Check *For Cur Cases* check box.
  - Click the **LINES W/DATA** button to have UIPlanner set the check boxes for the lines. As a result, all lines with data in the *Actuals* case are selected.
- **Select Entities to Edit** region:
  - Check *For Cur Cases and For Cur Lines* check boxes.
  - Click the **LINES W/DATA** button to have UIPlanner set the check boxes for the entities. As a result, all entities with lines / data in the *Actuals* case are selected.
Once you have set the check boxes, you can then view or edit the data as you wish. Note that these buttons are optional. They are available to enable you to search for data more efficiently. If you wish, you can set all check boxes manually. An additional benefit of this feature is that it will allow you to easily identify cases/entities/lines that have no data on the chosen report.

Once you have selected the data to edit and clicked the EDIT&RETURN or EDIT&CLOSE button, UIPlanner queries the data from the database and opens up a customized edit screen in a dedicated Excel session.
Note that the window has highlighting to denote the ordering. In the above example, it was case, entity, then line. Cases are yellow, entities are grey, and lines are white. The window also has the month ended for each year in gold to help you to distinguish year ends.

Type, or copy, the desired data into the Excel template, or delete data as desired. Note that you are in Excel, with full drag, drop, copy and paste functionality available. You can create formulas to calculate values, but these will not be saved. Only values are saved.

Note: In addition, there is a custom UIPlanner menu (or toolbar available depending on the version of Excel) that allows you to save data and exit from Excel, jump from section to section (via the **NEXT** button), and format the edit screen for printing. See below.

Close the **Excel Template Editor** once you have completed your edits. You will be prompted to save to the database. This will open the dialog box below.
If you want to accept the changes, click **OK**. When the editor closes, it will bring up a final dialog box that will show all of the data rows you changed. See below and note the data dimensions (case, report, line, entity and year). You can review the data here or send it to Excel. If you want to save it, click **SAVE** and it will be saved to the database. Otherwise, click **CANCEL**.

Some key features of the Excel editor are the following:

1. **Even Spreading** - All data is stored in monthly values. If you selected annual periods to edit, UIPlanner will follow the rules of the annual to monthly forecast for that line, e.g., divide by 12 to create the monthly values. Or, if it is a percent, it will put the same values in all months.

2. **Patterned Spreading** – If you select a combination of monthly and annual periods, the template will take the pattern from the last monthly year and apply that to the annual ones.

3. **Comments** – You can enter and store comments on any monthly cell by right-clicking and entering the comment text. Note that you cannot put comments on annual amounts. Comments are saved as attribute data, so you need to click ‘Save’ in order to view them again.

Cautionary notes:

1. **Changing the Template** – You should not modify the Excel template (change or delete rows, headers, etc.). It is only an input sheet.

2. **Data Only in Valid Cells** – Only enter data in the appropriate rows and columns. Data input outside the valid area will be ignored.

3. **Numeric Data** – Inputs must be numeric. Text data will not be saved. You can build formulas but only the result is saved.
Define Edit Groups

Edit groups are a predefined filter against a specific entity group. This helps in managing data review and entry for entity groups that have a large number of members. In this regard, edit groups have two key uses:

- **Time Data** - The *EDIT TIME DATA* screen allows you to use edit groups to display a filtered entity list.
- **Attribute Data** – Edit groups are one of the selection options for entities in the *ONE PARAMETER EDITOR*. You can choose an edit group to display a filtered entity list.

Below is an example.

Edit groups are also available in the UIPlanner graphing engine. The UIPlanner graphing engine allows you to build graphs using edit groups.

When to Use an Edit Group

You should use edit groups where you have a large number of entities and want to view and edit these in smaller, filtered groups. For example,

- Bonds – if you have a large number of bonds, you may want to edit the time data or parameters for bonds by legal entity.
- Construction Projects - Projects generally have an association to a plant account. However, you may want to see projects for specific...
planning entities or projects rolling up to groups of plant accounts (by function). Both of these can be handled by building edit groups.

In the example below, the list of plant accounts is quite extensive.

Edit groups break it into manageable groups.
MAINTAINING EDIT GROUPS

Note that edit groups are not dynamically maintained. If you add an entity to an entity group that defines an edit group, you will need to add it to that edit group. In the example below, if the edit group defined is set up to reflect steam plant accounts, when you add a new plant account that is steam-related, you need to add it to the edit group.

On the other hand, if you add projects to the project list, they will automatically be reflected in the edit group, as long as the appropriate associations are populated.

EDIT GROUPS - TIME DATA

The EDIT TIME DATA screen allows you to filter down the entity list using edit groups. Below is an example.
EDIT GROUPS - ONE PARAMETER EDITOR

In the **ONE PARAMETER EDITOR**, edit groups are one of the selection options. You can choose entities by entity, to see the full list, or you can select an edit group, to see a filtered list. Below is an example.

EDIT GROUPS - GRAPHING

The UIPlanner graphing engine allows you to use edit groups in building graphs. This provides an additional layer of functionality, in that you can create graphs for predefined subsets of entities without having to select them each time. See the example below.
Below is the resulting graph.
Define Edit Groups Screen

The **DEFINE EDIT GROUPS** screen is where you set up and configure edit groups for a specific entity group. Edit groups enable you to set up a predefined filter against an entity group. This helps in managing data review and entry for entity groups that have a large number of members. For further information, see Concept - Edit Groups.

Screen layout:

The **DEFINE EDIT GROUPS** screen is divided into two regions.

The **Define Context of Edit Groups** region is where you can see the existing edit groups for a specific entity group (selected using the **Entity Group** drop-down list). This region also contains the button for creating a new edit group.

The “Manage Associations” region is where you build an edit group or view the configuration of an existing edit group. For a new edit group, you use the drop-down list to select the association upon which you want to build the edit group, and then use the check boxes to select one or more of the
related entities to use for the edit group. For an existing edit group, just select the association, and the members of the edit group will be displayed below.

List of Tasks or Operations that are performed with this Screen:

You can do perform the following tasks on the Define Edit Groups screen:

Create an Edit Group
Manage an Edit Group
Delete an Edit Groups

To create an edit group, follow these steps:

- Open the **Define Edit Groups** screen.
- Use the drop-down list to select the entity group within which you want to create an edit group. This will bring up the **Add Object** dialog. Once the edit group has been added, it will appear in the list of edit groups available for that entity group. In the screen print below, **Chicago Electric** was just created – in preparation for creating an edit group for all projects rolling to that planning entity.

- Use the **Manage Associations** drop-down list to select the association upon which you want to build the edit group. Click **Create** (with the
down arrow, just to the right of the drop-down list). The selected association will appear in the Manage Associations region, and the members of that entity group will be listed in the bottom pane. Here, the association selected is Plant Account.

- In the bottom of the screen, use the check boxes to select which entities in the associated entity group you want to be in the edit group you just set up.
Select **FILE**, then **SAVE** from the UIPlanner menu.

To manage an existing edit group, follow these steps:

- Open the **DEFINE EDIT GROUPS** screen.
- Use the drop-down list to select the applicable entity group. Its existing edit groups will be listed in the **Edit Group** region.
Select the edit group you want to manage, and select the association that appears in the Manage Associations region. Note that the currently selected entities will be checked in the bottom pane. Select any additional entities you want to add, or unselect ones you want to delete from the group.

Select FILE, then SAVE from the UIPlanner menu.

To delete an edit group, follow these steps:

- Open the Define Edit Groups screen.
- Select the association you want to delete from the edit group, and click the delete (red “X”) button.
- When the REMOVE ASSOCIATION confirmation dialog box comes up, click YES to confirm the deletion or NO to cancel the operation.
Interface Codes

Interface Codes are a construct in UIPlanner that facilitates importing (and exporting) data from external systems. As indicated above (see DETAILED MODEL OVERVIEW) UIPlanner integrates data from multiple systems. One of the strengths of UIPlanner is that its architecture does whatever it can to make it easy on the providing system. External systems always have their own names or codes for the entities that we need imported into UIPlanner, while in UIPlanner we may have our own naming or numbering convention. Examples include:

In UIPlanner, we can assign the values from the external systems as Interface Mapping Codes on the corresponding entities in UIPlanner. These
then act as a translation mechanism that interacts with a file being imported. That way, the providing system can give us their existing codes, and UIPlanner does the work of mapping them to the proper entities in the model. Note that interface codes can not only map one-to-one, but also many-to-one, to allow the model to roll up values on the fly during import.

You can use Interface Mapping codes to assist in translating anything being imported. These include:

- **Entities** – Accounts, Projects, Plant Accounts, etc.
- **Reports** – identify the destination report (calculation) in UIPlanner
- **Line** – identify the destination line on the selected report
- **Attribute** – identify the attribute being populated.

While Interface Mapping Codes are most often used to facilitate importing data into UIPlanner, they have several other uses:

- **Export** – when exporting information from UIPlanner for use in an external system, you can choose to send an item’s interface code instead of its text name in UIPlanner. See MODEL EXPORT.
- **Line Attributes** – you can put a line’s or entity’s interface code as a column on a custom column set. See REPORT COLUMNS screen.

One important rule in UIPlanner regarding Interface Mapping Codes is that a given interface code can be used only ONCE in a given case. This ensures that imported items would be translated to one and only one destination. If an interface code appears twice, then that imported item would be sent to two different destinations. UIPlanner raises warning errors when you try to import a file and the Interface Case chosen has multiples. See MODEL IMPORT - UNMAPPED ITEMS for more information and the steps to take.

For information on how to create Interface Codes, see Create and Modify Interface Codes.

Interface Mapping Cases

Interface codes are contained in Interface Mapping cases. Note that unlike the other case types, Interface Mapping cases are not associated with one specific scenario. Interface Mapping cases are used on the Import and Export screens and are available to any scenario at run time.

You may have multiple Interface Mapping cases, to meet specific needs, such as the GL import, Plant Data import or export to an external system. Having separate cases makes it easier to manage the different types of
interface codes. Another reason for having multiple cases is to avoid possible duplicate interface codes within one case (not allowed in UIPlanner). For example, the text strings for account numbers (e.g. the 300 level - for the Actuals import) can also represent plant accounts (300 detail – for plant account balances). You would then set up one interface case for Actuals and another one for the Plant Actuals. This would avoid duplicate interface codes. Below is an example with several interface Mapping cases.

See the **MANAGE CASES** screen for information on how to create Interface Mapping cases.

```
{XE "Create and Modify Interface Codes" \* MERGEFORMAT }
{XE "Interface Codes" \* MERGEFORMAT } Create and Modify Interface Codes
```

All Interface Mapping codes can be viewed and edited using the Interface Code tab. This tab lists all of the active Interface Cases. Note that there is no winner column, as these cases stand on their own. Use the Object dropdown list to select the appropriate object, and its members will be displayed down the left, with interface codes in the appropriate case column. See below.
Note - you can use a wild card character in the interface codes. This option is a checkbox on the MODEL IMPORT screen. If the incoming file codes are distinct up to a point (e.g., 4 characters 400.xxx) and after that can be any characters, instead of specifically mapping each one, you can instead use a wild card – 400%. If you put this as the interface code, you do not need to do anything else – all of the following will be accepted. 400.1, 400.12, 400.234, etc. Note however, that if any specific code is put in (e.g. if you mapped 400.12 elsewhere), that will be accepted instead of the wild card translation.

There are several ways to populate or modify Interface Mapping codes.

**Individually** - select the desired line (entity, line, etc.) and column (Interface Case), and just type in the desired interface code.

**Edit in Excel** – right click on the header row, and select “Edit in Excel.” You can then type, paste in, or otherwise populate interface codes in the appropriate case column. Then select close and save, to save them back to the database.
Multiple Interface Codes – In many cases, you may want to map a number of entities to one destination in UIPlanner (this will roll up the input values). Whenever multiple values are saved, the Core Object Editor will say “Edit Group” instead of a single value. You can view or edit the individual values using the EDIT GROUP dialog.

1) Right click in the destination Item and Case, and select “Edit Group”

2) This will bring up the following dialog box.

3) You can type in individual interface codes to add them to the list or you can paste in a list of values. You can paste directly into the entry box, or you can browse to paste in a list from a text file.

4) You can also delete individual codes, by highlighting them and selecting “Delete Code”; you can also clear the entire list by selecting “Clear List”.

5) If you have a long list, you can alphabetize it by selecting the "ALPHABETIZE LIST" button.

Map During Import – You can create Interface Mapping codes on the fly. You would do this when you are running an import using the MODEL IMPORT screen, and UIPlanner identifies an item that is unmapped (meaning that it is not found in the list of interface codes in the Interface Case for that
Dynamically during import – when you import entities using the Extended Entity Import, the source file is made up of Entity Names and Interface codes. The import process adds the entities and populates their interface codes at the same time. See IMPORT ENTITIES USING EXTENDED IMPORT.

Model Import

The MODEL IMPORT screen allows UIPlanner users to import large data files into the model. It is used generally for recurring data imports. One of the most common uses (found at every UIPlanner client) is the monthly import of actuals from the G/L or other actuals system. It is a very flexible interface, with a number of switches and settings to allow for the customizing of a wide variety of data files. A key feature of this screen is the ability to save your settings as a named profile. Each time you want to run an import, you simply need to select that profile and all the settings will be populated for you.

This screen is also used to launch custom interfaces. If UII develops a custom data interface for you, a button will appear on this screen that allows you to launch the interface.
Finally, this screen launches functionality that allows you to export/import UIPlanner reports. This allows you to have a report exported from another UIPlanner database (e.g., if you want to use a report from another client) and import it into the current scenario.

When you import a data file using this interface, UIPlanner tries to map and assign the information as best it can (using the interface codes). Wherever it cannot translate an item to an entity/report/line/account, it flags that in pink. You can resolve these mapping errors on the fly, and as they are fixed, the pink shading will be removed. Once there are no more errors, the file will show all white meaning that all data will successfully import. See below under **Mapping Errors** for more information.

**Screen Layout:**

The **MODEL IMPORT** screen is laid out in three regions, separated by sizing bars.

**Select or Define Interface Profile** – the top region of the screen is where you can elect to save the current screen settings as a named profile for later use. Also in this region are where you select which interface case to use and how to interpret the codes in the file.

**Select Objects to Import** – the center region of the screen is where you select the type of data you are importing, browse to find the file to import, and actually launch the import. This region also contains the various detailed settings and switches for the import. Finally, this region contains a window that displays the original imported file columns and rows along with the import results – how it translates to report lines and entities in UIPlanner. You can import:

- Entities (in one of two ways)
- Attributes
- Time Data
- Accounts
- Reports
- UISet

**Select Save Case** – the bottom region of the screen is where you select the destination case for saving the imported data.

See the following topics for more information on each region:
Interface Profile Region
Select Objects to Import Region
Select Save Case Region

List Of Operations Or Tasks That Are Performed With This Screen:

Using the **MODEL IMPORT** screen, you can perform the following tasks:

- Create an Import Profile
- Import Time Data
- Import Entities
- Import Entities Using Extended Entity Import
- Import Attributes
- Import Accounts
- Enable and Run a Custom Import Interface
- Export and Import Reports
- Import Using UISet

What To Do if You Encounter Problems:

**Mapping Errors:** If an item is highlighted in pink after an import, this indicates that UIPlanner does not know how to map it to anything in the model. Please see Troubleshooting - Model Import - Unmapped Items for more information.

**Duplicate Interface Codes:** You receive an error message indicating that in the listed interface case, you have used the same code more than once. Typically, this message is received when you open the Model Import screen. See Troubleshooting - Model Import - Duplicate Interface Codes for more information.
The following buttons/choices are found in this region of the Model Import screen:

**Interface Profile Options:**

**SELECT OR DEFINE INTERFACE PROFILE:** Use this drop-down list to select a pre-defined Interface Profile, which will pre-populate all screen settings.

**CREATE PROFILE / ASSIGN VALUES:** Use these buttons to create a new profile and to save the current screen settings to it. See Create An Import Profile for more information.

**Interface Options**

**SELECT INTERFACE CASE:** Choose the case that contains the interface codes you want to use.

Note: The **MERGE CASES** button allows you to link multiple interface cases into a merged Virtual Interface Case. When you do an import with a merged interface case, if any of the contained actual interface cases has a matching interface code the import will pass for that item. This provides a workaround to import data in the case where your interface codes might be in multiple cases. The merge of the interface cases follows winner logic, so you should put the individual interface cases you want in the merge in the desired winner order, in case there are differences between cases. Note that this merged interface case is indeed a virtual case. It is created only at import time and not saved to the database.

**SELECT INTERFACE CODE OPTION:** This drop-down list allows you to choose how UIPlanner will interpret the codes in the file. Most commonly you will use interface codes. However you might import files that already contain UIPlanner object IDs, or you do not have interface codes and want to just rely on names. The options are:

- Text from Interface Case only
- Interface Case then match name
- Data has UIPlanner Object ID only
- Text from Case then Object ID
- Object ID then text from case
The name-related match selections work only for entities and accounts. Reports and lines must have an interface code. Welcome WILDCARD(%): If you turn this option on, the model will pay attention to wildcards in the interface codes. For example, if you have defined an account interface code as 401%, imported data of 401, 401.1 and 401.112 will all be interpreted as 401.

Data Options
SELECT DATA DELIMITER: You can choose either tab or comma delimited.

Entity Group Options
SELECT ENTITY GROUP: If you are importing entities either with the standard Entity Import or the Extended Entity Import, use this drop-down list to select the destination entity group.

The following buttons/choices are found in this region of the Model Import screen:

Objects to Import
SELECT OBJECTS TO IMPORT: Use the radio buttons to choose what you are importing. Note that if you have enabled a custom interface or the Extended Entity Import they will appear as additional options. The choices are:

- Entities
- Entities Using Extended Import
UIPlanner Detailed Model User Guide

- Attributes
- Accounts
- Time Data
- UISet
- Reports

Select File

SELECT FILE: Use this text box to find the data file you are going to import.

Run Process/Save

RUN PROCESS: Once you have located the file to import, click RUN PROCESS to run the file through the import process using the chosen settings.

SAVE: After you have reviewed the data and how it will be translated, click SAVE to actually save it to the database.

Settings / Information Panel

This tab is where you set some of the detailed settings for the import. Note that many of the settings are optional, e.g., the time period settings are not needed depending upon the file format.

SELECT FILE FORMAT: Use this drop-down list to select what the data looks like on each row in the imported file.

- Year, 12 monthly values – one column with the year, and then 12 monthly values
- Year, monthly and annual values – columns for the year and then 12 months and an annual total
- Year, month, value – vertical file with year
- Values across – data in months, for any number of years
- Monte Carlo – data formatted for Monte Carlo run
- Daily Cash Actuals – used only in Daily Cash module

YEAR TO DATE OPTION: This drop-down list has options that allow you to take data that is year-to-date and convert it to monthly data in UIPlanner. This is typically used when importing G/L Actuals.

- None – data not YTD. The default - use if you are importing monthly data
- Prior YTD values are in import file – if each monthly column contains YTD values
- Read and Calc Prior YTD from Target Case – this option looks at the previous columns and adds them across to calculate the prior YTD
amounts, then uses the YTD imported amount to back into current month.

- Ret Earn Only Read and Calc Prior Net Income from Target Case – same as the previous, but it does it ONLY for the Net Income entry.

**NUMBER OF QUALIFIERS**: Select how many qualifiers the import file has.

- 2 - G/L data generally has 2 (Planning Entity and Account)
- 3 – most report level data has 3 (Entity, Report, Line)
- 4 – 2-d Reports (Primary Entity, Secondary Entity, Report, Line)

**SELECT START YEAR/ SELECT YEARS ACROSS/SELECT MONTHLY YEARS**: Use these three drop-down lists to tell the model how the data is laid out if the year is not one of the columns.

**FIRST PERIOD TO SAVE / LAST PERIOD TO SAVE**: Use these two drop-down lists if you want to save only certain month(s) of the data. The default is to save all periods (the first option). If you want to save only one specific month, select that in both drop-down lists.

**DIVIDE BY 1000?**: Check this box if you need to divide the imported data by 1000 (e.g., if the imported data is in dollars, but data is stored in UIPlanner in thousands).

**ACCOUNTS: SWITCH SIGN FOR REV/LIAB?**: Check this box if you want to automatically flip signs upon storing the data. UIPlanner stores liabilities and revenues as negative numbers (like all G/Ls). If you are populating actuals from a reporting system rather than a true G/L, it is possible that all amounts are shown as positive. You then need to flip signs for liabilities/revenues. You generally do not need to use this option if you are importing a file from a G/L.

**SUM NET INCOME TO RETAINED EARNINGS?**: Check this box if you want UIPlanner to calculate the current month net income/loss and post it to the equity account. Most G/Ls only close net income at the end of the year. This box is usually enabled for importing actuals.

**OPTIONAL REPORT(S) TO POST-PROCESS IMPORTED DATA**: These three drop-down lists are used if you want UIPlanner to run selected reports while it is doing the import. These reports will use the special Interface Only set of functions.
**Information Panel**

Once you have run an import, this area has tabs that show you the imported file as well as how it will be translated to the UIPlanner structures.

**IMPORTED FILE:** This region will bring up a grid showing the imported file. Below is an example:

![Imported File Example]

**Results**

This region will show how the imported file was translated, with the original columns plus what they were translated to in UIPlanner. Below is an example for the same file above:

![Results Example]

```{XE "Select Save Case Region - Model Import Screen" \* MERGEFORMAT }
{XE "Model Import" \* MERGEFORMAT }Select Save Case Region - Model Import Screen
```
The bottom region of the **Model Import** screen lists the available cases for storing the imported data. The cases listed here will change depending upon the type of data being imported. If you are importing time data, all data cases will be listed (overlay, incremental and actuals).

To create an import profile:

1) Open the **Model Import** screen.
2) Pick a specific recurring import that you want to set up a profile for
   a. Configure the switches and settings appropriately.
   b. Do a test import of the data to make sure they are correct.
3) Click **Create**. This will bring up the **Add Object** Dialog Box.
   a. Enter the name for this profile.
4) Save the settings.
   a. Clear the *Import File name* box, since you do not need that as part of the import profile. If you leave it in the profile, you will get an error message when you select the profile if it can’t find that file. This is not fatal, but distracting.
   b. Click **Assign Values**. This will save all of these settings.
5) Select **File, Save** from the UIPlanner menu.
6) Test the settings by changing to another profile and then re-select this one. Make sure the settings look correct.
Below is a sample screen print:

Note that even though you save the settings in an import profile, in some cases you will still need to change one or two settings when you call up the profile. Examples:

- If the current scenario does not contain the same destination case. The profile will default to the first data case in the list.
- If you want to save only certain months, e.g., you import an actuals file containing all months of the year but each time you only want to save the most recent month. You need to change the 1ST PERIOD TO SAVE and LAST PERIOD TO SAVE each month.

By far the most common use of the **Model Import** screen is to import time data into the model. Types of time data include:

- Monthly Actuals for Income Statement and Balance Sheet
- Capital and O&M Budgets
- Fuel and Purchased Power Forecasts

These data files are needed on a recurring basis, and while users could cut and paste the data into the **TIME DATA EDITOR**, the **MODEL IMPORT** screen provides the capability to click a button and have the model do the importing and translating to where the data should be stored. Essentially, to run an import of time data:

- The file must be either tab or comma delimited
- You need the first 2-4 columns "qualifiers" that contain the data elements to map into the Model.
  - G/L data generally has 2 qualifiers (Planning Entity and Account)
  - Most report level data has 3 qualifiers (Entity, Report, Line)
  - 2-d Reports have 4 qualifiers (Primary Entity, Secondary Entity, Report, Line)
- The values must be in one of the specified formats
  - Year, 12 monthly values – one column for the year, and then 12 monthly values
  - Year, monthly and annual values – columns for the year and then 12 months and an annual total
  - Year, month, value – year and month in each row
  - Values across – data in months, for any number of years

Note that UIPlanner has a very important and helpful concept of Interface Codes for mapping outside elements into UIPlanner structures. Therefore in these columns we can generally just take the values prepared by the outside system. As long as we have defined the interface codes for the destination structures in UIPlanner, the model will do the translation.

The steps to follow to import time data follow:

1) Open the **MODEL IMPORT** screen.
2) Select the Import Profile (if one exists), or configure the import individually, as follows:
3) Select the appropriate interface case and interface options.
4) Select "Time Data" from the Select Objects to Import region.
5) Set the required settings:
   - a. File Format,
   - b. Start Year, Years Across, Monthly Years (if applicable)
   - c. Number of Qualifiers
   - d. Periods to Save (if applicable)
   - e. Divide by 1000 (if applicable)
f. Year-to-date option – set this if the data you are given is cumulative rather than monthly

6) If you are importing actuals, into the planning ledger, there are some additional settings (See Select Objects to Import for details on these options.)
   a. Year-to-date option – set this if the data you are given is cumulative rather than monthly (most commonly for G/L data).
   b. Accounts: switch sign.
   c. Sum Net Income to Retained Earnings.

7) Click **RUN PROCESS**.

8) Review the data to be saved. Note and confirm the **Destination Case, Report/Account**, and the time periods to be saved.

9) Click **SAVE**.

Below is an example of settings for importing a time data file (for G/L Actuals), along with the results.
SOME IMPORTANT NOTES

- General format - If the file you are being given is created initially from an Excel file that is saved as text, make certain that the data is first formatted as General. Excel sometimes puts quotation marks around dollar amounts.

- Label row – If you want to have the first row contain column labels, etc. prefix the row with “//”. When UIPlanner sees this character string, it interprets the entire row as comments and does not try to decode or import it.

Importing Entities into UIPlanner works as follows. UIPlanner internally identifies everything with an Object ID, and the names/descriptions are merely attributes (see the CORE OBJECT EDITOR). Thus when you import lists of entities, UIPlanner will just add them to the existing list, with the description you give. Below is a layout of the file format plus some sample rows.
If you are given larger lists of entities with both new entities and ones that should already be in UIPlanner, you should consider using the Extended Entity Import.

To import a list of entities:

1) Open the **MODEL IMPORT** screen.
2) Select the appropriate interface case.
3) Select **Entities** from the **Select Objects to Import** region.
4) Browse to find the file.
5) Click **RUN PROCESS**. This will bring up the list of entities to be created (New Entity), plus their values.
6) Click **SAVE**.

Below is an example of several entities imported into the **Model Project** entity group. Note that they will be added to the list, regardless of whether a similarly named project may already exist.

<table>
<thead>
<tr>
<th>Entity Name</th>
<th>Interface Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHI Elec Dist General Common Blankets</td>
<td>CHI_EL_DS_CM_BL</td>
</tr>
<tr>
<td>CHI Elec Dist General IL Blankets</td>
<td>CHI_EL_DS_GN_IL_BL</td>
</tr>
<tr>
<td>CHI Elec Dist General MI Blankets</td>
<td>CHI_EL_DS_GN_MI_BL</td>
</tr>
<tr>
<td>KY Gas Dist General Blankets</td>
<td>KY_GS_DS_BL</td>
</tr>
<tr>
<td>KY Gas Dist Meters Blankets</td>
<td>KY_GS_DS_MT_BL</td>
</tr>
</tbody>
</table>

Because some clients want to import lists of entities into an existing entity group but not have to identify which are new entities, there is a special type of import that can take a list of entities and only add the new ones. This interface setting brings in a list of entities/interface codes from a file to add to a chosen entity group. You just need to give it a tab delimited file of Interface codes and descriptions. See below:
When you run the import, it processes each row as follows:

1. Identifies the entity via the interface code (the first column).
2. If it finds a match (i.e. that entity already exists), it just updates the description from the second column.
3. If it does not find a match (i.e. that entity is assumed not to already exist), it creates the entity and assigns it the interface code from the second column.
4. There is a third column on the pending import display which is reserved for an existing entity that matches the interface code in the import file. The third column is blank if the interface code has no existing matches. It glows pink if it has a match, and that match exists in a different entity group than the one being updated. In this event it will still just update the entity name (since duplicate interface codes in the same interface case is considered an error condition that will break other aspects of interface functionality).
5. Finally, it will write a file to the user’s temp directory which will contain the name of any entities that existed prior to the interface execution but which were not listed in the import file.

Note regarding cases - The entity name, order and visibility are stored in the Base Attribute case, while the Interface Code is stored into the Interface case selected in the top region.

To import a list of entities using the Extended Entity Import:

1. Open the **Model Import** screen.
2. Select the **Import Profile** (if one exists), or configure the import individually, as follows
3. Select the appropriate Interface case
4. Select "Extended Entity Import" from the drop-down list in the Select Objects to Import region. See below.

5. Select the Entity Group you are importing these entities into. This is a VERY important step, because the drop-down list has the first entity group already populated (e.g., with Planning Entity). If you leave it selected, your entities will be created in THAT entity group, which may not be the one you intended.

6. Browse to find the file.

7. Click RUN PROCESS. This will bring up the list of entities to be created (New Entity), plus their values. For pre-existing entities the dialog will show the new description.

8. Click SAVE.

Below is an example of several entities imported using the Extended Entity Import. Note that even though the imported file contained the full list of entities, only the several new entities were actually created. For all pre-existing entities just the descriptions were updated.
After the import is done, the model will bring up a dialog listing any entities that were already in the model entity group but were NOT in the import file. The reason for this is that usually clients import complete lists of the active entities in the group. This dialog may help identify entities that are defunct or obsolete, and can be hidden or deleted. See below.
The Extended Entity Import is enabled by setting a **PLANNER PROPERTY** (Client Custom Interface class), found under CLIENT PROPERTIES. Set it to `com.utilinc.planner.importexport.ExtendedEntityImport`. See below.
The import of attributes is used to populate various attributes of UIPlanner entities from an external text file. Below is a layout of the required file format plus some sample rows.

<table>
<thead>
<tr>
<th>COLUMN 1</th>
<th>COLUMN 2</th>
<th>COLUMN 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity or Account Interface Code</td>
<td>Attribute Definition Interface Code</td>
<td>Attribute Value Interface Code</td>
</tr>
<tr>
<td>CHI_EL_DS_CM_BI</td>
<td>PLANT_ACCOUNT</td>
<td>CHI_EL_DS_CM_390-398</td>
</tr>
<tr>
<td>CHI_EL_DS_CM_BI</td>
<td>IN_SERVICE_DATE</td>
<td>201006</td>
</tr>
<tr>
<td>CHI_EL_DS_CN_IL_BI</td>
<td>PLANT_ACCOUNT</td>
<td>CHI_EL_DS_CN_IL_391-398</td>
</tr>
<tr>
<td>CHI_EL_DS_CN_IL_BI</td>
<td>IN_SERVICE_DATE</td>
<td>201212</td>
</tr>
</tbody>
</table>
When you run the import (see Model Import for more information), it processes each row as follows.

1. Identifies the entity via the interface code (the first column).
2. Identifies which attribute this row is for (the second column).
3. If those match, it populates the value (from the third column).

Following are the steps to take to import a text file of attributes:

1. Be certain that interface codes are set up (see Core Object Editor) for:
   a. Entities
   b. Attribute Definitions
2. Select the Import Profile (if one exists) or configure the import individually, as follows.
3. Select Attributes from the Select Objects to Import region.
4. Confirm the destination Attribute case.
5. Browse to find file.
6. Check any import errors (in pink). Using the mapping widget, map them to the appropriate entity.
7. Save the data.

Below is an example of a source file and the final mapping to UIPlanner entities/attributes.
The import of accounts allows you to import a file to build accounts in the planning ledger along with their rollup hierarchy. Note that this process is generally done in the initial setup of UIPlanner, in order to populate the Planning Ledger account structure, rather than entering it manually through the MANAGE LEDGER screen. Below is a layout of the required file format plus some sample rows. Note that it is a normalized view of the rollup hierarchy, with each row also identifying its parent.

<table>
<thead>
<tr>
<th>COLUMN 1</th>
<th>COLUMN 2</th>
<th>COLUMN 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account Interface Code</td>
<td>Account Description to Assign</td>
<td>Account Parent Interface Code to Match</td>
</tr>
<tr>
<td>Revenue</td>
<td>Revenue</td>
<td>Revenue</td>
</tr>
<tr>
<td>Utility Revenue</td>
<td>Utility Revenue</td>
<td>Utility Revenue</td>
</tr>
<tr>
<td>Electric Revenue</td>
<td>Electric Revenue</td>
<td>Electric Revenue</td>
</tr>
<tr>
<td>Electric Rate Revenue</td>
<td>Electric Rate Revenue</td>
<td>Electric Rate Revenue</td>
</tr>
<tr>
<td>440.0</td>
<td>440.0 Residential sales.</td>
<td>Electric Rate Revenue</td>
</tr>
<tr>
<td>442.0</td>
<td>442.0 Commercial and industrial sales.</td>
<td>Electric Rate Revenue</td>
</tr>
<tr>
<td>444.0</td>
<td>444.0 Public street and highway lighting.</td>
<td>Electric Rate Revenue</td>
</tr>
<tr>
<td>445.0</td>
<td>445.0 Other sales to public authorities (Major only).</td>
<td>Electric Rate Revenue</td>
</tr>
</tbody>
</table>

The above import file would produce the following segment of the UIPlanner Planning Ledger:

When you run the import, it processes each row and builds the individual accounts and rollup structure. Following are the steps to take to import a text file of accounts.

1. Open the **MODEL IMPORT** screen.
2. Build the required import file, and confirm proper file format.
3. Select **Accounts** from the **Select Objects to Import** region.
4. Confirm the destination case is the Base Attribute case.
5. Browse to find file.
6. Check any import errors (in pink).
7. Save the data.
Enable and use a Custom Import Interface

While the Model Import screen has a large amount of flexibility, at various UIPlanner implementations there have been requests to develop customized interfaces for importing data. Examples of these custom interfaces include:

- Importing capital projects along with attributes and performing preprocessing of AFUDC and closes to plant prior to summarization to Plant Account
- Interface panel that allows importing current month data from several systems at once, and performing some derivation of account and allocation methodology

All UIPlanner custom interfaces are part of the core Java code, so UIPlanner can still work as a single set of common code across all clients. However, they are enabled on a client by client basis by setting a Planner Property (Client Custom Interface class), found under Client Properties. See below for an example.
If this Planner Property is not set, the button does not appear. Thus, clients without these custom interfaces never see the buttons to enable them.

The **Model Import** screen allows you to export a report from one UIPlanner database/installation and import it into another. This can save significant time in that it eliminates the need to reenter the lines, formulas, etc. Note that you still need to review the report in detail to ensure that all of the functions were copied over appropriately, along with their parameters. In particular, **Attributes**, **Copy Froms** and **Rollups** should be reviewed, as most likely the same entities or reports may not exist in both UIPlanner instances. Nevertheless, the **Export/Import report** functionality can save a significant amount of time just in preserving the mathematical formulas.
You first need to export the report (sent out in a series of files) from the source implementation and then open the destination implementation and import the report (files). Both of these actions are launched from the **MODEL IMPORT** screen in the respective implementations. For example, if another UIPlanner client has developed a Derivatives report and it is approved for them to send you the logic, you would have them (or UII) export the report and send the files to you. You would then import the files into your UIPlanner implementation.

**EXPORT REPORT (SOURCE)**

1. Open the **MODEL IMPORT** screen.
2. Select *Report Export/Import* from the *Select Objects to Import* region.
3. Select the report you want to export from the *Report to Export* drop-down list.
4. Click **PREPARE EXPORT**.
5. When the **WRITE FILES** button appears, select it. This will write four text files into your Users\xxxx\UIPlanner\Temp folder. These files contain the underlying information for the report, essentially by column:
   a. Formulas – Forecast
   b. Formulas – Actual
   c. Formatting
   d. Interface codes
6. Copy all of the text files into another directory to use to import later. You need to have a copy elsewhere, because UIPlanner empties out the ‘temp’ folder upon startup.

**IMPORT REPORT (DESTINATION)**

To import a report, you need to have a blank report ready – one with no lines at all. You then use the **MODEL IMPORT** screen to reverse the process. You import the text files and UIPlanner will use them to build the report in your database.

**Create Report**

1. Open the **GROUP REPORTS** screen.
2. Create a new report (the destination shell) in the appropriate report group. The only setting you should set is the entity group it should run over. **DO NOT** select the option to inset the first line for entity group.
3. Click **ADD OBJECT**. This will create a shell report.
**Import Text Files**

1. Open the **MODEL IMPORT** screen.
2. Select **Report Export/Import** from the **Select Objects to Import** region.
3. Choose the report you want to import INTO – the drop-down list will contain ONLY empty shell reports. The one you created should be in this list.
4. From the **Select File** region shown above, select the **Formulas Forecast** tab.
5. Using the selection area under it, browse to where you saved the text files, and find Text File #1 for the report you want to import.
6. When you select that file, and click **SELECT FILE**, it will return to this screen and the screen will be populated with the information for the report. Note that all you need to do is select one of the four files and match it with the import choice (Text file #1 is **Formulas-Forecast**). UIPlanner will automatically find the others.
7. When the screen is populated, click **PREPARE IMPORT**, and when the **SAVE TO MEMORY** button appears, click that.
8. Select **File, Save** from the UIPlanner menu. This will save from memory into the database.

9. You can now go to the **Calculation Editor** and select your new report. It should have all of the imported lines. See below.

---

**Note** – As indicated above, you should review the report in detail, to ensure that all **Copy Froms** and **Rollups** are correct, and that all functions are
parameterized appropriately. As seen in the report above, some of the attribute functions did not copy over.

{ XE "UISet" /* MERGEFORMAT */ }{ XE "How To Import Using UISet" /* MERGEFORMAT */ }{ XE "Model Import" /* MERGEFORMAT */ }Import (Load) Data Using UISet

UISet gives you an import format that now includes Case as an argument. The parameters for UISet are UISet(value, year, month, case, report, line, entity, entity). See below.

![Image of UISet model import process]

Model Export

{ XE "Model export" /* MERGEFORMAT */ }{ XE "Screen - Model Export" /* MERGEFORMAT */ }Model Export Screen
The MODEL EXPORT screen allows you to export the results of UIPlanner reports (or the ledger results) to external files, for import into other applications, as needed. Its functionality includes the following:

- It exports the underlying data in a report in a simplified column/row format. UIPlanner reports generally include totals and subtotals, and are sent by entity, and are thus not formatted for easy import into other applications.

- It allows you to use interface codes assigned to translate the UIP entities, reports and lines to the codes expected by the system being exported to.

- It allows you to set up export definitions and then save these for future use. You can call up one definition and export it or you can export all definitions at once.

Screen Layout:

The MODEL EXPORT screen is divided into three regions:

- **Define Outputs** – the top part of the screen is where you configure an export, include choosing the source report, the destination for the data, and define the column names

- **Preview Results and Export** – once you have defined the export, you can preview the data before you actually run the export.

- **Manage Named Export Definitions** – along the bottom of the screen is an area that allows you to save the settings defined above to a named definition. The next time you want to run that export, you can just call up the saved definition. You can also delete an
existing definition. There is also a button you can use to run all saved definitions at once.

Note at the top of the screen there are buttons that allow you to hide each of these sections, if screen real estate is an issue.

**Define Outputs**

The **Define Outputs** region is where you set where the exported data will go (text file or database), and where you can define the columns in the export file. You can not only define what goes into each column (interface code, UIP entity name, etc.), but also the column names themselves.

**Preview Results and Export**

The **Preview Results and Export** area is where you choose the report or saved definition and the time period to export. You can then get a preview of the data before you actually do the export.

**Manage Named Export Definitions**
The *Manage Named Export Definitions* region is where you can save the settings for a specific export for use again later. You can also modify or delete existing definitions. Finally, you can choose to run all exports at once.

List Of Operations Or tasks that Are Performed With This Screen:

**Configure an Export**

Before you can export a report using the Export functionality, you need to have assigned interface codes to the report, the lines you want to export and each entity it runs over. See the *CORE OBJECT EDITOR* for information on assigning interface codes.

- Use the *Interface Case* drop-down list to select the interface case to use.
- Choose where to send the exported data, either to a text file or an Access MDB. Once you choose, click in the window to browse to set the destination you want.
- In the *Preview Results* region:
  - Select the report to export from the drop-down list.
  - Set the date range desired. If you do not specify a date range, all years of the scenario will be exported.
- Choose whether to send 000’s, or dollars and cents.
- Add other columns as desired and configure contents.
  - You can tailor how interface codes are sent in the data (full code or split into multiple columns).
  - You can add additional columns for the UIPlanner names.
  - You can name the columns in the export file.

When you are done, click **PREVIEW**, and the data to be exported will be displayed in the grid. You can export this to Excel by right-clicking in the header. Once you have determined the data is ready for export, click **EXPORT CURRENT SELECTION**, and the data will be sent to your chosen destination (text file or MDB). A message will be displayed confirming the export to the chosen destination.

**Export a Report Using a Named Export Definition**

- Select the definition you want to use from the *Stored Export Definitions* drop-down list
- Confirm the time periods are correct and confirm the column settings
- Click **PREVIEW** to bring the data into the grid
- Once you have verified the data, click **EXPORT CURRENT SELECTION** to export the data to the specified destination
Export Ledger Data

Before you can export ledger data using the Export functionality, you need to have assigned interface codes to the accounts and planning entities you want to export. See the CORE OBJECT EDITOR for information on assigning interface codes.

The steps for exporting Ledger data are the same as for reports except you click on the LEDGER button.

Create a Named Export Definition

- Configure the export you want to save.
- Click STORE CURRENT STATE AS A NEW DEFINITION. When prompted, enter the name you want for the export you just set up.
- Click OK to save the definition.
- Note: To modify an existing definition, choose it first, make changes as desired, and then click STORE CURRENT STATE OF SELECTED DEFINITION.

Delete a Named Export Definition

- Use the Stored Export Definitions drop-down list to select the definition you want to delete.
- Click DELETE CURRENTLY SELECTED DEFINITION.

Rapid Data Finder

Rapid Data Finder Screen
The **Rapid Data Finder** screen provides a single entry point for finding data, both attribute and time data, in UIPlanner across all cases, reports and entities. It allows you to find data by case, User ID or date updated, or by a combination of these. The **Rapid Data Finder** can be very valuable if you are trying to find out what data has been entered in the last x days, which can be very useful if you need to see what has changed. Alternatively, you might want to see what data is in a case that you are thinking of removing from a scenario.

Once you have used the **Rapid Data Finder** to find data, you can send it to Excel for filtering and analysis. Finally, you can delete some or all of the data from the results set returned. This option is only available only for attribute data.

### List Of Operations And Tasks That Are Performed With This Screen:

**Setting Search Criteria**

The **Rapid Data Finder** screen has various options for setting your search criteria. The various search settings are as follows:

**Find Attribute Data / Find Time Data** – First, decide whether you want to find attribute data or time data. The **Rapid Data Finder** searches for each one separately. Note that when you make a selection, the case list changes to show the cases of that type.

**Select Cases for Search** – Use the check boxes to choose which cases in which you want to search. The list will change depending upon whether you selected time data or attribute data. Note that the attribute case list includes not only attribute cases but also interface cases, the formula case and the “zero” case (the case that holds
entities and names). If you are searching time data, you have an additional option – you can limit the search to only the cases in the active scenario, or all cases.

**Updated By** – This drop-down list shows all UIPlanner users. Use this if you want to find all data entered by a specific user. The default is *Any User.*

**Updated When** – This drop-down list provides a number of different time options. Use this if you want to find all data changed or entered during a specific time period, such as in the last day, or the last week. The default is *Any Date.*

**Select Entity Group / Select Entities** – Use the Select Entity drop-down list if you want to find data related to a specific entity group, such as bonds or planning entities. Note that if you select an entity group, you need to select at least one entity from the list by checking the check-box next to the entity. If you do not select any entities, the RAPID DATA FINDER will ignore the *Entity* box and return all data.

**Q2 Attributes Only** – This drop-down list allows you to select some very specific structural components of UIPlanner – the "Q2s." These include things like attribute value, line options, or scenario settings.

These selections are all optional. If you do not select them, they will not be used in the search. However, the less you limit your search the more data will be returned.

**Running a Search**

Once you have set your selection search criteria, click **SEARCH.** UIPlanner will return the search results in a dialog box. See below for examples of time data and attribute data search results.

**Time Data:**

Note that the screen returns the case, report, line/account and entity, along with the data and User ID.
You can send the results to Excel by right clicking anywhere on the title line of the screen. The Excel screen has preset filters for each column, for easier searching of the result set.

**Attribute Data:**

Note that the attribute result screen is different. It returns the Case plus the 5 qualifier values, along with the attribute value and the User ID and last update date. One thing to note is that the attribute value comes up with values in both the *New Value* and *Orig Value* columns.

The *Data Finder* screen for attribute data also includes a *Delete/Undelete* column. If you hit the check mark for a line to delete it, note that the new value changes to a blank. When you click **CLOSE**, that item will be deleted. You can also delete **ALL** of the results listed by clicking **DELETE ALL**. This will set all the values to blank. When you click **CLOSE, ALL** of them will be deleted. Before clicking **CLOSE**, you can Undelete one or all items.

The delete option is a very powerful one, but one that should be used very carefully.

**Common Search Examples**

Below are some common search examples
Find all Time Data entered in the last day – Select **FIND TIME DATA** and select *Within One Day* from the *Updated When* drop-down list. Select all cases. Leave the other selections blank.

Find all Attribute Data entered by a specific user in the last week
Select **FIND ATTRIBUTE DATA**, and select *Within One Week* from the *Updated When* drop-down list, and select the user you want from the *Updated By* drop-down list. Select all cases. If you just want attribute data you can un-check the interface cases. Leave the other selections blank.

Find all data in a specific Time Data Case – Select **FIND TIME DATA** and check the case you want from the list. Un-check the other cases and leave the other drop-down list selections blank.

Find all Report Format changes made in the last two days - Select **Find Attribute Data** and select only the *Report Formats* case from the case list. Leave the other selections blank.
Find out what cases Bond Time Data is in - Select Find Time Data. Select Bond Issue from the select entity group drop-down list and check all bonds in the Select Entities window. Select all cases from the case list. Leave the other selections blank.

Find Equations with Numbers

The FIND EQUATIONS WITH NUMBERS screen allows users to search across all report calculations and display any lines that contain input numbers. This is a valuable audit tool that will allow you to verify that the calculations do not inadvertently include hard coded numbers that might not be updated when needed.

When the screen is opened, all lines containing numbers are listed.
Because there are certain numbers or values that are properly used in equations such as 0, 1, etc., the screen allows you to filter equations with those numbers out to assist in diagnostics.

Once you identify a number that you feel should not be hard coded in your equation, you can convert that number to a parameter or time dependent data by going to the **Calculation Editor** screen and making the modification in the report itself.

If the parameter or time dependent data has not already been created, you can do so by going to the **Edit Attributes** screen and then proceed to the **Calculation Editor** screen.

**Screen Layout:**

The top of the **Find Equations with Numbers** screen includes five check boxes that allow you to filter out common valid hard coded numbers, such as:

- Zeros – often used in if tests or to compare amounts to zero
- Ones – often used in if tests or in multiplying amounts by -1
- Twelves – often used to flag annual amounts
- Thirteens – often used to flag annual amounts
- Hundreds – often used to convert attribute numbers to percents

The main portion of the screen includes four columns containing the report, line, forecast formula and actual formula.

An **Export to Excel** button is on the bottom right of the screen.

**List of tasks or operations that are performed with this screen:**

**Finding Equations with Numbers:**

Merely opening the screen will show all equations with numbers. You can filter down the results as follows:

- Select the **Ignore Zeros** check box to eliminate all equations containing a “0”.
- Select the **Ignore Ones** check box to eliminate all equations containing a “1”.
- Select the **Ignore Twelves** check box to eliminate all equations containing a “12”.
- Select the **Ignore Thirteens** check box to eliminate all equations containing a “13”.

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Select the *Ignore One Hundreds* check box to eliminate all equations containing a “100”.

As you select the various check boxes, the screen automatically refreshes. After filtering out zeroes, ones, twelves, thirteens and one hundreds in the screen above, these values would no longer appear. See screen above.

In the example above, you may choose to change the Federal Tax Rate on the *Income Tax – Federal* report from the currently hard coded value of .35 to time dependent data either on this report or copied from another report by going to the *Calculation Editor* screen.

Additionally, the date (200912) for cash seed value in the above example should probably be changed in the report to either an input value or derived from the dates in the current scenario using a function.

If desired, the *EXPORT TO EXCEL* button is available for your use.

*Find and Edit Data*
The **FIND & EDIT DATA** screen allows you to search for data in the current scenario starting with an entity group, and then by applying additional filters. This screen is an alternative to the **RAPID DATA FINDER**. It provides an entity-centric perspective on finding editing data as opposed to a report-centric view (as used in the **RAPID DATA FINDER**).

The screen consists of a series of panels/filters:

1. Super Entity Groups
2. Entity Groups
3. Entities
4. Data Type (Time Data or Attribute)
5. Case
6. User (Last updated by)
7. Date (Last updated on)
8. Line-Account-or-Attribute-Definitions to Edit

Once all panels have enabled, and you have made your final selection, click **VIEW & EDIT RECORDS**. This will apply the filters and display the result in a pop-up window. There you can view the resulting records, or choose to edit them (in MS Excel) and then save them back to the database.
SCREEN LAYOUT:

The **FIND AND EDIT DATA** screen is laid out in a series of panels. You go through the panels in order, and make your selections. As you select the filter in each panel, the next one activates. It will contain appropriate choices based on your previous selections (see the example above). When all eight panels have been selected, you can apply the filters and see the result in a dialog window. It will contain all the data in the current scenario that meet the specified criteria, in separate tables for Attribute data and Time data. You can view the data in the dialog window or export it to MS Excel for filtering and sorting. If you wish to edit the data you can send it to MS Excel (click **VIEW & EDIT RECORDS**).

List of Tasks or Operations that are performed with this Screen:

Finding Data

As indicated above, the purpose of this screen is to find data in the current scenario from an entity perspective using a series of selection panels. Each panel contains a list of possible selections (along with a choice for *All*), each with a check box. Simply select the one(s) you want. This will enable the next panel, and it will contain selections based on your choices so far.

Following are several screens showing a sequence of selections, along with the final **VIEW/EDIT** screen.

**Selection 1**: Detailed Model entity groups, then bonds. This enables the list of bond entities to choose from.
**Selection 2:** Selected several bonds, plus both time and attribute Data. This brings up a list of the active cases.

**Selection 3:** Selected all cases, all users and all time, and then selected certain time data items and certain attribute data items. This activates the **VIEW AND EDIT RECORDS** button.

**Display Results:** Click **VIEW & EDIT RECORDS**. This brings up a dialog window with the result set. It has separate panels for attribute and time data. In each panel you can sort the data by clicking on the column header, or export it to Excel/html by right-clicking.
**Edit Data in Excel**: From the dialog window you can choose to edit the data in Excel. Note that you can uncheck items you do not want to send to Excel (all items are initially checked by default.) Clicking **EDIT** will bring up MS Excel sessions showing the attribute or time data. See the examples below.

**Attribute Data Example:**

<table>
<thead>
<tr>
<th>Entity</th>
<th>Attribute Definition</th>
<th>Value</th>
<th>Last Edithed</th>
<th>Last Edith</th>
</tr>
</thead>
<tbody>
<tr>
<td>4% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>5% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>6% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>7% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>8% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>9% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>10% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>11% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>12% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>13% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>14% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>15% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>16% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>17% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>18% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>19% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>20% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>21% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>22% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>23% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>24% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>25% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>26% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>27% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>28% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>29% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
<tr>
<td>30% PB</td>
<td>Due May 15, 2013</td>
<td>70,000</td>
<td>4/15/07</td>
<td>4/15/07</td>
</tr>
</tbody>
</table>
When you are done with your edits, you can close Excel and then save back to the database.
Report trees give you the ability to summarize and group reports with nearly unlimited flexibility. Some report tree options are as follows:

- **Unlimited rollup nodes:** Report trees can be created with any number of rollup nodes, and any number of rollup levels.

- **Multiple report trees:** Multiple report trees can be created for any entity group. When browsing a report run over an entity group, for which you have created report trees, these trees are available for use.

- **Report Tree display options:** You can further customize your report view by turning on or off report nodes and entities via check boxes on the **BROWSE REPORTS** Screen.

Once report trees are created, they become available on the **BROWSE REPORTS** screen.

### Using Report Trees

#### Basic Requirements

Report trees require two entity groups. One serves as the parent and contains entities for each report tree rollup node. The second entity group contains the report leaves, or entities in the **report entity group**.

Generally, parent entity groups are created specifically for rollup trees. Entities in the parent entity group can be tailored to enhance your report viewed with report trees. The example below is generic to help you understand the concept. You may want to include entities in the parent entity groups such as "Total Revenue", "Total Residential", or "Sub Total Commercial."

#### Create a Report Tree

Report trees are created from the **Report Tree Screen**. As shown below, the parent entity group serves as a source for report nodes, the child entity group as the source for leaves in the report tree. In the example below, the parent group contains report node descriptions (Node A - Node G).
n-level Tree Option

From the Browse Reports Screen, the radio button by *n-level Tree* must be selected to use report trees. This selection will open a panel *Select Rollups to Report* showing all available report trees for the report entity group. Customize your report tree further by using the check boxes provided.

If multiple report trees had been created using the same report entity group for *Children*, additional radio buttons will appear next to *Alpha Report Tree*. To view this section on the Browse Reports screen, the desired report must be active, and the Browse Reports check box must be unchecked.

Browse Reports for Two-Dimensional reports allows you to see and select from the secondary entities (previously, the only option available was the primary entity list). There is an option on the Browse Reports screen (*Report by Association*). This extends the reporting to handle situations where there are multiple associations to another entity group. For example, a planning entity may have associations to other planning entities for different reasons - legal entity rollup, money pool financier, dividend parent, etc. You can roll up across any association.

**Report Tree Example**

The examples below illustrate the use of report trees when viewing a report. The first two examples show a simple report calculation, and report results.
Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Alpha Entity</td>
<td>Input()</td>
</tr>
</tbody>
</table>

Report Results (with the by tree radio button selected)

<table>
<thead>
<tr>
<th></th>
<th>Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha 1</td>
<td>100</td>
</tr>
<tr>
<td>Alpha 2</td>
<td>200</td>
</tr>
<tr>
<td>Alpha 3</td>
<td>300</td>
</tr>
<tr>
<td>Alpha 4</td>
<td>400</td>
</tr>
<tr>
<td>Alpha 5</td>
<td>500</td>
</tr>
<tr>
<td>Alpha 6</td>
<td>600</td>
</tr>
<tr>
<td>Alpha 7</td>
<td>700</td>
</tr>
<tr>
<td>Total</td>
<td>2,800</td>
</tr>
</tbody>
</table>

The example below shows the same report displayed using the report tree.

Other Features:

- Each parent node appears as a line in the report display with a subtotal of all children entities under the parent node.
- Parent entities can only be used one time in the report tree. It is not necessary to use all parent entities in the report tree.
- Parent nodes can roll up to other parent nodes, but child nodes can only roll up to parents. An error message will open if you attempt to
place a child entity under the root, or a parent node under a child entity.

- The report trees does not need to be uniform in structure. See how Alpha 7 appears under the first parent level node.
- Child entities not included in the report tree, will not be included in the report results using the tree. However entities not included by un-checking the box on the *Select Rollups to Report* panel **will** be included in parent node sub totals.

Report trees are custom formatted rollup structures you can create for use in viewing reports. Report trees are created on the **REPORT TREES** screen then selected as a report option on the **BROWSE REPORTS** screen.

**Screen layout:**

The **REPORT TREES** screen is comprised of four regions. The top of the screen contains controls that allow you to select trees and to select the report tree context. The left side of the screen contains the active report tree. Two
panels located on the right side of the screen control parent tree nodes and the leaf entities in the report tree.

**Select a Report Tree to Edit:**

**Select a Report Tree To edit:** Use the drop down box to select a report tree to edit.

**Name:** Shows the name of the active report tree. Use the drop-down list to select a report tree previously created.

**Create New:** Opens the Add Object dialog box for creating a report tree.

**Define Report Tree Context:**

**Parent Group:** Select the parent entity group from which you can select report tree parent nodes.

**Child Group:** Select the report entity group from which you can select report tree child nodes.

**Report Tree:**

Prior to creating a report tree, the report tree screen section contains only a root node. Once the tree is created, (below) this section will contain the full tree.

The **Assign Parents As Nodes** and **Assign Children as leaves** panels on the right of the screen are used to build the tree by allowing you to designate parent nodes and add child nodes to parents in the tree.

**Assign Parents Rollup Nodes and Child entities**

The two screen panels shown below are used to add, delete, or move nodes and leaves on the report tree. Control buttons on the two panels (except **COPY** and **PASTE**) are identical, and perform the same functions for both the parent nodes and the children leaves. Control buttons on each panel only control the nodes or leaves listed on the panel.
**Copy:** Will copy the active tree to the clipboard.

**Paste:** Will paste a tree structure saved to the clipboard to the active report tree.

**Select All:** Toggles the *Selected* column of boxes from checked to not checked. Un-checking this box will un-check the "selected" box for all nodes on the list.

**Left Arrow:** Moves the selected entities to the tree under the parent node selected on the tree.

**Right Arrow:** Moves the selected entities from the tree. Also moves the selected nodes to a new location on the tree.

**Unassigned Only:** When this box is checked, only entities not already assigned to the tree will be displayed. If un-checked, all entities will be displayed.

**Entity Column:** Displays the entity

**Assigned or Parent column:** Indicates placement of the entity on the report tree. This column will show the parent for the entity in that row, or indicate the entity is "unassigned," i.e., has no parent.

**Building a Report Tree.**

**Add a node or leaf to the tree**

- Highlight a node on the tree under which new nodes are to be added.
- Select the item to be moved to the tree by using the check boxes in the *Assign...* panels.
- Click the "<" left arrow in the appropriate panel.

The nodes or leaves selected will be added to the tree at under the selected node, and the *Assigned or Parent* column will indicate the Parent node.
Remove a node or leaf from the tree
- Using the check boxes, select the node or leaf to be removed from the tree in the Assign... panel.
- Click the ">" right arrow on the appropriate panel.

The nodes or leaves selected will be removed from the report tree.

Move a node or leaf to a new location on the tree
- Highlight the destination node i.e. the tree node you want nodes or leaves moved to.
- Select the desired nodes or leaves in the appropriate panel. Click the < left arrow.

The selected nodes or leaves will be moved to the highlighted node.

Features

Parent nodes are assigned to all nodes or leaves in the tree, and displayed in the Assigned or Parent columns. The parent assignment remains on the entity even if it is not part of the tree. With this feature you can remove nodes from the tree, but maintain its parent designation.

Subtotals will be printed for each report tree node on the final report.

Report trees must be created and selected as a display option on the Browse Report Screen.
- Open the Report Trees screen.

To edit an existing tree, select the desired report tree from the drop-down list on the left.

To Create a New Report Tree:
Click **Create New** to create a new report tree in the Add Object Dialog Box which is used to add all objects. Add the new report tree to the list.

When the dialog box closes, the new report tree will appear on the screen.

After the report tree has been created, assign parent and child groups:

- Select the parent group from the drop-down list of entity groups. Generally you should create an entity group with good rollup node descriptions.
- Select the child group from the drop list of entity groups.
- Using the screens sections **Assign Parents As Nodes** and **Assign Children As Leaves**, create the report tree.

See **Build a Report Tree** for additional information.

**Line Attribute Editor**

The **LINE ATTRIBUTE EDITOR** screen brings together items that are stored by Report/Line. Currently, the two elements in this screen are:
a) *Report Line Attributes:* which allow you to add text values as attributes to lines in order to add additional information to a report, and

b) *Posting by Case:* which shows those lines that are tagged to post across all attribute cases. The value of this screen is that it shows all postings in across all cases. Thus, if you have put an override posting in an additional attribute case, it is highlighted here.

Note: Although line formats are also stored by Report/Line, these are more logically (and more easily) edited from the *Browse Reports* screen.

Screen Layout:

This screen has two regions.

Along the top is the *Select Report* region, where you can select a specific report group and report using the drop-down list. It is common to both tabs described below since each tab is report centric. This is where you select the report for which lines are displayed.

The *Line Attribute Editor* screen includes two tabs (as shown above): *Line Attributes* and *Posting – by Case*.

**Line Attributes**

When *Line Attributes* is chosen, lines on the selected report will appear in the main region. Line attributes are shown as columns. This is where you enter the values for the attributes by line.

At the top right on this tab is a drop-down list which allows you to select the attributes case in which to store the values.

The top region also includes the *Add Line Attribute* button which also allows you to create a new line attributes.

**Posting – by Case:**
When *Posting – by Case* is chosen, lines on the selected report will be displayed with the active attribute case(s) as columns. The column(s) has check boxes which indicate lines selected for posting.

On the top right of this tab is the **ASSIGN POSTING** button, which opens the **ASSIGN POSTING** screen. Note: An alternate method for accessing this screen is the **ASSIGN POSTINGS** button on the **CALCULATION EDITOR** screen.

List of Tasks or Operations that are performed with this Screen:

This screen is used for two main tasks:

**Add a New Line Attribute**  
**Manage Postings**

Add a New Line Attribute

New line attributes are added in the Line Attribute Editor screen. Adding a new line attribute involves creating the line attribute, creating a custom column set that uses the attribute, and then populating the line attribute with values. To add a new line attribute, follow these steps.

**Add A New Line Attribute:**

- Click **ADD LINE ATTRIBUTE** to open the **ADD OBJECTS** dialog box. In the example below, “FERC Account” and “Line Number” are entered.

![Add Line Attribute Screen](image)
In order to have a line attribute displayed when you run reports, you need to create a custom column set that includes that attribute. Custom column sets are created in the **REPORT COLUMNS** screen.

In the example below showing the **REPORT COLUMNS** screen, **Line Number** and **FERC Account** have been added as a FERC account custom column set. These attributes are available to all reports.

### Populate Line Attribute Values:
- Select the report group and report from the drop-down list in the top region of the screen.
- Select the appropriate attribute case.
- Double-click on the line in the appropriate attribute column in order to enter values for that line.
- Save the data.

In the example below, values for **FERC Account** and **Line Number** have been added in order to creating a FERC Form 1 style report.
Once a line attribute has been added, a custom column set has been created for that attribute, and the line attribute values have been populated, a report can be run displaying the new information.

Below is an example of a report format that includes the **Line Number** and **FERC Account** attributes and the appropriate column set:

<table>
<thead>
<tr>
<th>Line Number</th>
<th>FERC Account</th>
<th>Year 2008</th>
<th>Year 2009</th>
<th>Year 2010</th>
<th>Year 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>101-106, 114</td>
<td>17,600,000</td>
<td>18,137,292</td>
<td>18,829,272</td>
<td>19,938,37-</td>
</tr>
<tr>
<td>5</td>
<td>108, 111, 115</td>
<td>-7,280,000</td>
<td>-7,727,701</td>
<td>-8,234,912</td>
<td>-6,764,32-</td>
</tr>
<tr>
<td>6</td>
<td>10,360,000</td>
<td>10,406,560</td>
<td>10,594,560</td>
<td>11,173,84-</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>107</td>
<td>140,496</td>
<td>228,995</td>
<td>327,923</td>
<td>215,233</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10,500,496</td>
<td>10,633,587</td>
<td>10,922,283</td>
<td>11,385,07-</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Manage Postings tab in the **LINE ATTRIBUTES EDITOR** screen displays those lines that are tagged to post across all attribute cases. To view and/or edit postings across cases, follow these steps:
Select the *Posting – by Case* tab and the report/report group. The screen below appears allowing you to review what differences in postings exists between the attribute cases. This screen allows you to review in detail, or add or modify defaults to the postings.

Note: In this example, an overlay case called *Alternate Posting* has been created for demonstration purposes.

You may select or clear the check boxes as required to configure the postings.

- A check box that is selected tags those lines for postings.
- A shaded check box indicates that there is no effect on postings in subordinate cases.
- An empty (white) check box is equivalent to no posting. It overrides previous postings, i.e. turns them “off.”

- Click **ASSIGN POSTING** and the *DEFINE POSTINGS - BY CASE* screen will open. By default it opens to the base attribute case. You can use the Case drop-down list to put a posting in a different case.
**ACCOUNTING**

View Planning Entity Hierarchy

This menu option displays the Low Level Planning Entity hierarchy in tree format. The hierarchy is based on LLPE rollup attributes.

**Screen layout:**

The screen displays the LLPE tree structure shown below, based on its rollup attributes.

![LLPE Tree Structure](image)

**Containing (use '*' for any):** Search the hierarchy tree. Type in the box provided to delimit the tree.
Making Changes to the LLPE Hierarchy

The example below shows the hierarchy displayed on this screen, as well as the LLPE hierarchy definition from the **One Parameter Editor** screen for the LLPE.

Hierarchy changes must be made to the rollup attribute, not on this screen.

Manage Ledger

```{XE "Monthly_Closing" /* MERGEFORMAT */}{XE "Planning Ledger" /* MERGEFORMAT */}{XE "Concept" /* MERGEFORMAT */}Concept - Planning Ledger```

The best way to understand the *Planning ledger* is to compare it to a General Ledger. The planning ledger is a depository of postings from selected report lines.

The Planning ledger contains accounts and rollup nodes, which can be accessed for use in reporting.

**Planning Ledger Account Structure**

A rollup structure can be defined for the Planning Ledger. Rollup Nodes can be assigned to rollup up any number of accounts or other nodes. In the example below, Revenue, Electric Revenue, and Electric Rate Revenue are rollup nodes. Accounts 440 Residential sales - 499.1 Provision for rate
Refunds are also shown. Report nodes and accounts can be easily added, deleted and moved within the planning ledger structure.

Notes: Selected report lines can be posted to accounts. Report lines cannot be posted to a report node. Accounts generally begin with a number, but this is not required.

### Secondary Account Structures

Secondary account structures can be created for the planning ledger. Typically one structure is defined for external reporting, and one for FERC reporting. Only one set of accounts are set up, with a default account structure. Any number of secondary account structures is allowed.

Secondary account structures are a new set of rollup nodes for all accounts. Root level rollup nodes must be the same as the default account structure, but any configuration of rollup nodes can be created.

#### Required Root Level Rollup Nodes

While the Planning Ledger structure can have any number of accounts and rollup nodes, it requires a specific structure and specific relationships at the highest rollup node. The Planning Ledger has a set of logic used to close the ledger as well as promote consistency in cash reporting. The minimum structure necessary in UIPlanner is depicted in the example below.


Monthly closing

There are four system generated transactions at monthly closing:

1. Net Income (revenue + expenses)
   Debit Retained Earnings, Credit none

2. The system also posts Net Income (Income statement) to the Net Income (indirect cash flow)
   Debit none, Credit Cash Flow Net Income
   Items 1 and 2 above are executed as a single posting: debit retained earnings, credit cash flow net income

3. Cash (sum of all transactions posted to direct-cash sub-ledger)
   Debit Cash on Balance Sheet, Credit - none

4. Income for subsidiaries
   Debit (for sub) none, Credit (for sub) none
   Debit (for corporate Parent) B/S Investment in subs Credit (for parent) I/S Equity earnings. The parent transaction also creates eliminations, opposite of parent posting (credit B/S, debit I/S). Income for subsidiaries accounts are not required if the client prefers to post subsidiary income manually.
The planning ledger is managed from MANAGE LEDGER screen. Accounts and rollup nodes can be created, edited, and moved from this screen. Account attributes can also be assigned.

**Screen Layout:**

The active account structure is displayed along the left of the screen, with action buttons near the top. Accounts attributes are created and displayed on the right side of the screen.

**List Of tasks Or Operations That Are Performed With This Screen:**

- **Create New Account Structure:** Opens a dialog box to create a secondary account structure.
- **Select Account Structure:** Displays the default account structure and any secondary account structures. Upon selecting a structure, it will become active, and display along the left of the screen.
- **Search Tree:** Input text and select the up or down buttons to search the active account structure.
- **Collapse All:** Collapses or displays all accounts and rollup nodes in the active account structure.
- **Actual Date is Year to Date for:** These options are selected if actual data is imported or entered with year-to-date values rather than the net change each month.
- **Create Account:** Opens the Add Object Dialog Box for creating an account in the planning ledger.
- **Create Rollup:** Opens the ADD OBJECT Dialog Box for creating a rollup node in the planning ledger.
- **Edit:** Allows editing of the highlighted rollup node or account.
- **Move Up or Move Down:** Moves the highlighted rollup node or account up or down in the account structure tree.

Attributes can be assigned to accounts. One of four attributes can be assigned.

- Accounts number
- Actuals Only: (Y/N)
- Statistical Account; (Y/N)
- Use Statistical Account for Interface calc of retained earnings: (Y/N)

The Define Accounts section is active when an account is highlighted in the account structure tree.
Add Accounts to the Planning Ledger

- Open the Manage Ledger screen.
- Open the desired account structure from the Select Account Structure drop-down list (shown below). The selected account structure will be displayed along the left side of the screen.

![Select Account Structure](image)

- Highlight the rollup node for the new account(s), and click **CREATE ACCOUNT** to open the Add Objects dialog box.
- Add the new account or accounts.

When the dialog closes, the new account(s) will appear on the account tree. The new account(s) will be created below the highlighted rollup node.

Create a Rollup Node in the Planning Ledger

Rollup nodes can be modified to meet any business need. Secondary account structures can also be created in the same way.

- Open the Manage Ledger screen.
- Open the desired account structure from the Select Account Structure drop-down list. The selected account structure will be displayed along the left side of the screen.

![Select Account Structure](image)

- Highlight a rollup node and click **CREATE ROLLUP** to open the Add Objects dialog box.
- Add the new rollup node.

When the dialog closes, the new rollup node will appear on the screen.
Note: A rollup node will be created in the planning ledger.

Create a Secondary Account Structure

- Open the Manage Ledger screen.
- Click Create New Account Structure in the Select Account Tree Structure region of the screen. The dialog box Input (shown below) will open.
- Enter the name of the secondary account structure you are creating in the space provided.
- Click OK. A new secondary account structure will be created. The new secondary structure will be a copy of the default structure.

Move Accounts or Rollup Nodes in the Planning Ledger

- Open the Manage Ledger screen.
- Open the desired account structure from the Select Account Structure drop-down list (shown below). The selected account structure will be displayed along the left side of the screen.
- Highlight the rollup node or account to be moved.
- Right click to display the menu below.
Select **Cut** from the menu to cut the desired account or rollup node.

Highlight the desired rollup node to place the cut item.

Right click to display the popup menu. Select **Paste**.

The selected rollup node or account will be moved to the new rollup node.

**Screen - Define Postings**
The **DEFINE POSTINGS** screen defines the accounting entries posted to the **Planning Ledger** for report lines. Access to this screen is available from the **CALCULATION EDITOR** screen, as well as the **LINE ATTRIBUTE EDITOR** screen (**Posting – By Case** tab). An example of the **DEFINE POSTINGS** screen for a bond report is shown above.

Occasionally

**Screen Layout**

The **DEFINE POSTINGS** screen has two regions:

The top region of the screen contains overall rules for defining the postings for that report (e.g., whether the posting is a default for all entities or a specific entity, the attribute case for these postings), and buttons that launch various informational dialog boxes.
The main body of the screen is where you assign the actual postings (debits, credits) for specific lines. You can only assign postings for lines that have been tagged as posted on either the **CALCULATION EDITOR** or the **LINE ATTRIBUTE EDITOR** screens.

**List Of Operations Or tasks that Are Performed With This Screen:**

**Define Control Settings**

**Display options**

- **Show all lines:** This check box toggles the display to show all report lines, or only those report lines with postings.

**Informational Dialogs**

- **Show Lag Patterns:** This button brings up a dialog box showing the defined lag patterns in the active scenario.
- **Show All Postings:** This button opens a dialog box listing all postings defined for all reports in the active scenario. This listing can be exported to Excel.

- **Show this Report Postings:** This button opens a dialog box listing all postings for the report currently selected.

**Posting Rules**

The next selections allow you to customize the postings so that only certain entities or groups of entities behave differently than the report as a whole.

- **Post using Association:** The first option in the Post using Association drop-down list will always be **Post by Entity.** If associations exist for the report entity group, they will be displayed next in the list. In the bond example shown above, there are two associations to the report entity group, **Planning Entity** and **Issue Type** (e.g., FMB).
- **Entity:** Drop-down list of entities. This list will change depending on the selection made in the **Post using Associations** drop-down list described above. In all cases, **Default** is the first item on the list.
Define Postings

The main body of the screen is where you define postings for various lines for the entity selected in the *Entity* drop-down list. Select *Default* to apply posting definition to all entities. If you want to define unique postings for specific entities, select each entity in turn and define the appropriate posting. Some examples follow:

- If you want to have every entity in the report to be posted the same, select *Post by Entity* and *Default*.
- If you want to have a specific entity post differently, you select *Post by Entity* and that entity in the right *Entity* drop-down list.
- If you want to have the override applied to all entities based on an association that they have, e.g., all FMB’s, select post by association: bond type in the left drop-down list and the association (e.g., FMB) on the right.

Note: These overrides do not have to be done for every line in the report, i.e., you can select only one line to be posted differently.

If you post using an association, the code will look first for entity-specific posting, then association posting, then default posting. Only one association can be used for each report. Also, posting defined by association does not change over time. Thus, if you change a bond from "FMB" to "Debenture" at some future date, the posting will stay as defined by the FMB.

A screen section, such as that shown below, will appear for all report lines tagged as posted. See the example below for a bond, specifically line “CO: Total Interest Accrual” line on a bond report.

### Lag Patterns

Select a lag pattern if desired. Options presented in this drop-down list will list all lag patterns defined. See Create or Edit a Lag Pattern. If a lag pattern is selected, e.g., *Quarterly Payment*, the transaction screen section will add a second line for the cash portion of the entry as shown below.
If you are assigning postings on a line and have it designated as “lagged”, when you assign one side (debit or credit) to an account on the Balance Sheet, the posting screen will automatically populate that same account for the cash reversal.

**Association:** Select the planning entity association for intercompany transactions. Options presented in this drop-down list will be all associations to the planning entity, and all associations to the special type entity group for the planning entity. If any intercompany association is selected, the transaction screen section will expand to accommodate posting definitions for intercompany transactions as shown in the example below.

**Assign accounts:**
Select the appropriate account from the Planning Ledger to post transactions. Right click the appropriate debit or credit input cell to open the Select Account dialog box with quick search capability. This dialog contains all planning ledger accounts. Select the desired account and it will be placed in the active account cell. An example of this dialog box for a bond interest accrual line is shown below.
Assign Cash Flow Account (Optional): Clicking on the Cash Flow Account space will open the SELECT ACCOUNT dialog box which will contain indirect cash accounts only.

Click REMOVE CASH ACCOUNT to remove cash flow account assignments.

COPY POSTINGS TO OTHER LINES: This button open the COPY POSTINGS dialog box, which enables you to copy posting-related data from one line on a report to another line on that same report.

- **Show Only Lines Currently Marked Posted:** Check to limit the target (destination) lines to ones already designated as posted.
- **Select a line:** Select the line to copy postings for via the drop-down list or using the SELECT ITEM TO COPY button which opens a dialog box with text search capability.
- **Select values to copy:** Select all or some of the posting values to copy via check box selections in the Values to Copy area on the left.
- **Select a target line(s):** Select a destination line(s) via check box selections in the Targets area on the right.
- **Do COPY:** Click to perform the copy operation.
IFRS: Check to implement IFRS (International Financial Reporting Standards) postings. This allows you to define IFRS-compliant accounts for items that require redirection or reclassification. See IFRS Postings for details.

UIPlanner has the ability to turn on automatic reclassifications/re-postings for specific items in order to produce IFRS-compliant financial statements. At run-time, UIPlanner will automatically make the required reclassifications to allow you to produce IFRS-compliant financial statements.

An example of this concept is that some Assets (in particular some Regulatory Assets) may not be considered Assets under IFRS standards. Thus, you can define an IFRS account, most likely an expense, and re-direct the Regulatory Asset to that Expense Account. UIPlanner will transfer any beginning balance and subsequent postings to the new IFRS account, in effect a write-off of the asset in the first period, and reversal of amortization expenses that would have been posted to the Balance Sheet.

UIPlanner has two options for implementing IFRS.
Option 1 - IFRS Posting

This feature is enabled by a *Use IFRS Posting* check box (see below) on the top region of the *MANAGE SCENARIOS* screen. It is operational only if the scenario has the *IFRS Posting* option selected.

Under this option, you specifically designate an IFRS Posting transaction using the *DEFINE POSTING* screen (see below).

Option 2 – Tag Accounts Not Valid for IFRS

Under this option, you can designate an account as *Not Valid for IFRS* on the *MANAGE LEDGER* screen. If an account is so tagged, you must pick another account that is cleared to. For Balance Sheet accounts, a system-defined transaction will be created to wipe out the beginning balance, if any. Any amounts posted to the Accounts designated as *Not Valid for IFRS* accounts will be re-directed to the assigned *Clear-To Account*. See the example below.
Map Accounts to Indirect Cash Flow

{XE "Indirect Cash Flow" /* MERGEFORMAT */{XE "Map Accounts to Indirect Cash Flow" /* MERGEFORMAT */{XE "Screen - Map Accounts to Indirect Cash Flow" /* MERGEFORMAT */Map Accounts to Indirect Cash Flow Screen
The **MAP ACCOUNTS TO INDIRECT CASH FLOW** screen allows you to build out an Indirect Cash Flow statement in UIPlanner that will be populated automatically from the results of the model run.

Typically, in actuals periods, the reports in actuals are built manually from the Income Statement, Balance Sheet and analysis of monthly transactions. UIPlanner’s planning ledger and approach to capturing the cash impact of individual transaction account structures allows us to build this report dynamically for the forecast. Transactions are not posted to the Indirect Cash Flow ledger accounts. The amounts are derived from the I/S, B/S and Receipts and Disbursement accounts mapped to the account. This report will be automatically balanced. Any unmapped transactions are automatically placed on a line of your choosing (you select which account to use using the **ASSIGN SPECIAL TYPES** screen. Contact your system administrator for more information).

Once you have mapped the relevant accounts, UIPlanner derives the amounts to show on the account by the following logic stream:

1. Is it an Indirect Cash Flow transaction?
   a. It affects the I/S and B/S, or
   b. It affects CASH and the B/S.

2. If so, what account should it be mapped to?
   a. It is directly mapped via the **POSTING** Screen.
   b. It is mapped using the source Receipts and Disbursements account (on this screen).
   c. It is mapped via change in a Balance Sheet account (on this screen).
   d. If none of the above, it is mapped to the **Default for Unmapped Transactions** account.

One final note. This dynamic functionality is available only in the forecast period, where UIPlanner knows all the underlying transactions. Additional information is needed to build an indirect cash flow in the actuals period.
Screen Layout:

The **MAP ACCOUNTS TO INDIRECT CASH FLOW** screen is essentially a grid view listing of all of the Income Statement, Balance Sheet and Direct Cash Flow accounts. Within the grid, if you click on an account, it brings up a dialog box listing the accounts in the Indirect Cash Ledger. Once you select an account, the dialog box will close and that account will be listed in the grid. In action, UIPlanner will trap all transactions to that source account and will put it to that Indirect Cash Flow account. They will then show up on the Indirect Cash Flow report, if you use the **ACCOUNT** function in the **CALCULATION EDITOR**.

As the account mappings are attribute data, the screen shows the active attribute cases as columns, with the Winner in the first column.

At the top of the screen are a series of radio buttons that allow you to choose the sort order for the accounts. You can show the accounts:

- In alphabetical order, or
- In ledger order (Income Statement, then Balance Sheet, then Receipts and Disbursements).

Within each of these you can elect to sort either ascending or descending.

List of Tasks or Operations that are performed with this Screen:

**Mapping Accounts**

Below are the steps to take to map accounts to the Indirect Cash flow:

- Choose the account (I/S, B/S or Direct Cash Flow) you want to map from, and click in the grid under the Base Attribute case.
- When the Indirect Cash Flow Ledger dialog window comes up, expand the nodes until you find the account you want to map to. Highlight that account and click **OK**.
- The window will close and the selected account will be added to the grid. See below.
Below is an example of an Indirect Cash Flow report with the drilldown back to the mapping.

Notes:
Mapping accounts to the Indirect Cash Flow is essentially a configuration process. You will do it when you first implement UIPlanner. Once you have set up your planning ledger (with Income Statement, Balance Sheet and Direct and Indirect Cash Flow ledgers) and done the mapping, you should only need to visit this screen if you set up new accounts that need to be mapped.

**Posting Associations**

In order to post report lines to the planning ledger, several structural elements must be set up. For each entity group used in a report that will involve posting to the planning ledger, there needs to be an association defined with a low level planning entity (LLPE). For each of these entity groups, the **Posting Associations** screen is used to indicate the name of the appropriate association to LLPE to use for posting.

**Posting Association Rules**

- Any entity group used in a report with lines posted to the planning ledger must have an association established with the low level planning entity (LLPE) entity group. The low level planning entity (LLPE) entity group is a special entity group as defined during installation on the **Assign Special Types** screen under the tab **Define Entity Groups**.

The example below is of the LLPE entity group defined on the **Assign Special Types** screen.

If you attempt to post transactions to the planning ledger without a posting association assigned, the following error message will be generated.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 errors found.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Posting Associations Screen

This screen defines the association to be used when posting entries to the planning ledger.

Screen Layout:

As you can see from the example below, entity groups are listed in a drop box. Associations are listed for the entity group selected.

List Of Tasks And Operations That Are Performed With This Screen:

Select Entity Group: Select the desired entity group from the drop-down list of all entity groups in the active scenario. Upon making a selection, the body of the dialog will show all associations.

Select Association: Check the box next to an association to select that association for postings.

Lag Patterns
In order to accurately model cash flow, UIPlanner includes the ability to apply Lag Patterns to the cash portion of an accrual transaction posted to the Planning Ledger. Lag Factors are user defined monthly percents that represent various cash payment or receipt patterns.

The screen example below shows several lag patterns along the left. Lag factors are displayed in the grid for the lag pattern Retail Revenue. Multiple lag patterns, each containing lag factors for every month, can be created with patterns extending for up to 12 monthly periods. The Lag 0 column below represents the percent cash receipt recorded in the current month, Lag 1 represents the following month, Lag 2 the second month, etc.

Example:

Electric Revenue is recorded in the planning ledger on an accrual basis. However, cash receipts are collected over subsequent months. January revenue is expect to be collected 30% in January (Lag 0), 65% in February (Lag 1), and 5% collected in March (Lag 2).

Continuing with the Retail Revenue example above, the chart below shows accrual and cash postings to the planning ledger assuming $1,000 revenue in January, $2,000 in February, and $3,000 in March. Note how the lag pattern above is used to post cash and accounts receivable entries for each month.
Lag patterns are a special type entity group. The "Lag Pattern" entity group is set up just like any other entity group, but is designated as a special type. Once designated, lag patterns you create will be listed on the drop-down menu for lagged transactions on the Define Postings screen.

<table>
<thead>
<tr>
<th>Entries to the Planning Ledger</th>
<th>Debit (Credit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>Feb</td>
</tr>
<tr>
<td>January Revenue Entries</td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>(1000)</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>1000</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>(300)</td>
</tr>
<tr>
<td>Cash</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>650</td>
</tr>
<tr>
<td></td>
<td>50</td>
</tr>
<tr>
<td>February Revenue Entries</td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>(2000)</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>2000</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>(600)</td>
</tr>
<tr>
<td>Cash</td>
<td>600</td>
</tr>
<tr>
<td></td>
<td>1300</td>
</tr>
<tr>
<td></td>
<td>100</td>
</tr>
<tr>
<td>March Revenue Entries</td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>(3000)</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>3000</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>(900)</td>
</tr>
<tr>
<td>Cash</td>
<td>900</td>
</tr>
<tr>
<td></td>
<td>1800</td>
</tr>
<tr>
<td></td>
<td>240</td>
</tr>
<tr>
<td></td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>(1000)</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>1000</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>(300)</td>
</tr>
<tr>
<td>Cash</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>1250</td>
</tr>
<tr>
<td></td>
<td>2250</td>
</tr>
<tr>
<td></td>
<td>1900</td>
</tr>
<tr>
<td></td>
<td>240</td>
</tr>
<tr>
<td></td>
<td>60</td>
</tr>
</tbody>
</table>

Lag patterns are a special type entity group. The "Lag Pattern" entity group is set up just like any other entity group, but is designated as a special type. Once designated, lag patterns you create will be listed on the drop-down menu for lagged transactions on the Define Postings screen.
Lag factors are added or edited for each lag pattern on the **LAG FACTORS** screen.

**Screen Layout:**

The left side of the screen lists lag patterns. The *special type entity group* for lag patterns contains the listed entities. The body of this screen contains monthly lag factors for each lag pattern.

**List Of Operations Or Tasks That Are Performed With This Screen:**

Data entry of lag factors (percents) is the only action on this screen. Lag factors input here are used in the calculation of lagged cash entries posted to the planning ledger.

Lag factors should always total 100 percent for each month, although not required.
Lag patterns are located in the *special type entity group* "Lag Patterns." Each lag pattern is an entity in this special entity group. Lag factors are assigned to each lag pattern on the *Edit Lag Factors* screen.

- Open the **ASSIGN SPECIAL TYPES** screen.
- A set of sub tabs will open (shown below). Identify the entity group designated as the special type entity group for *Lag Patterns*. The example below shows the *Lag Pattern* special type is the *Lag Patterns* entity group.

![Assign Special Types](image)

- Open the **EDIT ATTRIBUTES** screen.
- Select the entity group designated for lag patterns. (In this example the entity group is *Lag Patterns*).
- Create a new entity for the new lag pattern. Each entity in the group will be the lag pattern description, i.e. Retail Revenue, One Month Lag, etc. Attributes are not needed. See **Create Entities**.

Entities created in this special type will appear on any list or drop down menu containing lag patterns.

Lag factors can be assigned to each lag pattern description. See **Edit Lag Factors**.

- Open the **EDIT LAG FACTORS** screen.
- Highlight the lag pattern you want to edit listed along the left side of the screen.
- Enter lag factors in the *Define Pattern* region of the screen.
Edit Range Formats

Edit Range Formats Screen

The **EDIT RANGE FORMATS** screen allows you to define text values tied to certain ranges of numbers. You can then use the results in a report by formatting the line to call the custom formatting function. This will display the text value defined here rather than the actual numerical value. This functionality is most commonly used to build reports to display rating agency ratings, such as S&P or Moody’s.

Screen Layout:

The **EDIT RANGE FORMATS** screen has two main regions. At the top is a selection area where you select a range format from a drop-down list. You can set up multiple **Business Profiles**, which are sets of ranges.

Below that region is the data area, where the actual ranges are input and displayed. For each profile selected three are two columns. The first one is
for the range. This is where you put in the numeric ranges. The second column is for the text value you want to display.

List Of Operations Or Tasks That Are Performed With This screen:

Create Range Formats:
- Add the new range format using the **Edit Attributes** screen. Range formats are a predefined entity group.
- The new range format will appear in the **Select Range Format** drop-down list.
- Select it from the drop-down list, and populate the data range and the desired text to be displayed. Repeat these steps for each business profile.

Input Actuals
Typically, actual time data is imported each month via the import functionality, however actuals data can be input manually or edited after loading from the INPUT ACTUALS screen. Information on this screen is used to format the Excel template for displaying and editing actuals data. This screen’s functionality is virtually identical to the **Time Data Editor**, except that it is used to edit time data for accounts as opposed to time data associated with lines.

**Screen Layout:**

This screen contains several sections. Each section collects format data to display the *Excel Input Template* for data entry. This screen does not include the *Select Report to Edit* region found on the Time Data Editor in that it is account versus report line oriented. The two regions that differ from the **Time Data Editor** are described below. See the **Time Data Editor** screen for detailed information on the functionality for this screen.

**Select Time Period**

This region defines the number of actual months to be edited in the same way that the **Time Data Editor** region does. In addition, it limits the "Selects Accounts to Edit" region display to specific account series based on the account series (Revenue, Expenses, Asset, Liabilities, etc.) that you select.

**Select Accounts to Edit**

Whereas the **Time Data Editor** region contains lines for which you want to edit time data, this region contains accounts for the series you select as noted above.

**Browse Ledger Results**

```plaintext
{ XE "Strategic Model" /* MERGEFORMAT */{ XE "Model" /* MERGEFORMAT */{ XE "Tactical Model" /* MERGEFORMAT */{ XE "Browse" /* MERGEFORMAT */{ XE "Ledger" /* MERGEFORMAT */Browse Ledger Results
```

**Screen**
The **BROWSE LEDGER RESULTS** screen gives you the ability to view the planning ledger tree structure and drill into the tree to an account and then see all postings to that account. You must first select a planning entity and a month (in the form MMYYYY), and can then expand or collapse the various rollup nodes. This gives you the ability to view the planning ledger tree structure and drill into the tree to an account and then see all postings to that account.

**Browse Transactions**

{XE "Transactions"} 

{XE "Screen Browse Transactions"}
The **BROWSE TRANSACTIONS** screen gives you the ability to view all posted transactions for a selected month and year. Data will be displayed after you select your month and year, and then click **REFRESH DATA**. This data can be exported to Excel or searched by right-clicking on a column header and selecting Export to Excel or Search Table, respectively.

**Edit Allocations**

The Allocations functionality in UIPlanner is what provides the ability to create regulatory reports from the base UIPlanner Financial Model results. This allows the user to:

- Define allocation “schemes” and “paths” – the underlying rules governing the allocations.
- Take selected elements from financial reports and map them to the jurisdictional reports.
- Define how elements are mapped - what scheme/path to use, and what averaging method to use.

Once these elements are in place and you run the Jurisdictional reports, UIPlanner will use the rules set in the **EDIT ALLOCATIONS** screen and will take the financial report data and allocate it to Jurisdictions.
All Edit Allocations functionality resides in the **EDIT ALLOCATIONS** screen. This screen contains several tabs, each of which is used to build an element of the allocations engine. The tabs are:

- **Display All Paths** – Tab that displays the final allocation results.
- **Map Lines to Be Allocated** – Tab where you select a line on a financial report and specify which line on the jurisdictional report it should go to (e.g., Total O&M on the O&M Report to Total O&M on the Jurisdictional Earnings report).
- **Define Line Allocation** - Tab where you take the lines from financial reports that you have chosen to map (via the previous screen) and identify the specific factor(s) to use to allocate the values.
- **Average Method** - Tab where you indicate what averaging method (12 month sum, 13 month average, etc.) will be used to translate the financial reports to the jurisdictional reports.
- **Average - Shared Reports** - Tab where you can override the average option for reports using Line is Target of allocations.
- **Define Allocation Schemes** – Tab where you set up the allocation schemes, high level structure, generally linking LLPE (low-level planning entity) to Utility to Jurisdiction. There will generally be only a few schemes needed to link each of the major planning dimensions.
- **Define Allocation Paths** – Tab where you set up the allocation paths that are used in the allocation process. An allocation path is a combination of allocation factors or direct pointers that takes data from one entity to another, along an Allocation Scheme.

**Display All Paths**

The first tab on the **EDIT ALLOCATIONS** set of screens displays the final results of the allocation configuration as set up on the remaining screens in the **EDIT ALLOCATIONS** set. Note that these are not the actual allocated amounts. They are instead the underlying pointers and allocators. The actual allocated results are viewed in **BROWSE ALLOCATED DATA** screen.
To view the allocation settings, select the “from” report and the “to” report. The display above is an example of the configuration for allocations from the O&M Report to the Jurisdictional Earnings Report.

Below are the allocations from the Balance Sheet to Rate Base.

Map Lines to be Allocated
This tab is where you select lines from financial reports and map them to the appropriate lines on the Jurisdictional reports. The example below shows that the Total O&M Expense line on the O&M Report is mapped to the Operation & Maintenance line on the Jurisdictional Earnings report. You first pick the source and destination reports and the allocation scheme to use. Then, when you touch on the line to map, you will get a screen showing all the lines from the destination report. After you click OK, the source and target line will show up on this screen.
Note that you can define the line mappings to act on all entities (default) or you can specify different mappings by entity.

**Define Line Allocation**
This tab is where you take the lines from financial reports that you have chosen to map (via the previous screen) and you identify the specific factor(s) to use to allocate the values. Note that you can define the line mappings to act on all entities (default) or you can specify different mappings by entity. The example below shows that for Chicago Electric, UIPlanner will allocate using the Electric Demand allocator.

**Select Average Method**
This tab is where you indicate what averaging method (12 month sum, 13 month average, etc.) will be used to translate the financial reports to the jurisdictional reports. When you select a jurisdictional report, the screen will show all of the lines of the report. Clicking a line will open a dialog box that lists the available jurisdictional averaging methods. Note that you can define the line mappings to act on all entities (default) or you can specify different mappings by entity. The example below shows that for Chicago Electric Retail, IL, UIPlanner will allocate using the Retail Rate Revenue allocator.
Below are the averaging methods set for the Rate Base Report. Note that this report uses a mix of 13 month average and two point average.

**Define Allocation Schemes**

This tab is where you set up the allocation schemes to be used in the jurisdictional reports. Note that the allocation scheme is a high level structure, generally linking LLPE to Utility to Jurisdiction. There will
generally be only a few schemes needed to link each of the major planning dimensions.

Per the example in the screen example below, there are only three schemes needed.
- Legal Entity -> Jurisdiction
- Legal Entity -> Utility – Jurisdiction
- Planning Entity -> Jurisdiction

Once you have created an allocation scheme, you define the method to get from the starting entity to the final entity. This is accomplished using a series of associations and allocators. The link between entities needs both an association and set of allocators.

- Association – you need to have defined an association between the two entities.
- Allocators – you need to have allocators from one to the other. This is data, and will thus be from a UIPlanner report. This allows for them to be either input or calculated elsewhere.

**Define Allocation Paths**
This tab is where you set up the allocation paths that are used in the allocation process. As indicated above, an allocation path is a combination of allocation factors or direct pointers that takes data from one entity to another.

In the screen print below, some of the allocation paths (for LE -> Utility -> JUR) are:

- CHI Elec Demand – Direct Assignment to Chi Electric Utility, and then to Jurisdiction using the Demand Allocator
- SWEG Elec Demand – Direct Assignment to SWEGCO Electric Utility, and then to Jurisdiction using the Demand Allocator

Note that the allocation paths require only as many dimensions as there are steps in the scheme. A one step scheme (such as Legal Entity -> JUR) needs only one set of pointers/allocators.

You can create the allocation paths and give them simple and understandable names. Then, on the **DEFINE LINE ALLOCATION** tab you merely need to pick the name, and the allocation engine uses that path. See the example below for setup steps.

- Create the allocation path – Click **CREATE ALLOCATION PATH** to open the **ADD OBJECT** dialog box.
Define each step in the path. Click in the blank area on that line, under the steps. Then, in the dialog box select either a direct pointer to the entity or an allocation factor to use.

Browse Allocated Data

**XE "Browse Allocated Data" /* MERGEFORMAT */**

**XE "Allocated Data" /* MERGEFORMAT */**

**XE "RegSmart" /* MERGEFORMAT */**

Browse Allocated Data Screen
The **BROWSE ALLOCATED DATA** screen takes the data from the source report and traces it. It is a thus a perfect complement to **BROWSE REPORTS**, where you can drill down from the final report back to the source data.

Shown above is an example of the functionality on the **BROWSE ALLOCATED DATA** screen. This shows all of the data from reports allocated to the Jurisdictional Earnings Report. See the allocation of O&M data, starting with the total for Chicago Electric and ending with the final amount as split by Jurisdiction.

**List Of Operations Or Tasks That Are Performed With This Screen:**

**Select Report and Time Period**

To use the **BROWSE ALLOCATIONS** screen, you need to first run the Detailed Model sequence set. Then, on the **BROWSE ALLOCATIONS**, screen select the following items:

1) Choose the report for which you want to view the allocated data (it must be a report that utilizes the allocation paths).
2) Select the month/year
3) Choose whether you want to see the final amount first and then the buildup, or start with the source amount and see the path through to the final amount.
View Data

Once you make the selection, the screen will display the full data sources. Note that you can change the month to view.

You can use the scroll bar to view all of the steps in allocating the data. Note that the screen also shows the individual monthly amounts building up to the annual total.

As indicated above, the BROWSE ALLOCATED DATA complements the drilldown path information on the BROWSE REPORTS screen. Below is an example of viewing the same data through the drilldown path.
Export To Excel

A key feature of the BROWSE ALLOCATED DATA screen is the ability to export the data to Excel. You can select the time span to export, and choose whether to export all months or only a specific one (e.g., if you are viewing allocated balance sheet data).

When you click EXPORT TO EXCEL, the data will be shipped to MS Excel, pre-formatted with the filtering set on for easy analysis. The Excel file contains multiple tabs, each one showing all of the data for that particular step in the allocation process.
Export Code Block

{ XE "Code Block" /* MERGEFORMAT */ XE "Export Code Block" /* MERGEFORMAT */ Export Code Block Screen}
The **EXPORT CODE BLOCK** functionality allows you to export UIPlanner results while adding additional columns of lookup information to match code block structures in a client’s accounting systems. UIPlanner generally does not carry code block level of detail – it generally processes information at the planning entity and line/account level. Client code blocks often include additional fields, such as Department, Resource, Project, etc. Using the **EXPORT CODE BLOCK screen**, you can put in rules to define values for these fields if there is information in UIPlanner, or you can put in a default value.

**Screen Layout:**

The **EXPORT CODE BLOCK** screen consists of a series of tabs.

**RUN EXPORT** – this is where you define the time frame and destination location for the export. You also initiate the export from here.

The other tabs are for configuring the column set for the export and the rules for populating lookup values for each column.
CASES AND SCENARIOS

Manage Scenarios

All data in UIPlanner is maintained in a structure of scenarios and cases. A scenario is a collection of cases. Cases are specific data sets, each with a defined purpose and set of information. Taken together, they build a scenario used to perform financial planning and forecasting. Two specific capabilities in UIPlanner give it powerful scenario and what-if functionality.

1) Cases can be shared among scenarios
2) Within a scenario, cases are processed using ‘winner ‘logic’

As an example, you can use a single Base Data case, and share this between two scenarios. Then each scenario could contain a different ‘what-if’ case with only the items you want to change. Note that this structure also makes for efficient data storage, since you do not have to have the same data in UIPlanner more than once.

Cases are the building blocks of UIPlanner scenarios. Cases are used to hold monthly numerical data, entity lists (i.e. bonds), attributes of entities (i.e. bond issue date), associations (i.e. for a bond, what legal entity issued it), calculation logic, and interface mapping information, among others.

Each scenario is made up of four types of cases (Case Type is described in a section below):

- One Actuals case
- One Logic case
- One or more Data cases
- One or more Attribute cases

It is important to manage scenarios and cases in an efficient manner. This involves several facets:

- Establishing a naming convention
- Establishing a structured process for creating and using cases and scenarios, especially doing what-if analysis
UIPlanner Detailed Model User Guide

- Establishing rules and guidance for what data is stored in what case
- Practicing case and scenario management - archiving where needed, and otherwise deleting unused or obsolete cases/scenarios

UIPlanner provides the ability to merge several cases into one. You may want to merge cases at the end of a budget cycle or to combine several cases into one for ease of administration

**Case Types**

UIPlanner cases come in several different types, depending upon the type of data they contain. Each case type is described below.

**Time Data Cases** – there are three kinds of cases that hold time dependent data, which is data that is stored by year and months across.

- **Overlay**: The data in a time data overlay case will supersede the identical lines of data in other data cases before it in the case list. A special type of time data overlay case is the User Temp Data Case. This case contains data specific to the active scenario and is visible to you only. For more information, see Using a Temp User Data Case.
- **Incremental**: The data in a time data incremental case will add to or subtract from data that is contained in other cases before it in the case list. See below for more information on Case Order. A scenario can contain multiple incremental time data cases
- **Actuals**: This time data case type holds actual (historical) data, as opposed to Overlay or Incremental data cases which generally contain forecasted data. The Actuals case is always processed last in the order of precedence and data contained in it supersedes all data up to the actuals through date (see below) for the active scenario. Each scenario contains only one actuals case.

The other case types are:

- **Attribute Cases**: Attribute cases store all data not listed above in other cases: attributes of entities (names, parameter values, associations, order, etc.), attributes of reports (line formats and postings, etc.) and other data that does not change over time. Each scenario contains at least one Attribute case, tagged as the Base Attribute case. The following types of attribute data are stored in the Base Attribute case:
  - **Entities**: Name and Order
• **Reports**: Report groups and the report order within the groups. Also hold report definition items, such as actuals date, iterations and tolerance. Finally, report line definitions, such as annual-to-month, month-to-annual, line usage, and format. All other attribute data is by default placed in that case, but users can put it in another attribute case instead. Additional cases will be processed in case list order, with the Base Attribute case first. In screens and for other data elements where a user may want to use overlay attribute cases, those screens will include a *Case Selector* dropdown list.

• **Logic Cases**: Logic cases store Calculation Grid lines for all reports. Only one logic case can be assigned to a scenario. You can have more than one logic case in the system (i.e., copies of calculation logic as of points in time), but you only select the active one for the current scenario. Keeping snapshots of your report logic allows you to easily recreate old scenarios.

• **Interface Mapping Cases**: Interface mapping cases contain information used to relate UIPlanner data to external data sources. An example of mapping information would be how general ledger accounts relate to UIPlanner planning ledger accounts, for use in the G/L actuals upload. You can create multiple Interface Mapping cases, to meet specific needs, such as the GL import or export to an external system. Note that unlike the other cases types, Interface Mapping cases are not associated with one specific scenario. Interface Mapping cases are used on the Import and Export screens and are available to any scenario at run time.

**Case Order/Winner Logic**

Case order is critical to the processing of data within UIPlanner. As indicated above, a scenario can contain several data cases, and these cases can have many overlapping pieces of information. You decide the order of the cases, and therefore how you intend the final amounts to be determined. For example, if you have the capital budget in the Base case, but you want to change spending for several projects, you could insert a second case with just those projects changed. This second case should be processed after the first, and thus use these new amounts. In order for UIPlanner to utilize the correct data, it must apply case winner logic. Case winner logic is applied to cases of the same type (i.e., data or attribute) in a scenario. The winner logic is applied as UIPlanner loads the data.

**Data Case Winner Logic:**
Data cases are processed in order from top to bottom according to the list shown on the Manage Scenarios screen.

Data in an Overlay case supersedes ("wins over") data in previous cases (higher in the list). If no data existed before, the new value is used. If the Overlay case contains nothing (null), there is no data to overlay, the previous data is used. Finally, if the overlay case contains a zero in a field, zero is used (zero is a valid value, as opposed to null).

Incremental data cases are added to or subtracted from previous case winners depending on their sign. Positive numbers will be added, negative numbers will be subtracted.

Actual cases always win over all other data cases in months on or before the actuals close month.

The User Temp Data case should generally be the last case in the list. It may generally be empty, but if you do use it, it is assumed that you want the data in it to be the ‘winner’.

Below is an example of winner logic for time data cases. Note the evolution of the ‘winner’ amount as each case is processed, paying attention to overlay vs. incremental. Also, remember that the winner logic is calculated sequentially, so the amount changes with each succeeding case. Once a value has been overridden or changed, it is not evaluated further.

<table>
<thead>
<tr>
<th>Case Type</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overlay</td>
<td>10</td>
<td>23</td>
<td>49</td>
<td>33</td>
<td>49</td>
</tr>
<tr>
<td>Overlay</td>
<td>11</td>
<td>22</td>
<td>49</td>
<td>35</td>
<td>50</td>
</tr>
<tr>
<td>Winner</td>
<td>11</td>
<td>22</td>
<td>49</td>
<td>35</td>
<td>50</td>
</tr>
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<td>4</td>
<td>(7)</td>
<td>5</td>
</tr>
<tr>
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<td>22</td>
<td>53</td>
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<td>55</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Winner</td>
<td>14</td>
<td>21</td>
<td>53</td>
<td>28</td>
<td>55</td>
</tr>
</tbody>
</table>

**Attribute Case Winner Logic:**

- Attribute cases are processed in order from top to bottom according to the list shown on the MANAGE SCENARIOS screen.
- Data in an overlay case supersedes ("wins over") data in previous cases (higher in the list). If no data existed before, the new value is used. If the Overlay case contains nothing (null), there is no data to overlay, the previous data is used. Finally, if the overlay case contains a zero in a field, zero is used (zero is a valid value, as opposed to null).
**Interface Case Winner Logic:**

Interface cases can also be processed using winner logic. While you will generally use a specific interface case when importing or exporting data, UIPlanner does give you the ability to use a special ‘on the fly’ interface case built from all existing interface cases, processed using winner logic.

![Manage Scenarios Screen](image)

The **Manage Scenarios** screen is used to configure scenarios in UIPlanner. Since scenarios are essentially collections of cases, management of scenarios is primarily involves managing cases within each scenario, i.e., which cases make up the scenario, and their order.

This screen is also used to configure other settings for each scenario, such as how many years to process and how many months of actuals have been loaded.

**Screen Layout:**

Across the top region of the **Manage Scenarios** screen, there is a row of filtering options and action buttons. Below this region, the remainder of the screen is divided into three major sections. The **Select Scenario** section controls what appears in the remaining sections. The **Scenario Data** section allows you to control various settings for the scenario and the four blocks in...
the lower half of the screen are for selecting and sorting the cases that will
be in the scenario.

List Of Tasks Or Operations That Are Performed With This Screen:

**Filtering and Action buttons**

Across the top of the Manage Scenarios screen, there are two filtering
options and four action buttons.

**Filter by Scenario Type:** Use this drop-down list to filter the scenarios on
the screen to show only a specific scenario type (e.g., Budget, Model,
Customer Revenue, etc.).

**Filter by Scenario Group:** Use drop-down list to filter the scenarios to
only those in a user-defined scenario group (see below).

**Edit Scenario Groups:** Click the button to create or edit a scenario group
to be used in filtering. See the topic **Scenario Groups** for more information.

**Compare:** Click this button to open a screen in which you can view the
attributes and cases of two scenarios side-by-side. This allows you to
quickly identify differences between the scenarios. See the **Compare Scenario Packages** for more information.

**Comments:** Click this button to add, edit or view user comments for the
highlighted scenario. See **Scenario Comments** for more information

**Advanced Options:** Click this button to access various optional scenario
options, such as designating related scenarios and transfer options. See **Advanced Scenario Options** for more information.

**Actions in the Select Scenario Region:**

The **Select Scenario** region allows you to select the scenario whose cases
and/or settings you wish to view or edit. The list of available scenarios is
displayed in this window. Note that the scenarios listed will be determined
by any filtering options you have selected. As each scenario is highlighted,
the rest of the screen displays information about the scenario, such as such
as its cases or settings. Above the scenario list there are the following
action buttons:

**Scenario Attributes:** (available for Budget scenarios only): Opens a
screen where you can define specific scenario budget-related attributes.
**Edit Cases in Popup:** Opens the *Define Cases* region in a popup window. This gives you more screen real estate for choosing and ordering Data and Attribute cases. This is especially helpful if you have a large number of cases to choose from. See *Edit Cases in a Popup* for more information.

**Create Scenario button:** Opens the *ADD OBJECT* dialog box which will allow you to create a new scenario. Note the new scenario will initially be an exact copy of whatever scenario you have highlighted in the scenario list. See *Create a Scenario* for more information.

**Copy Budget Scenario:** Available for Budget Scenarios only. See *Copying a Budget Scenario* for more information.

### Actions in the Scenario Data Section:

This area of the screen is where you view or configure various settings for the scenario that is selected in the Scenario list. Settings are as follows:

**Scenario Type:** Use this drop-down list to select the type for the highlighted scenario. Note that the type selected may determine the availability of other options on the *MANAGE SCENARIOS* screen.

**Start Date:** Set the calendar/fiscal year that UIPlanner will begin processing calculations.

**Actuals Through:** Select the most recent period for which actuals have been loaded into the system. See *Change Actuals Date on a Scenario* for more information.

**Years to run:** Total number of year for the model run. Years in excess of the monthly setting below will be run annually.

**Years to run Monthly:** Number of years that reports will be run by month.

**Default Sequence Set:** Use this drop-down list to select which Sequence Set is the default for this scenario (used by the Run From Excel option). Note that users can always select different Sequence Sets to run.

**When Publishing, include Drilldown:** If checked, when this scenario is published, it will not include drill down detail, which uses a lot of memory. This option is intended for use with transfers between scenarios, where drilldown is not needed.

**Copy Case List from:** This button and the accompanying drop-down list allow you to take the selected scenario (in the scenario list) and make its case list and order match that of the scenario selected in the drop-down list. This is a quick way of synching up two scenarios. Note that this feature is not available for Budget scenarios.

**Locked:** Check this box to lock the selected scenario from any changes in cases, ordering or settings. Note, however, that this does NOT lock the
cases themselves (because a case may be used in other scenarios). Note also that a locked Budget scenario is not available for reporting.

**Use IFRS Postings:** Check this box to enable the IFRS option on the Posting screen. It will also enable any postings defined as IFRS to over-ride the original posting. See IFRS Postings for more information. This box is not visible for Budget scenarios.

**Include in the next CG Export** *(visible for Budget scenarios only):* When this box is checked, that scenario's data will be included when the next Budget export is performed.

**Unpublish:** Click this button to un-publish a scenario.

**Actions in the Select Cases Region:**

The bottom region of the screen is devoted to selecting and ordering cases used in the selected scenario.

**Select Base Attribute Case:** Use the drop-down list to select the Base Attribute case.

In screens and for other data elements where a user may want to use overlay attribute cases, those screens will include a Case Selector drop-down list.

**Select Actuals Case:** Use the drop-down list to select the Actuals case.

**Select Formulas Case:** Use the drop-down list to select the Logic case.

Below these drop-down lists, there are two areas in which you can select additional data and attribute cases, and place them in the appropriate order.

**Define Data Cases:** This section is used to select data cases for the selected scenario. Available data cases are listed in the box to the right and cases currently used are in the box on the left. You can use the drop-down list to filter the list by Case Group. Highlight a case in either box and use the arrow buttons to move it in or out of the Selected list. Note that one of the available selections is always your User Temp Data case. See Using a User Temp Data Case for more information.

Use the arrow buttons below the Selected box to define the order of the selected data cases. See below:
The same actions apply when you select *Edit Cases in Popup* to view this area in a separate window.

**Define Attribute Cases:** This section is used to select attribute cases for the selected scenario. Available cases are listed in the box to the right and cases currently used in the box on the left. Highlight a case in either box and use the arrow buttons to move it in or out of the *Selected* list. Use the arrow buttons below the *Selected* box to define the order of the selected attribute cases. See below:

The same actions apply when you select *Edit Cases in Popup* to view this area in a separate window.

Note: For more information on the importance of case order, see Case Order/Winner Logic in *Concept - Cases And Scenarios*.

**What to Do If You Encounter Problems:**

If there are scenarios that you know exist but you do not see them on the *Scenario* drop-down list on the *MANAGE SCENARIOS* screen, this may indicate that you do not have security rights to view these scenarios. You need to contact the System Administrator to modify your security rights, as appropriate. See *Troubleshooting - Visibility/Security* for more information.
You use the **Manage Scenarios** screen to create a new scenario. First, note that whenever you create a new scenario you start by making a clone of an existing scenario. The reason is that most times when you want a new scenario there is an existing one that you want to build upon. You can then modify case selection or settings as you wish. Below are the steps to take in creating a scenario:

- In the **Select Scenario** window, choose the scenario you wish to use as the basis for the new scenario.
- Click **Create** to bring up the **Add Object** dialog box. Name the scenario and add it.
- This will add the new scenario to the list. It will initially be an exact copy of the base scenario. See below:

  - Add or delete cases or modify the scenario settings as needed.
  - Select **File, Save** from the UIPlanner menu.
Edit Cases in Popup

To make adding, deleting and reordering data and attribute cases easier (especially if you have a large number of cases), UIPlanner allows you to open up just these two selection boxes in a separate resizable popup window via the MANAGE SCENARIOS screen. Below is an example.

Note that in this window all of the same functionality is used as on the full MANAGE SCENARIOS screen (e.g., you can select a case and use the arrows to move it in or out).

A scenario can be modified after it is created (as long as it is not locked). This is done directly in the MANAGE SCENARIOS screen. The most common changes are:
Adding, deleting or reordering cases.
Changing the Actuals date to reflect an additional month of G/L information loaded into the model.
Resetting the Case list to copy another scenario.

Note that if you would like to change the name, order or visibility of a scenario, or if you would like to delete a scenario, you should use the **CORE OBJECT EDITOR** screen.

Below are the steps to take for each of these common actions.

### Add, Delete or Reorder Cases
You can always change the case structure of an unlocked scenario.

- In the Scenario list, select the scenario you wish to modify
- You can use the drop-down list to filter the list by Case Group.
- Highlight a case in either box and use the arrow buttons to move it in or out of the Selected list.
- Use the arrow buttons below the `Selected` box to define the order of the selected data cases. See below:

![Data Cases Definition](image)

### Change Actuals Date
The "Actuals Through" date, sets the most recent period for which actuals have been loaded into the system. For all months prior to and including this date, the Actuals case will be the winner. Also, this date will impact the processing of all calculations where there are differences in the Forecast and Actuals columns. In particular, the Income Statement and Balance Sheet will show the loaded Planning Ledger Actuals for the actuals months. To set the Actuals date:

- Open the **MANAGE SCENARIOS** screen.
- Select the appropriate `Actuals Through` scenario in the box on the left of the screen.
- Use the drop-down list to select the appropriate month-year.
Reset Case List

You can always take a scenario and set its case structure to be identical to another one. For example, you might want to do an alternative view of a scenario and want to make sure that the case lists are identical. The steps to take follow:

- Select the scenario you wish to modify (the one you want to change).
- In the Copy Case List from the drop-down list, select the scenario you want to use as the source.
- Click COPY CASE LIST FROM.
- Select File, Save from the UIPlanner menu and the destination case structure will now be identical to the source.

---

The Advanced Options button on the Manage Scenarios screen, allows you to access various optional advanced settings (some of which are relevant only to scenarios of a certain type). It will open up a popup window with three sets of tabs. Click on one of the three tabs to access the following features:

- Transfer Options
- Related Scenarios
- Transfer Scenarios
**Transfer Options**

This tab is used to set various options if you are using UIPlanner’s transfer feature to send data:
- From the Tactical Model to the Strategic Model
- Within the Tactical Model
- From the Budget to the Tactical Model

**Related Scenarios**

A scenario might have two related scenarios, such as *Budget Scenario* and *Prior Month Forecast*. The related scenarios are attached to the scenario rather than defined in an attribute case, since attribute cases may be shared across scenarios. Related scenario categories can be renamed by changing the name of the Q2s on the Core Object Editor. Related scenarios are attached to scenarios via a pop-up on the scenario editor screen, as shown below.
UIPlanner contains a **Copy From Published Report** function. This function brings in results from other scenarios. It uses the related scenario concept.
There is an additional function (Related Scenario) that gets the Object ID of a related scenario. The line containing the Object ID can be formatted in the report to display the scenario name of the related scenario.

**Transfer Scenario**

This tab is where you identify the Transfer Scenario for the Import lines.
Perform Calculations Across Scenarios

Using traditional UIPlanner scenario comparison functions, there are two options for comparing scenarios:

- **Scenario Comparisons**: Use the Scenario Compare functionality in Browse Reports to compare the dollar and percent differences between scenarios side by side, by report and line item.
UIPlanner Detailed Model User Guide

- **Pull Reports**: Use your own spreadsheet to pull data from multiple scenarios and perform comparison calculations.

UIPlanner has additional functionality that allows you to create calculations across scenarios using the *Calculation Editor* in order to compare scenarios.

**Defining Related Scenarios**

Up to ten related scenarios may be defined for a scenario. See Advanced Scenario Options from more information.

**Analyzing Business Drivers**

A primary reason for constructing calculations across scenarios is to measure the impact of business drivers. Below are a few examples of business driver calculations that could be performed either across scenarios (e.g. Q1 Actual versus Forecast) or across time (e.g. 2009 versus 2010).

- **Earnings per Share**: How much was attributable to a change in the number of shares versus the after-tax effects of items such as O&M spending, margins on energy, depreciation, etc.?
- **Labor Costs**: How much of a change in O&M labor costs was associated with each of the following factors:
  - Headcount
  - Overtime
  - Average Pay
  - Benefits
  - Taxes
  - Percent of labor charged to capital
- **Unit Costing**: How much did each of the following factors contribute to the change in expenditures for installing new services?
  - Number of services installed
  - Productivity (hours / install)
  - Pay rate per hour
  - Material costs per service
  - Overheads
- **Revenue Requirements**: By how much did each of the following factors impact a change in revenue requirements?
  - Rate Base
    - Net Plant
    - Deferred Taxes
Cases and Scenarios

- Working Capital
- Etc.
- Return on Rate Base
- Cost of Debt
- Return on Equity
- Equity Ratio

- O&M Costs

Linking to Waterfall Graphs
You can link calculations of business drivers to waterfall graphs in UIPlanner, as shown below.

Other Uses – Managing Detail
Another use of COPY FROM PUBLISHED REPORT function is to enable you to create different sequence sets for the purposes of managing detail. For example, one sequence set could perform detailed calculations of AFUDC on budget projects while the second sequence set could be a model run. Using this approach a model run could be done without recalculating AFUDC on budget projects.

Setting the Actuals Through date, sets the most recent period for which actuals have been loaded into the system. Some UIPlanner calculations are
dependent on the actuals. This information is also used by the Actuals case which will override all other data up to the actuals date.

- Open the **Manage Scenarios** screen.
- Select the appropriate scenario in the box on the left of the screen.
- Enter the *Actuals Through* date from the *Scenario Data* section of the screen (shown below).

![Scenario Data](image)

**Lock a Scenario**

Locking a scenario will prevent any changes in cases, ordering or settings. Note, however, that this does NOT lock the cases themselves because a case may be used in other scenarios. To lock or unlock a scenario:

- Open the **Manage Scenarios** screen.
- Select the appropriate scenario from the list on the left side of the screen.
- Check or un-check the *Locked* check box in the *Scenario Data* region.

If a scenario is locked, the case lists and all settings will be disabled. See below:
Scenario Groups

Users can create Scenario Groups to aid in filtering on the **Manage Scenarios** screen. You decide which scenarios are in each group (a scenario can be in more than one group). Then when you are in the **Manage Scenarios** screen, you can filter by the scenario group and the list will show only those scenarios. Below are steps in managing scenario groups.

**Add or Delete Scenarios from a Scenario Group**
- Select the scenario group from the drop-down list.
- Place or remove checks in the boxes next to the list of scenarios to include or remove them from the scenario group.
Close the **SCENARIO GROUP** window and Select *File, Save* from the UIPlanner menu.

**Create a New Scenario Group**

To create a new group, follow these steps:

- Click **CREATE NEW SCENARIO GROUP** and add it using the **ADD OBJECT** dialog box.
- After you create the group, select which scenarios you want to include in the group. See above.
- Close the *Scenario Group* window and select *File, Save* from the UIPlanner menu. The new group will be available for filtering in the **MANAGE SCENARIOS** screen.

**Delete a Scenario Group**

Scenario Groups are deleted using the **Core Object Editor**.

---

Another capability in UIPlanner to facilitate analyzing differences between scenarios is a popup window on the **MANAGE SCENARIOS** screen that lets you
compare the elements that define two different scenario packages. Click **COMPARE** to open the popup window shown below:

You cannot make changes to the scenarios from here, but it is a quick way to see any differences.

Note: The functionality to create scenario comparison reports is provided on the **BROWSE REPORTS** screen (**SCENARIO COMPARE TAB**).

UIPlanner includes the capability of creating structured scenario comments. You can have up to 20 structured comments per scenario. You can give each comment a name, such as "Interest Rate Assumptions" or "Fuel Price Assumptions." These names are assigned using the **CORE OBJECT EDITOR** (Q2 - Scenario: Comment Description x).
Comments are edited on a pop-up screen from the *Manage Scenarios* screen as shown below.

Scenario comments are included on the Scenario Tab in Excel reports. Comments support embedded carriage returns, as shown below.
### Manage Cases

```
{XE "Manage Cases" /* MERGEFORMAT */ {XE "Case" /* MERGEFORMAT */ {XE "Screen" /* MERGEFORMAT */ Manage Cases Screen
```

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Scenario</td>
</tr>
<tr>
<td>2</td>
<td>Scenario Comments:</td>
</tr>
<tr>
<td>4</td>
<td>Assumptions - Overview</td>
</tr>
<tr>
<td>5</td>
<td>Assumptions - O&amp;M</td>
</tr>
<tr>
<td>6</td>
<td>Assumptions - Load</td>
</tr>
<tr>
<td>7</td>
<td>Scenario Run Date/Time:</td>
</tr>
<tr>
<td>8</td>
<td>Report Sequence Set:</td>
</tr>
<tr>
<td>9</td>
<td>Version ID:</td>
</tr>
<tr>
<td>10</td>
<td>Executable version:</td>
</tr>
<tr>
<td>11</td>
<td>Base Year:</td>
</tr>
<tr>
<td>12</td>
<td>Years run monthly:</td>
</tr>
<tr>
<td>13</td>
<td>Scenario Actuals Date:</td>
</tr>
<tr>
<td>14</td>
<td>Updated 2011.09.12-07:02 Attribute</td>
</tr>
<tr>
<td>15</td>
<td>Updated 0 Attribute</td>
</tr>
<tr>
<td>16</td>
<td>Updated 2011.12.23-15:53 Formula</td>
</tr>
<tr>
<td>17</td>
<td>Updated 2011.04.15-10:57 Overlay</td>
</tr>
<tr>
<td>18</td>
<td>Updated 2009.09.24-09:36 Overlay</td>
</tr>
<tr>
<td>19</td>
<td>Updated 0 Overlay</td>
</tr>
<tr>
<td>20</td>
<td>Updated 2011.04.15-10:37 Actuals</td>
</tr>
<tr>
<td>21</td>
<td>Reports with Actuals Date:</td>
</tr>
<tr>
<td>22</td>
<td>Bonds - Detailed Model</td>
</tr>
<tr>
<td>23</td>
<td>Related Scenarios:</td>
</tr>
<tr>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>
UIPlanner scenarios are essentially collections of cases. The **Manage Cases** screen is the core screen where you:

- **Create** new cases, either blank new ones or by merging/copying other cases.
- Create **Case Groups** to make it easier to manage large numbers of cases.
- **Lock** cases so that the underlying data cannot be accidentally changed.
- Enter comments and options for cases.

This screen is also where you can see all cases in the current version and see their locked/unlocked status.

Note that case names are color coded, as indicated at the bottom of the screen.

### Screen Layout:

The **Manage Cases** screen is divided into two main regions.
**Edit Case**

The *Edit Case* region is the top region of the screen. It contains a check box labeled *Locked*. Select this box to lock the highlighted case. Data in locked cases cannot be changed. An additional option, *Time Data locked through year (if case is not locked)*, provides a drop-down list for you to select a year through which to lock that case.

The top portion of this region of the screen contains a text box for entering comments for the highlighted case. These comments will be included in the Scenario tab whenever you send a report to MS Excel. See the topic Case Comments for more information.

The top portion also includes a listings of:

- Which scenarios each case is used in. When you select a case in the case list, this window lists all scenarios (including archived scenarios) where that case is used. This can be very helpful in scenario/case/data management.
- Which cases were merged to create a new merged case – When you select a case in the case list, this window lists case names not case ids, because the cases that formed the merge could later be deleted.

The bottom region of the screen, labeled *Select Case to Edit* contains a list of cases in a grid format and includes filtering and viewing options. It also contains action buttons, which are described below.

**List Of Tasks Or Operations That Are Performed With This Screen:**

The list of all cases in the current version is displayed in a grid. When you highlight a case by clicking on it, that case becomes the "active" case, and all information displayed or actions performed here, such as locking or adding comments will apply to that case. The grid also indicates its owner group (if applicable) or if the case has previously been archived.

There are three filtering/sorting features and several action buttons in the bottom region of the screen:

**Filter by Case Group:** Use the drop-down list to filter the cases on the screen to show only those in a specific user-defined case group.

**Filter by Case Type:** Use the drop-down list to filter the case list to only those of a specific type (e.g., Attribute or Overlay).
**Sorting:** You can sort this grid by any of the columns in the grid, either ascending or descending. To do so, click on the column label at the top of the column you wish to sort by.

**Create Case:** Opens the *ADD OBJECT* dialog box to allow you to Create a Case.

**Merge/Copy Case:** Opens a dialog box that allows you to merge the data in several cases into one new case, or copy a single case into a new case. See *Merge or Copy Cases* for more information.

**Edit Case Group:** Add, edit or delete case groups used for filtering and reporting purposes. See *Case Groups* for more information.

**Show Locked Prefix:** If you select this check box, the case name in the grid for all locked cases will be preceded by the word "Locked." You can then click on the Case column label to sort by that field and all of the locked cases would be grouped together.

**What to Do if You Encounter Problems**

If there are cases that you know exist but you do not see them on the case drop-down list on the *MANAGE CASES* screen, this may indicate that you do not have security rights to view these cases. You need to contact the System Administrator to modify your security rights, as appropriate. See *Troubleshooting - Visibility/Security* for more information.

To create a new case:
- Open the *MANAGE CASES* screen.
- Click *CREATE* located in the middle of the screen.
- This will open the *ADD OBJECTS* dialog box. You need to select the case type (Overlay is the default) as well as enter the name of the new case before adding it. If applicable, also select the Security Owner Group. See *Concept - Cases and Scenarios* for detailed information on the various types of cases.
• When you close the window, your new case will appear in the list on the **MANAGE CASES** screen in the order you specified.

See below:

![Image of Manage Cases screen]

Note that you cannot change a case’s type once it is created. However, on the **CORE OBJECT EDITOR**, you can:

• Change a case’s name.
• Change the overall order of cases.
• Hide a case.
• Delete a case (Note: You cannot delete a case that is in the active scenario).

Cases can be locked either completely, so that no additional changes can be made, or locked through a specific year. To lock a case:

• Open the **MANAGE CASES** screen.
• Select a case from the list.
• Select the **Locked** check box.
• If you like to lock the time data of the case only through a specific month, select that year from the **Time data locked through year** drop-down list.

```mergeformat
{ XE "Case:Lock" /* MERGEFORMAT */ XE "Case" /* MERGEFORMAT */ XE "Lock:Case" /* MERGEFORMAT */ XE "Lock" /* MERGEFORMAT */ } Lock a Case
```
Once a case is locked, you can use the check box to have the word "Locked" either before or at the end of the name (a User Preference set on the Preference Manager screen). See below.

![Image of UIPlanner interface showing locked case]

Note that this applies to all references to that case throughout UIPlanner. See the example below from the Time Data Editor:

![Image of Time Data Editor showing locked case]

Data in a locked case cannot be changed, regardless of the user’s security. If a user tries to change data in a locked case, the model will provide an error message indicating that the case is locked. See below.
UIPlanner allows you to copy cases or to merge multiple cases into one new case. This is a valuable capability to assist you in data management. For example:

- Once you have completed an approved forecast (possibly containing many cases) you can merge all time data into one case, and then lock it, thus creating a simple locked archive.
- If you want to fully freeze a scenario at a point in time, you can also make a copy of the formula case and use THAT in the scenario. That preserves the report logic at that point in time. You would continue using the current formula case going forward.
- If you want to do a what-if where you change various data in a specific case you can make a copy of that case and then make your changes there.

Note that you can only merge cases of the same type. To merge cases, follow these steps.

- Open the Manage Cases screen.
- Click Merge/Copy Case. The dialog box shown below will open.
- Name the merged case in the space provided.
- Select the Case type from the drop-down list.
Select the Cases to merge. Note that there are two ways to merge cases:

1. Manually select the cases to merge - Open the SELECT CASE dialog box (shown below) with all available case by clicking ADD CASE. Each case must be selected one at a time. Repeat this step to add additional cases:

2. Select all cases from a specific scenario - Open the SELECT SCENARIO dialog box (shown below) by clicking ADD SCENARIO, and select a scenario from the drop-down list. Click OK and all cases in the selected scenario will be added, in the same order as in the source scenario (excluding the User Temp data case – this case cannot be merged). If you want to include its data, you need to create a standard overlay case and copy the data there. Also, you can add more than one scenario to the list, and you can also manually add other cases.

After all appropriate cases have been selected put them in the proper order by using the "Move up" and "Move Down" buttons. Remember that case order is important.

Click SAVE and the cases selected will be merged and shown in the case list on the MANAGE CASES screen.
Notes:

- The cases selected will be merged and shown in the case list at the bottom of the **MANAGE CASES** screen. (See example below.)
- The **Merged from Cases** tab (top right region of the **MANAGE CASES** screen) will list the cases that were merged to create the new case. Case names not case ids are listed because the cases that formed the merge could later be deleted.

Some information on Case merges:

- The Case Group membership of the new case is inherited from the first case in the merge/copy list.
- When you copy a single time-data case from the **MANAGE CASES** tab the last-updated information is retained from the original case. If you merge multiple cases, however, then new last-updated information will continue to be generated.
- If the first case in the merge/copy list has a Security Group, the new case will inherit it.

Case Groups

Users can create Case Groups to aid in filtering on the **MANAGE CASES** screen and **CORE OBJECT EDITOR**. You decide which cases are in each group (a case can be in more than one group). Then when you are in the **MANAGE CASES** screen...
screen, you can filter by the case group, and the list will show only those cases. Below are steps in managing case groups:

Add or Delete Cases from a Case Group

- Click **EDIT CASE GROUPS** on the **MANAGE CASES** screen. This will open the **CASE GROUP** window (see below).
- Select the case group from the drop-down list.
- Place or remove checks in the boxes next to the list of cases to include or remove them from the case group.

Create a New Case Group

- To create a new group, click **CREATE NEW CASE GROUP** and add it using the **ADD OBJECTS** dialog box.
- After you create the group, select which cases you want to include in the group. See above.
- Close the **CASE GROUP** window and select **File, Save** from the UIPlanner menu. The new group will be available for filtering in the **MANAGE CASES** screen.

Delete a Case Group

Case Groups are deleted using the **CORE OBJECT EDITOR**.

User Temp Data Case

Using a User Temp Data Case
Quick ad hoc “what-ifs” can be performed using the user-specific temporary time data case that is available in every scenario. When you put data into this User Temp Data Case and run the model, it produces results that include your data, but that data is specific to that scenario and you only. Each user has their own User Temp Data Case and one user cannot see or use the data from another user’s case. Your User Temp Data Case does not affect other users. Thus, you can run what-ifs without needing to create a separate scenario and time data case, which you would otherwise need to do to prevent affecting the current scenario.

Note: UIPlanner prohibits you from publishing a scenario that includes your temp data case. (An error message will appear if you try to do this.) That data is intended to be local for you only to view. If you want to include your user temp data and publish, put it in a regular overlay case and bring it into the scenario. See Publishing Reports – Concept for more details. Tasks applicable to the User Temp Data Case follow.

How to Make User Temp Data Case Available
Whether your UIPlanner installation has the user specific temporary time data case available is controlled by a Planner property. Once this is turned on, the User Temp Data Case functionality is available to all users.

How to Use User Temp Data Case in a Sequence
The Run Sequences screen has a check box (see below) where you elect whether to use the User Temp Data Case during the run. This switch is not remembered as a user preference. It must be selected each time you open the model.
How User Temp Data is used in Scenarios
The User Temp Data Case defaults to the last one in the list on the Manage Scenarios screen and Compare Scenarios window (see below). It is assumed that if you put data here that you want it to be the ‘winner’.

How to Delete Data from User Temp Data Case
You can delete data from your User Temp Data Case report by report, or via a check box on the Time Data Editor screen which deletes ALL data from the user-specific temporary time data case.
How Actuals is Used Data in User Temp Data Case

The User Temp Data Case is a regular overlay case. If you put actuals data into this case, it will be read only by those lines defined as Dollars without Actuals.

How to Save Data in User Temp Data Case for Others

If after running the model using your User Temp Data Case you decide you want to save the data for others to use, you will need to move it to one of the regular time data cases in the scenario.

How to Data in User Temp Data Case is Used for Future Session

The User Temp Data Case is saved to the database for use in a future session until you delete it.

What To Do If You Encounter Problems

Description of Issue or Problem:
I do not see the User Temp Data Case in the case listing for my current scenario.

Why It Happens and What To Do About It:
The switch to enable the *User Temp Data Case* is not set in **PLANNER PROPERTIES**. You should contact your system administrator.

**Description of Issue or Problem:**
I populated data in my *User Temp Data Case* but I do not see it reflected in the report results.

See **Troubleshooting – User Temp Data Case** for assistance with these issues.

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### Archive/Resurrect Versions, Cases, Scenarios

#### Archive/Resurrect Screen

The archive/resurrect screen is an administrator screen that allows you to manage cases and scenarios by removing them from the active screens. You can always bring them back (resurrect them), if and when you want to run them in the future. When you archive a version, scenario or case, all of the data related to it is removed from the active database tables and copied into a parallel set of archive tables. This reduces the amount of data in the active tables and improves performance.

You can choose to archive or resurrect:
- An entire version – the process will archive all scenarios and cases in that version
• A specific scenario – the archive process will preselect all cases associated with that scenario
• Specific cases - you can select from a list of all cases, and archive one or many individual cases.

Notes:
• You cannot run a scenario that has one or more of its constituent cases archived. Archived scenarios do not appear in the list of scenarios to select.
• Archived scenarios (or scenarios for which one or more cases have been archived) will still appear in the Manage Cases screen, with their settings, but will be denoted as having been archived.
• You cannot archive the active scenario, nor can you archive any cases in the active scenario.
• You cannot delete archived versions or cases. If you want to permanently delete a version or a case, you can only do that if it is in the active list. See MANAGE VERSIONS for information on deleting a version, and see the CORE OBJECT EDITOR for information on deleting Cases.
• Archived scenarios and cases are not available to copy to a Local Access copy. You can only make local copies of active scenarios.

If you have archived a large number of cases or scenarios, you should consider using scenario and case groups to display only active scenarios and cases.

The ability to archive/resurrect scenarios, cases or versions is an administrator-level security item. If you do not have the security rights to archive, this screen will be blank, with a message indicating that you lack the rights. Contact your system administrator.

Screen Layout:

The ARCHIVE/RESURRECT screen is divided into two regions. The top region is for the Archive process. It contains drop down boxes that you use to select whether you are archiving/resurrecting versions, or by case or scenario. Next to these are select all/unselect all buttons, and finally an action button that launches the Archive process. Under those drop-down lists and action buttons is a window that fills in appropriately with your available choices to archive. Each item has a checkbox to select it for Archiving. If you select “Version”, the grid shows all versions – you can choose the one(s) to archive from this list. If you select case or scenario, the grid fills in with cases you can archive.
The bottom region is for the Resurrect process. It contains a similar drop down list, action button and window format. The droplist allows you to prepopulate the grid with all cases in a specific scenario, or to display all archived cases. In this case, the action button is to resurrect the selected cases. The grid below shows all data that has been archived, along with the ID of who performed the archive and the date. There are checkboxes for each item to select for the Resurrect process.

List Of Operations Or Tasks That Are Performed With This Screen:

As indicated above, the two functions of this screen are to archive or resurrect cases, scenarios or versions.

ARCHIVE CASES, SCENARIOS OR VERSIONS
RESURRECT CASES, SCENARIOS OR VERSIONS

To perform the archiving process, you first select which structure you want to archive (Case, Scenario, or Version), using the drop-down list. Then follow the steps below for the structure you selected.

Cases
- When you select Cases, the grid will display all active cases in the current version. Cases in the active scenario will not appear in the list, as they are not eligible for archiving. Also, cases already archived will not appear in the list; they should appear in the bottom grid of already archived data.
- Use the check boxes to select the case(s) you want to archive and select the ARCHIVE button.
UIPlanner will begin the archive process and will echo back in a window like the one below.

When the process is complete, the case(s) you chose will be removed from the top window and will now appear in the list of archived cases in the bottom window.
The cases just archived will be denoted as such in the Manage Cases screen.

Scenarios

- When you select Scenarios, there will be a drop-down list to the right in the top region that will list all of the active scenarios.
- Select a scenario from the drop down list and the grid will display all cases in that scenario that are available to archive.
- Note that any cases that are also in the active scenario cannot be archived and will NOT appear in the list. Also, cases previously archived will not appear in the list.
- Use the check boxes to select the case(s) you want to archive and select the ARCHIVE button.
- UIPlanner will begin the archive process and will echo back in a window (see above).
- When the process is complete, the case(s) you chose will be removed from the top window and will now appear in the list of archived cases in the bottom window.
- The scenario just archived will be denoted as such in the **Manage Scenarios** screen, and its cases will be identified as such in **Manage Cases**.

**Versions**

- When you select **Versions**, the screen will show you all versions in the active data tables.
- Use the checkboxes to select the version(s) you wish to archive and select **Archive**.
he Archive process will then remove that entire version and place it in the archive tables. The bottom window will then list that version as having been archived.

Note – you CAN archive the current version. This is not recommended, as any changes you make after archiving will not be saved. When you next enter the model, that version will no longer appear in the login screen.

Resurrect Cases, Scenarios, or Versions

To perform the process of resurrecting cases, scenarios or versions, you first select which structure you want to resurrect (Case, Scenario, or Version), using the drop-down list. Then follow the steps below for the structure you selected.

Cases
- When you select Cases, the grid will display all archived cases.
- Use the check boxes to select the case(s) you want to archive and select the RESURRECT button.
UIPlanner will begin the resurrect process and will echo back in a window.
When the process is complete, the case(s) you chose will be removed from the bottom window and will now appear in the list of active cases in the top window.

The Manage Cases screen will no longer list these cases as “Archived”.

Scenarios
When you select Scenarios, there will be a drop-down list to the right in the top region that will list all of the archived scenarios.
Select a scenario from the drop down list and the grid will pre-select all archived cases for that scenario.
Select the **RESURRECT** button. UIPlanner will begin the resurrect process and will echo back in a window

- When the process is complete, the case(s) you chose will be removed from the top window and will now appear in the list of archived cases in the bottom window. The Manage Cases screen will no longer identify that scenario as “Archived,” and it will now be available to load and run.

**Versions**

- When you select *Versions*, the screen will show you all versions in the active data tables.
- Use the checkboxes to select the version(s) you wish to resurrect and select **RESURRECT**.

The Resurrect process will then restore that entire version to the active tables. That version will now be available for you to log into and run.
The **BROWSE REPORTS** screen is the heart of the reporting engine for UIPlanner. Some key points about this screen:

- **When UIPlanner runs the Detailed Model sequence (i.e., "runs" the model), it runs all reports (RUN SEQUENCES screen) for all entities for the entire planning horizon for the current scenario.** When you open the **BROWSE REPORTS** screen, all of those results are stored in memory. **Note:** For each new session of UIPlanner, you must run the sequence sets first before any report data will be available for viewing in the **BROWSE REPORTS** screen.

- **In BROWSE REPORTS you choose a report, time setting and what entities you want to see. UIPlanner pulls that back from memory and displays it in BROWSE REPORTS.** As long as you stay in the current session of UIPlanner, you can switch reports, change columns you want to see, etc., without rerunning.

- **BROWSE REPORTS also has scenario comparison functionality that allows you to run the current scenario and pull in results from other**
scenario(s). Every report in the model will show the differences between scenarios.

- Within **BROWSE REPORTS** you can drill down from report to report by merely clicking on a data point.
- You can format line settings for the output of a report right on the screen.
- **BROWSE REPORTS** has a powerful graphing engine which is accessed from the individual report display.
- You can build batches to set up preset groups of reports and output all at once.

Screen Layout:

The **BROWSE REPORTS** screen is divided into three regions:

A. Report Tree (left)  
B. Report Tree and Output Options (top), and  
C. Working (center/right)  

The top of the screen contains several check boxes and control buttons that control the screen display or modify the report tree. The left side of the screen always displays the Report Tree. The body of the screen display on the right (series of tabs and sub tabs) will change depending on the level selected on the tree and the buttons checked on the individual tabs/sub tabs.

List Of Tasks Or Operations That Are Performed With This Screen:

**Report Tree Region Operations and Tasks**

The Report Tree always displays three levels:

1. Batch  
2. Report Group  
3. Report

This is an important distinction as the tabs that appear in the working region on the right side of the screen are dependent upon the level selected in the tree. In the example shown below, **Training** is the user batch, **Financial Statements, O&M**, etc. are the report groups, and under each of those are the individual reports.

Select (highlight) individual reports in order to browse them. (See **Browse Reports Tab** for details). Check reports, their associated report groups and batch, in order to output them. (See **Report Tree and Output Options Region** below for details.)
Report Tree and Output Reports Region Operations and Tasks

Report Tree and Output Report Actions

- **One Batch on Tree**: Select this box to limit the tree to a single report batch. Select the specific batch from the drop-down list to the right. This is very helpful if you want to show only your user batch and make the display less complicated.

**Note**: Toggle this check box if you want to refresh the screen, such as when you have added a new report column set and want to view it without rerunning the model (it will show up in the list box if you do a refresh). Alternatively, you might need to refresh if your display is incomplete. See Troubleshooting – Refresh Browse Reports.

- **Select All**: This check box checks the selection box for the currently selected tree node and all nodes under it.

- **Collapse All**: This check box collapses or expands the report tree below the selected node.
**Search Tree:** Enter text and search the report names in the tree for that text. Up and Down arrows can be used to direct the search.

**Output Reports:** This button outputs report results as specified in the Define Output and More Batch Options tabs. Also see View UIPlanner Reports and Scenario Info in Excel for more information.

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**Batch Reports Region Operations and Tasks**

1. **Report Batch Level:**
   When the Report Batch Level is active, i.e., when a report batch is selected on the tree, the working region will display Report Batch Options.

2. **Report Group Level:**
   When the Report Group Level is active, i.e., when a report group is selected on the tree, the working region will display Report Group Options.

3. **Report Level Options:**
   When the Report Level is active, i.e., when a specific report is selected on the tree, the working region will display Report Options.

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**What To Do If You Encounter Problems**

**Monthly-Annual Columns** - If you are trying to view model results in BROWSE REPORTS and you do not see any data in the UIPlanner reports in monthly time periods, you may be trying to view those in a time frame when the scenario is set to run annually. See Troubleshooting - Monthly-Annual Columns for more information.

**Actuals Data** - You have run calculations and do not see the anticipated values in the actuals periods, you might have a mismatch between the case in which the actuals data is located and the Annual to Month setting of that line. See Troubleshooting – Actuals Data for more information.

**No Excel Output** - You have run the model and click OUTPUT REPORTS, but you do not see any Excel output. One of several things might have happened: a) you may not have checked "Display in Excel" under the Batch header, or b) you may not have checked all levels (including the...
batch), or c) you may have accidentally checked the *Close Excel Sessions* checkbox. See Troubleshooting – Excel Output for more information.

**Screen Display Issues** – The *Browse Reports* screen does not fully repaint, or is incomplete. You may need to refresh the screen. You do this by selecting the *One Batch on Tree* checkbox and unselecting it. This will “refresh” the screen. See Troubleshooting – Refresh Browse Reports for more information.

**No Results for 2D Reports** - You have run the model and get no results for a 2-Dimensional Report, or incomplete results (there are entity pairs you expect to see but do not.) See Troubleshooting - Browse Reports: No Results for 2D Reports for more information.

**Report Batch Options**

{XE "Report Batch Settings" /* MERGEFORMAT */{XE "Report" /* MERGEFORMAT */}Report Batch Options - Browse Reports Screen
All settings made at the batch level will be applied to all reports in the batch. Settings, in some cases, can be overridden at the report level. When a report batch is selected in the tree, such as the TRAINING user batch above, you will have access to five tabs:

- Define Output Tab (shown above)
- Scenario Compare Tab
- Report Labels Tab
- Excel Header & Footer Tab
- More Batch Options Tab

When UIPlanner sequences are run, the results of all reports run are stored in memory. You can view individual report results on BROWSE REPORTS, but if you want to send report results outside of UIPlanner, you use the OUTPUT REPORTS button (in the top region of the BROWSE REPORTS screen). The OUTPUT REPORTS functionality allows you to send reports to a number of different formats – Excel reports, pivot tables, or formatted for pull
reports. This sends out report results according to the options set in the Define Output tab. Some points to note about outputting reports:

- When you initiate Output Reports, the check boxes on the report tree determine which reports to send out. In addition to checking the report itself, you need to check its group and the batch.
- You can send multiple reports out by selecting a number of reports.
- The check boxes at the batch level allow you to easily turn on and off the reports in that batch without un-checking all of them. You just need to uncheck the batch, and none of the reports in it will be output.
- Use the **MODEL EXPORT** screen if you want to send reports to text files.

As an alternative to using the **OUTPUT REPORTS** button on **BROWSE REPORTS**, you can initiate the output reports action from other places within UIPlanner:

- **Run Sequences** – there is a drop-down list on **RUN SEQUENCES** that allows you to automatically output a specific batch whenever you run the model.
- **Model Overview** – when you click the **Run** button on **MODEL OVERVIEW**, it outputs the chosen batch.

The **Define Output Options** tab has several regions:

- Define Outputs – Excel, pull report, UIPlanner display settings.
- Time Settings and Dollar Scaling.
- Other Settings – Pull report folder, interface case, selection, etc.

**Define Outputs region:**

- **Display in Excel**: All batches/reports checked in the Report Tree will be output to Excel when you click on **OUTPUT REPORTS**.
- **Export Page Breaks to Excel**: Page breaks (defined in report calculations) are sent to Excel.
- **Run Print Preview Excel**: This check box enables print preview capabilities of the UIPlanner add-in. It must be checked to use the custom MS-Excel headers/footers.
- **Create Pivot Tables - Reports**: When this box is checked, if any checked reports have lines tagged for pivot table, they will be output as pivot tables.
- **Create Pivot Tables – Ledger**: When this box is checked, an Excel pivot table will be generated for the UIPlanner ledger results.

Note: You will need to select account rollups and entities to appear on the ledger pivot report by clicking **SELECT PIVOT ACCOUNTS** which opens the **SELECT ACCOUNT ROLLUPS & ENTITIES FOR LEDGER PIVOT REPORT** window (see below).
- **Export for Pull Reports**: When this box is checked, data for all reports checked in the Report tree will be exported to a specified folder for use in pull reporting. See Pull Reporting for more details on this feature.
- **Do NOT export interface codes for Pull Reports**: Because interface codes might cause issues with pull reports, you can choose not to export them by checking this box.
- **Display in Popup or Display in Tabs or No Display**: This option controls results for reports in UIPlanner (that are checked in the report tree) in a pop up dialog box, in tabs on the UIPlanner model screen, or not at all. Thus, if you only want to send to Excel when output, click “None”.
- **Do NOT zero-suppress any entities**: This option will include all entities in the report, including those with values of $0. Note: This is typically used in entities across reports.
- **Include Entities on Batch Tree**: If checked, the batch tree to the left will show all of the entities under each report name.

**Time Settings and Dollar Scaling region:**

- **Select Time Settings**: Select a desired column set from the drop list. The column set that you choose will be applied to all reports in that batch. The first entry in the list is always Default – All Time which shows the time periods as set for that scenario. Note that even though this setting is batch specific it can also be changed on the individual report options.

- **Dollars or $(000) or $(000,000)**: These radio buttons will enable you to display report results in dollars, dollars rounded to thousands, or dollars rounded to millions. This setting will apply to all report
displays and all exports to Excel for printing unless overridden at the Report level.

**Other region:**

- **Select Pull Reports folder**: Click on this to specify where data exported to pull reports will be stored. This allows you to send pull report data to different locations for different batches. Note that there is a user preference for where you send batch reports. This selection takes precedence over that setting.

- **Select Interface Case for Reporting Codes**: If you are exporting interface codes use this drop-down list to select which case to use.

```{XE "Footer" \* MERGEFORMAT }
{XE "Excel Header and Footer" \* MERGEFORMAT }
{XE "Custom Excel Header and Footer" \* MERGEFORMAT }
{XE "Header" \* MERGEFORMAT }
{XE "Browse Reports" \* MERGEFORMAT }
```

The **Excel Header & Footer** tab is used to build and modify headers and footers that UIPlanner can apply to reports when they are sent to Excel. It also enables you to define Excel print formatting and print margins. This tab is one of the *Report Batch Options* on the *Browse Reports* screen.

This tab is comprised of three regions:

- **Define MS-Excel Header & Footer**
- **Define Excel Print Formatting Options**
- **Define Print Margins**

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The Excel Header & Footer tab is used to build and modify headers and footers that UIPlanner can apply to reports when they are sent to Excel. It also enables you to define Excel print formatting and print margins. This tab is one of the Report Batch Options on the Browse Reports screen.

This tab is comprised of three regions:

- Define MS-Excel Header & Footer
- Define Excel Print Formatting Options
- Define Print Margins
Define MS-Excel Header & Footer Region

You define the left, center and right sections of both the header and footer in this region. You can enter text to use or you can specify standard items, such as date, page number, report name, etc. Additionally, you can choose to include a graphics file, such as a company logo. Some points to note about the UIPlanner Excel headers and footers:

- You can set up a number of different header/footer combinations.
- Headers and footers are batch-specific. This allows you to set up and specify which header/footer setting to use for different report batches.
- Once a header/footer has been defined, it is available to all users
- If you do not choose to use a predefined header/footer, UIPlanner will use the default header and footer setting.
- You need to select the Run Print Preview in Excel option on the batch setting on Browse Reports to invoke a custom MS Excel header/footer.
- The report will use the selected header/footer when you print the report or run Print Preview in MS Excel.

Below is an example of a custom header/footer along with the resulting report in Excel.
This screen has six regions. They are in two rows of three, with the top row for configuring the header and the bottom row for the Footer. Each region is identical:

- Use the radio buttons to select whether you are inserting text or an image.
- For text, you can either type text directly in the text area or use the icons to choose among some predefined header/footer choices:
  - Scenario - current scenario name
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- Report Name – report name
- Units – the scaling option you selected for the batch (or that report if you did an override)
- Page Number & Number of Pages
- User – your user name
- Date – the current date (in mm/dd/yyyy format)

- Once you have inserted text (either typed or a standard selection) you can use the formatting area on the right to make it bold, and to set the font size.
- You can use images by selecting the “IMAGE TYPE” radio button. This will bring up a window where you can browse to find an image file to use.
- If you leave a region blank, UIPlanner will not populate anything in that area of the header or footer.

Operations that you can perform in this region are:

**Create a new Excel Header/Footer:**

- Click **CREATE** on the Excel Header & Footer tab on the BROWSE REPORTS screen, when at the batch level, to open the **ADD OBJECT** dialog. Once you have entered a name and created the new header/footer entity, it will appear in the drop-down list.
- Select the newly created header/footer from the drop-down list and click **EDIT**. This will bring up an empty header/footer definition screen, with the name of your new item across the top of the screen.
- Within each region, you can either directly type in text or select from the predefined types.
  - Select **Scenario** to insert the current scenario name.
  - Select **Report** to insert the report name.
  - Select **Units** to put in text that tells the scaling (e.g., $ in 000’s).
  - Use the Page Number & Number of Pages icons to insert these. You can put in intervening text (e.g., page xx of xxx pages).
  - Select **User** to insert your user name.
  - Select **Date** to insert the current date.

- The chosen text will appear in the text window. In the area to the right there is a button for turning text bold. You can also enter the font size.
- You can insert more than one text field in a region by hitting return and putting in the next field.
- If you want to insert an image, select the **Image** radio button.
  - Browse to find the image you want to insert.
  - Most standard graphics files are acceptable (bmp, jpg, gif). Note that the image should be appropriately sized.
- Note that all users who use this header/footer need to have the image file available in the same location. You should place it in a folder common to all users.
- Once you are finished, click OK to save the settings.

**Edit an existing Excel Header/Footer:**
- From the *Select MS Excel Header & Footer* drop-down list, choose the header/footer you want to edit, and click **EDIT**.
- The header/footer definition dialog will then open, with all settings of the header/footer as it is currently defined.
- Make the desired changes and click **OK**.

**Copy an existing Excel Header/Footer:**
- From the *Select MS Excel Header & Footer* drop-down list, choose the header/footer you want to make a copy of, and click **COPY**.
- This will bring up a dialog box. Enter the name for the new header/footer. This new header/footer definition will inherit all settings of the one you copied it from.
- You can now edit this new header/footer by selecting it from the *Select MS Excel Header & Footer* drop-down list and clicking **EDIT**.
- Make the desired changes and click **OK**.

**Define Excel Print Formatting Options Region**
Operations that you can perform in this region include:

**Define Scale and Zoom:**
- **Scale $**: Provides options to display results as dollars, $(000) rounded to thousands, and $(000,000) rounded to millions. This setting will override the scale setting at the report batch level.
- **Zoom**: Sets the zoom percent in Excel.
- **AutoFit**: Auto-fits the column widths to fit one page

**Define Print Margins Region**
Operations that you can perform in this region include:

**Define Print Margins:**
- **Margin Settings**: Provides the following options to set margins for the report: top, bottom, left, right, header and footer.
- **Set to Default**: Click to reset print margins to those default values. specified next to the individual settings.
- **Clear Values**: Click to clear values entered for all settings.
Print Orientation: Options to display as Portrait, Landscape or None.

Note: Excel formatting and print margins can be overridden at the report level using the Excel Options tab (Report Option).

The Scenario Compare tab on the Browse Reports screen provides options for creating comparison reports. This tab has two regions:

- Select Comparison Information
- Select Scenarios to Compare

Select Comparison Information region:

- Create Compare Reports: Check this box to enable the compare report. This selection will create a comparison report for every report in the model (for display or exporting to Excel). Note: You can keep the other settings (below) and turn this one off when you do not want to show compare.
- Show Absolute Difference A-B: Displays a difference column in the comparison report.
- Show Percent Difference [A-B)/B]: Displays a percent difference column in the comparison report.
- A minus B or B minus A: This selection defines whether the difference is calculated A-B or B-A.
- Scenario Compare Location: This drop-down list includes those locations to which scenarios have been published. This replaces the former user preference for selecting the compare location. See Run Sequences for more details on the scenario compare location options.

Select Scenarios to Compare region:

Select Scenarios to Compare: Displays all scenarios in a list (both the active scenario and all published scenarios). Select the one to be compared to the active scenario. If you select more than one scenario to compare to
the active scenario, UIPlanner will display additional columns in the scenario comparison report.

An example of a scenario comparison report run with the above selections follows.

Note – You can drill-down into compare (published) scenarios as well as into the active scenario.
The **Report Labels** tab on **BROWSE REPORTS** has two regions:

- **Select Report Label Options**
- **Line Visibility Rules**

**Select Report Label Options region:**

Options available for setting cell widths and font size include:

- **Excel Label Cell Width**: This will set the column width in Excel report for the line description.
- **Excel Data Cell Width**: This will set the column width for all the data columns in the Excel report.
- **Excel Font Size**: This will set the font size for the Excel report.
- **Browse Data Cell Width**: This will set the column width for all data columns on the Browse Reports screen display.
- **Browse Font Size**: This will set the font size on the screen display.

Note: You can also manually adjust Label and Data cell column widths on the screen as desired when viewing reports.

Options applied when reports are exported to Excel include:

- **Display Line Labels**: Drop-down list options for displaying line labels.
- **Display Grid Lines**: Drop-down list option to show line label only or the line label with the internal line reference.
Default Data Format: Drop-down list options settings the default format for data on reports. This format will be overridden by settings made on the EDIT CALCULATIONS screen and in individual reports display options.

Line Visibility Rules region:
This region enables you to override visibility settings made for report lines in the EDIT CALCULATIONS screen. Generally, "If"-statements, comments, and labels will be hidden so that the final report will be clean and readable. However, you may occasionally want to show these lines on a report during testing.

Show All Lines: When checked, shows all lines in the reports. This setting will override the settings in the three override options below.

Hide all - Do not display any lines
Show all - Display all lines
No override - Do not override the settings made on the Calculation Editor.

Override logic lines (e.g., -if, else) visibility?:
Override comment lines visibility?:
Override label lines visibility?:

Report Group Options
**Report Group Options** controls two items:

- **Organization and Display** – how the reports will appear in **BROWSE REPORTS**, i.e., whether time is across the columns and entities down as lines, or entities across the top and time down, etc.
- **Excel Drill-down** – whether or not supporting detail for lines in the reports are sent to Excel when they are output.

These settings apply to the reports within a report group. Thus, within a batch you can apply different settings to different groups of reports, e.g., a Financial Statements report group may be entities across while other report groups may be time across.

**Organization and Display Options:**

- **Time Across** – displays monthly or annual data across the report in columns, which is the most common output style.
- **Entity Across** – displays each entity across the report in columns.
- **Line by Entity** - displays each line in the report followed by entities, with time across the report in columns. If there is only one entity selected, the report automatically switches to the “time across” format.
- **Wide Line by Entity** – displays each line in the report followed by entities, with reports (in a “wide” report
- **Wide Report** – links reports that are related and displays those reports (that are in a “wide” report group) across as columns (see **CONCEPT – WIDE REPORTS** for an example).
• **Lines Across** – displays report lines across the top in columns.

**Excel Drill-down Options:**

UIPlanner always has drilldown information which can be seen within **BROWSE REPORTS** when a report is selected on the report tree. (See **Report Options (Browse Reports Screen)** for more information.) This drilldown detail will be sent to Excel along with the report results, unless you choose to suppress it.

• **Suppress All Drilldown** – sends only the final result to Excel with no drill down detail.

Alternatively, you can choose to suppress only certain aspects of drill down information using the options below.

• **Posted Transactions** – suppresses drilldown on postings (e.g., details on postings to the ledger which would show up on the Income Statement and the Balance Sheet).

• **Rollups** – suppresses information on summary reports which are rollups across an entity group (e.g., on a Plant Account Detail report, the rollup information suppressed would be the amounts by individual plant accounts).

• **Allocations** – suppresses the source information on amounts which are allocated from one report to another using the **EDIT ALLOCATIONS** screen.

An example of a report with posting details is below:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Detail Model 2011-2015 Base Plan</td>
<td>Year 2011</td>
<td>Year 2012</td>
<td>Year 2013</td>
<td>Year 2014</td>
<td>Year 2015</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Chicago Electric</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>C:[Operating Revenue]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Credits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Post from Report: Electric Revenue Schedule (Electric Revenue Schedule)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Line: AD:[Total Revenue]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Entity: Chicago Electric - Residential IL [Or]</td>
<td>2,074,848</td>
<td>2,124,901</td>
<td>2,161,987</td>
<td>2,161,987</td>
<td>2,161,987</td>
<td>2,161,987</td>
</tr>
<tr>
<td>10</td>
<td>Entity: Chicago Electric - Commercial IL [Or]</td>
<td>892,338</td>
<td>915,051</td>
<td>928,731</td>
<td>928,731</td>
<td>928,731</td>
<td>928,731</td>
</tr>
<tr>
<td>12</td>
<td>Entity: Chicago Electric - Street Lighting IL</td>
<td>5,563</td>
<td>5,601</td>
<td>5,845</td>
<td>5,845</td>
<td>5,845</td>
<td>5,845</td>
</tr>
<tr>
<td>13</td>
<td>Entity: Chicago Electric - Residential MI [Or]</td>
<td>1,024,753</td>
<td>1,049,801</td>
<td>1,069,288</td>
<td>1,069,288</td>
<td>1,069,288</td>
<td>1,069,288</td>
</tr>
<tr>
<td>16</td>
<td>Entity: Chicago Electric - Street Lighting MI</td>
<td>8,123</td>
<td>8,344</td>
<td>8,572</td>
<td>8,572</td>
<td>8,572</td>
<td>8,572</td>
</tr>
<tr>
<td>17</td>
<td>Entity: Chicago Electric - Wholesale (Orig)</td>
<td>10,399</td>
<td>10,585</td>
<td>10,775</td>
<td>10,775</td>
<td>10,775</td>
<td>10,775</td>
</tr>
<tr>
<td>18</td>
<td>Post from Report: Other Operating Revenue Planning Entity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Line: E:[Total 450 Account]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Entity: Chicago Electric [Or]</td>
<td>464</td>
<td>469</td>
<td>472</td>
<td>477</td>
<td>481</td>
<td>486</td>
</tr>
<tr>
<td>21</td>
<td>Line: I:[Total 451 Account]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Entity: Chicago Electric [Or]</td>
<td>1,157</td>
<td>1,171</td>
<td>1,178</td>
<td>1,199</td>
<td>1,201</td>
<td>1,213</td>
</tr>
<tr>
<td>23</td>
<td>Line: N:[Total 454 Account]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Entity: Chicago Electric [Or]</td>
<td>1,430</td>
<td>1,447</td>
<td>1,455</td>
<td>1,470</td>
<td>1,484</td>
<td>1,499</td>
</tr>
<tr>
<td>25</td>
<td>Line: Y:[Total 456 Account]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Entity: Chicago Electric [Or]</td>
<td>4,562</td>
<td>4,617</td>
<td>4,642</td>
<td>4,689</td>
<td>4,736</td>
<td>4,783</td>
</tr>
</tbody>
</table>

The same report appears as follows when **Posted Transactions** suppression is selected:
Report Options

{XE "Report Settings" /* MERGEFORMAT */}{XE "Report" /* MERGEFORMAT */} Report Settings - Browse Reports Screen

Report Options are the nucleus of the BROWSE REPORTS screen. They enable you to actually view the results of the report you select in the tree. You can choose which entities to view for a given report, and you can choose to see them in various rollup configurations.

When a report is selected in the tree, you will have access to three tabs:

- **Define Report Properties Tab**
- **Browse Reports Tab** (shown above) which is comprised of four sub tabs
- **Graph Data Tab**
- **Excel Options Tab**

{ XE "Report Properties" \* MERGEFORMAT }{ XE "Define Report Properties" \* MERGEFORMAT }{ XE "Browse Reports" \* MERGEFORMAT }Define Report Properties Tab - Browse reports

Individual report results are displayed according to the options set in the *Define Report Properties* tab on the **Browse Reports** screen. In some cases, these may override options set at the Batch Level (e.g., dollar scaling).

This tab has three regions:
- Select Entities and Totaling (upper left)
- Change Batch Settings (upper right)
- Select Entities to Report (main) - which changes depending on the selection made in **Select Entities** drop-down list.

**Select Entities and Totaling** region:
- **Select Entities**: Provides the options to report by: **Tree**, **Rollup**, **Entity Group**, **n-level Tree**, or **Association**. Reporting by **Entity Group** is the most commonly selected option.
Note: This selection determine those options available in the Main region of this tab.

- **Totaling:** Provides the options to report as follows:
  - *With Total*, which will display summation totals at the end of the report.
  - *Only Total*, which will display the totals with no entity details.
  - *No Total*, which will not display any summation totals at the end of the report.

### Select Entities to Report Region:

Note: As noted above, this region changes based on your selection in the Select Entities drop-down list in the Select Entities and Totaling region of this tab. Additionally, the entity selections you make will apply to all reports in the batch that run over that entity group.

#### Entity Selection

This region will be described assuming that you have elected to report by Entity Group.

When you elect to report by Entity Group, the region will be titled Select Entities to Report. It will display options to summarize reports by any associated entity group.

See the example above where Planning Entity was selected. Individual planning entities were then available for selection.
Note the changes in this region when *Legal Entity* is selected. Three radio buttons and two check boxes become active as described below.
Show Parents or Show Children or Show Both: When you have a rollup relevant to the selected Entity Group and you choose to report by that rollup, e.g., Legal Entity, you will have the option to see the parents and children separately or together. If you elect to show parents only, results for children are always available via drill-down.

Top-level Eliminations: When checked, top-level eliminations are displayed on the selected report.

Consolidated: When checked, consolidated results are displayed on the selected report.

See the example below where the Top-level Eliminations and Consolidated check boxes are selected. Note that details on the report displayed are found under Browse Report Tab - Browse Reports.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Detail Model 2011-2015 Base Plan</td>
<td>Chicago Electric</td>
<td>SWGCO Electric</td>
<td>SWGCO Gas</td>
<td>Suburban Gas</td>
<td>Prairie Gen</td>
<td>Planning Entity Total</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>D: [Electric Revenue]</td>
<td>5,142,379</td>
<td>1,096,033</td>
<td></td>
<td>793,756</td>
<td>7,032,168</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>E: [Gas Revenue]</td>
<td></td>
<td></td>
<td>66,420</td>
<td>1,117,470</td>
<td></td>
<td>1,183,890</td>
</tr>
<tr>
<td>7</td>
<td>F: [Steam Revenue]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>G: [Affiliate Revenue]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>H: [Total Operating Revenue]</td>
<td>5,142,379</td>
<td>1,096,033</td>
<td>66,420</td>
<td>1,117,470</td>
<td>793,756</td>
<td>8,216,059</td>
</tr>
</tbody>
</table>

Exclude Lines

This button allows you to see/print just selected lines of any report. Once you have selected the report to view, selecting the Exclude Lines button will open up a dialog box (shown below) listing all of the lines of the report. You can check only the lines you want to see, and when you run the report, only those lines will be displayed.
Below is the report as displayed.
Note that this selection is session-specific. The next time you log in, the checkmarks will be reset to all lines. Our reasoning was that this selection is not readily apparent on the **Browse Reports** screen, and we did not want a user to log out and come back into the model later and not remember that they had filtered the lines to show. Also, it is user-specific, no matter what the report batch. We did not want one user to filter the lines on a key batch and then not remember to reset to all lines—this would affect all users.

**Browse Reports Tab - Browse Reports Screen**
The Browse Reports tab on the BROWSE REPORTS screen is the core of the UIPlanner reporting engine. You are able to format reports, search reports, drill-down on data and perform other actions such as export results to Excel, compile and run the model, etc. This tab is available when a report is selected on the Report Tree. It consists of four sub tabs:

- Format Report
- Search Table
- Drill-down on Data
- Action Panel

Note: See Browsing 2-Dimensional Reports for details on additional settings required to browse 2-D reports.

Format Report Sub Tab:
When the Format Report sub tab is selected, an active report is displayed at the bottom. Two formatting panels are displayed at the top:

- **Format Label and Format Data.** Each panel consists of:
  - Bold-face, italics and underline buttons
  - Drop-down list for formatting cell borders
  - Left align, center align and right align buttons
  - Indent left and right buttons (arrows)
  - Color options
  - Copy checkbox

Features of the Format Report sub tab include the following:

- As you move your cursor from cell to cell on the active report, the cell border format will be displayed in the drop-down list.
- To change the cell format for either a label or data cell, highlight the cell and select a different format from the drop-down list. This formatting will be displayed when you output the report to Excel.
- To change the display as well as the Excel report formatting, highlight a report line and select a button. Note that all data cells are assigned the same format for the entire line.
- You can copy line formats. Choose the line you want to copy and check Copy. Then select another line. The format will be copied to that line. Be certain to unselect Copy when you are done.
Search Table Sub Tab:

When the Search Table sub tab is selected, the selected report is displayed at the bottom, and two regions appear across the top to allow you to search the report:

- **Select Item to Jump To**: Select an entity from the drop-down list and the report display will move to that entity. The arrows to the right will move the report display to the next entity up or down in the list.
- **Search Report for Content (** for Wildcard)**: Enter text into the box provided. Select the up and down arrows to search the report for this text string. This feature will work for text in line labels as well as formatted numbers.

Drilldown on Data Sub Tab:
When the *Drilldown on Data* sub tab is selected, an active report is displayed at the bottom. The panel displayed at the top of the sub tab displays the drilldown data. Data drill down is available for every data cell in the report.

Features of the *Drill-down on Data* sub tab include the following:

- Move to any data cell on the active report and the drill down panel will display the underlying source data for that cell. Click on the highlighted number to drill to its source (formula, account, or another report). Drill down will continue from report to report.
- When the drill-down ends at an input number, it will show the user id and time/date. It will also show any cases and the final winner amount.
- When the month-to-annual value (see **EDIT CALCULATIONS Screen**) is set to ‘ending balance’, drilling down on an annual report switches to the last month of the year. For the balance sheet example above, the
Analyze report would switch to Dec 2011 when continuing to drilldown into the CHI Elec Distribution IL Book Closings transaction as shown below.

- Use the left most arrow buttons to return to the original report data selected.
- Use the other arrows (left and right) to navigate back and forward on a drill-down path.

**Action Panel Sub Tab:**

**Action Buttons:**
- **OUTPUT TO EXCEL** – Exports the active report to Excel. See View UIPlanner Reports and Scenario Info in Excel.
- **FILL SCREEN** – Removes the frame around the report and displays the report across your full screen.
- **EDIT TIME DATA** – Opens the **Edit Time Data** screen.

**Summary Information**
Select a range of cells in the active report to see:

- Average value
- Sum of the values
- Count of values
- Maximum value
- Minimum value

The **Graph Data** tab on the **BROWSE REPORTS** screen is a powerful graphing engine that links graphs with reports. You can graph the lines and entities on a selected report (over any time dimension) and build multiple graphs from any report. The graphing engine supports drilldown from graphs into the supporting detail reports.

This **Graph Data** tab consists of top region **Select Graph to View or Edit** and two sub tabs in the main region:

- **Graph Properties** – Once a graph is defined, it is straight forward to change the entities or aggregate them or to change the time ranges.
- **Graph Display** – Shows the completed graph.

**Select Graph to View or Edit** region:

- **Graph** drop-down list – Select a graph. Note that the name of the graph is displayed to the right.
- **CREATE** – Click to open the *ADD GRAPH* dialog box.
- **EXPORT** – Click to output the graph in .pdf format.

**Graph Properties** sub tab:

![Graph Properties sub tab](image)

The *Graph Properties* sub tab is divided into three regions:

- Series of drop-down lists
  - *Graph Type* – select type of graph.
  - *Primary Independent Variable* – select Entity (or Edit Group), Line, Time or Scenario.
  - *Secondary Independent Variable* – select Entity (or Edit Group), Line, Time or Scenario.
  - *Hold Line Constant As* – select a line.
  - *Hold Scenario Constant As* – select a scenario.
- **Define an Entity (or Edit Group) to Graph**
  - **ADD** – click to add an Entity (or Edit Group). Select from the list.
  - **REPLACE SET** – click to replace a set of entities (or edit groups).
  - **REMOVE** – click to remove an Entity (or Edit Group).
- **Define a Time Set to Graph**
  - **REPLACE SET** – click to replace a time range.
  - **REMOVE** – click to remove a time range.

**Graph Display** sub tab functionality:

- Click the sub tab to run the graph.
- Right-click on the graph to select one of the following options:
  - Drilldown – monthly or quarterly
• Data Point Info – view the data value along with associated items elected in the top region of the tab, e.g., scenario, Entity (or Edit Group), time, etc.
• Properties – view chart properties such as font, color, etc.
• Save as.. – save to a graphics file.
• Print
• Zoom In
• Zoom Out

• Auto range – automatically set the range, domain or both axes.
• Right-click on a data point on the graph to launch drilldown (see example below).

Publishing model results (see Run Sequences Screen) allows you store the results of model runs. There are two main functions of Publish Reports.

• Comparisons – if you have published the results of Scenario A, you can later run Scenario B, and pull in the stored results of A and see these in a Scenario Compare. The location needs to be defined on the Browse Reports – Scenario Compare tab and configured in Planner Properties (See Published Reports Configuration – Scenario Compares). When you publish a scenario, all data, reports and entities are sent out, so that you have full drill-down in scenario compares.

• Transfers – you can use the publish functionality to link tactical databases, or to send tactical model results out for use in a strategic model. (See Published Reports Configuration - Transfers). Note: Transfers send out only certain data that you specify.

• Tactical to Tactical - You might have a Revenue user who wants to maintain his/her own report logic, and not be constrained by the corporate structures or requirements for editing logic.
cases. As long as both groups agree on a set of transfer values (reports and lines), the relevant results would be exported from the Revenue model and imported into the Corporate model. The exports and imports are put into reports using the T2-Transfer Export and T2-Transfer Import functions.

- Transfers – Tactical to Strategic - The exports and imports are put into reports using the S2-Transfer Export and S2-Transfer Import functions

When you run the destination model (whether Tactical or Strategic), the model pulls the results in from the defined location.

Note – Publish Reports is different from the reports that you output using Batch settings. Reports that are sent out from Browse reports are actually the final MS Excel reports, and only the reports and entities selected in the batch. Publishing sends out the underlying data, rather than finished reports. When you publish a scenario, it sends out all data, allowing you to drill down when using that scenario again (as in a scenario compare). Likewise, when you publish for Transfer purposes (either T2 Tactical or S2 Strategic), the process sends out raw data for use in another scenario.

**Publish Reports Configuration – Transfers**

For Transfers, you must use the network drive setting. Also, both the source and destination scenarios (or databases) need to point to the same location.

- Network drive – users should open USER PREFERENCES (see above), and set the option to Transfer – from Planner Properties. Then the System Administrator should open PLANNER PROPERTIES and set up this folder location (see above).

The remainder of the setup for the Transfer functionality is found on the MANAGE SCENARIOS screen, using the ADVANCED OPTIONS button.

- T2 Scenarios - You need to identify what scenario(s) the T2 Import Function will expect (the scenario you exported from the source model). You assign each scenario an “Index” number – this is referenced in the report that reads in the data. That way, if there is a different source scenario, you just remap it here; you do not need to modify the import report.
Other Settings – End Date and Mapping of Entities

- You need to tell the import what year to read the data through.
- You also need to map the exported entities with their corresponding entities in the destination scenario. This ensures that the data comes into the proper entities. Mappings can be one-to-one (e.g. Planning Entity) or can be many to one, for rollups.

Group Reports

```
{ XE "Group Reports" /* MERGEFORMAT */
{ XE "Report" /* MERGEFORMAT */
{ XE "Screen" /* MERGEFORMAT */
}Group Reports Screen
```
The **GROUP REPORTS** screen is the screen from which you create reports and configure their settings and configure how they are grouped for display in **BROWSE REPORTS**. Note that the detail line-by-line build out of reports is handled in the **CALCULATION EDITOR**.

This screen is where you create a report, by which is meant you create the report entity and decide what entity group it will run over. You can either create a blank report, ready to build out, or you can make an exact copy of an existing report. The ability to copy a report is a very helpful feature, because it facilitates testing alternative report designs. Remember that once you have copied the report, it will not be processed until it is put into a report sequence.

This screen is also where you manage the settings and top-level configuration for UIPlanner reports. These direct such things as what entity group(s) the report runs over, whether it runs pure monthly or mixed annual/monthly, and whether the report has its own actuals date. The **GROUP REPORTS** screen also allows you to set certain global output options for a report, such as whether it is automatically split to separate tabs when output to Excel.

Finally, the **GROUP REPORTS** screen is where you manage Report Groups, which are the structure that shows up in all batches on the **BROWSE**
**REPORTS** screen. These are a key structural facet of a UIPlanner implementation, as every time users go to Browse Reports, this is the structure they see. You can create new report groups, reorder the existing groups, and order the reports within groups. Note that a report can exist in more than one report group.

**Screen Layout:**

The **GROUP REPORTS** screen is split into two regions:
- Report Group Definition
- Report Settings

**Report Group Definition**

The top of this region includes a number of control buttons and the bottom section consists of the Group Report Tree.

There are three categories of control buttons:
- **Report Group actions**
  - Create Report Group
  - Create Report
  - Add Report
  - Remove Report
  - Compile Group
- **Reordering actions**
  - Alphabetize
  - Move Up
  - Move Down
- **Calculation actions**
  - Copy Calculation
  - View Calculation
  - Edit Calculation

There is also a button which enables you to go to the **Time Data Editor**.

**Report Definition**

The **Report Definition** region is where you set various report settings and configuration options. It also allows you to define certain global Excel output options. Note that a report needs to be in a report group for its settings to be available to you.

- **Report Level Options**
These are various settings and switches which apply to each report. For example, what entity group it runs over or whether it iterates. Once set, these are almost never changed, except occasionally the report actuals date. Note that there are three subpanels based upon what case the data is stored in, e.g., the actuals date is stored in an attribute case, whereas the entity group is stored in the formula case.

**Excel Output Options**

The output options available on this screen enable you to define MS Excel output characteristics for the selected report for all users. You can elect settings at the user batch level using the **BROWSE REPORTS** screen.

List Of Tasks or Operations That Are Performed With This Screen:

See **Report Group Definition** and **Report Definition** for detailed information.

---

**Report Group Definition - Group Reports Screen**

You can perform the following actions on the Report Group section of the **GROUP REPORTS** screen. Note that these actions apply to the report tree as seen by all users

**Create a New Report Group**

- Click **CREATE REPORT GROUP** to open the **ADD OBJECTS** Dialog Box.
- Add the new report group.
  
  Note: The new report group will be added to the bottom of the report tree.

**Create a New Report**

- Select the appropriate report group on the report tree.
- Note: When you create a new report it must be placed in a report group.
- Click **CREATE REPORT** to open the **ADD OBJECT** Dialog Box shown below.
Select an entity group from the drop-down list.
If you want to add an initial line for entity description, select the check box.
Note: For model users, do not check the Create for Validations check box. This option is only applicable to Budget reports.
Add the new report name.
Notes: The new report will be added to the bottom of the list of reports for that report group. These will be empty reports. If, however, you prefer to begin with another report, you can copy a report (see below, Copy Calculation) and create the report at the same time.

Add an Existing Report to a Report Group

Note that reports can exist in more than one report group.
Select the desired report group on the report tree.
Click ADD REPORT to display the REPORT dialog box.
Select the desired report from the list displayed and click OK.
Remove Report from Report Group

- Select the desired report on the report tree.
- Click **REMOVE REPORT**.

Compile Report Group

- Select the desired report group on the report tree.
- Click **COMPILE GROUP**. This saves changes to the report group and compiles.

Alphabetize Reports in Report Group

- Select the desired report group on the report tree.
- Click **ALPHABETIZE**. This will put the reports in alpha order.

Move Reports in Report Group

- Select the desired report on the report tree.
- Click **MOVE UP** or **MOVE DOWN** to order reports as desired in the report group.

View Calculation

- Select the desired report in the report tree.
- Click **VIEW CALCULATION** to open the **CALCULATION EDITOR**.
  Note that most control buttons on this screen will be disabled as you are in view mode. You cannot change any lines on the reports, however postings and edit time data are still available.

Edit Calculation

- Select the desired report in the report tree.
- Click **EDIT CALCULATION**. This will open that report the **CALCULATION EDITOR**.
- Note: If there are pending attribute changes, a dialog will open asking if you want to save attributes changes prior to editing a report. Typically, you should save these attributes prior to editing a report.
Copy Calculation

- Select the report that you want to copy.
- Click **COPY CALCULATION** which opens the **ADD REPORT** dialog box.
- Add the new report into which you want to copy the report lines.
- Select the entity group to run over (most likely the same as the source report)
  Note: This will make an exact copy of the selected report (lines, formulas, formats and postings). It does not copy the *Report Definition* region settings.
- Select the new report and configure the *Report Definition* settings as desired (most likely the same as the source report).

---

When you select a report on the report tree, the *Report Definition* region of the **GROUP REPORTS** screen shows the current configuration settings for that report. Below is an example. Note that typically these are not changed once a report is built.
REPORT LEVEL OPTIONS

Note that the controls in this region are grouped by the case in which the data is stored. Most of these settings are ones that are not changed once the reports are built.

Attribute Case (Base Attribute case or another overlay attribute case)

Select Case – select the case in which to store the below values

Enter Actuals Date: Enter the actuals date for this report. The actuals date set here overrides the actuals date (for the selected report only) set on the MANAGE SCENARIOS screen. This setting is stored by
case, because users may want to have the actuals date in an overlay case.

**Exclude Report from Publish**: If this flag is set to Yes, this report will NOT be included when this scenario is published. This option is helpful when you are publishing scenarios for transfer. A feeder system may have many large reports, but the downstream model only needs a few selected reports. This setting is stored by case, to allow you to have a separate case to flag reports to exclude.

**Base Attribute case**

**Consolidation Option**: Check this box to calculate consolidations for the selected report.

**Max Iterations to run**: Select the maximum number of iterations to run for the selected report.

**Iteration tolerance**: Enter the tolerance to be used for the selected report.

**Automatically Split to tabs in Excel**: If the box Split to Tabs is checked, the report will always be split to tabs. (Note that Split to Tabs is always an option for users once they are in Excel should this selection not be made.)

**Split character(s) for tabs in Excel**: Enter what character(s) for MS Excel to use to prefix the different tabs.

**Display line for allocations in Excel**: You can set the final display line for Excel drilldown for allocations to be Entity, Line, Line/Entity, Report/Line, or Report/Line/Entity.

**Excel Rollup drill-down**: If checked, Excel rollup drill-down will be available on the selected report. Leave this box unchecked to generate an Excel report with no drill-down.

*Note* – These settings are global in that they apply to all users and not to a specific user. (See Browse Reports screen for details on user batch settings.)

**Formula case**

**Primary Entity Group**: Select the primary entity group. This is the entity group that the report will run over.

**Secondary Entity Group**: Select the secondary entity group. This is used for 2-D reports.

**Processing Option**: Select *Mixed Monthly and Annual* or *Pure Monthly*
• **Mixed Monthly and Annual**: If checked, the report will be run monthly and then annually as per the scenario settings.

• **Pure Monthly**: If checked, the report will run monthly for the entire planning horizon.

**Extra Years to Run**: Enter additional years to run this report. Years entered here will be added to *Years to Run* set in the **MANAGE SCENARIOS** screen. For example, bond reports are typically run for one more year, so we can calculate transfer to current in the last year (needs maturities in last year +1).

**Process in Single Precision**: Enables you to have the report processed in single precision (the default is double) which can save memory usage, especially if applied to reports with a large number of lines and/or entities.

**Report Type (global, not by case)**: Identifies what report type the report belongs to, e.g., model for model users. Other report types are used to enable specific processing options for budget, customer revenue, etc.

**Override Month-to-Annual Options** – Allows you to now override the Annual-to-Month options for a specific report. This is needed, for example, where a regulatory income report is created using latest-12 months, and a shared report makes the same report end-of-period. The normal option is ending-balance, i.e. report the last fiscal month as the annual total, but the shared report needs to do totals. This option could also be used for Balance Sheet reports, to change the default sum to ending balance. When you select the button, it opens a dialog box listing all Month-to-Annual options. You choose which to override, and how. See below:
Report Columns

{ XE "Report Columns" \* MERGEFORMAT }{ XE "Reports" \* MERGEFORMAT }Report Columns Screen
The UIPlanner reporting engine (see Browse Reports) gives you a very flexible approach to viewing results. When the model runs, it runs all months and years according to the scenario setting. Then you can simply select the view in Browse Reports. Note that this is done on the fly, so you can pick any view. Just change it on Browse Reports (top tab or report view), and the display will change to the new view. Note that the first one in the list is Default – All Time. This is a system-generated set that corresponds to the run settings for the current scenario. Also note that these column sets are all built by year, indexed off of the scenario year. So as you roll the model over, you do not need to rebuild any column sets. They will move with the new start year.

The REPORT COLUMNS screen is where you can create these column sets. These column sets support monthly, annual, quarterly, YTD, rolling 12, and several others (note that the amounts shown for years automatically adjust for fiscal year clients). Below are examples of a number of column sets (all of which can be built by users).

**Monthly and Annual** - Monthly values, with an annual total.

**Quarterly** - Quarterly, with an annual total
### Re-Forecasts
- Total columns for a 4 and 8 reforecast:

<table>
<thead>
<tr>
<th>3q-Apr 2010</th>
<th>4q-May 2010</th>
<th>Year 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Revenue</td>
<td>1,700,227</td>
<td>1,655,834</td>
</tr>
<tr>
<td>Gas Revenue</td>
<td>671,633</td>
<td>414,539</td>
</tr>
<tr>
<td>Steam Revenue</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Affiliate Revenue</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Operating Revenue</td>
<td>2,371,861</td>
<td>2,070,548</td>
</tr>
</tbody>
</table>

Some advanced capabilities of the UIPlanner reporting engine follow.

### Comparison
Used in conjunction with *Scenario Compare* on *Browse Reports*, this setting compares current quarter to the prior one:

### Excel Column Groupings
You can create groupings of the columns (for Excel export) to any custom column report set. In the example below, Level 1 groups to Year, Level 2 groups to Quarters, and Level 3 shows the individual months.
Text Values in Columns
You can also add text values in columns.

<table>
<thead>
<tr>
<th>Report Columns</th>
<th>Screen Layout:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The top region of the REPORT COLUMNS screen lists all of the existing column sets.</td>
</tr>
<tr>
<td></td>
<td>The bottom region is used to build new column sets and to display the settings for existing columns. This bottom region has several action buttons, and a grid below those showing the settings for each column. It shows the settings for whatever column set is selected in the list in the top region.</td>
</tr>
<tr>
<td></td>
<td>The action buttons are:</td>
</tr>
<tr>
<td></td>
<td>CREATE – opens the Add Object dialog box, where you add a new Column Set.</td>
</tr>
<tr>
<td></td>
<td>ADD 12 MONTHS – adds 12 months to the columns in the grid, and populates the month and year settings.</td>
</tr>
<tr>
<td></td>
<td>ADD YEAR – adds another year column to the grid and populates the year setting.</td>
</tr>
<tr>
<td></td>
<td>COPY A VALUES TO B – takes all of the period/year settings for Scenario A and copies these to the Scenario B rows.</td>
</tr>
<tr>
<td></td>
<td>DELETE B VALUES – clears out all of the Scenario B settings.</td>
</tr>
<tr>
<td></td>
<td>WIDEN/NARROW – these buttons do step-wise adjustments to the widths of the columns in the grid. This helps in building column sets, so you can see either the full labels or all columns across. Note that these column widths are only for the create grid – they do not affect the report output.</td>
</tr>
</tbody>
</table>
The report column grid itself shows all of the columns in the selected report (as you add columns to a report, they show up in the grid). For each column there are several settings, shown down the left hand side of the grid.

*Column Type* – choose the type of data that will show up in that column. Most of the time, you will want time data (Date). However, you can also have attribute data, including a user defined attribute, the line formula, or an interface code.

*Scenario A - Period* – use this drop-down list to select the period that will populate that column. Choices include individual months, quarters, full years, YTD amounts (through a month), and rolling 12 (ending with a month).

*Scenario A - Year* – use this drop-down list to select the fiscal year for that column. Year 1 is the first year of the scenario.

*Scenario B - Period* – this is the same concept as for Scenario A above, except that this is the period that will show when you are doing a scenario compare. These two are usually the same. Make them different if you want to do cross-period comparisons.

*Scenario B - Year* - this is the same concept as for Scenario A above, except that this is the year that will show when you are doing a scenario compare.

*Excel Group 1* – use this drop-down list to set the start or end of an excel grouping involving that column. Group 1 is the top grouping (see the example above).

*Excel Group 2* – use this drop-down list to set the start or end of an excel grouping involving that column. Group 2 is a second level grouping, if you have nested groups.

*Page Break after Column* – use this flag to force a page break after that column (helpful if you have very wide reports).

*Line Attribute* – If you selected Attribute for the column type, use this drop-down list to select the attribute to display.

*Insert* – when building a report, if you check this box it will insert a column.

*Delete* – when building a report, if you check this box the current column will be deleted.

**Create a Custom Column Set**

All column sets in UIPlanner are user-configurable. They are built using the *REPORT COLUMNS* screen. To reorder, change visibility or delete Custom Column Sets, use the *CORE OBJECT EDITOR*.

To create a new Custom Column Set

1) Open the *REPORT COLUMNS* screen
2) Click *CREATE*. This will open the *ADD OBJECT* dialog box. Add the new column set and place it in the proper order. Note that you do not
need to assign a parent or security to a column set. When you close the dialog, the new column set will appear in the list.
3) Select the new column set. It will show up with one column in the grid. See below:

4) Add columns as needed, using the appropriate buttons. You can either insert columns one by one, or use the **ADD** buttons to add common choices. Using these buttons you can very quickly build a multi-month, multi-year report.
   a. **ADD 12 MONTHS** – this adds 12 months, with the months pre-populated. It defaults to Year 1 the first time. If you add a second time, the Year is set to Year 2, and so on.
   b. **ADD YEAR** – adds just one year, defaults to Year 1 the first time and then adds a year each time.

The example below shows 12 months added, and then a year added.

5) You cannot move columns. Use the **INSERT/DELETE** buttons as needed.
6) In each column, set the column type and period in the Scenario A row. Note that Date is the default – this is used for virtually all
reports. This is the view for the current run. The row B settings are for Scenario Comparisons.
   a. **DATE** - Column types – Date, Attribute, Formula, etc.
   b. **PERIOD** – these are years, indexed off of the scenario settings. Year 1 is the first year of the forecast. Year 0 is the prior year actuals.

7) Note - You can use the **WIDEN** and **NARROW** buttons to change the view on the screen for easier editing.

8) When you are done, select **COPY A VALUES TO B**. This will populate the column settings in Scenario B. In most cases, these will be the same. You can make them different, for inter-period comparison reports (see below)

9) Select **File, Save** from the UIPlanner menu. Your new custom column set will be available immediately for reporting. If you have run the model, open **BROWSE REPORTS** and refresh it by toggling the **One Batch on Tree** box. Your new column set will show up in the list.

The Report Column builder has the flexibility to build some very sophisticated report structures. Listed below are steps to take for two examples:

**Intra-period comparisons**
To produce a report that can automatically compare different time periods, you should select different Periods or different Years in Scenario A as in Scenario B. The example below produces a report that compares each quarter to the prior quarter.
Note that this report can only be run as a scenario compare report, because it needs both Scenario A and Scenario B. To run this report, you should show compare scenarios and compare the current scenario to itself. Below is the report as run.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>I</th>
<th>M</th>
<th>Q</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excel Groupings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To build a report that shows up in MS Excel with grouped columns, you use the Excel Group drop-down lists.</td>
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</tr>
<tr>
<td>1) Decide the start and end period for the groupings.</td>
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<td></td>
<td></td>
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<tr>
<td>2) Use the drop-down lists to tag the start and end groups.</td>
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<tr>
<td>3) If you are building a nested group, Excel Group 1 is the major group.</td>
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<tr>
<td>The example below produces a quarterly report, with the quarters grouped.</td>
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</tbody>
</table>

The report as produced is shown below.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>I</th>
<th>M</th>
<th>Q</th>
<th>R</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What to Do If You Encounter Problems:

There may be a situation where you are trying to view data in **Browse Reports** and you have selected a custom column set with monthly or
quarterly columns. Yet, you do not see any data in the UIPlanner reports for the monthly columns but you DO see it for the year. See below for an example:

This may indicate that you are trying to run a Monthly column set for a year when the model is set to run Annual. See Troubleshooting - Monthly/Annual for more information.

Analytics

UIPlanner contains several analytical tools, in order to provide comprehensive performance management capabilities tailored to the complexities of the utilities industries including the following:

Custom Graphing and Analysis
Dashboard Analysis
Color-Coded Highlighting of Report Results
Cross Scenario Analysis, Scenario Comments, and Case Comparisons
**Custom Graphing and Analysis**

The graphing engine in UIPlanner accomplishes the following goals:

- **Instant results** – Graph data immediately upon completing a new model run.
- **Drill into graphs** – Drill into an item on the graph into reports and other graphs.
- **Manage detail** – Isolate specific items, while grouping others.
- **Compare across scenarios** – Compare trends or results from multiple scenarios.

**Graphs Linked to Reports**

You can link one or more graphs to any report and view these graphs from the **BROWSE REPORTS** screen, as shown in the example below.

![Graph Example](image)

**Choose Type of Graph**

Several types of graphs are available:

- **Bar Chart** – Single Independent Variable: The independent variable determines the values on the X axis.
- **Bar Chart** – Two Independent Variables: The X axis is sorted by the first independent variable, then the second.
- **Line Chart** – Two Independent Variables: One independent variable determines the items that become lines on the graph. The second independent variable determines the values on the X axis.
- **Pie Chart** – Single Independent Variable: The independent variable determines the values that are slices of the pie.
- **Stacked Bar Chart** – Two Independent Variables: One independent variable determines the items that are stacked on the graph. The second independent variable determines the values on the X axis.
• Waterfall Chart – One Independent Variable: The independent variable is typically selected to be lines on a report. These lines become the items on the X axis of the waterfall graph.

**Graph Dimensions**

UIPlanner’s calculation results are by report/line, entity(s), time, and scenario as depicted below.

If we take an example of a two dimensional (i.e., two entity group) report (e.g. labor costs by department and resource), then there are five available dimensions:

1. Report Lines (e.g., FTEs, Average Pay, Total Paid, etc.)
2. Entity Group 1 (e.g., Department)
3. Entity Group 2 (e.g., Salaried Labor, Hourly Labor, etc.)
4. Scenario (e.g., Budget, 3+9 Re-Forecast, 6+6 Re-Forecast, etc.)
5. Time (e.g., monthly calculation for five years).

Based on the graph type chosen (from the options listed in the previous section), any one or two of the five dimensions listed above can become independent variables, with the remaining dimensions held constant as selected by the user.

**Aggregating Dimensions**

You can aggregate data within an entity group by setting a threshold amount (e.g., separately include all projects > $2 million and lump other projects into “All Other”). Individual entities can be added or removed. A predefined **Edit Group** can also be used to aggregate entities.

Time can be shown as months, quarters or years. For example, choosing 2009 through 2012 would result in four years. Choosing 2009-Q3 to 2010-Q1 would result in three quarterly numbers. 2009-01 through 2010-12 would result in twenty-four monthly numbers.
Drill into Graphs

If you right click on a data point on the graph (or on the Data Point Info box), you begin a drill down process. For example, assume you produced a pie chart of Capital Spending for 2011 by showing all projects over $10 million and then aggregated the remainder into “All Other Projects”. Now, assume you drilled into “All Other Projects” on the Pie Chart. The order in which you could elect to see result could be:

1. Drill into monthly detail, by viewing a bar chart by month.
2. Drill into detail of “All Other” for a month and see a bar chart for spending on each of the individual projects.
3. Drill into a specific project and see the underlying report.
4. Drill into the underlying report and see time data for that project.
5. If capital spending came from the budget system, drill into the underlying budget report.
6. Drill into the underlying budget system report by any code block dimension (activity, department, resource, etc.).

Below is an example of drilldown from one graph into another, and then into a report.

Additionally, if you right click on any data point on a graph, you see the Data Point Info dialog box, as shown in the example below. This shows all dimensions of the graph as well as the value for that data point.
The ability to drill into other graphs and reports, and then drill into formulas and yet more detail in the reports is unique to UIPlanner. This was a primary reason for incorporating graphs into UIPlanner.

**Other Graph Options**
You can right click on a graph and print it. You can also export it into a .PDF file. You can also save it as an image file in order to copy it into a presentation, Excel file, etc.

Right clicking on the graph also gives you options to change aspects of the format of the graph prior to printing. Another right-click option lets you zoom into the graph.

**Graph Results Screen**
Graphs can also be viewed on their own stand-alone tab that allows more screen area to be devoted to the graph. To view this new tab your administrator needs to add a new menu item (named *Graph Results* by default) using the Manage Menus screen.

---

**Testing for Conditions**
Below are a few examples of tests you can perform with UIPlanner.

- **Performance**:  Did a planning entity meet its earnings objective?
- **Compliance**:  Does the planned workforce balance to planned work?
- **Reasonableness**:  Is more than x% of capital spending occurring after the expected in-service date?
- **Accuracy**:  Does the opening balance sheet imported from the General Ledger balance?

By using conditional logic in a UIPlanner calculation you can compare items and determine a condition. For example, if you test compliance of actual spending versus budget you might want to determine whether a department is:

1. **On budget (green)**: if actual spending <= budget.
2. **Near budget (yellow):** if actual spending is within both 2% and $100,000 of budget.

3. **Over budget (red):** if actual spending is either more 2% or $100,000 over budget.

**Using a Sequence as a Dashboard**

There is a calculation editor function called *Highlight Report*. When you call this function, you are prompted to select a color. When this function is executed during a model run, the report will be colored the specified color on the Run Sequences screen. The *Highlight Report* function will likely be used with conditional logic, so that the report is only set the color in certain conditions. If the report iterates more than once, the report will only be colored if the function was executed in the final iteration. For example, you can color a report red if a test condition is not met and green if it is met.

An option in *Preference Manager* allows you to choose the “color after run” and “color while running” to appear while running calculations on the Run Sequences screen.

Below is an example that uses the coloring option. The last report, “Financials in Balance?” performed verification of the financials by cross checking key totals in various statements. The *Highlight Report* function was used within “If Then Else” logic to color the report green if everything was in balance. A similar method could have used to check against a performance metric.

![Image of Run Sequences screen with highlighted reports]

**Highlighting Anomalies in Reports**
There is a calculation editor function called **Highlight Cell** that allows you to specify a line item on a report to highlight and choose a color. On the Browse Reports screen, the cells for the specified line item will be highlighted for any context (i.e., period, entity, sub-entity) where this function was executed. For any contexts where this function was not executed those cells will not be affected. The function should be used in conditional logic, otherwise standard formatting would accomplish the objective. The cell highlighting will only reflect the last report iteration.

The example below shows a report using the **Highlight Cell** function to analyze earnings. The conditional logic in the calculation tests earnings growth. Earnings growth over 5% per year is highlighted in green, 5-10% in yellow, and below 5% in red.

Below is a more detailed example of using highlight color for performance analysis:
Pull Reporting

Pull reporting is a feature in UIPlanner that allows for "pulling" report results data into an external Excel spreadsheet. UIPlanner has its own powerful reporting engine, but often users have specific spreadsheets that might incorporate elements from multiple reports in UIPlanner.

Some of the uses of Pull Reporting include:

- Analyst presentations
- Regulatory filings
- Financial reporting packages for upper management

Below is an example that illustrates Pull Reporting in action.

Pull reporting allows great flexibility in reporting and report formats as well as reliable links. It allows a much more flexible presentation. You can export not only UIPlanner report results, but also:

- Names of UIPlanner Objects - scenarios, entities, reports, lines, etc.
- Attributes of Objects – e.g., attributes of a project (plant account, in service date, etc.)

You can combine multiple reports, build complex graphs, etc. If the UIPlanner results change, just run the model and re-export the Pull report.
data. When you open the spreadsheet, just hit refresh, and all data will be updated.

Some other features of **Pull Reporting**:  
- You can send the spreadsheet to any other MS Excel user. Note: You need to save a copy without the UIGet() function in it – because the person you send it to may not have the add-in.
- You can drill from the spreadsheet back into the UIPlanner data. Just leave the model open.

**Pull Reporting Configuration**

In order to properly use Pull Reporting, you need to configure UIPlanner to:

1) Export the data you need in the receiving spreadsheet (which reports, and whether you need months or annual numbers).
2) Send the desired data out to a location you can then link to from the receiving spreadsheet.

If multiple users are going to share pull reports, you should set up conventions to maintain control over the reports and the exported data. Some suggestions:

1) Decide where the exported data and the pull report spreadsheets are stored, e.g. in a specific folder on a shared server.
   a. Note that the pull reporting destination is a user preference, but this can be overridden in **Browse Reports - Report Batch Options**.
   b. If you are going to use a shared network folder for the Pull Report data, you should enable the “Zip” option in **PLANNER PROPERTIES**. See below under configuration.
2) Establish a process for ensuring that the appropriate scenario is exported to refresh the pull reports (scenario ID is one of the parameters in UIGet())
   a. You should have scenario as a global setting on the pull report itself. That makes it easy to change it to a different scenario. See **Tips for Building a Pull Report**.
3) Once the pull reports are built, establish a process for ensuring that all the required reports/entities are exported each time you need to.
   a. You might set up a special report batch containing the data to be exported.
   b. All users should set their User Preferences related to Pull reports the same (text, months/years, etc.). See below.
4) If users are going to share pull reports, they should all have the UIPlanner.xla and UIPlannerMenu.xla in the same directory.
Note regarding exporting Wide Reports to Pull Reports: You cannot export to a Pull Report from the report group tagged as ‘Wide’. You need to have a separate group NOT tagged as ‘Wide’.

There are three places in UIPlanner where Pull Reporting settings are maintained.

**Preference Manager** – set the destination folder for the data, and the year/month settings. These are user preferences, but the year/month settings should be the same for all users, as the pull reports may be expecting monthly data.

**Browse Reports** – select which reports to send out, and turn on the Export To Pull reports flag. In your personal batch, these are user preferences. In other report batches they are global settings. This is helpful, as some clients will set up a batch specifically for pull reports. Note that the Pull Report location can be set by batch.

**Planner Properties:** – there is an option that uses a zip file behind the scenes for exporting the data. The primary reason for this feature is speed. Most clients store pull report results on a network drive, so they are available to multiple users. We found that writing the many small pull reporting text files to a network can be quite slow as compared to a local drive (in one test, the network write took half an hour, while the local drive took only 30 seconds). The new process writes the data locally, and Zips it. The Zip file is then copied to the network and unzipped. This adds only seconds to the process. If you use the Zip option, the entire scenario is replaced. This avoids a potential issue where you could accidentally make incremental exports, e.g., export the income statement, then make some data changes, and later export the balance sheet. This option is enabled using a Planner Property; it is a global option, not a user preference. The zip and unzipping is handled by a new jar file (uizip.jar); it should be in the same folder as your planner.jar.

**My Preferences**

Below is an example of the relevant section of the **Preference Manager Output Options Tab:**
UIPlanner Detailed Model User Guide

- Years/months – select whether to export just annual data or both years and months. If your destination spreadsheet needs only years, this reduces the amount of data.
- Pull Reporting Data location – set the folder where the pull report data will be exported to. Note: This can be overridden for all users in the report batch settings – see below under BROWSE REPORTS.
- Erase Pull Report text results from prior exports – if this is checked, each time a scenario is exported for pull reports it will erase all prior exports. Note: In Versions 4.52 and later, this is not needed, as prior exports are automatically deleted.

As indicated above, you should have all users set these the same. See Output Options Tab – User Preferences for more details

Note: The Store in MS-Access MDB option is no longer supported.

BROWSE REPORTS

The BROWSE REPORTS screen is where you decide which reports / entities to actually export to the pull reports. In order to make it easier to export pull report information consistently, setting up a specific batch for pull reports can save time.

- Export for Pull Reports – on the DEFINE OUTPUT TAB, you need to check this box in order to export information to the Pull Reports folder.
- Pull Reports location – if desired, you can specify a destination location (overrides the user preference)
- Reports and Report Groups – remember that the Output Reports action only sends reports that have been checked at all levels.
- Entities – remember to check all of the entities you want for the various reports.

Below is an example of the relevant tab of BROWSE REPORTS showing the above settings.
Please see the following topics for more information on UIPlanner Pull Reporting Features:

- How Pull Reporting Works
- Tips For Building a Pull Report
- Use the UIGet() Function to Link Pull Report Data
- Refresh an Existing Pull Report
- Pull Report - Copy Line
- Drill Down Into UIPlanner from a Pull Report
- Send a Pull Report to Another User

What to Do If You Encounter Problems

Below are some common error messages and issues users might encounter when building or using Pull Reports.

**UIGet Argument not Found**
If you are using the UIGet() function and it returns an error called “UIGet Argument xxx not Found”, this means that within the data, that value was not found. See below.

You may have mis-typed the Object ID, that Object ID was not actually exported or you have not browsed to the proper location. See Troubleshooting - Pull Reporting - UIGet Argument Not Found for more information.

**UIGet Usage Error**

You are using the UIGet() function, and it returns an error listing the UIGet() Arguments. See below.

This may indicate that you have not provided the right number of arguments. See Troubleshooting - Pull Reporting - UIGet Usage Error for more information.
**UIGet Functions with Prefixed Path**

If you open the spreadsheet and the UIGet() functions all have some path have path prefixed to them. See below.

![Spreadsheet Screenshot]

This may indicate that the person who sent you the spreadsheet had the UIPlanner.xls in a different folder. You need to delete the prefixed text. See Troubleshooting - Pull Reporting - UIGet Functions With Prefixed Path for more information.

```{XE "Pull Report Data into Excel" /* MERGEFORMAT
}
```

### How Pull Reporting Works

When you choose to export UIPlanner report results as pull report data, UIPlanner exports text files for each report/entity/line and puts them in a single folder with the scenario ID. In the example below,

- Scenario 192 - Detail Model 2009-2013 Base Plan
- Report 14842 – Income Statement
- Line 14950 – Total Operating Revenue
- Entity 2024 – Chicago Electric
The underlying text file is shown below. Note the monthly amounts for 2009 and annual for the following years. These are the settings for that scenario.

The UIPlanner.xla addin adds the UIPlanner toolbar/ribbon to MS Excel. This toolbar allows you to link the exported data location and to link specific cells in the spreadsheet to that data. For Excel 2007, you also need to register the UIPlannerMenu.xlam add-in. Below are the UIPlanner ribbon/toolbars for Excel 2007 and 2003:

**UIPlanner Ribbon (Excel 2007).**
The items on the Excel 2007 ribbon are:

1) **Select Data Location** – Allows you to browse to link the spreadsheet to the exported data.

2) **Show Alias (optional)** – If you select this button, it will build a separate tab on the spreadsheet that lists all object IDs and their names. You can use this if you want to dynamically refresh names in the spreadsheet using VLookup().

3) **Find IDs** - Launches UIP mapping widget for finding IDs or Objects associated with given IDs.

4) **Refresh Data** – Queries all the UIGet() functions and refreshes their values from the exported data.

5) **Drilldown to Source** – If you select a cell with UIGet() and click this button, it will allow you to drill back to the UIPlanner report. See [Drill Down Into UIPlanner From A Pull Report](#).

6) **Replace UIGETS With Values** – Allows you to save a copy of the spreadsheet with all UIGets converted to values. This will enable you to send the spreadsheet to another user who may not have the UIPlanner add-in. See [Send a Pull report To Another User](#).

7) **Process UIPuts and/or UISets()** – UIPut allows you to take information from a spreadsheet and load it back into UIPlanner (used in the Strategic Model). UISet allows you to process an upload excel file that includes multiple cases or reports. See [USING UISET TO LOAD DATA](#) for more information.

8.) **Rerun Model from Excel** - After processing UIPuts.

9. **Copy Line** - UIPlanner has a function that allows you to copy a given line multiple times. Also, it builds the UIGets for you.

---

**UIPlanner Toolbar (Excel 2003)**

From the left, the buttons on the Excel 2003 toolbar are:

1) **Select Pull Reports Data Folder & Version**

2) **Find IDs**

3) **Read Names from Disc; Create Alias Sheet**

4) **Refresh Data – Re-read from Disc**

5) **Change UIGets to Values**

6) **Drill down into Source**

7) **Process UIPuts & Run Model and/or Process UIGets**
When you build or refresh a pull report, you tell it where the source data is (using **SELECT DATA LOCATION** on the UIPlanner toolbar). Given that information, the UIGet function looks at that folder and the arguments in each UIGet() pull in the specific data. Remember that UIGet() function has a number of arguments: 
$$\text{UIGet}(YYYY, MM, \text{Scenario}, \text{Report}, \text{Line}, \text{Entity}, [\text{SubEntity}])$$.

UIGet() uses these arguments to find the proper scenario/report/entity/line text file and pulls in the proper period.

There is a planner property that enables an updated extract/storage mechanism using zipped files. If this is enabled, when UIPlanner exports the data, it writes the data locally, zips it, and copies the zip to the network. Unzipping is done on the network in a separate process, so users can keep working.

Note: In prior versions of UIPlanner, you could export Pull Report data to an MS-Access MDB or store it directly in the Oracle/SQL Server database. These options are no longer supported in UIPlanner Version 4 and after.

To build a pull report, you can either build it from scratch or take an existing spreadsheet and convert the key cells to UIGet().

- If you are building it from scratch, select cells and populate them to UIGet() functions.
- If you are converting an existing spreadsheet, select the key cells you want, change them to UIGet() Summary tab for scenario and data ranges.

Whichever option you choose, you need to:
1) Export the required data (reports and entities) from UIPlanner.
2) Open the destination spreadsheet (either a new spreadsheet or an existing one).
3) Choose **SELECT DATA LOCATION** from the UIPlanner toolbar/ribbon, and browse to where you exported it.
4) Choose **REFRESH DATA** from the UIPlanner toolbar/ribbon.

Some tips for building a pull report:
1) Pasting the object id itself into a cell allows you to use UIGet() in more than one cell and just reference that one cell. This approach facilitates easy changes to key parameters values. Formulas use a combination of relative and absolute references ($), so that formula cells can be copied to all lines in the body of the report without modification. Finally, print ranges can be set to omit ObjectIds for a clean looking report when printed. See below.

2) Have a separate worksheet for global assumptions, such as Scenario or Year. This will allow you to change these on only one place and have all UIGet() cells updated at once.
3) For tabs that have multiple lines and/or entities, use hidden rows/columns. This way you have the embedded UIGets() logically related to the data rows/columns, but not impact the look of the spreadsheet or the print ranges.
4) For pulling monthly data, use the month number (1-12); for annual amounts use 0.
5) Excel's VLOOKUP() function can also be used to retrieve descriptions from the ID Sorted portion of the **Alias** tab based on the ID Number.
Pull Reporting uses a family of functions called UIGet() to pull results from UIPlanner (Model and Budget) into Excel spreadsheets. Depending upon the number of parameters you provide, you can pull in and display:

- **Amounts from UIPlanner reports** – the most common usage
- **Entity/Scenario names** – e.g., Bond names, or the scenario name
- **Entity/Scenario attribute values** – e.g. a bond’s Issue Date, or the actuals date for a scenario

See below:

Below are examples of UIGet() used to pull different types of information.

**UIGet() for Amounts** – to display amounts, you need to provide all parameters (see above).
The UIGet function can also pull data from multidimensional Budget reports. In the example below, the source report is by 3 dimensions. The Grouped columns have scenario Id, Report Id, Line Id, Ent 1 Id, Ent 2 Id, Ent 3 Id. Note that the UIGet formula is using $ references such that copying the row will result in valid formulas. Theoretically, we can support up to 16 entity qualifiers.

**UIGet() for Names** – UIGet with 1 argument will show the object name. This works for Entities, Lines, Reports, Scenarios, Attribute Definitions, and Entity Groups. See below – cell L7 returns the department name.
**UIGet() for Attributes** – UIGet with 2 arguments (Entity ID, Attribute ID) shows an attribute value. See below. Cell N7 returns the In Service date of the project, using only these two parameters.

In order for the UIGet() function to find a value, all arguments need to be populated. There are three ways to do this.

First, note that each of these methods only create a single UIGet() function with parameters – as numbers - from one cell in a report. In order to populate multiple cells and make the Pull Report more dynamic, more sophisticated methods are recommended.
Also, before starting to use UIGet(), you must already have exported the data from which you want to build the pull report, and you must have used SELECT DATA LOCATION from the Excel UIPlanner toolbar to identify the folder where the data resides. If you do not do both of these, UIGet() will return an error.

1) Find IDs
The UIPlanner toolbar in Excel includes a Mapping widget that makes populating the UIGet() functions both easy and intuitive.

Select FIND IDS from the UIPlanner Menu. This will bring up the mapping widget. It will list all of the items you exported to Pull Reports.

In most cases, you will want to find an Object ID for a given item, e.g., Report/Lines, Entity Groups/Entities, and Scenarios/Cases.

In some cases, however, you may have an Excel spreadsheet (or a given UIGet() function – See How UI Pull Reporting Works) populated with numerous Object IDs and you will want to find the given items associated with those Object IDs.

Case A  Find Object ID
You use the selection buttons to choose what you want to populate. For example, select Report, highlight the one you want, and click Line. All lines will be listed. Then when you have found the item you want, it will list the Object ID, and you can copy it into the active cell on the spreadsheet. (You can put the name next to it, for future reference. If no name is included, see Case B where you can later find the object associated with that ID.)

See the steps required in the example below:
1. Select the cell that you would like to populate with the ID, e.g., cell A1.
2. Select Scenario.
   b. Select an option under Copy Name by Active Cell, e.g., Right, then click COPY ID TO ACTIVE CELL.

Note: The Find ID’s widget will copy the object ID into the active cell, along with the name where you wanted it. It will then move to the next cell, depending upon where you chose to copy the name (left/right - it will move down, above/below - it will move right). This makes it easy
to populate a series of lines/objects. In this example, Cells A1 and B1 are populated as shown below.

   - Choose *Gas Revenue Summary*.
   - Click **COPY ID TO ACTIVE CELL**.
   - Cells A2 and B2 are populated as shown below.
   a. Choose *Energy*.
   b. Click **COPY ID TO ACTIVE CELL**
   c. Cells D6 and E6 are populated as shown below.

5. Continue to select lines, as needed.

Case B – Find Object for ID

You also have the option of finding an item with a given Object ID, as discussed above. Assume that an Object ID appears on the sheet or in a UIGet() function, and it is unclear whether it is a report/line, entity/entity group, etc., or what the specific value represents. See example below, where 2052 appears in cell E8.
1. Select the cell, e.g., E8. Note that the associated object for ID 2052, e.g., SWEGCO Gas planning entity, appears in the Find Object for ID region at the bottom right of the widget (see below – bottom right region of widget)

2. Or, enter a given ID into the space in this region, and the object will be likewise identified.

2) Copy Paste
From UIPlanner **BROWSE REPORTS** screen, you can copy the UIGet() parameters directly from report results on that screen. Note that you will not see the results until you actually export the pull report data and tie the spreadsheet to it.

- Go to any line in a report (that you have exported) on the **BROWSE REPORTS** screen.
- Highlight a cell, right click, and the small dialog box will open (see below).

![Spreadsheet Image]

- If you then go to the Excel spreadsheet and click *Paste*, it will create the uiget() function and populate all of the parameters (as numbers).

![Excel Spreadsheet Image]

**3) Type UIGet() Directly**

Because UIGet() is a working function in Excel, you can always just type the function and manually enter the parameters, as you can with any Excel function.
Refresh an Existing Pull Report

If you have already built a Pull Report and want to update the data in that report to what is currently shown in UIPlanner, follow these steps:

1) Run UIPlanner for the proper scenario.
2) Verify that **Export to Pull Reports** is selected for the report batch. (See **BROWSE REPORTS**).
3) Verify that all the relevant reports and entities are selected.
4) Click **OUTPUT REPORTS**. Note that the dialog window should indicate that the data is being exported to Pull Reports.
5) Open the Pull Report.
6) Select **Refresh Data** from the UIPlanner ribbon/toolbar.
   This will update the pull report to the current model results.
Note: If you have changed scenarios and want to link the Pull Report to the current scenario, you can just change the Scenario ID number in the pull report. If you have put that ID in only one cell and used hard cell references in all UIGets(), you only need to change it in one place. See cell B1 above.

**{ XE "Pull Reporting" \* MERGEFORMAT }** Drill Down Into UIPlanner From a Pull Report

You can drill from a Pull Report back into UIPlanner using the UIGet() function. If you click the **DRILLDOWN TO SOURCE** button on the Pull-Reporting ribbon/toolbar when you have a ‘UIGet’ formula cell selected in your worksheet, a pop-up dialog will appear with the associated UIPlanner report, line, entity(s), and time period from the UIGet function selected. The drilldown panel on the report will be visible, and you can then use the drilldown panel to drill through other reports in UIPlanner. See below:
Some notes:

- The dialog will only appear if the UIPlanner Model is open to the proper scenario and the report in question has been run in RUN SEQUENCES.

- You need check the **ENABLE PULL-REPORT DRILLDOWN LISTENER** box on the **Preference Manager** that alerts UIPlanner to look for this request.

- The request to UIPlanner to float a drill-down dialog above Excel is passed via text file. The file handoff occurs in a sub-directory of the pull report folder. Users need to have the pull report folder on their local drive.

**Send a Pull Report to Another User**

To enable users to share Pull Reports with people who do not have UIPlanner (and thus may not have the required add-in), you have the ability to save the file and convert all UIGet() functions to values. Note: If a user without the UIPlanner.xla add-in opens a Pull Report, they will get formula errors wherever UIGet was used.

To save a pull report in the appropriate format, click on the **REPLACE UIGETS WITH VALUES** in the UIPlanner toolbar (2003) or ribbon (2007+). You will be prompted to execute a Save-As. Enter a new file name and click **OK**. This will create a new workbook in which all of the UIGet functions will be replaced with values. All other Excel functions will remain as formulas. If you click **CANCEL** and do not execute the Save As, the...
operation will be canceled. Note that this process enforces a Save As, to prevent you accidentally overwriting the base spreadsheet that has all the UIGets() with the one with them converted to values.

See the before and after examples below. Note that the cell with the UIGet function was changed to a value. All other formulas remain unchanged.

You can now send this spreadsheet to other users. They do not need to have the UIPlanner.xla add-in installed on their machine.
UIPlanner's switchboard functionality allows the user to map processes and features to a diagram created in Power Point or Visio. Hot-spotted areas on a switchboard can open menu items, run reports, open files, and open other switchboards.

You can create diagrams in UIPlanner for:

- Process maps
- Consolidation hierarchy
- Functional breakdowns
- Other purposes, as needed.

Use the drop-down list at the top of the screen to select from a list of available switchboards.
To locate all hot-spots, place a check in the box marked *Show all existing hotspots*.

To create a new switchboard, please see *Designing a Switchboard*.

**List Of Tasks Or Operations That Are Performed With This Screen:**

**Linking a Diagram to a Switchboard**

The first step in creating a Switchboard is to construct an image. You can create image (.jpg/.png) files in PowerPoint and Visio. You can also use other image files such as company logos, pictures of power plants, etc. The next step is to use the **CREATE** button on the *Design Switchboard* screen to add a new Switchboard. Click **ASSIGN IMAGE FILE** to attach the file to the new Switchboard.

**Linking Switchboards to UIPlanner Actions**

As shown below, you can link hotspots to various types of objects discussed in the section on the *Design Switchboard* screen.

**Creating a Hierarchy of Switchboards**

You can create a hierarchy of switchboards by linking switchboards together and using the forward/back buttons, as detailed in the section on the *Design Switchboard* screen. Then you could link the budget hotspot to a budget switchboard.

**Launch Documents from UIPlanner**

You can also link switchboard hotspots to menu items that can launch files such as Word or Excel documents, described in the section on the *Design Switchboard* screen.
Designing a Switchboard

List of Tasks Or Tasks That Are Performed With This Screen:

Creating a New Switchboard and Linking a Diagram/Image to the New Switchboard

You can create image (.jpg/.png) files in PowerPoint and Visio. You can also use other image files such as company logos, pictures of power plants, etc. Click Create in the Design Switchboard screen to create and name your new switchboard. Next, select the switchboard from the drop-down list. Click Assign Image File to assign a file to the new switchboard.

Assigning Switchboard Hotspots to UIPlanner Actions

Create a hotspot by clicking the mouse in the top left corner of the area on the graphic you wish to use as a hotspot. Next, hold the mouse button down and drag down and to the right until the desired hotspot area is outlined.
Click **ASSIGN OBJECT** which will open the screen below:

You can link hotspots to various types of objects, discussed below.

**Report Groups**: Display action buttons for all reports in the specified report group.

**Super Entity Groups**: Display action buttons for all reports that process over the entity groups assigned to the super entity group.

**Switchboards**: Create hierarchies of switchboards.

**Report Sequence Sets**: View and run a sequence set below the Switchboard.

**Menu Items**: Trigger any item in the Menu Structure of UIPlanner.

**Model Reports**: Open a Model report from the **BROWSE REPORTS** screen.

**Budget Reports**: Run a Budget report.

**Scenarios**: Select a scenario to change to when the hotspot is launched.

**Files**: Open external files. All files stored in the UIP_Files can be selected. Use the **Work Plan Management** screen to add files to the available selections.

**Assigning Arguments**
Assigning an argument to an existing hotspot allows you to launch more complex actions. For example, a menu-item may take an argument to define the context of the launched screen.
**Assigning States**

Click on the *Assign States* checkbox to allow the hotspot to render differently based on system state of the current scenario lines.

![Assign State to Selected Hotspot](image)

**Creating a Hierarchy of Switchboards**

You can create a hierarchy of Switchboards by linking Switchboards together and using the forward/back buttons. For example, you could create a main menu such as the one below.

![Hierarchy of Switchboards](image)

Then you could link the Budget hotspot to a Budget switchboard such as the one shown below.
Launch Documents from UIPlanner

You can also link switchboard hotspots to menu items (found under the Help menu) that can launch files such as Word or Excel documents.

Switchboard Security

Workplans
The complexity of work involved in the following projects make them candidates for formally tracking in a work plan:

- **Software Implementation:** An implementation of UIPlanner involves a complex set of tasks.
- **Forecast Assembly:** Preparing a budget or a financial plan usually has a schedule, assignments, due dates, etc.
- **Analysis Process:** Analyzing a new set of monthly or quarterly results may involve several resources and interim steps.
- **Rate Case Preparation:** Preparing for rate cases involves assembly of actual (and, sometimes forward-looking) data.

UIPlanner includes the functionality for managing work plans.

To illustrate the capabilities of the **View and Manage Work Plans** screen, below is an example of a work plan for a mid-year reforecast. Note that milestones and tasks are indicated as open or completed.

You can view the work plan tree either by milestone (as depicted above) or by resource. You can also filter the tree by task or by due date.

**Milestones**

Within the overall plan you can set up any number of milestones and assign each one a due date. The milestones are displayed by due date. You also assign each milestone a Delivery Owner (the responsible resource.) The resource list is drawn from UIPlanner’s internal user list.

**Tasks**
Under each milestone you can set up any number of tasks and assign resources and estimated time requirements. You can assign multiple resources to a task.

**Link to UIPlanner Objects**

Any task can be linked to a file (e.g., an assumptions document), a report in UIPlanner (e.g. the final income statement) or to a switchboard object (e.g., a detailed process map). The Task Manager also facilitates controls over files containing items such as design documents, summary spreadsheets, etc.

**Launch Documents**

This feature in UIPlanner allows you to designate documents that can be opened from the UIPlanner menu. These documents can contain information such as Budget Guidelines, Executive Overviews, or Best Practices.

Up to five documents can be specified by your system administrator. They will appear under the Help menu item. Select the desired document to open it.
ADMINISTRATION

The menu item Show Current Users allows you to view users currently logged in. As system administrator, you can remotely force these users to exit the system (e.g., if you were planning to upgrade the UIPlanner executable but were not able to as a result of its being in use). If you choose to end these users' sessions, they will see a message on their screen that says "The administrator has forced your UIPlanner session to end." Note: This feature is available only in Oracle/SQL Server; it is not supported in MS-Access.

This screen will change the password for various administrator functions in UIPlanner. Note that it is only available in Oracle/SQL Server; it is not supported in MS-Access.

UIPlanner Security

Concept
Effective security in any financial planning and budgeting software is critical. Among the considerations are:

- **Confidentiality** – The data and reports produced in the financial planning process are by definition confidential information. You absolutely need to limit access to the financial model to the approved users. However, even within the user group you may need to have additional security, such as security over scenarios that should be
restricted to only a select few users. Budget data should likewise be limited to the approved users.

- **Complexity** - By its very nature, the financial planning process is complex because of the need for multiple scenarios with multiple variations of similar data as well as the number of users who provide specific inputs. You can use the security framework to control access to the various scenarios and cases.

- **Data Integrity** - The administrators of UIPlanner need to be able to maintain control over the underlying reports and processing logic (report logic, report sequencing, tolerances and iterations).

- **Process Flow** – Because of the dynamic nature of the planning process, you need to assure that any changes are made within the overall context of your planning organization and process. For this purpose, control of data is critical from the standpoint of who is putting in information at what point in time, and what specifically are they allowed to contribute to the process. For example, you may want to limit access to tax data, or control who can upload actuals and roll the model month over.

The overall goals of security are:

- To control who inputs and has access to data
- To control who creates and modifies UIPlanner entities and attributes
- To control the data to which they have specific rights, and
- To understand the relationship of the data to any given point in time within the planning process.

The key to effective security management is setting up a security framework that is

- Simple and easy to manage
- Secures the data and structures in UIPlanner the way you want

Note that UIPlanner’s Budget Module has an additional security layer which is described in a separate section. Budget users are given access to UIPlanner through the general security layer, but are tagged as “Budget Users”. The additional budget security then comes into play.

This section will cover overall application security.

**Security Layers**

Below are the layers in UIPlanner’s security structure.

- **Client Network security** – The initial layer resides with the client. UIPlanner users first need to be authenticated on the network.

- **Database login (optional)** – In most instances, UIPlanner itself logs into the shared database using a single login/password. However, clients can choose to have each user log into the database. This adds an additional security layer.
- **UIPlanner Security (by User ID)** – UIPlanner has its own security setup based on the network ID. If the user's network ID is registered in UIPlanner as an authorized application user, they can open UIPlanner. Once allowed into UIPlanner, the user’s rights are determined by the various security settings. Note that the user list and settings are maintained by the system administrator and are password protected.

- **Budget Security** – If a user is a Budget User, they are subject to the additional budget security settings.

**How Data is Stored in UIPlanner**

An overall concept that can help in configuring security within UIPlanner is to consider how the data is stored. This understanding will greatly simplify how you might go about setting up security. Here is how data is stored in UIPlanner:

<table>
<thead>
<tr>
<th>Time Dependent Data</th>
<th>Attributes and Associations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case</td>
<td>X</td>
</tr>
<tr>
<td>Entity</td>
<td>X</td>
</tr>
<tr>
<td>Sub-entity</td>
<td>X</td>
</tr>
<tr>
<td>Report</td>
<td></td>
</tr>
<tr>
<td>Line</td>
<td></td>
</tr>
<tr>
<td>Attribute ID</td>
<td></td>
</tr>
</tbody>
</table>

As you can see, you can generally secure all data within the model by securing access to entities and cases. And, security can be applied over several components of each structure. It only takes one component to restrict access. Users need write access to all qualifiers used to store data. So, for instance, if you have security applied to cases AND entities AND reports, and if a user has rights to two of those but not the third, they will not be able to edit the data.

Note: You still may want to put security over the Report Formats case, to secure the core reports and calculations.

**Security Objects and Settings**

Security within UIPlanner is administered through a central security setting screen (*MODEL SECURITY*), which is password protected. Overall, security is managed using several key structures/settings:

- **User ID** – All security is administered by user id. When the user logs in, UIPlanner is passed the User’s network User Id. Security rights and privileges are stored and set by this User Id.

- **Security Roles** – You can create Security Roles (Administrator, Power User, etc), and then assign each user to a role. A role is simply a collection of rights that are granted to each user that is assigned that
role. This makes administering security easier, because you do not need to configure each user individually by assigning all of the individual rights.

- **Create Options** – These are a series of check boxes on the Security Screen, by UserId. They control the user’s ability to create new structures in the model, such as new entities, or new cases/scenarios.

- **Administrative Options** – These are a series of check boxes on the Security Screen, by UserId. They control the user’s ability access various administrative functions of the application and should only be granted to application administrators.

- **Security Groups** – These are a special entity group within UIPlanner. A number of core structures can be "owned" by a Security Group, such as scenarios/cases, entities or reports.
  - Users can have rights related to the security groups: a) No Rights b) View Only or c) View and Edit.
  - Their rights to those objects are defined by the combination of the security group ownership AND their role within that group.
  - Examples:
    - If a Case is owned by Security Group A, and a user has View Only rights to that security group, he/she can only view the data, not change it.
    - If another user has View and Edit rights to Security Group A, they can change any data within that case.

**Core Object Editor**

More complex security can also be applied and administered through the **CORE OBJECT EDITOR**. This screen allows you to designate owner groups for many structures and configuration items. These include reports, entities, and attributes (by entity group). This screen also allows you to assign security over fields and options on the various screens throughout the model (maintained through a special attribute designated Q2).

Configuring and maintaining security is a combination of the above. Finally, you should be aware of when security is checked and invoked.

- **Security is checked upon login** – An overall concept that should be kept in mind is that security is set at the time a user logs into the model and are good for that session. If the system administrator deletes a user or changes their security settings, these will not take effect until the next time the user enters the model.

- **Security Controls upon Save** – A number of security settings are checked and implemented when UIPlanner goes to save data to the database, especially those controlled through Q2/owner groups. An example is control over report sequences. If a user does not have the ability to add reports to a sequence, they will be able to add a report...
on the screen (which looks like they have this right), but will not be able to save this change.

For more information on UIPlanner Security, see the following topics:

- UIPlanner Overall Security Guidance
- Security Screen Login
- Security Screen
- Managing Users
- Security Roles
- Security Groups
- Security for Cases/Scenarios, Entities and Reports
- Advanced Security

UIPlanner allows the security administrator to establish security over virtually all structures and screens/fields in UIPlanner. It is important that the security model chosen is robust enough to provide the needed control yet simple enough to avoid confusion.

- **Security is across all components** - As indicated above, security can be applied over several components of each structure. It only takes one to restrict access. Users need write access to all qualifiers used to store data. So if you have security over cases AND entities AND reports, if a user has rights to two of those but not the third, they will not be able to edit the data. For example, if you have a state income tax report by company, the data is stored by case, report, line, company & state. If the user has no rights or view-only rights to any of these qualifiers, he can't save the data.

- **Security is implemented at Save** – A number of security settings are checked and implemented at save time, especially those controlled through Q2/owner groups. Some items may be changed on the screens and used for a run without being saved. Security is only related to changing data on the disk. So if a user attempts to add a report to a sequence but does not have appropriate security rights, they can still run. However, they may get bad results. Also, they will not be able to save this change to disk.

- **Security is not inherited** - If a user has write access to the entity group Plant Accounts, he does not by definition get write access to
individual plant accounts. However, this is not generally a major issue. If you are managing security by entities, while you do need to set up ownership for each one. This is a one-time task. You only need to add security when you add a new entity.

- **Security is set at login** - An overall concept that should be kept in mind is that security is checked at the time a user logs into the model and good for that session. If the system administrator deletes a user or changes his/her security settings, these will not take effect until the next time the user enters the model.

To access the security settings screens, select **Model Security** from the **Administration** drop-down on the UIPlanner menu. (Note that the number and order (and even the naming) of the options on your Menu drop-down will probably be different, as the menus are now user-customizable.) Below is a sample **Administration Menu**:

Once you select the **Model Security** item, you will open the login screen.

As indicated above, access to the security screens is password controlled, and should be limited to system administrators. Type the password in the **Enter Password** field and then click **ENTER** to access the Security module. Note that you can change the **MODEL SECURITY** screen password by typing in the current password and then clicking **CHANGE PASSWORD**. Type in the new password and click **OK**.
This will bring you back to the login screen. You will then need to type in the new password in order to access the main screen of the Security Module.

Following is the **MODEL SECURITY** screen, opened to the **Assign Security** tab. The **Assign Roles** tab is covered under **Security Roles**.

The drop-down list **Select Role or User ID** lists all active users and roles. When you select a user from the list, their first/last name and security settings will display.

The **Assign Security** tab is divided into three regions.

- **Manage Users** – This region is where you add and delete users, and delete a user’s preferences, if needed. It is where you set the user’s view/edit codes. You can also It also has the check box to define a user as **Budget User** only in this region, or print security reports.
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- **Start-up Options** – This region includes the option to select a planner-property profile and menu profile for users.
- **Copy User Preferences** – This region enables you to copy user preferences.
- **Create Security Options** – This region enables you to define the user’s ability to create certain key UIPlanner objects, such as entities or reports.
- **Administrative Options** – This region enables you to grant the user the right to perform certain system-wide administrator tasks. These rights should be limited to a few administrators and not given to regular users.

Grant UIPlanner Security Options

This region of the Assign Security tab allows you to define the user’s ability to create certain key UIPlanner objects, such as entities or reports.

First, select the user ID or Role from the drop-down list. The check boxes will fill according to the user’s or user role’s current rights. Below is an example of the Assign Security tab (see **MODEL SECURITY** screen):
Use the check boxes to set the user’s rights for each of the items. Checking the box gives the right. If a box is unchecked, the user does not have that right.

- **Create Report Batch** – determines whether the user can create report batches on the **Browse Reports** screen. If unchecked, the **Create** button is disabled on that screen.

- **Create Attribute** – determines whether the user can create new attributes for entities. If unchecked, the **Create New Attribute** button is disabled on the *Define Attributes* region of the **Edit Attributes** screen.

- **Create Entity** - determines whether the user can create entities in the model, such as Bonds, Plant Accounts, etc. If unchecked, the **Create** and **Create and Edit** buttons are disabled on the **Edit Attributes** screen.

- **Create Case & Scenario** – determines whether the user can create cases and scenarios. Users can still modify existing scenarios. If unchecked, the **Create** button is disabled on the **Manage Cases** and **Manage Scenarios** screens.

- **Create Allocation Scheme** – determines whether the user can create new allocation schemes in the Allocations module. If unchecked, the **Create** button is disabled on the **Define Allocation Schemes** tab of the **Edit Allocations** screen.
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- **Create Super Entity Group** – determines whether the user can create new super entity groups. If unchecked, the **CREATE SUPER ENTITY GROUP** button is disabled on the **GROUP ENTITIES** screen.

- **Create Report Column Set** - determines whether the user can create new report column sets, which are global across all users. If unchecked, the **CREATE** button is disabled on the **REPORT COLUMNS** screen.

- **Create Calculation Sequence** – determines whether the user can create a new sequence on the **MANAGE SEQUENCES** screen. If unchecked, the **CREATE** button is disabled on that screen.

- **Create Entity Group** - determines whether the user can create new entity groups. If unchecked, the **CREATE** button under **All Entity Groups** is disabled on the **EDIT Attributes** screen.

- **Create Report** - determines whether the user can create new reports or report groups. If unchecked, the **CREATE REPORT** and **CREATE REPORT GROUPS** buttons are disabled on the **GROUP REPORT** screen.

- **Create Account** – determines whether the user can create new accounts and account rollups on the **MANAGE LEDGER** screen. If unchecked, the **CREATE** button is disabled on that screen.

- **Create Allocation Path** – determines whether the user can create new allocation paths in the **ALLOCATIONS** module. If unchecked, the **CREATE** button is disabled on the **Define Allocation Path** tab of the **EDIT ALLOCATIONS** screen.

- **Create Edit Group** - determines whether the user can create new edit groups. If unchecked, the **CREATE** button is disabled on the **DEFINE EDIT GROUPS** screen.

As indicated above, if a user or role does not have specific Create right, the **CREATE** button is disabled/grayed out on the appropriate UIPlanner screen. Below is an example of the Edit Attributes screen where the user does not have Create Entity rights.
Note: Most of the rights listed above just control the user’s ability to create new items or entities. The ability to read (see) or change existing objects is enabled through the security settings by assigning owner groups in the Core Object Editor. For example, the Create Sequences setting determines whether a user can create a new sequence. However, the control over whether a user can modify existing sequences (add reports to a sequence, reorder reports within a sequence, etc) is controlled by the Owner Group over these properties in the Core Object Editor.

The bottom region of the Model Security screen is used to give users access to various administrative functions in UIPlanner. These include data and structure type functions, such as the ability to delete cases or change visibility of objects as well as overall model configuration functions, such as changing the menu structure or accessing the Planner Properties screen. See the example below:
Use the check boxes to set the user’s various administrative rights. Checking the box gives the right. If a box is unchecked, the user does not have that right. The various administrative rights are listed below:

- **Manage Versions** determines whether the user can create or delete new versions. If the user has this right, the `CREATE VERSION` and `DELETE VERSION` buttons are enabled on the `MANAGE VERSIONS` screen.

- **Delete Cases** - determines whether the user can delete cases. If unchecked, the `DELETE` tab is disabled on the `CORE OBJECT EDITOR` when cases are selected.

- **Set Order** - determines whether the user can change the order of various objects in UIPlanner. If the user does not have this right, the `ORDER` tab is disabled on the `CORE OBJECT EDITOR`.

- **Edit Instance Row-Name/Code/Order** - determines whether the user can edit the information on the Instance table. If the user does not have this right, the `EDIT INSTANCE-NAME/CODE/ORDER` tab is disabled on the `CORE OBJECT EDITOR`.

- **Manage Menus** - determines whether the user has the right to add, delete or modify the various menu tabs and drop-down lists. If the user does not have this right, the `MANAGE MENUS` screen is disabled and a message indicates the user does not have the necessary rights.

- **Set Alerts** - determines whether the user can create or delete Alerts. If the user does not have this right, a message on the `ALERTS` tab of the `CORE OBJECT EDITOR` indicates this fact.

- **Set Password** - determines whether the user can change the database password. If unchecked, that menu item is disabled, and the user cannot open the `CHANGE DATABASE PASSWORD` screen.

- **Delete Other Objects** - determines whether the user can delete objects other than cases (see above). If unchecked, the `DELETE` tab is disabled on the `CORE OBJECT EDITOR` when other objects are selected. Cases are handled as a separate right, because of their importance.
- **Set Visibility** - determines whether the user can turn visibility of objects on or off. If the user does not have this right, the **Visibility** tab is disabled on the **Core Object Editor**.
- **Manage Planner Properties** - determines whether the user can modify the Planner Properties. If unchecked, that menu item is disabled, and the user cannot open the **Planner Properties** screen.
- **Archive/Resurrect Cases/Versions** - determines whether the user has the right to archive or resurrect cases or versions. If the user does not have this right, the **Archive/Resurrect Case/Version** screen is disabled and a message indicates that the user does not have the necessary rights.
- **Hard-Delete Lines** - determines whether the user can run the process to hard delete orphaned report lines. If unchecked, that menu item is disabled, and a message indicates the user does not have the necessary rights.

When you are done, click **OK** and the user settings will be saved to the database.

**Managing Users**

- **Add a User**
  To add a new user to the system, click **Add User**. The box below will open. Enter the user’s network ID. This ID should follow proper convention – no spaces, etc. When you click **OK**, you will get a message indicating that the user has been created.

  ![Add New Model User](image)

  Next, you should put in their full name, so that they can be easily identified in the system. Select the new user from the Select User ID drop-down list, and type their first and last name into the text box. Finally, you should configure the user’s security settings, either by assigning them a Role (see below) or by setting them individually.

  Click **Close** to exit the Security module. Then select **File-Save** on the UIPlanner menu to save to the database.
Delete a User
To delete a user, select the user from the drop-down list and click **DELETE USER**. You will get a popup asking you to confirm the deletion. If you respond **YES**, the user will be deleted.

![Delete User Confirmation Popup](image)

Delete User Preferences
While users can delete their user preferences themselves, from the **PREFERENCE MANAGER** screen, there may be occasions where an administrator may need to delete a user’s preferences. Select the user from the drop-down list and click **DELETE USER PREFERENCES**. You will get a popup asking you to confirm the deletion. If you respond **YES**, the user’s preferences will be deleted. Note that this will be effective the next time the user logs in.

![Delete User Preferences Confirmation Popup](image)

Budget User Only
This check box indicates that the user currently being displayed has access to the Budget module only. It will turn off many model-only features.

Set View/Edit Codes
When you click this button, it will bring up the View/Edit codes screen (for the user currently being displayed). See **Security Groups** for more information on **VIEW/EDIT** codes.

View Consolidated Reports
This controls whether the user can see consolidated reports. This option may be used to block confidential information during the planning process, such as the status of consolidated earnings per share.

Print Security Report
Click **PRINT SECURITY REPORT** to print out a text file that lists all users and their security settings. The model will display a window that confirms the security report and the path where it is stored. See below:
Below is a sample extract from a Security Report (opened via MS Excel):

As noted in Model Security, security groups are a core concept in UIPlanner in controlling security. A number of core structures can be “Owned” by a security group, such as cases and scenarios. Users can have rights related to the security groups:

a) No Rights
b) View Only
c) View and Edit.

Their rights to those objects are defined by the combination of the security group ownership AND their role within that group. Examples:

- If a case is owned by Security Group A and a user has View Only rights to that Security Group, he/she can only view the data, not change it.
- If another user has View and Edit rights to Security Group A, he/she can change any data within that case.

Thus, maintaining security groups is just like maintaining any other entity in the model (as long as the user has the security rights to add Entities). Security Groups are maintained in the Edit Attributes screen:
To add a new security group, click **CREATE**. When you next go into the Security settings screen, this new security group will appear in the list of security groups under *Set View and Edit Rights*.

**User View/Edit Codes**
You can set up a user's View/Edit rights across the various security groups. Click **Set View/Edit Codes** and the window below will open. It lists each of the security groups within the model.

You need to define their rights within the various security groups. Certain key categories of items within the model are owned by security group (cases, scenarios and reports are three examples). If a user is a member of that group, they have rights to view/edit data owned by that group.

For each group, use the following drop list to define what the user’s rights are for that group.

The options are:
- **No Rights** – The user cannot even view data owned by that security group. Cases and scenarios belonging to the specified group will display a name of *Description suppressed by security*.
- **View Only** – The user can see all data owned by that security group but cannot change it. This includes time dependent and attribute data stored in cases.
- **View and Edit** – The user has full rights to items owned by that security group. He/she can modify data in objects owned by that group.

When you are done, click **OK** to save the changes. When you are finished editing security, click **OK** to ensure that all user settings have been saved, and then close the form. The security settings will take effect the next time the user logs into the database (user view/edit settings are set at the time of login).

The concept of security roles allows you to define specific roles (Administrator, Power User, User, etc.) and to assign security rights to those roles. You can then assign each user to a role and they will inherit the rights of that role. Often times, the same basket of rights assigned to a role will need to be given to multiple users. This is a way to assign that basket of rights to these users without having to set them individually. When you add a new user, decide what role they have, and their security will be fully set. If a user’s security rights are assigned via role, the options will be grayed out. See below:
The **MODEL SECURITY** screen has two tabs: **Assign Security** and **Assign Roles**. If you select a security-role you can edit it and the edits will be applied to any user currently in that role. Some user-specific functionality is disabled when a role is selected (e.g., delete user preferences and delete user). You can still select any user in the drop-down list. However, if a user is assigned to a role, that user's security related options will be displayed, but disabled. (Note: Options not related to security, like those mentioned above, are still enabled.) On the **Assign Roles** tab, you can optionally assign existing users to security roles. When you do this, those users will get the security rights currently associated with that role, and will get any changes made to that role as long as they remain assigned. You can also remove users from their role on the second tab and return to editing their rights as an individual or assign them to a different role.

**Create Roles**

The first step in applying role-based security is to create the roles you want and configure them. Model security roles are a system-defined special entity group.
Administrators can create their own roles by adding entities to the *sys-Model Security Roles* entity group. When you add an entity here, it automatically shows up in the list of roles in the Security Module. See below:

![Select Entity or Group](image)

**Assign Roles**

Once the roles have been created and configured, you can assign the various users to their roles, as appropriate. This is done via the *Assign Roles* tab on the Security module. When you select a role from the drop-down list, the screen will display all users assigned to that role, as shown below.

![Manage Model Security](image)

To assign that role to a user not on the list, click **ADD USERS**. This will bring up a list of all users. See below:
Check the user(s) you want to assign. When you click **OK**, they will be added to the user list for that role, and their security will be set to that role.

**Notes:**
- Users can be assigned only one role at a time. If a user is assigned one role and you assign them another role, the prior role will be removed.
- You can also remove users from their role on the second tab and return to editing their rights as an individual.
- Finally, you do not have to assign all users to roles. You can configure some users individually.

**Modifying Roles**

Security roles are like any other user. If you change the settings for a security role, those changes will be applied to any user currently in that role. Note that some user-specific functionality is not applicable and is disabled when a role is selected (e.g., delete user preferences and delete user).
The final core structure for implementing security within UIPlanner is handled through the **Core Object Editor**. It should be noted that this is both powerful and complex, and should be used only for specific security needs. The majority of security needs should be able to be met through the settings by UserId on the **Model Security** screen, and by assigning owner groups to the main structures:

- Cases and Scenarios
- Entities
- Reports and Calculations

The **Core Object Editor** allows you to assign owner groups to various objects and attributes. This is attached to a number of configuration entities in UIPlanner, primarily fields and abilities on various screens. From the **Core Object Editor**, you can assign owner groups to a wide variety of items and structures.

- Open the **Core Object Editor**.
- When the **Core Object Editor** opens, select owner group.
- On the Owner Group tab, select the object type you wish to put security over.

Below are the three most common areas where clients have established security.

**Cases and Scenarios**

The most common security implementation is putting security over various cases and scenarios. This is accessed by selecting **Case** from the **Object Type** drop-down list. Below is an example of case level security:
The above settings do the following:

- **Case Owners** – various cases are assigned to different security groups. Only users who have *Edit and View* rights to those groups would be able to do add data to the cases controlled by those Groups. Ownership of cases works as follows for the various types of cases:
  - **Time Dependent Data Cases (Overlay, Incremental, and Actuals)** – security over these is pretty straightforward. Only users who are members of the owning owner group can add data to the case or edit existing data in the case.
  - **Attribute Cases** – same as for time-dependent data cases. Only users who are members of the owning owner group can add data to the case or edit existing data in the case. Several kinds of data are held in attribute cases:
    - Association and attribute data for entities
    - Line formats
  Thus securing the attribute case will also secure this other data.
  - **Logic (report format) cases** – this case primarily contains the calculation logic for the reports and calculations in the model. Securing this case will secure ALL report calculations.

- **Entities**
  Another common security implementation is putting security over specific entities. This is accessed by selecting *Entity* from the *Object Type* drop-down list, and using the filter to select the appropriate entity group. Then assign security as desired to each of the entities in the group. Below is an example of security over entities.

It is important to note that security does not inherit downward. Assigning security over an entity group (e.g., Bonds) does not enable security over the individual bonds.
Reports and Calculations
UIPlanner also allows you to put security over reports and/or calculations. The difference between the two is as follows:

- If you want to prevent a user from being able to change logic, you need to put the security on the calculation.
- If you want to prevent users from changing any other data (time data, attributes of lines such as formatting, etc.), you need to put the security on the report.

Setting security on a report is done from the **CORE OBJECT EDITOR** as follows:

- When the **CORE OBJECT EDITOR** opens, select the **Owner Group** tab.
- On the **Owner Group** tab, select **Report** from the **Object Type** drop-down list.
- Assign owner groups to reports, as desired:
  - Click on the space next to the report in the **Owner Group** column.
  - Select an owner group from the drop-down list.

See example below

![Core Object Editor](image)

The above settings do the following:

- **Report Owners** – various reports are assigned to different security groups. Only users who have **Edit and View** rights to those groups would be able to add data to the input items controlled by those reports. This adds another measure of control over data – by report as well as by case.

Setting security on a calculation (as opposed to report itself) is also done in the **CORE OBJECT EDITOR** as is done for reports. Except, the **Object Type** selected is **Calculation** and not **Report**.
Only users who have *Edit and View* rights to the groups above would be able to revise logic for the associated calculation.

The **Core Object Editor** also allows putting Owner Groups on several other structures within UIPlanner. It should be noted that this capability is both powerful and complex, and should be used a) with care and b) only if it is truly necessary to secure the model in a specific way.

The Q2 items are actions and settings on various screens within UIPlanner. UIPlanner allows you to put security over these, if desired. Below is a screen print of a selection from the Q2 settings. This is accessed by choosing Q2 from the *Object Type* drop-down list.
The above settings do the following:

- **Report Sequences Items** – These actions are all assigned to the *Model Administrators* security group. Only users who have *Edit and View* rights in that group would then be able to perform these actions on the *REPORT SEQUENCE* screen. This would ensure control over adding reports to a sequence, changing iterations and changing tolerances.

- **Report Items** – Likewise, these actions are all assigned to the *Model Administrators* security group. Only users who have *Edit and View* rights in that group would then be able to perform these actions on the *Edit Calculations* screen.

### Delete Obsolete Data

Screen Layout:

The **DELETE OBSOLETE DATA** screen allows system administrator to perform two different kinds of mass deletes from the database. The screen consists of two separate tabs:

- **Obsolete Data** – UIPlanner defines default values for a number of commonly used Line-related attributes, including annual-to-month, month-to-annual, line usage, function type, format, pointer to prior line, and consolidation sum code. When you add a line to a calculation UIPlanner will only assign values for these items if you specify something other than the default. This significantly reduces the number of attribute records needed. Attribute records for lines created before this capability was added are no longer needed. This screen allows you to delete these records.
**Obsolete Lines** – When you delete a line from a report, it is only marked as ‘deleted’ behind the scenes, so that it does not show up in the **Calculation Editor**; it is not ‘hard-deleted’ from the database. The reason is that the line may be used in other formula cases, so that deleting it entirely might jeopardize those other cases. The **Delete Obsolete Lines** function will first check to ensure that the lines are not used in any Logic Case in the database. Only then will the lines be ‘hard deleted”.

The ability to perform these two delete functions is controlled by a separate administrative security setting. **As this is a mass delete, you should back up the database before performing this function.**

**List Of Operations Or Tasks That Are Performed With This Screen:**

**Delete Obsolete Data**

The **Obsolete Data** tab is shown below. Note that the screen tells you what the system default is for each data item. These are system settings, and are not user configurable.

Use the check boxes to select which data items to delete, and click **Delete Obsolete Data**. The screen will refresh and echo back with the number of records of each type that were deleted. You should restart the system to complete the delete process.
This is a one-time process. Once you have deleted these unneeded records, UIPlanner will not add any more of these redundant attributes.

**Delete Obsolete Lines**

The *Obsolete Lines* tab is shown below. When you first open the tab it will list all Formula cases in the database, along with an indication of available memory. When you click **LOAD LINE DATA**, the bottom region of the screen will list all of the lines that are marked as deleted and are not used in any of the listed formula cases. You can export the list of lines to Excel by right clicking on the top bar of the lines window.

When you are ready to delete the lines, click **DELETE OBSOLETE LINES**. The system will perform the deletes 20 lines at a time. This small batch size is necessary because the system needs to check all formula cases. Note: The delete process can take some time – maybe 5 seconds for each 20 records.
You should probably do this delete annually or every other year. The number of 'tagged as deleted' lines will slowly grow again.

**Locked Cases**

If any of the Formula cases or Attribute cases are locked, the process will not be able to delete from those cases. An appropriate warning will be displayed. See below where the Base Attribute case is locked.

You will need to temporarily unlock those cases. Once the deletes are done you should go back and relock these cases.

**Archived Cases**
As indicated on the *Delete Lines* tab, the delete process only checks active formula cases. It does not check archived cases. To delete from an archived case(s), you first need to un-archive those cases.

**Versions**

The delete process only deletes from the current active version. To delete from a different version, you need to exit and log into that version.

**Security**

As indicated above, the ability to perform these mass deletes is controlled by a separate Administrative Security setting:

![Manage Versions](image)

The *MANAGE VERSIONS* screen is an administrative screen that allows you to make a complete copy of the current version of the model. It also allows you rename or delete existing versions.

Note that when you log in to UIPlanner, you log in to a specific version. Therefore, copying a version is a way of archiving the entire database.
Screen Layout:

The **MANAGE VERSIONS** screen has two regions.

The top region is where you initiate the *Copy Version* or *Delete Version* actions. There is a button for copying a version, along with an associated area to enter the new version number. There is also a button for deleting a version, along with areas to enter and then confirm the version number you wish to delete.

The bottom region of the screen is a grid that lists all version numbers and their names. This is where you rename a version. Also, by clicking the small arrow in the column headers you can toggle the ordering, either by version number or by name.

**List Of tasks Or Operations That Are Performed With This Screen:**

**Copy Version:**
- Enter a new version number in the box. This must be an integer between 1 and 16347, and cannot be an existing version number.
- Click **COPY VERSION**.

Note: This action copies the active version along with its name and gives it the number you entered. In the example below, we were in Version 1 (Base), thus our copy (Version 2) is a copy of Version 1.

Note: When you next log in, this new version will appear in the login screen’s drop-down list, as shown below.
Rename Version:
  • Double-click on a line under the Version Name column and enter the desired version name.

See the example below where Version 2 was renamed.

<table>
<thead>
<tr>
<th>Version Number</th>
<th>Version Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Test</td>
</tr>
<tr>
<td>1</td>
<td>Base</td>
</tr>
<tr>
<td>2</td>
<td>2010-2015 Forecast</td>
</tr>
</tbody>
</table>

Delete Version:
  • Enter a version number to delete and then enter it again in the confirmation field.
  • Click DELETE VERSION.

That version number will be deleted from the database. The progress window will echo the data being deleted. The deleted version will no longer appear in the drop-down list on the login screen.

Note: You cannot delete the version you are currently in, i.e., the active version.

Manage Menus

Manage Menus Screen
The **Manage Menus** screen allows the system administrator to design the layout and content of the drop-down menu at the top of the UIPlanner application screen. The drop-down menu structure is a vital element of the overall user interface, as it is the means by which users access various screens. A clean and logically laid out menu structure can greatly enhance the user’s experience in the model. Likewise, a disorganized and unwieldy menu structure can make it more difficult for casual users to navigate the system.

This screen has tools to configure the structure, visibility, and access to the screens and functions available to users of UIPlanner. In addition, it contains a feature that allows your system administrator to customize access to the online help system.

Two key concepts determining the look and feel of the UIPlanner menus are the underlying structure, i.e., which menu items exist and how they are organized, and which menu items will be visible to users. The overall menu structure is determined in the first (default) tab, **Menu Structure - System Wide**. The visibility aspect can be defined either on the basis of which menu profile is assigned to each user (**Manage Menus** tabs 2 and 4) or by which scenario type the user has chosen for the current user session (**Manage Menus** tab 3). It is important to note that only one of the two approaches to Menu visibility, either by Scenario Type or Menu Profile, should be used. Attempting to utilize both at the same time could cause system conflicts which result in menu items being rendered invisible inadvertently.

**Screen Layout:**

The **Manage Menus** screen is organized into five tabs.
Menu Structure: System-Wide

- Set Visibility by Menu Profile
- Set Visibility by Scenario Type
- Assign Profile to Users
- Help File Management

For more information on how to customize and manage the menus for your UIPlanner installation, please follow the above links to view details on each tab of the **Manage Menus** screen.

**Menu Item Names**

The names that are displayed for each menu item can be customized in the Core Object Editor.

- Open the **Core Object Editor**.
- Open the **Case-Name** tab
- Select the **Object Type MenuItem**.

- Locate the menu item whose name you wish to change.
- Type a new name into the right column (**Name**).
- Select **File, Save** from the UIPlanner menu.
- It will be necessary to exit and re-start UIPlanner to view your changes to the menu.

**Menu Structure - System Wide Tab**
The *Menu Structure - System Wide* tab of the *Manage Menus* screen is used to set the positioning and content of menu items in UIPlanner.

**Screen Layout:**

The left side of this tab contains a list of the screens that are available as menu items. The right region displays the current menu structure. This information is arranged in a tree structure. The folder icons depict the menu items that will appear across the top of the UIPlanner window. Items below each folder will appear as a drop-down list of selections when you click a menu item. The items indicated as *Separator_xx* show up as faint lines to separate groups of items within one drop-down menu.

**List Of Tasks Or Operations That Are Performed With This Screen:**

Buttons on each side of this tab allow you to do the following things.

**Restore Default Structure**

Click *Restore Default Menu Structure* in the *Menu Structure - System Wide* tab will remove all customizations you have made to the menu structure and take it back to a default menu structure. You only need to use this option if you want to remove all customizations to the menu structure.

When you click *Restore Default Structure*, you will see this message:
Click on **OK** to close this message. As indicated, after a **File, Save**, the default menu structure will be restored once you have exited and re-entered UIPlanner.

**Add, Remove, or Reposition Menu Items**

You can customize the UIPlanner menu in terms of items included and their location on the menu. Note that the menu structure is built when you first enter the system. Changes you make here in the menu structure or visibility will not take effect until you select **File, Save** from the UIPlanner menu and exit/re-enter the system.

**Adding Items**

- To add an item from the available list (left side) to the completed menu, highlight the item to select it.
- Click on the item in the completed menu (right side) under which you would like to add it.
- Click on the double-green right arrow (Add) underneath the available items list to move that menu item over to the completed section. Note that a single menu item may be added to more than one section on the completed menu. It will then show up under several drop-down lists.
Removing Items From the Completed Menu

- To remove an item from the completed menu, highlight that item.
- Click on the button marked with a red "X." The item will be removed from that section of the completed menu.
- If there is more than one instance of the item on the completed menu, those other instances must be removed separately.

Re-Ordering Menu Items or Menu Categories

- To reorder menu items within a menu category, highlight that item.
- Use the up or down arrows to move that item to the desired position.
- Note that you cannot use the arrows to move items between categories. In that case, you would add the item to the desired category and remove it from the current one.
- You can reorder menu categories as well, by highlighting the folder and using the up or down arrows. Note that reordering the categories will change the order of the menus across the top of the UIPlanner application.

After any menu changes, select **File, Save** from the UIPlanner menu.

The **Set Menu Visibility by Profile** tab on the **MANAGE Menus** screen enables you to set which menu items will be visible for different user profiles. For each profile, you designate which menu items (screens) are visible and which are hidden. While access to some screens can be limited using the **Model Security** screen, those items will still appear but might be grayed out. Using the **Menu Profile** approach on the **MANAGE Menus** screen will remove those items from the UIPlanner menu entirely for those users. You can thus have two or more menu profile structures – full menus for the System Administrators and limited menus for other users.

Open the **MANAGE Menu** screen and click on the **Set Visibility by Profile** tab (see below). Note: You can set up multiple profiles that reflect different user roles, e.g., System Administrator, Super User, Budget User, etc. These profiles can be assigned to users in the **Assign Profiles to Users** tab.
• Select a profile using the **Menu Profile** drop-down list. The visibility status of all menu items in that profile will be displayed.

• Check or uncheck the box next to an item to make that menu item visible or invisible.

**Note:** If you un-check the first (top) menu item of a category, e.g., "**Budget / Departments**" in the **Budget** menu category shown above, that entire category of menu items will be invisible when in the selected scenario type. This feature can be useful when you would like to hide an entire menu category, such as the **Budget** category for all **Detailed Model** scenarios. If you wish to hide a particular menu item that is at the top of a category, but do not wish to hide that entire category, you should move that menu item further down the list in the **Menu Structure - System Wide** tab. Then, you can hide that item for the selected scenario type without rendering the rest of that category of menu items invisible.

**Creating a New Menu Profile**

To create a new menu profile, follow these steps:

• In the **Menu Visibility** tab, click **CREATE PROFILE** to open the **ADD OBJECT** dialog box.

• Add the profile. The new profile will be available in the drop-down list in the **Menu Visibility** tab.

• The new menu profile will default to displaying all menu items. Un-select (remove checks from) menu items as needed to configure its visibility.

• After you have finished configuring the visibility for the selected profile, select **File, Save** from the UIPlanner menu.
- To assign this new menu profiles to users, click on the **Assign Profiles to Users** tab.

**Note:**

Setting menu visibility by a custom menu profile is an alternative to setting menu visibility by **Scenario Type**. It is not recommended that you use them together, for the following reason. If an item is hidden in a scenario type, that designation "wins" over a visible designation in a selected custom menu profile. Therefore, if you wish to control menu visibility by profile, as described above, you need to make sure that for all scenario types in the **Set Visibility by Scenario Type** tab, all menu items are checked (visible).

The **Set Menu Visibility by Scenario Type** tab on the **Manage Menus** screen is used to control menu item visibility by scenario type. In other words, what menu items a user sees in the UIPlanner menu will be determined by the type of the scenario they have selected in the context section of the UIPlanner screen, e.g., Budget, Model, etc. While this tab can be used to control visibility, the overall structure and organization of your installation's menu is determined on the **Menu Structure - System Wide** tab of the **Manage Menus** screen.
Screen Layout:

The top region of the tab contains a drop-down list from which you select a scenario type. Scenarios can be assigned types in the Manage Scenarios screen. A Refresh button is located next to the Scenario Type selection box. Clicking this button will refresh the display after a new scenario type is selected.

The main region of the tab displays each main menu header and the menu items that are available for each one. Use the scrollbars on the right side and at the bottom of the screen to view the entire menu structure. The organization of this list is maintained in the Menu Structure - System Wide tab of the Manage Menus screen.

A check in the box next to a menu item indicates that the item is visible when the user is in a scenario of the selected type. To restrict menu visibility for a scenario type:

- Select the Scenario Type.
- Click on the box next to menu items you wish to hide to remove the check.
- When you are finished, select File, Save from the UIPlanner menu.
- The new visibility configuration will be loaded the next time you (and other users) re-start UIPlanner.

Note: the same functionality for turning off visibility of an entire category (described in the Set Menu Visibility by Profile topic) also applies here. If you un-check the first (top) menu item of a category, e.g., "Budget / Departments" in the Budget menu category shown above), that entire category of menu items will be invisible when in the selected scenario type.

Assign Menu Profiles to Users

If you have created additional menu profiles, use the Assign Menu Profiles to Users tab on the Manage Menus screen to assign users the appropriate profile.

- Open the Manage Menus Screen.
Click on the Assign Profile to Users tab:

- Highlight the user to which you wish to assign a specific profile.
- Click on the value in the Menu Profile field for that user to open the list of available profiles:
- Click on your choice to select it.
- From the UIPlanner menu, select File, Save to complete the process.
Your installation of UIPlanner should include this UIPlanner online help system. The help system is accessed by selecting Help from the UIPlanner menu. The location and file name of this help system are set in the PLANNER PROPERTIES screen. For many screens of UIPlanner, the help system includes an additional context-sensitive feature. When you are in a screen in UIPlanner, such as the BROWSE REPORTS screen, and press F1 on your keyboard, the help system will open to a topic (htm file) describing the operation of that particular screen.

These screen-to-help topic htm file mappings have been included in UIPlanner code as default file locations.

If you have developed custom help documentation for your particular installation of UIPlanner and have converted that to an html-based document, you can link it as an online help system along with the base UIPlanner system. You can use the Help File Management tab on the MANAGE MENUS screen to designate a different htm file to launch when F1 is pressed in a particular screen. You can thus hook up your custom htm files to the appropriate UIPlanner screens. Note that this linking functionality does not remove any of the core online help – it allows you to more directly link screen to help topic.
Screen Layout:

The main region of this tab contains the list of screens in UIPlanner, and the location and name of the htm file that launch when F1 is pressed. The bottom region contains a field displaying the default file name, and a field in which you can enter a new file name and location. Note that the base directory of the help system is entered in Planner Properties and does not need to be included, only any subdirectories and the actual htm file name. For example, in the screen print above, the Help System Location property is set as `c:\\Help\\Detailed Model 4.0x\`. This part of the path does not need to be included when designating a custom file name.

To enter a custom help file name and location for a screen, follow these steps:

- Select the screen for which you wish to change the help file name.
- Highlight the contents in the Current Help File field and replace them with the new path and file name.
- Click Update Table after each custom entry. When you do so, the file name in the grid will be highlighted in red, indicating your custom entry.
- When you are done, click Save to Database. You will be prompted with a message indicating how many changes were saved.
- If you would like to cancel your changes without saving, click Cancel All Changes. Note that this will cancel all changes since your last save to the data base.
To restore the help file location to the default included in UIPlanner code, select that screen and click on Restore Default. Again, you must click **SAVE TO DATABASE** for the restoration to be complete.

You will be able to access the new context-sensitive help locations in your current user session. However, other users must exit UIPlanner and start a new session in order to access the new help files.

**Planner Properties**

**{XE "Planner Properties" \* MERGEFORMAT }Planner Properties Screen**

UIPlanner uses the **Planner Properties** screen to set system-wide properties. These property settings have a profound effect on the operation
of the application. They will be customized and set during the installation of UIPlanner.

Screen Layout:

The main body of the screen contains a list of planner properties, their current values and other information, such as Required Input, and Property Type. Use the scrollbar to move down the list of properties.

An **UPDATE** button is placed under each planner property. To change a value, select or type in the new value and click the **UPDATE** button. For Directory property types a **SELECT** button is provided to allow you to choose a location from Windows Explorer.

Directly above the property list are a series of check boxes for the various property categories, i.e., Budget, Model, System, Customer Revenue, and Client. Remove checks to limit the list of properties displayed.

The buttons at the top of the screen enable you to:

**Select the Group of Properties to Edit**
- If your installation has more than one group defined, you can use this drop-down list to display the groups available and select one. In the above example, System Level Properties is the selected group.

**Select Groups for Users**
- Click on this button to open the ***Assign Property Group to Users*** dialog:

![Assign Property Group to Users](image)

- Click on the down arrow under a user and select the desired group. Click on the """"X"""" in the top right corner of the window to close it.
- Select **File, Save** from the UIPlanner menu to complete the operation.

**Create Property Group**
- Click on this button to open the ***Add Object*** dialog box.
- Add the new Property Group.
- Select **File, Save** from the UIPlanner menu to complete the operation.
View as Table
The information in the Planner Properties screen can be viewed in table form can be exported to Excel.

- Click **View As Table** to open this window:

![Property Display Window]

From this window, right click on a column label and select **Export to Excel** from the menu.

Copy to Local Database

```
{XE "Local Database" /* MERGEFORMAT */}{XE "Screen - Copy to Local Database" /* MERGEFORMAT */} Copy to Local Database Screen
```

![Copy Database to Local MDB Window]
In production, UIPlanner is run in an Oracle or SQL Server environment. The **COPY TO LOCAL DATABASE** screen allows you to make a local copy of the UIPlanner database in MS Access. You may do this for several reasons: a) to take the model offsite to an analyst meeting, b) to make a local copy to test some major changes you do not want to test in production, or c) for backup or archiving purposes.

This screen launches a process that copies all of the UIPlanner tables along with their indexes into a local MS Access MDB. If you run the model from this local database, you will get the exact same results.

**Screen Layout:**

The **COPY TO LOCAL DATABASE** screen has three major regions:

At the top of the screen is a dialog box where you click to browse and select the destination database.

The center region of the screen *Select Scenarios to Export* lists all active scenarios in the current version.

The bottom of the screen *Progress Feedback* is a text window which indicates the progress of the copy process.

**List Of Tasks Or Operations That Are Performed With This Screen:**

**Copying Data to a Local Database:**

- Click in the *MDB File* box to bring up the browse window. Browse to find the destination database. The destination file needs to be an .mdb file. If you use Access 2007, you must first save the database as an .mdb file, not .accdb (the Access 2007 format).
- Use the check boxes to select which scenarios to copy. Note that this process copies all data required to run the selected scenarios, i.e., the formula case, the actuals case, and whatever time data and attribute cases are required.
- The *Include Time Data* check box should be left selected since you almost always will want to include the time data.
Click **RUN**. First, the process will extract all of the tables in the UIPlanner database and copy them out to text files. It will then create empty tables in MS Access to receive the data. Finally, it will launch a session of MS Excel that will spin through these files and copy them into MS Access. This process will be logged in the *Process Feedback* region and in the MS Excel session. See below.

**Progress Feedback**

![Screen shot of Progress Feedback](attachment:response_to_psc-1_question_no_9_page_495_of_696_k_blake.png)

**Excel Session:**
### Notes

- **Archived Data** - This process will not copy archived cases or scenarios. If you want to include archived data in the backup you need to un-archive this data.
- **Active Version** – The Copy to Local Database process only runs against the current active version. If you want local copies from a different version, you need to exit and reopen the model using that version.
HELP

UIPlanner features are listed by release number. This screen is designed to give users a listing of program files and the dates of their most recent modifications. Click the "X" in the top right corner to close the box.

HELP Version

This help file is intended for use with UIPlanner Version 6.0x

How to Topics

How-to topics are designed to guide you through the necessary screens and steps to accomplish specific tasks. Each How-to topic is generally limited to a single task, providing quick answers to your questions. Links are provided in How-to topics to other relevant help topics.

Screen Definition Topics
Screen Definition topics are focused on a single screen, describing each screen section, and all buttons and menu options. Screen definition topics generally follow the format below.

- Introduction paragraph explains what the screen is designed to accomplish.
- The screen location is given relative to the UIPlanner menu structure.
- General layout of the screen is explained, indicating where screen regions are located.
- Each control or input is explained. Depending on the complexity of the screen, additional topics may be used.
- Related topics button which will lead you to other related topics of interest of interest

**Concept Topics**

Concept topics will describe high level concepts relevant to an area of interest in UIPlanner. Generally concept topics will be located at the top of the list after a "Book" is opened on the table of contents.

**Function Topics**

Functions topics are specific to the Edit Calculation screen and creating reports. Function topic format will guide you through the use of each function.

**List Topics**

List topics simply contain a list of other help topics.

---

![Show all Functions Screen](image)

---

**Type:** CALC_EDITOR_TYPE

<table>
<thead>
<tr>
<th>Function Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy From: with Path</td>
<td>Returns value of a line on a report for an ...</td>
</tr>
<tr>
<td>Copy From: Specific Association</td>
<td>Returns value of a line on a report for an ...</td>
</tr>
<tr>
<td>Copy From: Specific Entity</td>
<td>Returns value of a line on a report for a ...</td>
</tr>
<tr>
<td>Last Actual Period</td>
<td>Returns the last period of actuals.</td>
</tr>
<tr>
<td>Value From: Month</td>
<td>Returns the value of a line given the mon ...</td>
</tr>
<tr>
<td>Month Interval</td>
<td>Returns 1 if this is an interval month give ...</td>
</tr>
</tbody>
</table>
The **SHOW ALL FUNCTIONS** dialog box displays a list of all calculation functions valid for a calculation type.

**Screen Layout:**

This dialog box has a single control drop-down list near the top and a list of functions, as shown above.

**Type:** Select the desired function list by type. Type refers to the calculation type (shown below) that each function is valid for. In many cases, a particular function will be valid for more than one calculation type.

When you select a calculation type, a short description of each function for that type appears in the grid.

If you would like to view this information in Excel, right click on either the function or the description column header, then select **Export to Excel** to view this information in a spreadsheet. You can also elect to **Export to HTML** or **Search** for a specific function by right-clicking on the headers.
TROUBLESHOOTING

Troubleshooting Overview

The purpose of this section is to outline some common errors and issues faced by users and to lay out processes for addressing them. Note: The issues and solutions presented here are merely examples. All possible errors are not covered. In almost all situations, you will need to contact your system administrator to address the problem. These topics will help you provide more detailed information to your system administrator so that he/she may resolve the issue.

Please see the following topics for more information:

- Running Low on Memory
- Compile Errors
- Model Run Errors
- Stack Trace/DOS Prompt
- Report Editing
- Data Editing
- Visibility/Security
- Monthly/Annual Reports
- User Temp Data Case
- Model Import - UnMappedItems
- Model Import - Duplicate Interface Codes
- Actuals Data
- Pull Reporting - UIGet Argument Not Found
- Pull Reporting - UIGet Usage Error
- Pull Reporting - UIGet Functions with Prefixed Paths
- Refresh Browse Reports
- Excel Output - BROWSE REPORTS Screen
- Browse Reports - No results for 2D Reports
- Duplicate Interface Codes, Only One Mapped Line
**Description Of Issue Or Problem:**

UIPlanner application suddenly becomes unresponsive.

**Screens or Operations Where This Error Might Occur:**

This can happen in any screen in UIPlanner, running any operation.

**Why It Happens And What To Do About It:**

You may be running out of memory. For users with a 32 bit operating system the most memory available to an application must be less than 2 GB, usually around 1.2 GB. You need to see how much memory UIPlanner is using. To do this:

- Open the Windows Task Manager.
- Select the Processes tab.
- Sort the table on that tab by the Memory column, descending.
- If you have a process named Java that is around 1,200,000 K you are exceeding the RAM limits of a 32 bit operating system.
- You should contact your system administrator to discuss options.

**Description Of Issue Or Problem:**

You are building a report, and when you click **Save And Compile**, you get a Compile Error message box. Another instance where this might happen is when you are running the model and get an error message box.

![Compile Error Message Box]

**Screens Or Operations Where This Error Might Occur:**

- Run Sequences
- Manage Sequences
- Calculation Editor
Why It Happens And What To Do About It:

This message indicates that there is an error in a report calculation. It can be a number of things, for example: a) you have not supplied all required arguments for a function, or b) you have put in illegal syntax.

The Compile Error message box gives you information to find the source of the error. It gives you report (its object ID), the line, and the reason for the error. See below.

The error is on report ID 30626452 (Min/Max), line B, and Boolean requires int to evaluate.

Two of the most common compile errors are shown below:
1) If-test without a check – when you build an "if" test, you need to put in what the calculation editor is to evaluate for processing the if-test. This goes on the line with the "if" (or the else-if, as needed). If you do not, you get the following compile error.

To fix the error, put in something on line B for the "if" test to evaluate. Note that in testing, you can put in 1=1. This is a valid expression.
2) Starting a formula with “=” – The “=” symbol is used to invoke the function editor, and is not used in mathematical calculations like in Excel. If you do accidentally preface a formula with =, you will get the error below. You need to put in what the calculation editor is to evaluate for processing the "if" test. This goes on the line with the If (or the else-if, as needed).

To fix the error, remove the “=” from the equation.

```
{ XE "Model Run Errors" \* MERGEFORMAT }{ XE "Troubleshooting - Model Run Errors" \* MERGEFORMAT }{ XE "Errors" \* MERGEFORMAT }
Troubleshooting - Model Run Errors

Description Of Issue Or Problem:

You are running a report sequence, and you get a text message saying that there were errors. See below for an example.

screens Or Operations Where This Error Might Occur:

Run Sequences
Manage Sequences
Calculation Editor

Why It Happens And What To Do About It:

This error message is generated by UIPlanner when it encounters missing or invalid relationships or missing data that is needed for posting results or for
consolidating results. Note that UIPlanner will still finish running and will use all information that it can. If there are errors, some report results may be incorrect, but the model will still run.

UIPlanner sends the errors out to a text file. This is noted in the dialog box. Click **YES** to open the text file. Below is an example of an error file.

![Error File Example](image)

The text file will indicate the cause of the errors. It will list specific reports and entities.

Some of the most common model run errors are described below:

- **No valid Low Level Planning Entity for transaction.** This arises when one or more entities in the report do not have a path to get to a low level planning entity. They are most likely missing an association value.
- **No relation between reports.** This arises when you try to copy or rollup between reports where the entity groups do not have a relationship to support it. Either create one, or use another variant of the function.
- **Cannot copy from mixed monthly/annual to monthly.** You have tried to copy from a report that is run monthly/annual to one run monthly report. This is OK during the monthly portion of the horizon, but does not work in the annual periods. Either redefine the report, or use the **ATTEMPT APPROXIMATION** option on the function.
- **No postings occur because there is a problem with the consolidating hierarchy.** Something in the base consolidation structure has changed and is causing a fatal error in the posting logic. When this occurs, the postings are turned off.
- **Code is out of synch.** One or more of the reports have been changed since you last recompiled. Go back to **RUN SEQUENCES** and click **COMPILE AND RUN**.
- **A scenario does not run because certain report(s) in the iterative report sequence are not set to “mixed period.”** Check the reports in the sequence.
Troubleshooting - Stack Trace/DOS Prompt

Description Of Issue Or Problem:

UIPlanner has the ability to echo key processing information to a DOS prompt running simultaneously with the application (usually called the Stack Trace). This provides key debugging information for your system administrator or UII if you encounter a serious error. Note that there is a Planner Property that alternatively allows you to not have the DOS box visible, but instead to send errors and information to a text file.

Whichever option you choose, the text the messages are generally left-justified. An error will be indented. See below.

As indicated above, this is key debugging information on a technical level.
**Why It Happens And What To Do About It:**

If you encounter a serious error, open the stack trace and look at the latest entries. You may want to send that information to your system Administrator or UII.

- If your *Stack Trace* is sent to a text file, you can just send the file itself.
- If you have a parallel DOS window, below are the instructions.
  - a. Right click on the top of the window
  - b. In the right click options, scroll down and choose *Edit, Select All*
  - c. Right click again and choose *Copy*
  - d. Open a text editor (e.g., Notepad) and choose *Paste*
  - e. Send that file

**Description Of Issue Or Problem:**

You open the *Calculation Editor* to edit a certain report and get a message saying: "*Report is checked out to . . . username.*" See below.

![Report Checked Out]

**Why It Happens And What To Do About It:**

TA report can be edited by only one user at a time. Click *OK* to open the calculation editor. Note that you will be in view mode.

If you need to edit the report, you can have that user close their session or you can have the system administrator go to their preferences and delete the User Lock.
Description Of Issue Or Problem:

- **Attribute data** - you change attribute data but it does not change on the screen.
- **Time Data** – you make time data changes and when you click **Save** you get the following message box:

![Message Box](image)

**Why It happens And What To Do About It:**

This probably indicates that the case is locked or you do not have security rights to edit the data. You need to contact the system administrator to unlock the case or modify your security rights, as appropriate.

Description Of Issue Or Problem:

- **Entities** – There are entities or entity groups that you know exist but you do not see them on the Edit Attributes screen
- **Scenarios** – There are scenarios that you know exist but you do not see them on the scenario drop-down list or on the **Manage Scenarios** screen
- **Reports** – The **Run Sequences** screen shows **Description Suppressed by Security** instead of the report names.

**Why It Happens And What To Do About It:**

These errors indicate that you do not have security rights to view these entities, reports or scenarios. You need to contact the system administrator to modify your security rights, as appropriate.
Description Of Issue Or Problem:

You are trying to view data in **Browse Reports** and you have selected a custom column set with monthly or quarterly columns. You do NOT see any data in the UIPlanner reports for the monthly columns, but you DO see data for the year. See below for an example:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Revenue:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric Revenue</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5,014,463</td>
<td>5,142,379</td>
<td>5,274,255</td>
<td>5,379,973</td>
</tr>
<tr>
<td>Gas Revenue</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Steam Revenue</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Affiliate Revenue</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Operating Revenue</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5,014,463</td>
<td>5,142,379</td>
<td>5,274,255</td>
<td>5,379,973</td>
</tr>
<tr>
<td><strong>Operating Expenses:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2,219,119</td>
<td>2,285,682</td>
<td>2,354,264</td>
<td>2,424,882</td>
</tr>
<tr>
<td>Purchased Power</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>130,269</td>
<td>154,778</td>
<td>159,421</td>
<td>164,204</td>
</tr>
<tr>
<td>Cost of Gas Sold</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Steam Costs</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Operations and Maintenance</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,125,328</td>
<td>1,147,829</td>
<td>1,170,731</td>
<td>1,194,207</td>
</tr>
<tr>
<td>Depreciation, Decommissioning &amp; Amortizations</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>406,948</td>
<td>502,753</td>
<td>518,007</td>
<td>536,943</td>
</tr>
<tr>
<td>Taxes Other Than Income Taxes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>130,976</td>
<td>154,451</td>
<td>157,076</td>
<td>161,160</td>
</tr>
<tr>
<td><strong>Total Operating Expenses</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4,142,651</td>
<td>4,245,509</td>
<td>4,360,459</td>
<td>4,481,405</td>
</tr>
<tr>
<td><strong>Operating Income</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>871,822</td>
<td>896,871</td>
<td>913,796</td>
<td>898,568</td>
</tr>
</tbody>
</table>

Why It Happens And What To Do About It:

This may indicate that you are trying to run a monthly column set for a year when the model is set to run annual. For example, assume that your model is set to run 3 years monthly and 2 years annual. If you selected a column set that was 5 years monthly, you would not see monthly data in the last two years.

You have two choices:

1) Select a different column set, one with yearly columns rather than monthly ones for the years in question.
2) A more radical option would be to change the monthly setting on the scenario (see **Manage Scenarios**). Note that this should be done only after careful consideration, because it impacts the scenario processing.
Two common errors or issues related to the User Temp Data Case are described below.

**Description Of Issue Or Problem:**
You do not see the Temporary Time Data case in the case listing for your current scenario.

**Why It Happens And What To Do About It:**
The switch to enable the User Temp Data Case is not set in Planner Properties. You should contact your system administrator.

**Description Of Issue Or Problem:**
You populated data in my User Temp Data case but you do not see it reflected in the report results.

**Why It Happens And What To Do About It:**
Assuming that you put the data in the correct entity and time period, there are two likely reasons for your data not impacting results.

1) You did not click the Use <Username> Temp Data switch on the Run Sequences screen. Go back to Run Sequences and check this switch. Note that this needs to be set each time you enter the model or change scenarios.

2) Another data case is overriding your User Temp Data Case. Check the case ordering on Manage Scenarios.
Troubleshooting - Model Import - Un-Mapped Items

Description Of Issue Or Problem:

You are importing a file using the **MODEL IMPORT** screen and the file being imported indicates one or more errors (highlighted in pink). See below.

Why It Happens And What To Do About It:

To fix the errors, you need to match the field names and interface codes. Note that this may not necessarily be missing interface codes in UIPlanner. If all columns show errors, and you believe that the codes are populated, there may be a quick fix.

1) If an item is highlighted in pink, that means that UIPlanner does not know how to map it to anything in the model. These mappings are directed by the rules you set on the **MODEL IMPORT** screen. Typically imports will be translated using interface codes contained in the chosen interface case. The pink indicates that that line and field of the import does not correspond to an interface code in the model (if you have elected to use field names, there is not a matching name in the model).

2) Select a different Interface case. If you have more than one interface case, you may have selected the wrong interface case. Select a different one, and all the errors may go away, i.e., they will no longer be pink.

3) Check the import settings. An incorrect number of qualifiers or incorrect column definition could cause an entire column to be misinterpreted.
4) Check the file itself. There might have been an error in how the file was created.

To fix unmapped items you have two choices:

1) Populate required interface codes directly. Open the \textit{CORE OBJECT EDITOR} screen and select the account/entity, report or line. Select the \textit{INTERFACE CODE} tab, and populate the required interface code(s). Make sure to put them in the proper Interface case. Note that the pink error flag goes away immediately.

2) Map the unmatched items using the mapping widget on the \textit{MODEL IMPORT} screen. Right click on an item that is generating an error. This will bring up a mapping widget. Select the type of item and then the specific one to map to. When you have found it, click \textbf{OK}, and note that the pink error flag will go away for that item.

If you have more items to map, when you right click on the item the mapping widget will remember the last one you mapped. This is handy if you have a sequence of items to map. Note that you can only map entities, lines or accounts this way. For reports or attribute definitions you need to use the \textit{CORE OBJECT EDITOR}.

{XE "Actuals Data" \* MERGEFORMAT }{XE "Trouble-shooting - Actuals Data" \* MERGEFORMAT }Troubleshooting - Actuals Data
Description Of Issue Or Problem:

You have run calculations and do not see the anticipated values in the actuals periods in the BROWSE REPORTS screen. In other words, you believe you have time data in the actuals periods, but you do not see any values.

Why It Happens And What To Do About It:

You might have a mismatch between the case in which the actuals data is located and the Annual to Month setting of that line. For example, you might have the line defined as Dollars (with Actuals), but the data is stored in a regular time data case, or the line is defined as Dollars (without Actuals), but the data is in the Actuals case. If this is the case, you can either:

1) Move the data to the correct case, or
2) Change the line attribute.

Troubleshooting - Pull Reporting - UIGet Usage Error

Description Of Issue Or Problem:

You are using the UIGet() function, and it returns an error listing the UIGet() Arguments. See below.
Why It Happens And What To Do About It:

This may indicate that you have not provided the right number of arguments. Check your UIGet function and confirm the number and order of the arguments.

Troubleshooting - Pull reporting - UIGet Functions With PreFixed Paths

Description Of Issue Or Problem:

If you open the spreadsheet and the UIGet() functions all have some path have path prefixed to them.

Why It Happens And What To Do About It:

This may indicate that the person who sent you the spreadsheet had the UIPlanner.xls in a different folder. You need to delete the prefixed text. The easiest way to do this is to edit a cell, and select the prefixed text. Then select Find/Replace and replace this text with blanks.
APPENDIX: FUNCTIONS

Function Overview

Functions used in the Financial Model are organized into the following categories:

- Across Time
- Averages
- Copy and Rollups
- Dates
- Financial
- IDs
- Input
- Interface Only
- Math and Statistics
- Process
- Other - No Parent Assigned
- Across Entities

Function - Line is Target of Allocations

Function Description:
This function returns the sum of all allocated values. You use this function with the UIPlanner Allocations engine. Note: The function returns 0 if the current line is not a target of allocations.

Example:
Definition of lines that are allocated
The screens below show the **TARGET OF ALLOCATIONS** function. The allocation paths have already been set up.

### Report Calculation

![Image of Report Calculation]

### Report Results

Report results are shown below. Note that the drilldown panel provides detailed information on the calculation of the allocated results.

![Image of Report Results]
Function Description:
This function returns the sum of all lines pushed to this line. You use this function with the **Push from Report to Report** screen. Note: The function returns 0 if the current line is not a target of a push.

Example:
The screen prints below show the **Push from Report to Report** screen. The pushes have already been set up.

---

**Report Calculation**

---

**Report Results**
Note that the drilldown panel identifies the source of the push. Note also that you can push multiple items to a single line.
Function - Spread to Group

Function Description:
This function allows you to take a total amount and spread it among members of a group. Note that this function does NOT do a pro rata spreading or allocation. It does the spreading in a defined order, assigning as much as it can to the first, then any remainder to the second, and so on. Depending upon various settings, it can:

- Spread an amount to the members - the group start total is 250, we want to spread 500. The function will spread an additional 500 among the members in rank order.
- Reallocate among the members to hit a target amount - the group total is 250. Thus function can reallocate among the members in rank order so that they still total 250.
- Just reallocate among the members – the group start total is 250. The function will increase and decrease the individual member amounts so that the 250 is assigned in order.

A common application of this function is to do a simple dispatch of generating units to meet a load, sorted by least cost unit, subject to the units’ capacity.

Parameters:
- **Line for Limit** - Select the report line containing the maximum to allocate to this member of the group (minimum is assumed to be zero).
• **Line for Start Amount** - Select the report line containing the initial amount that can be adjusted up or down by the spread
• **Line for Sort** - Select the report line that has the value for the sort
• **Line for Amount to Spread** - Select the report line that has the amount you want to spread. This line is summed across the group to develop the total to spread
• **Association to define Group** – Use the drop-down list to select the association used to determine members of the group.
• **Force net Spread to Zero** – If Yes, the amount to spread is first spread as an increase to group members, then in reverse sort order, spread as decreases. The default is No.
• **If Net to Zero**, allow un-spread amount – if Yes, the reverse spread includes members that may have been allocated increases. The default is No.

**Example:**
The screen prints below show the *Spread to Group* function. There are three examples:

- **Example 1** - the group start total is 250, amount to spread is 500. The function will spread an additional 500 among the members in rank order. Setting - Net Spread to Zero = NO
- **Example 2** – the group start total is 250, amount to spread is 500. The function will increase and decrease the individual member amounts in rank order so that they total 500. Settings - Net Spread to Zero = YES, Unspread Amount = NO
- **Example 3** – the group start total is 250. The function will increase and decrease the individual member amounts so that the 250 is assigned in order. Settings - Net Spread to Zero = YES, Unspread Amount = YES

The chart below show the application of the *Spread to Group* function for the above three examples:
**Report Calculation**

Below is the report calculation. Note the final two parameters (these are set for Example 1)

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula-forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Line</td>
<td>Input</td>
</tr>
<tr>
<td>C</td>
<td>Start Amount</td>
<td>Input</td>
</tr>
<tr>
<td>D</td>
<td>Sort</td>
<td>Input</td>
</tr>
<tr>
<td>E</td>
<td>Amount to Spread</td>
<td>Input</td>
</tr>
<tr>
<td>F</td>
<td>Spread to Group - Alpha Entities</td>
<td>Spread to Group B [Limit, C [Start Amount], D [Sort], E [Amount to Spread], Pointer to System Control No, Yes]</td>
</tr>
</tbody>
</table>

**Report Results**

Below are the results for the three examples. Results are best viewed using entities across, with totals turned on. Note that drilldown is not available for this function.

### Example 1

<table>
<thead>
<tr>
<th>Detail Model 2009-2013 Base Plan</th>
<th>Alpha 1</th>
<th>Alpha 2</th>
<th>Alpha 3</th>
<th>Alpha 4</th>
<th>Alpha 5</th>
<th>Alpha 6</th>
<th>Alpha 7</th>
<th>Alpha Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 2009</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>5000</td>
</tr>
<tr>
<td>Start Amount</td>
<td>20</td>
<td>10</td>
<td>5</td>
<td>10</td>
<td>95</td>
<td>100</td>
<td>10</td>
<td>250</td>
</tr>
<tr>
<td>Sort</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>28</td>
</tr>
<tr>
<td>Amount to Spread</td>
<td>50</td>
<td>100</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>75</td>
<td>75</td>
<td>500</td>
</tr>
<tr>
<td>Spread to Group - Alpha Entities</td>
<td>480</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>500</td>
</tr>
</tbody>
</table>

### Example 2

<table>
<thead>
<tr>
<th>Detail Model 2009-2013 Base Plan</th>
<th>Alpha 1</th>
<th>Alpha 2</th>
<th>Alpha 3</th>
<th>Alpha 4</th>
<th>Alpha 5</th>
<th>Alpha 6</th>
<th>Alpha 7</th>
<th>Alpha Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec 2009</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>5000</td>
</tr>
<tr>
<td>Start Amount</td>
<td>20</td>
<td>10</td>
<td>5</td>
<td>10</td>
<td>95</td>
<td>100</td>
<td>10</td>
<td>250</td>
</tr>
<tr>
<td>Sort</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>28</td>
</tr>
<tr>
<td>Amount to Spread</td>
<td>50</td>
<td>100</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>75</td>
<td>75</td>
<td>500</td>
</tr>
<tr>
<td>Spread to Group - Alpha Entities</td>
<td>480</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>500</td>
</tr>
</tbody>
</table>

### Example 3
Function Description:
This function sums across the primary entity of the current report, using an association. For example, sums rate schedules to summary class, given an association to summary class. This function returns the sum of entity values in the Report entity group according to a selected association.

Parameters:
- **Sum line** - Select the report line you want to sum
- **Calculate total using Association** - Select the appropriate association to group by.

Example:
The chart and screen prints below illustrate this function. **Entity Group Alpha** has an association to **Entity Group Bravo** (see chart). The function uses this association to sum (rollup) **Alpha** entities according to the association to **Entity Group Bravo**.

When the report is running over the first three **alpha** entities, this function will return 600 which is the total of the **alpha** entities that have a common association to **Bravo**. Likewise, when the report ran over **Alpha 4, 5 and 6** the function will return 1,500 which is the sum of alpha entities that have a common association with **Entity Group Bravo**.

Multiple report iterations are required for this function.

**Association between Alpha and Bravo**

**Report Calculation**
Function Description:

This function is similar to the Sum Across function in that it sums the primary entity of the current report. However, this variant is for use within a method. It returns the value of that same line from a related (shared) report summed across all entities.

Parameters:

- **From Report** - Select the report to be summed. The report must be one of the Wide Report group.

Example:
Note that there are four reports in the Wide Report Group, one for inputting amounts, one for inputting factors, a third for calculating the allocated amount and a final one that sums the allocated amounts.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Sample numbers Input</td>
<td>Input()</td>
</tr>
<tr>
<td>B</td>
<td>Annual Total Function</td>
<td>Annual Total(A;Sample numbers Input)</td>
</tr>
</tbody>
</table>

**Report Results**

Across Time

```
{XE "Annual Total" /* MERGEFORMAT */}{XE "Function" /* MERGEFORMAT */}Function - Annual Total
```

**Function Description:**

This function calculates the annual total value for a given line in a report, and returns that value for each period of the report. The annual total is a pure sum – the function adds the values whether they are balances, rates, or monthly expenses. The annual total for fiscal clients is the sum of the months in the fiscal year. When the report is processing annually, the annual value is returned.

This function uses the current iteration value for the current month.

**Parameters:**

- **From Line** - Select the line in the current report that you want to calculate the annual total of.

**Example:**

The screen prints below show this function applied to line A of the report. Note the Annual total appears in each period.
Function Description:
This function calculates the annual value for a given line in a report, where the year to choose is given by a line in the report, and returns that value for each period of the report. If the month-to-annual option on the source line is beginning balance or ending balance, the value from the beginning/ending month is returned. All other month-to-annual options return the sum of the months.

This function uses the current iteration value for the current month.

Parameters:
- **Line for Value** - Select the line in the current report that you want to calculate the annual total of.
- **Line for Date** - Select the line in the current report that contains the year ended.

Example:
The screen prints below show this function applied to line A of the report, where line B has the YYYYMM as an input. Note the Annual total appears in each period.

Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula/forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Input Alpha Data</td>
<td>Label Only</td>
</tr>
<tr>
<td>B</td>
<td>Input YYYYMM</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Year Ended YYYYMM</td>
<td>Input()</td>
</tr>
<tr>
<td>D</td>
<td>Annual Total For Year Ended YYYYMM</td>
<td>Annual Value for Year Ended (YYYYMM)B:Input Alpha Data,C:Year Ended YYYYMM</td>
</tr>
</tbody>
</table>
Function Description
This function calculates a balance, given a line for additions and a line for deductions using the formula: balance = balance (prior period) plus additions minus deductions.

Parameters
- **Line for Additions** - Select the line in the current report that you want to add to the balance.
- **Line for Reductions** - Select the line in the current report that you want to subtract from the balance.

Example

```
<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Label</th>
<th>Formula-forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Additions to balance</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Deductions to Balance</td>
<td>Input()</td>
</tr>
<tr>
<td>D</td>
<td>Balance</td>
<td>Balance(B:[Additions to balance],C:[Deductions to Balance])</td>
</tr>
<tr>
<td>E</td>
<td></td>
<td>Label Only</td>
</tr>
</tbody>
</table>
```

```
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Parent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additions to balance</td>
<td>100</td>
<td>110</td>
<td>120</td>
<td>130</td>
<td>140</td>
</tr>
<tr>
<td>Deductions to Balance</td>
<td>50</td>
<td>45</td>
<td>40</td>
<td>35</td>
<td>30</td>
</tr>
<tr>
<td>Balance</td>
<td>50</td>
<td>115</td>
<td>195</td>
<td>290</td>
<td>400</td>
</tr>
</tbody>
</table>
```

Function Description:
This function calculates the latest 12 month total value for a chosen line in a report. This function is also known as the “Rolling 12 month total.” Note that the report may need to be iterated more than once. Note that this function always returns a total, regardless of the month-to-annual code on the line being summed.

This function uses the current iteration value for the current month.
**Parameters:**
- **Line for Value** - Select the line in the current report that you want to calculate the latest 12-month total of.

**Example:**
The screen prints below show this function applied to line A of the report. Note the rolling 12-month total (including the current month) appears in each period.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula-forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Input Data</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Latest 12 Months Total</td>
<td>Latest 12-month Total(B:[Input Data])</td>
</tr>
</tbody>
</table>

**Report Results**

![Report Results Image]

```
{ XE "Maximum Across Time" /* MERGEFORMAT */{ XE "Function - Maximum Across Time" /* MERGEFORMAT */
Function - Maximum Across Time
```

**Function Description:**
This function returns the maximum value of a selected line in a report, within a date range drawn from two other report lines. Note that the report must be iterated more than once.

**Parameters:**
- **Line to Search for Maximum** - Select the line in the current report that you want to find the maximum of.
- **Line for Start Date (YYYYMM)** - Select the line in the current report that has the start of the date range you want to search in.
- **Line for End Date (YYYYMM)** - Select the line in the current report that has the end of the date range you want to search in.

**Example:**
The screen prints below show this function applied to Line B of the report, with the date ranges in Lines C and D. Note that line E returns the maximum of line B within this range.

**Report Calculation**

![Report Calculation Table]

**Report Results**

<table>
<thead>
<tr>
<th>Month</th>
<th>Alpha 1</th>
<th>Beta 2</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha 1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beta 2:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Function - Next Period Value**

**Function Description**

This function returns the selected line's value in the next period. It is functionally equivalent to Value From Period, with period set to +1. Since the function looks forward, the report must be iterated at least twice.

**Parameter**

- Line for next period value.

**Function - Peak Value**
**Function Description:**
This function returns the peak value of a selected report line, using parameters of relative period offset (number of periods forward, and how many periods back to scan). The number of periods to include and offset from the current month are parameters obtained from line references.

**Parameters:**
- **Line** – Select the line in the current report that you want to calculate the peak value of.
- **Relative Period (0 for current)** – Select the line containing the relative period - how many periods forward (see chart above) or backwards if negative. Any integer positive or negative is valid. Non integer values will be truncated.
- **Periods to Scan** - Select the line containing how many periods to scan. Periods to scan will be counted back in time from the relative period parameter. Note: A zero or negative number in this parameter will cause this function to return zero.

**Example:**
The chart below shows 3 examples. The first is when the report is running over April with parameter of 4 for relative period and 7 periods to scan. As you can see, the relative period is August (4 periods from April). Periods to scan are counted back from August (February to August). The peak value in the scan period is 83 for March. Two additional examples are shown in the chart for May and June.

The screen prints below show the actual calculation results for the chart above as well as additional parameter examples.

**Report Calculation**
Appendix: Functions

Report Results

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Input values</td>
<td>Input()</td>
</tr>
<tr>
<td>B</td>
<td>Relative Period (Input)</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Periods to Scan (Input)</td>
<td>Input()</td>
</tr>
<tr>
<td>D</td>
<td>Two Point Annual Average function</td>
<td>PeakValue(A,B,C)</td>
</tr>
</tbody>
</table>

Function Description:

This function returns the previous period's value for a given line in the current. In mixed monthly/annual reports it will return the previous annual value in annual periods.

Parameters:
- **From Line** - Select the report line that you want to calculate the previous value of.

Example:

In the screen print below, Line Y uses the **PREVIOUS** function with Line X as the parameter.

Note the value returned in Line Y the prior period's value for Line X. This function can be used to return the previous period's value for simple or complex calculations.
Function - Running Total

Function Description:
This function calculates the accumulated total value for a given line in a report, over all time. Note the function results accumulate for all the periods of the report.

Parameters:
- **From Line** - Select the line in the current report that you want to calculate the running total of.

Example:
The screen prints below show this function applied to line A of the report. Note the function results accumulate for all the periods of the report.

Report Calculation

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Sample numbers Input</td>
<td>Input( )</td>
</tr>
<tr>
<td>B</td>
<td>Running Total Function</td>
<td>Running Total([A, Sample numbers Input])</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Report Results

<table>
<thead>
<tr>
<th>2006-2010 Base Scenario</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample numbers Input</td>
<td></td>
</tr>
<tr>
<td>10 20 30 40 50 60 70 80 90 100 110 120</td>
<td>4 8 12</td>
</tr>
<tr>
<td>Running Total Function</td>
<td></td>
</tr>
<tr>
<td>10 30 60 100 150 210 250 300 450 550 650 750</td>
<td>784 792 809</td>
</tr>
</tbody>
</table>

Function - Sum Values Between Dates

Function Description:
This function calculates the accumulated value for a given line in a report, within a date range drawn from two other report lines. Note that the report must be iterated more than once.

Parameters:
- **Line for Value** - Select the line in the current report that you want to accumulate.
• **Start Period Line (YYYYMM)** - Select the line in the current report that has the start of the date range you want to accumulate over.

• **End Period Line (YYYYMM)** - Select the line in the current report that has the end of the date range you want to accumulate over.

**Example:**
The screen prints below show this function applied to Line B of the report, with the date ranges in Lines C and D.

### Report Calculation

#### Report Results

![Report Calculation Table](image)

```plaintext
{XE "Function - Sum Values From History" */
MERGEFORMAT }
{XE "Sum Values" */ MERGEFORMAT
}Function - Sum Values From History

**Function Description:**
The function returns the sum of values of a given line across a historical range of months. The line for the value must be either Input () or Account (). The maximum historical range is 5 years. The sum for a given month, say May 2010 with a 4 year history is the sum from June 2006 through May 2010. The function continues to work into the forecast. When processing mixed monthly-annual, the value is converted to an annual value using the month-to-annual option of the source data line.

**Parameters:**

- **Line for Value** - Select the line in the current report that you want to accumulate.

- **Number of Years** - Select the number of years you want to accumulate for (1 to 5).
Example:
The screen prints below show this function applied to Line B of the report, with 2 as the number of years.

Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Input Data</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Sum Values from History</td>
<td>Sum Values from History(B [Input Data], 2)</td>
</tr>
</tbody>
</table>

Report Results

```
{XE "Sum Values" /* MERGEFORMAT */}{XE "Period" /* MERGEFORMAT */}{XE "Value" /* MERGEFORMAT */}{XE "Function" /* MERGEFORMAT */}Function - Sum Value from Period
```

Function Description:
This function sums the value of a given line across time, given a relative month offset to the current period in time. The month offset is an input parameter, and therefore fixed for the report. Use a negative value to sum backwards in time, positive to sum forward in time.

Note: This function does not pay attention to mixed monthly/annual processing. If used on a mixed monthly/annual calculation, the value from period minus one will sometimes be monthly, sometimes annual.

You should use `SUM VALUES FROM YYYYMM` for mixed monthly annual reports.

Parameter:
- **Line** – Select the line in the current report that you want to sum.
- **Months (Minus = Past, Plus = Future)** - Select the value of months forward or backward to sum. The options are from - 100 to + 100.

Example:
The chart below illustrates this function. June returns a value of 80 given a months parameter of negative 4. This function will total June and the prior 4 months values. The chart also shows additional examples.
The screen prints below show additional examples of this function.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Sum Value from Period function -4</td>
<td>Sum Values from Period(A:Input values) -4</td>
</tr>
<tr>
<td>D</td>
<td>Sum Value from Period function -2</td>
<td>Sum Values from Period(A:Input values) -2</td>
</tr>
<tr>
<td>E</td>
<td>Sum Value from Period function 0</td>
<td>Sum Values from Period(A:Input values) 0</td>
</tr>
<tr>
<td>F</td>
<td>Sum Value from Period function 2</td>
<td>Sum Values from Period(A:Input values) 2</td>
</tr>
<tr>
<td>G</td>
<td>Sum Value from Period function 4</td>
<td>Sum Values from Period(A:Input values) 4</td>
</tr>
</tbody>
</table>

**Report Results**

Function Description:
This function sums the value of a given line across time, given a relative month offset to the current period in time. The month offset is a value referenced from a line in the report, and can thus change over time. Use a negative value to sum backwards in time, positive to sum forward in time.

Note: This function does not pay attention to mixed monthly/annual processing. If used on a mixed monthly/annual calculation, the value from period minus one will sometimes be monthly, sometimes annual.
You should use **SUM VALUES FROM YYYYMM** for mixed monthly annual reports.

**Parameters:**
- **Line** – Select the line in the current report that you want to sum.
- **Offset Line in Months (Minus = Past Months (Minus = Past, Plus = Future)** – Select the line in the current report that contains the offset number of months.

**Example:**
The chart below illustrates this function. April returns a value of 90 which is the total of April - August values given the offset line value of 4.

The screen prints below show additional examples of this function.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Input values</td>
<td>A:B Input()</td>
</tr>
<tr>
<td>B</td>
<td>Month offset input</td>
<td>A:B Input()</td>
</tr>
<tr>
<td>C</td>
<td>Sum Values from Period - Line as argument function</td>
<td>A:B Input()</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th>2006-2010 Base Scenario</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input values</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>Month offset input</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Sum Values from Period</td>
<td>1.6</td>
<td>49</td>
</tr>
</tbody>
</table>

```markdown
{ XE "Function - Sum Values from YYYYMM" \* MERGEFORMAT }
{ XE "Sum Values" \* MERGEFORMAT }
```

**Function Description:**
This function sums the value of a given line across time, given a start date.

**Parameter:**
• **Line** – Select the line in the current report that you want to sum.
• **Line for Date (YYYYMM)** - Select the line in the current report that has the date you want to begin summing from.

**Example:**
The chart below illustrates this function.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula-forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Input Data</td>
<td>Input()</td>
</tr>
<tr>
<td>B</td>
<td>Date to sum from (YYYYMM)</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Sum Values from YYYYMM</td>
<td>Sum Values from YYYYMM0: [Input Data], C, [Date to sum from (YYYYMM)]</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha 1</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>(Date to sum from (YYYYMM))</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
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<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
</tr>
<tr>
<td>(Sum Values from YYYYMM)</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
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<td>10</td>
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<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Alpha 2</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
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<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>(Date to sum from (YYYYMM))</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
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<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
</tr>
<tr>
<td>(Sum Values from YYYYMM)</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
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<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Alpha 3</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
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<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>(Date to sum from (YYYYMM))</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
<td>200,900</td>
</tr>
<tr>
<td>(Sum Values from YYYYMM)</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
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<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

```{ XE "Value From Month" /* MERGEFORMAT */ }{ XE "Value" /* MERGEFORMAT */ }{ XE "Function" /* MERGEFORMAT */ }Function - Value From Month
```

**Function Description:**
This function returns the value of a report line for any month in the current calendar year. The month to choose is specified in another report line.

Note that this function is for the calendar year. If you use a fiscal year, you may need to use other functions to achieve the result.

This function uses the current iteration value for the current month.

**Parameters:**
- **Line for value** – Select the line in the current report that you want to get the value of.
- **Line for Month** – Select the line in the current report that contains the value for the Month. Valid numbers must be integers between 1 and 12, non-integers will be truncated, values outside this range will return 0 (zero).
Example:
The value of a report line in August is 80. The Value 80 will be returned with a parameter line of 8. The two screen prints below illustrate this example, as well as other values.
Valid numbers must be integers between 1 and 12, non integers will be truncated, values outside this range will return 0 (zero).

Report Calculation

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Input values</td>
<td>Input()</td>
</tr>
<tr>
<td>B</td>
<td>Input Months</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Results</td>
<td>Value From Month([A:Input values],[B:Input Months])</td>
</tr>
</tbody>
</table>

Report Results

<table>
<thead>
<tr>
<th>2005-2010 B...</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input values</td>
<td>10.00 20.00 30.00 40.00 50.00 60.00 70.00 80.00 90.00 100.00 110.00 120.00</td>
</tr>
<tr>
<td>Input Months</td>
<td>9.00 10.00 5.00 6.00 3.00 12.00 2.00 13.00 0.00 -7.00 5.20 4.30</td>
</tr>
<tr>
<td>Results</td>
<td>90.00 10.00 60.00 80.00 30.00 120.00 20.00 0.00 0.00 0.00 50.00 40.00</td>
</tr>
</tbody>
</table>

Function Description:
This function returns the value of a given line from a historical period. The line for the value must be either Input() or Account(). The maximum historical range is 5 years. The value for a given month, say May 2010 with a 4 year history is the same month from 4 years prior, e.g. May 2006. The function continues to work into the forecast. When processing mixed monthly-annual, the value is converted to an annual value using the month-to-annual option of the source data line.

Parameters:
- **Line for Value** - Select the line in the current report that you return the historical value of.
- **Number of Years** - Select the number of years back you want to go (1 to 5).

Example:
The screen prints below show this function applied to Line B of the report, with 2 as the number of years.
Appendix: Functions

Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula/forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Input Data</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Value from History - 1 year back</td>
<td>Value from History(B1[Input Data],1)</td>
</tr>
<tr>
<td>D</td>
<td>Value from History - 2 years back</td>
<td>Value from History(B2[Input Data],2)</td>
</tr>
</tbody>
</table>

Report Results

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Value from History - 1 year back</td>
<td>200,962</td>
<td>200,962</td>
<td>200,962</td>
<td>200,962</td>
<td>200,962</td>
<td>200,962</td>
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<td>200,962</td>
<td>200,962</td>
<td>200,962</td>
<td>200,962</td>
</tr>
<tr>
<td>Value from History - 2 years back</td>
<td>200,962</td>
<td>200,962</td>
<td>200,962</td>
<td>200,962</td>
<td>200,962</td>
<td>200,962</td>
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<td>200,962</td>
</tr>
<tr>
<td>[ ]</td>
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<td>[ ]</td>
</tr>
</tbody>
</table>

{ XI "Period" /* MERGEFORMAT */{ XI "Value" /* MERGEFORMAT */{ XI "Function" /* MERGEFORMAT */ Function - Value from Period

Function Description:
This function returns the value of the given line in a report, offset by a specified number of periods. An offset of -2 would give the value from 2 months prior, and an offset of +2 would give the value from 2 months in the future.

Note: This function does not pay attention to mixed monthly/annual processing. If used on a mixed monthly/annual calculation, the value from period minus one will sometimes be monthly, sometimes annual.

You should use VALUE FROM YYYYMM for mixed monthly annual reports.

Parameters:
- **Line** – Select the line in the current report that you want to get the value of.
- **Months (Minus = Past, Plus = future)** - Select the number of offset months from the drop down list. The list contains values from -12 to +12.

Example:
The screen prints below illustrate this function. Five sample functions are given, with parameters of -4, -2, 0, 2, and 4. Each function will return the value of the input line with the appropriate offset months. Note: input
values for 2006 are 1 - 12 for January - December, and Input values for 2008 are 25 - 36.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Input Values</td>
<td>Input( )</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th>2006-2012 Base Scenario</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan</td>
</tr>
<tr>
<td>Value From Period function with Parameter</td>
<td>9</td>
</tr>
<tr>
<td>Value From Period function with parameter</td>
<td>11</td>
</tr>
<tr>
<td>Value From Period function with Parameter</td>
<td>13</td>
</tr>
<tr>
<td>Value From Period function with Parameter</td>
<td>15</td>
</tr>
<tr>
<td>Value From Period function with Parameter</td>
<td>17</td>
</tr>
</tbody>
</table>

**Function Description:**

This function returns the value of a period for a specified date. It returns a value from a given year, month and line. The first argument is the line whose value you are looking for. The second argument is the line whose value is the period in the form YYYYMM (e.g. - 200912).

**Parameters:**

- **Line for Value** – Select the line in the current report that you want to get the value of.
- **Line for YYYYMM** - Select line from the current report that contains the date desired. The report line must contain a validly formatted YYYYMM date (example, 200903 = March 2009).

**Example:**

The screen prints below illustrate this function. The result for March 2007 is 20 given the parameter date of August 2007. Note: The date input line on the reports results screen print is in proper YYYYMM date format.

**Report Calculation**
Function Description:

This function returns the change: **Current Year minus Prior Year**. The Year values are latest 12 months during monthly processing, and annual totals during annual processing. Note: This function returns 0 until the last month of the base year. It pays attention to the month-to-annual code of the source line – Beginning Balance, Ending Balance are treated appropriately, all others use the annual sum.

Parameters:

- **Select Line** - Select the line in the current report you want to calculate year over year change of.

Example:

The screen prints below show this function applied to line B of the report.
Function Description:
Similar to the Year over Year Change function. It returns the percent change over the prior year (Current Year minus Prior Year) / Prior Year. The year values are latest-12 months during monthly processing, and annual totals during annual processing. Note: like Year over Year Change, it returns 0 until the last month of the base year.

Parameter
- **Year Over Year Change Percent for Line** - Select the report line that you want to calculate the change percent of.

Example:
The screen prints below show the Year Over Year Change Percent applied to Line B of the report.

### Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula-forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Revenues</td>
<td>Copy From('Electric Revenue Summary',Q:[Revenue - Total])</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Year over Year Change Percent</td>
<td>Year over Year Change Percent(B:[Revenues])</td>
</tr>
</tbody>
</table>

### Report Results

<table>
<thead>
<tr>
<th>Detail Model - Revenues</th>
<th>Year 2010</th>
<th>Year 2011</th>
<th>Year 2012</th>
<th>Year 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago Electric</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B:[Revenues]</td>
<td>5,006,941</td>
<td>5,134,767</td>
<td>5,266,551</td>
<td>5,372,226</td>
</tr>
<tr>
<td>C[]</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D:[Year over Year Change Percent]</td>
<td>2.54%</td>
<td>2.55%</td>
<td>2.57%</td>
<td>2.01%</td>
</tr>
</tbody>
</table>

Function Description:
This function returns the running value across time for the selected line. The value resets to zero at the start of each new year. This function calculates the year to date value for any line in a report. This function pays attention to fiscal processing, but does not pay attention to the month-to-annual code of the source line, i.e. it always calculates a sum.

This function checks to see if the calculation was processing annually, and if so, returns the annual value.

In previous releases, it checked first whether values for the line had been calculated (in a prior iteration), and if not returned a zero.

**Parameters:**
- **Select Line** - Select the line in the current report you want to calculate year to date totals on.

**Example:**
The screen prints below show this function applied to line A of the report. Note the **YEAR TO DATE** function results accumulate year to date totals for the sample input data.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Sample numbers Input</td>
<td>Input()</td>
</tr>
<tr>
<td>B</td>
<td>Year to date Function</td>
<td>Year to Date((A:Sample numbers Input))</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th>2006-2010 Basis Scan...</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample numbers Input</td>
<td>10 20 30 40 50 60 70 80 90 100 110 120 4 8 12</td>
</tr>
<tr>
<td>Year to date Function</td>
<td>10 30 60 100 150 210 280 350 450 550 660 780 4 12 23</td>
</tr>
</tbody>
</table>

**Function Description:**
Returns the escalated value of a line beginning at a specified date. Prior to the escalation start date, the line is defined as Input. This function is similar to Escalate Line, except that there the source is copied from another line. The escalation is calculated by multiplying the prior year/same month
by \((1 + \text{rate})\). Escalation rates are assumed to be decimals, like 0.05. If defined as Input, the escalation rate line should be defined as 'Percent NOT divided by 12.' The function works with pure monthly and mixed monthly-annual reports. Note: the report must be iterated at least 2 times.

**Parameters:**

- **Line for Escalation Start Date (YYYYMM)** - Select the report line that contains the Year/Month when you want to begin escalating
- **Line for Escalation Rate** - Select the report line that contains the escalation rate to use.

**Example:**
The screen prints below show the Escalate Input function in use

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula-forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Date to begin Escalating</td>
<td>201101</td>
</tr>
<tr>
<td>C</td>
<td>Escalation Rate</td>
<td>.05</td>
</tr>
<tr>
<td>D</td>
<td>Escalate Input</td>
<td>Escalate Input(B:[Date to begin Escalating],C:[Escalation Rate])</td>
</tr>
</tbody>
</table>

**Report Results**
Function Description:
Returns the escalated value of a line beginning at a specified date. Prior to the escalation start date, the value of the line is copied from a specified source line. This function is similar to Escalate Input, except that the source is copied to this line. The escalation is calculated by multiplying the prior year/same month by \((1 + \text{rate})\). Escalation rates are assumed to be decimals, like 0.05. If defined as Input, the escalation rate line should be defined as 'Percent NOT divided by 12.' The function works with pure monthly and mixed monthly-annual reports. Note: the report must be iterated at least 2 times.

Parameters:
- **Line for Escalation Start Date (YYYYMM)** - Select the report line that contains the Year/Month when you want to begin escalating
- **Line for Escalation Rate** - Select the report line that contains the escalation rate to use
- **Line for Values to Escalate** - Select the report line that contains the values you want to pull in and then escalate.

Example:
the screen prints below show the Escalate Line function in use.

Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula-forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Date to begin Escalating</td>
<td>201101</td>
</tr>
<tr>
<td>C</td>
<td>Escalation Rate</td>
<td>0.05</td>
</tr>
<tr>
<td>D</td>
<td>Source Data</td>
<td>Copy From([D&amp;&amp;D::Nonlabor])</td>
</tr>
<tr>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Escalate Line</td>
<td>Escalate Line(B:[Date to begin Escalating],C:[Escalation Rate],D:[Source Data])</td>
</tr>
</tbody>
</table>

Report Results
Averages

{XE "Average 13 Month" /* MERGEFORMAT */}{XE "Function" /* MERGEFORMAT */}Function - 13 Month Average

Function Description:
Returns average of a line for 13 months through the current month. For example, a 13-month average in May is the sum of May (prior year) through May (current year) divided by 13. When processing annually, this average is (prior Year ending + current Year) / 2. Note that this function is different from the 13-point average of monthly averages.

Parameters:
- **Average: 13-Month of Line** - Select the line from the current report that you want to calculate the 13 month average of.

Example:
The chart below shows monthly values and the Average 13 month calculation beginning in January of 2007. If periods in the 13 month average are null (no data) these months will be used with a value of zero in the calculation. Values shown below are rounded to the nearest dollar.
**Function - 13 Point Average of Monthly Averages**

**Function Description:**
This function returns the 13 Point AMA of the selected line. It uses 1/2 of the 12-months-ago balance, 1/2 of the current balance, summed with all of the intervening 11 months, then divided by 12.
Parameters:

- **13-point AMA Average of Line** - Select the line from the current report that you want to use as the basis for the 13 point average function.

Example:
The chart below illustrates this function calculation. January 2007 is calculated as follows:

\[
\text{January 2006} / 2 = 70 / 2 = 35 \\
\text{January 2007} / 2 = 30 / 2 = 15 \\
\text{Total of Feb 2006 to Dec 2007} = 505 \\
(35 + 15 + 505) / 12 = 46.25
\]

The screen prints below illustrate the results from the chart above.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Input data</td>
<td>Input()</td>
</tr>
<tr>
<td>B</td>
<td>13-point Average of Monthly Averages Function</td>
<td>13-point Average of Monthly Averages([A:Input data])</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th>2006-2010 Base Scenario</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input data</td>
<td></td>
</tr>
<tr>
<td>13-point Average of Monthly Averages Function</td>
<td>56.25, 56.25, 56.25, 56.25, 56.25, 56.25, 56.25, 56.25, 56.25, 56.25, 56.25, 56.25</td>
</tr>
</tbody>
</table>
Function Description:
This function returns the average of a line for 5 quarters through the current month. For example, a 5-quarter average in May is the sum of May (prior year), Aug, Nov, Feb and May (current year) divided by 5. Note: When processing annually, this average is (Prior Year ending + current Year) / 2.

Parameters:
- **Average: 5 Quarter of Line** - Select the line from the current report that you want to calculate the 5 Quarter Average of.

Example:
The chart below shows monthly values and the 5 QUARTER AVERAGE function calculation beginning in January of 2009. If periods in the range are null (no data) these months will be used with a value of zero in the calculation.

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>January</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>February</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>March</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>April</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>May</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>June</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>July</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>August</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>September</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>October</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>November</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>December</td>
<td>100</td>
</tr>
<tr>
<td>2010</td>
<td>January</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>February</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>March</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>April</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>May</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>June</td>
<td>200</td>
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<td></td>
<td>July</td>
<td>200</td>
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<td>August</td>
<td>200</td>
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<td></td>
<td>September</td>
<td>200</td>
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<tr>
<td></td>
<td>October</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>November</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>December</td>
<td>200</td>
</tr>
</tbody>
</table>

Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Label</th>
<th>Formula-Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Input Data</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>5 Quarter Average</td>
<td>5 Quarter Average(Input Data)</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Function Description**

This function is a combination of a simple copy-from function and a generic average function that uses the other average functions. The copy-from component is simple in that the dimensions of the source report must match the destination report exactly.

The function supports the different type of averages by having the average type to use on a line. The purpose of the generic average function is to be able create a report that can create many averages quickly. For example, suppose you have a report that has balances by plant account (301-399) and one jurisdiction specifies 13-month averages while another specifies 5-quarter averages. You could create an averaging report that checked the jurisdiction at the top, setting the correct average option for the jurisdiction (on a line). Then the hundreds of average functions could all reference that line.

Note: End-of-period and Lates-12-months total are supported by this function. While not technically averages, they are both useful for jurisdictional reporting.

**Parameter:**

- **From Report** - Select the Report you want to copy from. This could be the same report you are editing.
- **From Line** - Select the Line you want to average.
- **Line for Average Option** - Select the Line on the current report that has the average option.
Function Description:
This function returns the monthly average of values of a given line across a historical range of years. The line for the value must be either Input() or Account(). For example, a 3-year average for May 2011 is the average of values from May 2008, May 2009 and May 2010. The maximum historical range is 5 years. The function continues to work into the forecast. When processing mixed monthly-annual, the value is converted to an annual value using the month-to-annual option of the source data line.

Parameters:
- **Line for Value** - Select the line from the current report that you want to calculate the Multi-Year Average of.
- **Number of Years** - Select the number of years back you want to go (1 to 5).

Example:
The chart below shows monthly values and the multi year (set at 3 in the report) average. Note that if periods in the range are null (have no data) these months will be used with a value of zero in the calculation.

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Input Value</th>
<th>3 Year Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>January</td>
<td>10</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>February</td>
<td>10</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>March</td>
<td>10</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>April</td>
<td>10</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>May</td>
<td>10</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>June</td>
<td>10</td>
<td>0.00</td>
</tr>
<tr>
<td>2009</td>
<td>January</td>
<td>100</td>
<td>3.33</td>
</tr>
<tr>
<td></td>
<td>February</td>
<td>100</td>
<td>3.33</td>
</tr>
<tr>
<td></td>
<td>March</td>
<td>100</td>
<td>3.33</td>
</tr>
<tr>
<td></td>
<td>April</td>
<td>100</td>
<td>3.33</td>
</tr>
<tr>
<td></td>
<td>May</td>
<td>100</td>
<td>3.33</td>
</tr>
<tr>
<td></td>
<td>June</td>
<td>100</td>
<td>3.33</td>
</tr>
<tr>
<td>2010</td>
<td>January</td>
<td>200</td>
<td>36.67</td>
</tr>
<tr>
<td></td>
<td>February</td>
<td>200</td>
<td>36.67</td>
</tr>
<tr>
<td></td>
<td>March</td>
<td>200</td>
<td>36.67</td>
</tr>
<tr>
<td></td>
<td>April</td>
<td>200</td>
<td>36.67</td>
</tr>
<tr>
<td></td>
<td>May</td>
<td>200</td>
<td>36.67</td>
</tr>
<tr>
<td></td>
<td>June</td>
<td>200</td>
<td>36.67</td>
</tr>
<tr>
<td>2011</td>
<td>January</td>
<td>200</td>
<td>103.33</td>
</tr>
<tr>
<td></td>
<td>February</td>
<td>200</td>
<td>103.33</td>
</tr>
<tr>
<td></td>
<td>March</td>
<td>200</td>
<td>103.33</td>
</tr>
<tr>
<td></td>
<td>April</td>
<td>200</td>
<td>103.33</td>
</tr>
<tr>
<td></td>
<td>May</td>
<td>200</td>
<td>103.33</td>
</tr>
<tr>
<td></td>
<td>June</td>
<td>200</td>
<td>103.33</td>
</tr>
</tbody>
</table>

Report Calculation

<table>
<thead>
<tr>
<th>A</th>
<th>Plant Account ID</th>
<th>Place Holder for Entity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Input Data</td>
<td>Input( )</td>
</tr>
<tr>
<td>C</td>
<td>Multi Year Average</td>
<td>Multi-Year Average(Input Data, 3 )</td>
</tr>
</tbody>
</table>

Report Results
Function Description:
This function calculates the quarterly average of a given line, using 4 months ending balances divided by 4. For example, a year-to-date average in May is the sum of February through May divided by 4. When processing annually, this function returns zero.

Parameters:
- **Average: Quarterly of Line** - Select a line in the current report to calculate quarterly average.

Example:
The chart below illustrates the calculation of this function. As you can see each month’s quarterly average is the summation of 4 months divided by 4.
The screen prints below show the average quarterly function in a report and results.

**Report Calculation**

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Input Value</th>
<th>4 Month Total</th>
<th>Divide by 4</th>
<th>Average Quarterly</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>January</td>
<td>30</td>
<td>200</td>
<td>4</td>
<td>50.00</td>
</tr>
<tr>
<td></td>
<td>February</td>
<td>50</td>
<td>190</td>
<td>4</td>
<td>47.50</td>
</tr>
<tr>
<td></td>
<td>March</td>
<td>60</td>
<td>180</td>
<td>4</td>
<td>45.00</td>
</tr>
<tr>
<td></td>
<td>April</td>
<td>45</td>
<td>185</td>
<td>4</td>
<td>46.25</td>
</tr>
<tr>
<td></td>
<td>May</td>
<td>90</td>
<td>245</td>
<td>4</td>
<td>61.25</td>
</tr>
<tr>
<td></td>
<td>June</td>
<td>30</td>
<td>225</td>
<td>4</td>
<td>56.25</td>
</tr>
<tr>
<td></td>
<td>July</td>
<td>20</td>
<td>185</td>
<td>4</td>
<td>46.25</td>
</tr>
<tr>
<td></td>
<td>August</td>
<td>50</td>
<td>190</td>
<td>4</td>
<td>47.50</td>
</tr>
<tr>
<td></td>
<td>September</td>
<td>70</td>
<td>170</td>
<td>4</td>
<td>42.50</td>
</tr>
<tr>
<td></td>
<td>October</td>
<td>20</td>
<td>160</td>
<td>4</td>
<td>40.00</td>
</tr>
<tr>
<td></td>
<td>November</td>
<td>70</td>
<td>210</td>
<td>4</td>
<td>52.50</td>
</tr>
<tr>
<td></td>
<td>December</td>
<td>30</td>
<td>190</td>
<td>4</td>
<td>47.50</td>
</tr>
<tr>
<td>2008</td>
<td>January</td>
<td>25</td>
<td>145</td>
<td>4</td>
<td>36.25</td>
</tr>
<tr>
<td></td>
<td>February</td>
<td>75</td>
<td>200</td>
<td>4</td>
<td>50.00</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th>2000-2030 Base Scenario</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input data</td>
<td>30</td>
<td>50</td>
<td>60</td>
<td>45</td>
<td>90</td>
<td>30</td>
<td>50</td>
<td>20</td>
<td>20</td>
<td>70</td>
<td>20</td>
<td>50</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Average: Quarterly Function</td>
<td>50.00</td>
<td>47.50</td>
<td>45.00</td>
<td>45.25</td>
<td>61.25</td>
<td>50.25</td>
<td>40.25</td>
<td>47.50</td>
<td>42.50</td>
<td>40.00</td>
<td>52.50</td>
<td>47.50</td>
<td>38.25</td>
<td>50.00</td>
</tr>
</tbody>
</table>

{XE "Average" /* MERGEFORMAT */}{XE "Two Point Annual Average" /* MERGEFORMAT */}{XE "Function" /* MERGEFORMAT */}Function - Two Point Annual Average

**Function Description:**
This function returns the average of the selected line between the current period and the same period 12 months ago. If running annually, compares against last year for the average.

**Parameter:**
- **2-Point Annual Average of line** - Select the line in the current report that you want to calculate the two point average of.

**Example:**
The schedule below shows an example of the Two Point Annual Average function calculation. January 2007 is \((40 + 50) / 2 = 45\). February 2007 is \((50 + 30) / 2 = 40\). Screen prints of the report calculation and report results are shown as well. Null data fields are considered zero in the calculation.

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Input Value</th>
<th>Last Year Value</th>
<th>2 Point Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>December</td>
<td>50</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>January</td>
<td>70</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>February</td>
<td>30</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>March</td>
<td>60</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>April</td>
<td>45</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>May</td>
<td>60</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>June</td>
<td>40</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>July</td>
<td>60</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>August</td>
<td>30</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>September</td>
<td>20</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>October</td>
<td>60</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>November</td>
<td>70</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>December</td>
<td>40</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Input values</td>
<td>input()</td>
</tr>
<tr>
<td>5</td>
<td>Two Point Annual Average function</td>
<td>Two Point Annual Average(A.Input values)</td>
</tr>
</tbody>
</table>

Function Description:
This function calculates the year-to-date average for a line in a report and returns the average of a line, including last month of the prior year. For example, a year-to-date average in May is the sum of December through May divided by 6.

Parameters:
- **Average: Year-to-date of Line** - Select a line in the current report to calculate year to date totals.

**Example:**
The schedule below shows the an example of the **YEAR TO DATE AVERAGE** function calculation. January 2006 is \((50 + 70) / 2 = 60\), February is \((50 + 70 + 30) / 3 = 50\), and June is \(345 / 7 = 49\). Screen prints of the report calculation and report results are shown as well.

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Sample Number Input</th>
<th>Annual Cumulative Total</th>
<th>Function Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>December</td>
<td>50</td>
<td>120</td>
<td>2</td>
</tr>
<tr>
<td>2006</td>
<td>January</td>
<td>70</td>
<td>150</td>
<td>3</td>
</tr>
<tr>
<td>2006</td>
<td>February</td>
<td>30</td>
<td>200</td>
<td>4</td>
</tr>
<tr>
<td>2006</td>
<td>March</td>
<td>50</td>
<td>245</td>
<td>5</td>
</tr>
<tr>
<td>2006</td>
<td>April</td>
<td>45</td>
<td>305</td>
<td>6</td>
</tr>
<tr>
<td>2006</td>
<td>May</td>
<td>60</td>
<td>345</td>
<td>7</td>
</tr>
<tr>
<td>2006</td>
<td>June</td>
<td>40</td>
<td>405</td>
<td>8</td>
</tr>
<tr>
<td>2006</td>
<td>July</td>
<td>60</td>
<td>435</td>
<td>9</td>
</tr>
<tr>
<td>2006</td>
<td>August</td>
<td>30</td>
<td>455</td>
<td>10</td>
</tr>
<tr>
<td>2006</td>
<td>September</td>
<td>20</td>
<td>515</td>
<td>11</td>
</tr>
<tr>
<td>2006</td>
<td>October</td>
<td>60</td>
<td>565</td>
<td>12</td>
</tr>
<tr>
<td>2006</td>
<td>November</td>
<td>70</td>
<td>625</td>
<td>13</td>
</tr>
<tr>
<td>2006</td>
<td>December</td>
<td>30</td>
<td>70</td>
<td>2</td>
</tr>
<tr>
<td>2007</td>
<td>January</td>
<td>50</td>
<td>120</td>
<td>3</td>
</tr>
<tr>
<td>2007</td>
<td>February</td>
<td>60</td>
<td>180</td>
<td>4</td>
</tr>
</tbody>
</table>

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Copy numbers input</td>
<td>Input()</td>
</tr>
<tr>
<td>B</td>
<td>Average Year to Date Function</td>
<td>Average: Year-to-Date([A: Sample numbers Input])</td>
</tr>
</tbody>
</table>

**Copy and Rollups**

```plaintext
{ XE "Copy From Functions - Overview" \* MERGEFORMAT }
{ XE "Functions" \* MERGEFORMAT }
Copy From Functions - Overview
```

All copy from functions follow a few basic rules. Reports may have one or two dimensions (Entity Groups). Copy from a two-dimensional report to a one-dimensional report is not allowed. All other combinations are allowed.

Copy from functions that do not specify association(s) look for associations. If more than one set of associations is found, an error is generated. For example, suppose you have a project report that copies an **AFUDC** rate from a legal entity report. You expect the **COPY-FROM** function to use a path **Project->Plant Account->Planning Entity->Legal Entity**. If another path (**Project->Plant Account->Jurisdiction->Legal Entity**)
also exists, an error is generated and you will need to update the function to use `COPY-FROM-WITH-PATH`.

The screen below shows an example where there are multiple paths. The `SHOW ASSOCIATIONS` button populates the text box below it. If there are two paths, you need to switch to a more specific `COPY-FROM` function.

Note that these error messages may appear over time. For example, when the report was first created, there was only one path. As time goes by, someone adds an association from Plant Account to Jurisdiction. While neither projects nor legal entity was touched, a new possible path was created. For this reason, you should consider using `COPY-FROM-WITH-PATHS` instead of the simple copy-from for any copy-from that uses an association. (`COPY-FROM'S` in the same entity group, for example copy taxable income from the income statement to a tax calculation do not use associations so there will not be a problem).
The **COPY** function in all its forms allows for copying data from one report to another. This is the basic version.

```plaintext
{ XE "Copy From" \* MERGEFORMAT }
{ XE "Copy" \* MERGEFORMAT }
{ XE "Function" \* MERGEFORMAT }
```

**Function Description:**
This function returns the value of a given line on a given report. Note that the report copied may be the same entity group or a different entity group (as long as there is an association between the entity groups).

**Parameters:**
- **From Report** - Select the report to be copied from.
- **From Line** - Select a line in the *From Report*. The drop-down list will display all report lines in the *From Report* selected in the previous parameter.
- **Optional Inherit Association From** – If the current entity group is linked to another entity group, you can choose to ‘inherit’ the association.
- **Attempt Approximation When Copy From Annual to Monthly** - When this check box is selected, any reports run on an annual basis copied to reports run on a monthly basis. UIPlanner will attempt to approximate the resulting monthly values. If the source report is processing annually, the annual values are spread evenly over the months.

**Example 1:**
In its simplest form, the **COPY FROM** function can be used to copy values from one report to another, when both reports are run over the same entity group. The screen prints below show the copy function used to copy values from Report 1 to Report 2 when both are run over the "Alpha" entity group. No association is necessary in this simple example.

**Report 1**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Input Alpha Data</td>
<td>Input()</td>
</tr>
</tbody>
</table>

**Report 2**
Report 1 lines copied to Report 2
Values in report 1 are copied to report 2 for each entity in the Alpha entity group.

Example 2:
In the example below, Report 1 is unchanged from the previous example. However, Report 2 is run over the Bravo entity group, and an association has been created between entity group Bravo and Alpha. The association screen print below is from the ONE PARAMETER EDITOR screen indicating Bravo 1 is associated to Alpha 1, Bravo 2 and 3 is associated to Alpha 2, Bravo 4 to Alpha 4, and Bravo 5 to Alpha 6.

Report 2 results, shown below, have the appropriate values according to the association.

Association between Bravo and Alpha Entity Groups

Report 1 lines copied to report 2 according to an association
Drill down shows the copy path

The copy path can be seen by using the drill down feature on the **BROWSE REPORTS** screen. The print below shows to and from reports as well as the association used.

Important notes about the Copy function:

- This function will return data using the first association found. Association order is determined by the order code shown on the **CORE OBJECTS EDITOR** screen on the **Order** sub tab. In cases where there are multiple associations between entity groups, you may need to use the **FUNCTION - COPY WITH PATH** which allows you to specify the association “path” to use.
- Entities that do not have an association (a null association) will not be copied. For example, if Bravo 1 were not associated to any entity in the entity group Alpha, the resulting report line for Bravo 1 would not appear.
The Association used by the *Copy* function is a one way street. In the example above Entity Group Bravo has an association "to" entity group Alpha. However, this does not work backwards. There is no association from entity group Alpha to entity group Bravo.

The *Copy* function in all its forms allows for copying data from one report to another. This variant is used to transfer data from **Budget** to **Model** or from **Model** to **Strategic Model**.

The distinction between *Copy From Published Report* and *Copy From Exported Report* is:

- **Copy From Exported Report** – takes the data from the feeder scenario that is referenced on the **Run Sequences** screen. For **Detailed Model**, it is by definition a **Budget** scenario, and for **Strategic Model** it is by definition a **Detailed Model** scenario.
- **Copy From Published Report** – allows you to define (by use of the related scenario screen) which scenario the data will be sourced from. This allows you to take data from one **Detailed Model** scenario to another, as well as **Budget** to **Detailed Model** or **Detailed Model** to **Strategic Model**.
- **Copy From Published Report – Scenario on a Line** – allows you to define (on a line) which scenario the data will be sourced from. This allows you to take data from one **Detailed Model** scenario to another, as well as **Budget** to **Detailed Model** or **Detailed Model** to **Strategic Model**.

**Function Description:**

This function is identical to the **Function - Copy From**, except it copies lines from reports that have been exported. It is used primarily for copying report lines from an exported Budget report to the Detailed Model or from a Detailed Model report to a report in the Strategic Model.

Note that you need to have run and published the source reports from the Budget scenario that is referenced in the Model **Run Sequences** screen.
Parameters:

- **From Report** - Select the report to be copied from.
- **From Line** - Select a line in the *From Report*. The drop-down list will display all report lines in the *From Report* selected in the previous parameter.
- **Optional Inherit Association From** – If the current entity group is linked to another entity group, you can choose to ‘inherit’ the association.

**Example 1:**

**Report Calculation**

This is the *From Report* (in the Budget scenario). It is by Plant Account.

This is the *calling* report. It is also by Plant Account

**Report Results**

Below are the report results. Note the drilldown indicates that the data is sourced from the Budget scenario and report.
The *Copy* function in all its forms allows for copying data from one report to another. This variant is used when you want to copy data from another report, inside a method call. Since lines are shared, the function copies for THAT line and THAT entity, from the related report. This function can also copy from a higher-level entity, for example a jurisdiction could copy from a legal entity report. Further, the copy-from may be used on a two-dimensional report to copy from a one-dimensional report.

**Function Description:**

This function is used inside of a *Method* call, and it returns the value of that same line from a related report also running inside a method.

**Parameters:**

- **From Report** - Select the report to be copied from. The report must be one of the *Shared Label* group.
- **Line for Date (YYYYMM) or offset month (+/- 12)** – This is used to allow you to pull a value from a specific data or offsetting month. Select a line in the current report that contains either a data or an offset factor. The default is to pull from the same month.

**Example:**

Note that there are three reports in the *Shared Label Group*, one for inputting amounts, one for inputting factors, and the third for calculating the allocated amount. This third report uses *Copy From Inside a Method* to pull from the first two.

**Report Calculation**
Report Results

Note from the drilldown that the calculated amount is the product of the **Copy Amounts** and **Copy Factors** lines.

The **Copy** function in all its forms allows for copying data from one report to another. This variant is used to transfer data from one scenario to another, using the related scenario concept. Related scenarios can be **Budget** to **Model**, **Model** to **Strategic Model**, or from one Model scenario to another – they are defined in the **Related Scenarios** dialog.
The distinction between *Copy From Published Report* and *Copy From Exported Report* is:

- **Copy From Exported Report** – takes the data from the feeder scenario that is referenced on the *Run Sequences* screen. For Detailed Model, it is by definition a Budget scenario, and for Strategic Model it is by definition a Detailed Model scenario.

- **Copy From Published Report** – allows you to define (by use of the related scenario screen) which scenario the data will be sourced from. This allows you to take data from one Detailed Model scenario to another, as well as Budget to Detailed Model or Detailed Model to Strategic Model.

Another use of the *Copy From Published Report* function is to enable you to create different sequence sets for the purposes of managing detail. For example, one sequence set could perform detailed calculations of AFUDC on budget projects while the second sequence set could be a model run. Using this approach a model run could be done without recalculating AFUDC on budget projects.

**Function Description:**

This function is identical to the *Function - Copy From*, except it copies lines from reports that have been published from a specified scenario. It is used primarily for copying report lines from a published Budget report to the Detailed Model or from a Detailed Model report to a report in the Strategic Model.

Note that you need to have run and published the source reports from the scenario that is referenced in *Related Scenarios* dialog.

**Parameters:**

- **From Report** - Select the report to be copied from.
- **From Line** - Select a line in the *From Report*. The drop-down list will display all report lines in the *From Report* selected in the previous parameter.
- **Related Scenario** - Select scenario from the drop-down list. Note that only scenarios already defined as related scenarios will appear in the drop-down list.

- **Optional Inherit Association From** – If the current entity group is linked to another entity group, you can choose to ‘inherit’ the association.

**Example 1:**
This example shows copying from a published Budget scenario

**Report Calculation**
This is the *From Report* (in the Budget Scenario). It is by Plant Account.

![Report Calculation Image]

This is the *calling* report. It is also by Plant Account. Note the scenario reference.

**Report Results**
Below are the report results. Note the drilldown indicates that the data is sourced from the specific Budget scenario and report.

![Report Results Image]

**Example 2:**
This example shows how to copy from a report from one sequence to another, in the same scenario.

First, create another scenario that is a close of the current one. Then define the clone as a related scenario.
Report Calculation
This is the *From Report* (Help Sequence).

This is the *calling* report. It is in the Detailed Model sequence. Note the scenario reference.

Report Results
The steps are:

- Run the Help Sequence in the cloned scenario.
- Publish the reports.
- Switch to the base scenario and run the Detailed Model sequence.

Below are the report results. Note the drilldown indicates that the data is sourced from the cloned scenario and the proper report.

The *Copy* function in all its forms allows for copying data from one report to another. This variant is used to transfer data from one Scenario to another,
using the related scenario concept. Related scenarios can be Budget to Model, Model to Strategic Model, or from one Model Scenario to another. They are defined in the Related Scenarios dialog.

The distinction between Copy From Published Report and Copy From Exported Report is:

- **Copy From Exported Report** – takes the data from the feeder scenario that is referenced on the Run Sequences Screen. For Detailed Model, it is by definition a Budget Scenario, and for Strategic Model it is by definition a Detailed Model Scenario.
- **Copy From Published Report** – allows you to define (by use of the related scenario screen) which scenario the data will be sourced from. This allows you to take data from one Detailed Model scenario to another, as well as Budget to Detailed Model or Detailed Model to Strategic Model.

Another use of Copy From Published Report functions is to enable you to create different sequence sets for the purposes of managing detail. For example, one sequence set could perform detailed calculations of AFUDC on budget projects while the second sequence set could be a model run. Using this approach a model run could be done without recalculating AFUDC on budget projects.

**Function Description:**

This function is identical to the function Copy From Published Report, except it gets the scenario from a line in the report rather than the Related Scenario mapping. It is used primarily for copying report lines from a published Budget Report to the Detailed Model or from a Detailed Model Report to a report in the Strategic Model.

Note that you need to have run and published the source reports from the Scenario that is referenced in Related Scenarios dialog.

![Select Related Scenarios for 'Copy From Published Report' function](image)

**Parameters:**
- **From Report** - Select the report to be copied from.
- **From Line** - Select a line in the *From Report*. The drop list will display all report lines in the *From Report* selected in the previous parameter.
- **Line for Related Scenario** - Select the line that contains the related scenario.
- **Optional Inherit Association From** – If the current entity group is linked to another entity group, you can choose to ‘inherit’ the association.

**Example 1:**
This example shows copying from a published Budget scenario.

**Report Calculation**
This is the *From Report* (in the Budget Scenario). It is by Plant Account.

This is the *calling* report. It is also by Plant Account. Note the scenario reference.

**Report Results**
Below are the report results. Note the drilldown indicates that the data is sourced from the specific Budget scenario and report.

**Example 2:**
This example shows how to copy from a report from one sequence to another, in the same scenario.
First, create another scenario that is a clone of the current one. Then define the clone as a related Scenario.
This is the *From Report* (Help Sequence).

This is the *calling* report. It is in the Detailed Model Sequence. Note the scenario reference.

**Report Results**

The steps are:

- Run the Help Sequence in the Cloned Scenario.
- Publish the reports.
- Switch to the base scenario and run the Detailed Model sequence.

Below are the report results. Note the drilldown indicates that the data is sourced from the cloned scenario and the proper report.

The *Copy* function in all its forms allows for copying data from one report to another. This variant allows the designation of a specific association.

**Note:** This function was the early version of copy-from-with-path. In essence, it is a copy-from-with-path where the association path is one association long. You might consider using *COPY-FROM-WITH-PATH* function instead of this function, to reduce the number of functions you need to remember.

**Function Description:**
Returns the value of a line on a report for an entity related using the selected association.

**Parameters:**

- **From Report** - Select the report to be copied from.
- **From Line** - Select a line in the *From Report*. The drop-down list will display all report lines in the *From Report* selected in the previous parameter.
- **Using Association** - Select the association to be used. The drop list will display all associations between the two report's entity groups.
- **Attempt Approximation When Copy From Annual to Monthly** - When this check box is selected, any reports run on an annual basis copied to reports run on a monthly basis. UIPlanner will attempt to approximate the resulting monthly values. If the source report is processing annually, the annual values are spread evenly over the months.

**Example 1:**

In its simplest form, the copy from function can be used to copy values from one report to another, when both reports are run over the same entity group. The screen prints below show the copy function used to copy values from Report 1 to Report 2 when both are run over the Alpha entity group. No association is necessary in this simple example.

**Report 1**

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Input Alpha Data</td>
<td>Input()</td>
</tr>
</tbody>
</table>

**Report 2**

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Copy from Report 1</td>
<td>Copy From: Specific Association(Report 1,[B: Input Alpha Data], Association 2)</td>
</tr>
</tbody>
</table>

**Report 1 lines copied to Report 2**

Values in report 1 are copied to report 2 for each entity in the Alpha entity group.
Example 2:
The screen prints below show the copy function used to copy values from Report 1 to Report 2 when Report 1 is run over the Alpha entity group and Report 2 is run over the Bravo entity group. An association has been created between entity group Bravo and Alpha. The association screen print below is from the ONE PARAMETER EDITOR screen indicating Bravo 1 is associated to Alpha 1, Bravo 2 and 3 is associated to Alpha 2, Bravo 4 to Alpha 4, and Bravo 5 to Alpha 6.

**Report 1**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Input Alpha Data</td>
<td>Input()</td>
</tr>
</tbody>
</table>

**Report 2**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Copy from Report 1</td>
<td>Copy From: Specific Association[Report 1][B: Input Alpha Data], Association 2</td>
</tr>
</tbody>
</table>

**Association between Bravo and Alpha Entity Groups**

Report 1 lines copied to report 2 according to an association

Report 2 results (shown below) have the appropriate values according to the association.
Drill down shows the copy path
The copy path can be seen by using the drill down feature on the BROWSE REPORTS screen. The print below shows to and from reports as well as the association used.

Important notes about the Copy function:
- Entities that do not have an association (a null association) will not be copied. For example, if Bravo 1 were not associated to any entity in the entity group Alpha, the resulting report line for Bravo 1 would not appear.
- The association used by the COPY function is a one way street. In the example above entity group Bravo has an association "to" entity group Alpha. However, this does not work backwards, there is no association from entity group Alpha to entity group Bravo months.
The **Copy** function in all its forms allows for copying data from one report to another. This variant allows the value of a specific entity to be copied from one report to another.

**Function Description:**
This function returns the value of a line from another report for a given entity.

**Parameters:**
- **From Report** - Select the report to be copied from.
- **From Line** - Select a line in the *From Report*. The drop-down list will display all report lines in the *From Report* selected in the previous parameter.
- **From Entity** - Select the entity to be shown on the current report. The drop-down list will display all entities in the entity group run in the *From Report*.
- **Attempt Approximation When Copy From Annual to Monthly** - When this check box is selected, any reports run on an annual basis copied to reports run on a monthly basis. UIPlanner will attempt to approximate the resulting monthly values. If the source report is processing annually, the annual values are spread evenly over the months.

**Example:**
The screen prints below show the copy function used to copy values from Report 1 to Report 2 when Report 1 is run over the Alpha entity group and Report 2 is run over the Bravo Entity group. The Specific entity value of Alpha 4 is copied to all entities in Report 2. No association is needed with this function.

### Report 1

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Input Alpha Data</td>
<td>Input()</td>
</tr>
</tbody>
</table>

### Report 2
Report 1 lines for Alpha 4 entity are copied to all lines in report 2

Drill down shows the copy path
The copy path can be seen by using the drill down feature on the **BROWSE REPORTS** screen. The print below shows specific entity copied to Report 2.

```
{ XE "Copu Function" /* MERGEFORMAT */ }
{ XE "Entity" /* MERGEFORMAT */ }
Function - Copy From Specific Entity:
Entity On A Line
```

The **COPY** function in all its forms allows for copying data from one report to another.
This function is a variant of [Copy From Specific Entity](#). Rather than choosing the entity from a drop down list (thus allowing only one choice, hard coded on the line), it pulls the Entity ID from a line in the report. This would allow you to use if-else logic to choose among several entities, with the result on a line that is called by this function.

**Function Description:**

This function returns the value of a line from another report for a given entity where the entity to copy is on a line.

**Parameters**

- **From Report** - Select the report to be copied from.
- **From Line** - Select a line in the From Report. The drop-down list will display all report lines in the From Report selected in the previous parameter.
- **From Entity** - Select the line from the current report containing the Entity ID of the entity to be copied over to the current report.
- **Attempt Approximation When Copy From Annual to Monthly** - When this check box is selected, any reports run on an annual basis copied to reports run on a monthly basis. UIPlanner will attempt to approximate the resulting monthly values. If the source report is processing annually, the annual values are spread evenly over the months.

**Example:**

The screen prints below show the copy function used to copy values from Report 1 to Report 2 when Report 1 is run over the Alpha entity group and Report 2 is run over the Bravo Entity group. An if-test is used to determine the Entity in Alpha group to be copied over to Report 2. No association is needed with this function.

**Report Calculation**

<table>
<thead>
<tr>
<th>Report 1</th>
<th>Report 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ref.</td>
<td>Line label</td>
</tr>
<tr>
<td>A</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Amount - Alpha</td>
</tr>
</tbody>
</table>

Report 2
## Report Results

Note that the If-test determined which Alpha entity to use, and put it on line N. The Copy From pulled the value from Report 1 for the entity listed on this line.

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Entity ID - Alpha 1</td>
<td>Entity ID(Alpha,Alpha 1)</td>
</tr>
<tr>
<td>C</td>
<td>Entity ID - Alpha 2</td>
<td>Entity ID(Alpha,Alpha 2)</td>
</tr>
<tr>
<td>D</td>
<td>Current Entity</td>
<td>Current Entity</td>
</tr>
<tr>
<td>E</td>
<td>Entity ID - Bravo 1</td>
<td>Entity ID(Alpha,Bravo 1)</td>
</tr>
<tr>
<td>F</td>
<td>Entity ID - Bravo 2</td>
<td>Entity ID(Alpha,Bravo 2)</td>
</tr>
<tr>
<td>G</td>
<td>If</td>
<td>D:[Current Entity] = E:[Entity ID - Bravo 1]</td>
</tr>
<tr>
<td>H</td>
<td>BRADO</td>
<td>Label Only</td>
</tr>
<tr>
<td>I</td>
<td>Use Alpha 1</td>
<td>D:[Entity ID - Alpha 1]</td>
</tr>
<tr>
<td>J</td>
<td>else</td>
<td>E:[Entity ID - Bravo 2]</td>
</tr>
<tr>
<td>K</td>
<td>BRADO</td>
<td>Label Only</td>
</tr>
<tr>
<td>L</td>
<td>Use Alpha 2</td>
<td>C:[Entity ID - Alpha 2]</td>
</tr>
<tr>
<td>M</td>
<td>end if</td>
<td>G:[I]</td>
</tr>
<tr>
<td>N</td>
<td>Entity to Use</td>
<td>I:[Use Alpha 1] + L:[Use Alpha 2]</td>
</tr>
<tr>
<td>P</td>
<td>Amount to Copy</td>
<td>Copy From Specific Entity:Entity as a line[Report 1,8:[Amount - Alpha],H:[Entity to Use]]</td>
</tr>
</tbody>
</table>

{XE "Path" /* MERGEFORMAT */ {XE "Copy From" /* MERGEFORMAT */ {XE "Copy" /* MERGEFORMAT */ {XE "Function" /* MERGEFORMAT */ Function - Copy From: with Path}}}

The Copy function in all its forms allows for copying data from one report to another. The Copy From: with Path allows the designation of up to three associations which together define a path to the From Report.
**Function Description:**
This function returns the value of a line on a report for another entity related using the selected chain of associations.

**Parameters:**
- **From Report** - Select the report to be copied from, the drop-down list will display all reports.
- **From Line** - Select a line in the *From Report*. The drop-down list will display all report lines in the *From Report* selected in the previous parameter.
- **Using Association** - Select the association to be used. The drop-down list will display all associations between the two report's entity groups.
- **Then Association** - Select the second association to be used. The drop-down list will display all associations between the two report's entity groups.
- **Then Association** - Select the third association to be used. The drop-down list will display all associations between the two report's entity groups.
- **Attempt Approximation When Copy From Annual to Monthly** - When this check box is selected, any reports run on an annual basis copied to reports run on a monthly basis. UIPlanner will attempt to approximate the resulting monthly values. If the source report is processing annually, the annual values are spread evenly over the months.

**Example:**
Illustrated below is a simple report which copies data from another report (from report). The path is defined via associations to intermediate entity groups.

**Report 1**
This report is run over the entity group Alpha

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td><strong>Place Holder for Entity Description</strong></td>
</tr>
<tr>
<td>B</td>
<td><strong>Input Alpha Data</strong></td>
<td><strong>Input()</strong></td>
</tr>
</tbody>
</table>

**Report 2**
This report is run over entity group Delta. Using the `COPY FROM: WITH PATH` function, the path is defined by 3 parameters which define the path of associations.
**Association between Bravo and Alpha Entity Groups**

This diagram illustrates the copy from: path function. Report 1 is run over entity group Alpha which contains only 3 entities. Report 2 is run over entity group Delta. There is no association between entity group Alpha and Delta, but data can still be copied from Alpha to Delta through a defined association path.

The association path is illustrated below by arrows. The green arrows show that Delta 4 value of 200 is copied from Report 1, Alpha 2 via a defined path of Delta 4 --> Charlie 3 --> Bravo 3 --> Alpha 2.

Screen prints near the bottom are from the **One Parameter Editor** screen showing each association.

**Drill down shows the copy path**

The copy path can be seen by using the drill down feature on the **Browse Reports** screen. The print below shows to and from reports as well as the association path.
Important notes about the Copy function:

- Entities that do not have an association (a null association) will not be copied. For example, if Bravo 1 were not associated to any entity in the entity group Alpha, the resulting report line for Bravo 1 would not appear.

- The association used by the Copy function is a one way street. In the example above entity group Bravo has an association "to" entity Group Alpha. However, this does not work backwards. There is no association from entity group Alpha to entity group Bravo.

The Rollup function is one of the most powerful and useful in UIPlanner. This function allows you to add up (rollup) data on a line of one report (run by entity group A) and pull it onto a line on another report (run by entity group B), where the rolling up is defined by an a parent child relationship between B and A. Rollup is used when the receiving report is run over a different entity group from the From Report. There are several variants of the Rollup function, allowing you to refine the rollup relationship. In general, the Rollup function requires the following:

- From Report and From Line - The rollup function targets a line in a report to retrieve data, the report and report line are defined by rollup function parameters.
UIPlanner Detailed Model User Guide

- **Association** - There must be an association defined between the report entity group on the *From Report* and the report entity group in the receiving report. The receiving report contains the rollup function line.

If there is more than one association path between the entity groups on the two reports, an error message is generated, and you will need to replace the *ROLLUP* function with a more specific *ROLLUP* function, most likely *ROLLUP-WITH-PATHS*.

**Function Description:**
This is the basic Rollup function. It returns the rolled up value of a selected line and report. You do not need to specify an association – UIPlanner will use the first association found.

**Parameters:**
- **From Report** – Select the report that the entity data will be rolled up from – the From Report.
- **From Line** – Select the desired report line on the *From Report*. The drop-down list will contain all report lines in the *From Report*.

**Example:**
The screen prints, charts and narrative below illustrate the rollup function. This example shows a rollup function which targets line B in the *From Report* which is run over the entity group Alpha containing 7 entities, each with data for January. The rollup function will return this data to the associated entities in the entity group Bravo.

**From Report Calculation** - This report is the *From Report* run over the entity group Alpha.

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Input Alpha Data</td>
<td>Input()</td>
</tr>
</tbody>
</table>

**From Report Results**
An association must exist between the entity group Alpha (used in the from report) and the entity group Bravo (used in the receiving (rollup) report). Note that Alpha entities (Alpha 1 - Alpha 7) are all associated to an entity in entity group Bravo.

- Alpha 1, Alpha 2, and Alpha 3 are associated to Bravo 1
- Alpha 4, Alpha 5, and Alpha 6 are associated to Bravo 3
- Alpha 7 is associated to Bravo 5

The association chart (below left) illustrates the association between Entity Groups Alpha and Bravo. The screen print on the right is from the **One Parameter Editor** screen, which shows the association set up in UIPlanner.

### Association

![Association Chart]

The report results shows data in the *From Report* rolled up to the receiving report. Note how Alpha 1 - 3 have been rolled up to Bravo 1, Alpha 3 - 6 have been rolled up to Bravo 3, and Alpha 7 has been rolled up to Bravo 5, all according to the association.

### Report Calculation

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>5</td>
<td>Rollup Alpha</td>
<td>Rollup(Report 1,(B:Input Alpha Data))</td>
</tr>
</tbody>
</table>

### Report Results

- [Table for Report Results]
Important notes about the rollup function:

- This function will return data using the first association found. Association order is determined by the order code shown on the **Core Objects Editor** screen under the *Order* tab. In cases where there are multiple associations between entity groups, you may need to use the *Function - Rollup with Association* which contains a parameter to specifically define the appropriate association.

- Entities that do not have an association (a null association) will not be rolled up. For example, if Alpha 1 were not associated to any entity in the Entity Group Bravo, the rollup report for Bravo 1 would return 500, and the report total would be 2,700.

- Entities in the Rollup Report that have no entities in the *From Report* entity group associated to them, will not appear on the rollup report. Note that Bravo 2 and Bravo 4 do not appear on the rollup report results because they have no Alpha entities associated to them.

- The Association used by the rollup function is a one way street. In the example above Entity Group Alpha has an association "to" Entity Group Bravo. However, this does not work backwards. There is no association from Entity Group Bravo to Entity Group Alpha.

**{ XE "Rollup Specific Entity" \* MERGEFORMAT }**{ XE "Rollup" \* MERGEFORMAT }{ XE "Function" \* MERGEFORMAT }Function - Rollup Specific Entity

The *Rollup* function is one of the most powerful and useful in UIPlanner. This function allows you to add up (Roll Up) data on a line of one report (run by entity group A) and pull it onto a line on another report (run...
by entity group B), where the rolling up is defined by an a parent child relationship between B and A. Rollup is used when the receiving report is run over a different entity group than the From Report. There are several variants of the ROLLUP function, allowing you to refine the rollup relationship.

In general, the ROLLUP FUNCTION requires the following:

- **From Report and From Line** - This rollup function targets a line in a report to retrieve data, the report and report line are defined by rollup function parameters.
- **Association** - There must be an association defined between the report entity group in the from report and the report entity group in the receiving report. The receiving report contains the ROLLUP function line.

Function Description:
This variant of the ROLLUP function allows you to select the entity in the From Report. It returns the value for a specific entity of the From Report, but only if the From Report entity is associated with the entity in the current report.

Parameters

- **From Report** – Select the report that the entity data will be rolled up from – the From Report.
- **From Line** – Select the desired report line on the From Report. The drop-down list will contain all report lines in the From Report.
- **Association** - Defines the association to be used. The drop-down list will contain all associations from the report entity group in the From Report to the report entity group in the Receiving Report.
- **Entity** – Select the entity you want. The drop-down list will contain all entities in the From Report entity group.

Example:
The screen prints, charts and narrative below illustrate this variant of the ROLLUP function. This example shows a rollup function which targets line B in the From Report which is run over the entity group Alpha containing 7 entities, each with data for January. The ROLLUP function will return this data to the associated entities in the Entity Group Bravo.

**From Report Calculation** - This report is the From Report run over the entity group Alpha.

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Input Alpha Data</td>
<td>Input1</td>
</tr>
</tbody>
</table>

**From Report Results**
An association must exist between the entity group Alpha (used in the From Report) and the entity group Bravo (used in the Receiving (rollup) Report). Note that Alpha entities (Alpha 1 - Alpha 7) are all associated to an entity in entity group Bravo.

- Alpha 1, Alpha 2, and Alpha 3 are associated to Bravo 1
- Alpha 4, Alpha 5, and Alpha 6 are associated to Bravo 3
- Alpha 7 is associated to Bravo 5

The association chart (below left) illustrates the association between entity groups Alpha and Bravo. The screen print on the right is from the ONE PARAMETER EDITOR screen, which shows the association set up in UIPlanner.

**Association**

The report results shows data in the From Report rolled up to the Receiving Report. Note that only Alpha 3 data has been rolled up to the results report.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Rollup Alpha</td>
<td>Rollup Specific Entity(Report 1, B: Input Alpha Data, Association, Alpha 3)</td>
</tr>
</tbody>
</table>
Function - Rollup with Association

The **Rollup** function is one of the most powerful and useful in UIPlanner. This function allows you to add up (rollup) data on a line of one report (run by entity group A) and pull it onto a line on another report (run by entity group B), where the rolling up is defined by a parent child relationship between B and A. Rollup is used when the receiving report is run over a different entity group than the *From Report*. There are several variants of the **Rollup** function, allowing you to refine the rollup relationship.

In general, the **Rollup Function** requires the following:

- **From Report and From Line** - The rollup function targets a line in a report to retrieve data. The report and report line are defined by **Rollup** function parameters.

- **Association** - There must be an association defined between the report entity group in the *From Report* and the report entity group in the *Receiving Report*. The *Receiving Report* contains the **Rollup** function line.

**Function Description:**

\[
\begin{array}{|l|c|}
\hline
\text{2006-2010 Base Scen...} & \text{Jan} \\
\hline
\text{Alpha 1} & \text{Input Alpha Data} \\
\text{Alpha 2} & 100 \\
\text{Alpha 3} & 200 \\
\text{Alpha 4} & 300 \\
\text{Alpha 5} & 400 \\
\text{Alpha 6} & 500 \\
\text{Alpha 7} & 500 \\
\hline
\text{Totals} & \text{2,400} \\
\hline
\end{array}
\]

\[
\begin{array}{|l|c|}
\hline
\text{2006-2010 Base Scen...} & \text{Jan} \\
\hline
\text{Beno 1} & \text{Rollup Alpha} \\
\text{Totals} & 300 \\
\hline
\end{array}
\]
This variant of the **ROLLUP** function allows you to specify the association to use when doing the rollup. You would use this when there are multiple associations, and you want to use a specific one...Note that the **BASIC ROLLUP** function will use the first association found.

**Parameters:**

- **From Report** – Select the report that the entity data will be rolled up from – the *From Report*.
- **From Line** – Select the desired report line on the *From Report*. The drop-down list will contain all report lines in the *From Report*.
- **Association** - Defines the association to be used. The drop-down list will contain all associations from the entity group for the *From Report* to the entity group for the *Receiving Report*.

**Example:**

The screen prints, charts and narrative below illustrate this variant of the rollup function. This example shows a rollup function which targets line B in the *From Report* which is run over the entity group Alpha containing 7 entities, each with data for January. The rollup function will return this data to the associated entities in the entity group Bravo.

**From Report Calculation** - This report is the *From Report* run over the entity group Alpha.

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Input Alpha Data</td>
<td>Input()</td>
</tr>
</tbody>
</table>

**From Report Results**

<table>
<thead>
<tr>
<th>2006-2010 Base Scheme</th>
<th>Jan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha 1</td>
<td></td>
</tr>
<tr>
<td>Input Alpha Data</td>
<td>100</td>
</tr>
<tr>
<td>Alpha 2</td>
<td></td>
</tr>
<tr>
<td>Input Alpha Data</td>
<td>200</td>
</tr>
<tr>
<td>Alpha 3</td>
<td></td>
</tr>
<tr>
<td>Input Alpha Data</td>
<td>300</td>
</tr>
<tr>
<td>Alpha 4</td>
<td></td>
</tr>
<tr>
<td>Input Alpha Data</td>
<td>400</td>
</tr>
<tr>
<td>Alpha 5</td>
<td></td>
</tr>
<tr>
<td>Input Alpha Data</td>
<td>500</td>
</tr>
<tr>
<td>Alpha 6</td>
<td></td>
</tr>
<tr>
<td>Input Alpha Data</td>
<td>600</td>
</tr>
<tr>
<td>Alpha 7</td>
<td></td>
</tr>
<tr>
<td>Input Alpha Data</td>
<td>700</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
</tr>
<tr>
<td>Input Alpha Data</td>
<td>2,800</td>
</tr>
</tbody>
</table>

An association must exist between the entity group Alpha (used in the from report) and the entity group Bravo (used in the receiving (rollup) report).
Note that Alpha entities (Alpha 1 - Alpha 7) are all associated to an entity in entity group Bravo.

- Alpha 1, Alpha 2, and Alpha 3 are associated to Bravo 1
- Alpha 4, Alpha 5, and Alpha 6 are associated to Bravo 3
- Alpha 7 is associated to Bravo 5

The association chart (below left) illustrates the association between entity groups Alpha and Bravo. The screen print on the right is from the ONE PARAMETER EDITOR screen, which shows the association set up in UIPlanner.

### Association

The report results shows data in the From Report rolled up to the receiving report. Note how Alpha 1 - 3 have been rolled up to Bravo 1, Alpha 3 - 6 have been rolled up to Bravo 3, and Alpha 7 has been rolled up to Bravo 5, all according to the association.

### Report Calculation

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Rollup Alpha</td>
<td>Rollup</td>
</tr>
</tbody>
</table>

### Report Results

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Rollup Alpha</td>
<td>Rollup</td>
</tr>
</tbody>
</table>
Important notes about the rollup function:

- Entities that do not have an association (a null association) will not be rolled up. For example, if Alpha 1 were not associated to any entity in the entity group Bravo, the rollup report for Bravo 1 would return 500, and the report total would be 2,700.
- Entities in the rollup report that have no entities in the From Report entity group associated to them will not appear on the rollup report. Note that Bravo 2 and Bravo 4 do not appear on the rollup report results because they have no Alpha entities associated to them.
- The association used by the rollup function is a one way street. In the example above, entity group Alpha has an association "to" entity group Bravo. However, this does not work backwards. There is no association from entity group Bravo to entity group Alpha.

The **Rollup** function is one of the most powerful and useful in UIPlanner. This function allows you to add up (rollup) data on a line of one report (run by entity group A) and pull it onto a line on another report (run by entity group B), where the rolling up is defined by an a parent child relationship between B and A. Rollup is used when the receiving report is run over a different entity group than the **From Report**. There are several variants of the **Rollup** function, allowing you to refine the rollup relationship.
- **From Report and From Line** - The *ROLLUP* function targets a line in a report to retrieve data, the report and report line are defined by rollup function parameters.

- **Association** - There must be an association defined between the report entity group in the *From Report* and the report entity group in the receiving report. The receiving report contains the rollup function line.

**Function Description:**
This variant of the *ROLLUP* function allows you to limit the entities returned in the rollup by using another association. You would use this when you wanted to return only certain of the entities in the *From Report*. For example, if you wanted to report only First-Mortgage Bonds by Low-Level Planning entity, you would specify the secondary association as pointing to the Bond Issue Type, and select First Mortgage Bond as the Entity (from the list in Bond Issue Types) to filter by.

**Parameters:**
- **From Report** – Select the report that the entity data will be rolled up from – the *From Report*.
- **From Line** – Select the desired report line on the *From Report*. The drop-down list will contain all report lines in the *From Report*.
- **Rollup Association** – Defines the first association to be used. The drop-down list will contain all associations from the entity group for the *From Report* to the entity group for the *Receiving Report*.
- **Filter Association** – Defines the second association to be used. The drop-down list will contain all associations for the entity group for the *From Report*.
- **Filter to Entity** – Once you have selected the secondary association, this list will show all of the entities in that entity group. Select the one you want to roll up by.

**Example:**
The screen prints, charts and narrative below illustrate this variant of the rollup function. This example shows a *ROLLUP* function which targets line B in the *From Report* which is run over the entity group Alpha containing 7 entities, each with data for January. The entities in entity group Alpha in turn have an association to entity group Charlie, which has 3 entities. The user selected number 2. The *ROLLUP* function will return the rollup of all entities in entity group Alpha that have an association to entity number 2 in entity group Charlie.

**From Report Calculation** - This report is the *From Report* run over the entity group Alpha.
Primary Association

An association must exist between the entity group Alpha (used in the *From Report*) and the entity group Bravo (used in the receiving (rollup) report). Note that Alpha entities (Alpha 1 - Alpha 7) are all associated to an entity in entity group Bravo.

- Alpha 1, Alpha 2, and Alpha 3 are associated to Bravo 1
- Alpha 4, Alpha 5, and Alpha 6 are associated to Bravo 3
- Alpha 7 is associated to Bravo 5

The association chart (below left) illustrates the two primary associations, between entity groups Alpha and Bravo. The screen print on the right is from the *One Parameter Editor* screen, which shows the association set up in UIPlanner.

---

Secondary Association

An additional association must exist, between the entity group Alpha (used in the *From Report*) and the entity group Charlie (the entity group we want to use as a filter). Note that Alpha entities (Alpha 1 - Alpha 7) are all associated to an entity in entity group Charlie.

- Alpha 1 and Alpha 2 are associated to Charlie 1
Appendix: Functions

- Alpha 3, Alpha 4, Alpha 5, and Alpha 6 are associated to Charlie 2
- Alpha 7 is associated to Charlie 3

The association chart (below left) illustrates the secondary association, between entity groups Alpha and Charlie. The screen print on the right is from the One Parameter Editor screen, which shows the association set up in UIPlanner.

The report results shows data in the From Report rolled up to the Receiving Report. Note that the how Alpha 1 - 3 have been rolled up to Bravo 1, Alpha 3 - 6 have been rolled up to Bravo 3, and Alpha 7 has been rolled up to Bravo 5, all according to the association. Furthermore, the data in the Receiving Report is filtered to only those Alpha entities that roll up to Charlie 2 (Alpha 3 – 6).

**Report Calculation**

<table>
<thead>
<tr>
<th>Rollup with Filter on Charlie 1</th>
<th>Rollup with Association and Filter</th>
<th>Pointer to Charlie</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bravo 1</td>
<td>Charlie 1</td>
<td>Charlie 1</td>
</tr>
<tr>
<td>Bravo 2</td>
<td>Charlie 2</td>
<td>Charlie 2</td>
</tr>
<tr>
<td>Bravo 3</td>
<td>Charlie 2</td>
<td>Charlie 2</td>
</tr>
<tr>
<td>Bravo 4</td>
<td>Charlie 2</td>
<td>Charlie 2</td>
</tr>
<tr>
<td>Bravo 5</td>
<td>Charlie 3</td>
<td>Charlie 3</td>
</tr>
</tbody>
</table>

**Important notes about the rollup function:**
- Entities that do not have an association (a null association) will not be rolled up. For example, if Alpha 1 were not associated to any entity in the entity group Bravo, the rollup report for Bravo 1 would return 500, and the report total would be 2,700.
- Entities in the rollup report that have no entities in the From Report entity group associated to them, will not appear on the rollup report.
Note that Bravo 2 and Bravo 4 do not appear on the rollup report results because they have no Alpha entities associated to them.

- The association used by the **ROLLUP** function is a one way street. In the example above entity group Alpha has an association "to" entity group Bravo. However, this does not work backwards. There is no association from entity group Bravo to entity group Alpha.

**Function Description:**

You can specify one or two association paths between reports, depending on whether the reports are one-dimensional or two-dimensional. You may also reverse the dimension. For example, suppose you have a report that has **Department by Planning Entity** (Department is H/R, expenses exist in all planning entities). You want to roll this up to a report that is **Rating-Agency View by Function**. There is a relationship **Planning Entity->Legal Entity->Rating Agency View**, and another relationship **Department->Function**. To do this rollup, you need to reverse the dimensions (**Department**, dimension one of the detail report, rolls up to **Function**, dimension two of the summary report).

In the **FUNCTION EDITOR**, as you select the path, the next drop-down list is populated. In the above example, under **Planning Entity**, associations from planning entity appear. When you select **Pointer to Legal entity**, associations from legal entity appear in the next drop-down list. When you select **Legal Entity pointer to Rating Agency View**, the next drop-down list will display the word **Match** indicating the path is complete.

This variant of the **ROLLUP** function allows you to specify the association to use when doing the rollup. You would use this when there are multiple associations, and you want to use a specific one. Note that the basic rollup function will use the first association found.

**Parameter:**

- From Report: select the report you are rolling up from
- From Line: select the line from that report that you want to roll up:
- Dimensions: Reversed?: select the line from that report that you want to roll up:
- Note that for the following Association parameters, you specify them for both Entity groups, if rolling from 2-D to 1-D
• Association 1: select the first association to use:
• Association 2: select the second association to use:
• Association 3: select the third association to use

See the example below:

{XE "Copu Function" /* MERGEFORMAT */}{XE "Entity" /* MERGEFORMAT */}Function - Copy From Specific Entity: Entity On A Line

The COPY function in all its forms allows for copying data from one report to another.

This function is a variant of Copy From Specific Entity. Rather than choosing the entity from a drop down list (thus allowing only one choice, hard coded on the line), it pulls the Entity ID from a line in the report. This would allow you to use if-else logic to choose among several entities, with the result on a line that is called by this function

Function Description:

This function returns the value of a line from another report for a given entity where the entity to copy is on a line.
Parameters

- **From Report** - Select the report to be copied from.
- **From Line** - Select a line in the From Report. The drop-down list will display all report lines in the From Report selected in the previous parameter.
- **From Entity** - Select the line from the current report containing the Entity ID of the entity to be copied over to the current report.
- **Attempt Approximation When Copy From Annual to Monthly** - When this check box is selected, any reports run on an annual basis copied to reports run on a monthly basis. UIPlanner will attempt to approximate the resulting monthly values. If the source report is processing annually, the annual values are spread evenly over the months.

Example:

The screen prints below show the copy function used to copy values from Report 1 to Report 2 when Report 1 is run over the Alpha entity group and Report 2 is run over the Bravo Entity group. An if-test is used to determine the Entity in Alpha group to be copied over to Report 2. No association is needed with this function.

**Report Calculation**

<table>
<thead>
<tr>
<th>Report 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ref.</td>
</tr>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Report 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ref.</td>
</tr>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>D</td>
</tr>
<tr>
<td>E</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td>G</td>
</tr>
<tr>
<td>H</td>
</tr>
<tr>
<td>I</td>
</tr>
<tr>
<td>J</td>
</tr>
<tr>
<td>K</td>
</tr>
<tr>
<td>L</td>
</tr>
<tr>
<td>M</td>
</tr>
</tbody>
</table>

**Report Results**
Note that the If-test determined which Alpha entity to use, and put it on line N. The Copy From pulled the value from Report 1 for the entity listed on this line.

<table>
<thead>
<tr>
<th>Bravo 1</th>
<th>Detail Model - Revenues</th>
<th>Jan 2009</th>
<th>Feb 2009</th>
<th>Mar 2009</th>
<th>Apr 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>B: [Entity ID - Alpha 1]</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td></td>
</tr>
<tr>
<td>C: [Entity ID - Alpha 2]</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td></td>
</tr>
<tr>
<td>D: [Current Entity]</td>
<td>Bravo 1</td>
<td>Bravo 1</td>
<td>Bravo 1</td>
<td>Bravo 1</td>
<td></td>
</tr>
<tr>
<td>G: [if]</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td></td>
</tr>
<tr>
<td>H: [IF BRAVO 1]</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td></td>
</tr>
<tr>
<td>I: [Use Alpha 1]</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td></td>
</tr>
<tr>
<td>J: [else]</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td></td>
</tr>
<tr>
<td>K: [IF BRAVO 2]</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td></td>
</tr>
<tr>
<td>L: [Use Alpha 2]</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td></td>
</tr>
<tr>
<td>M: [end if]</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td></td>
</tr>
<tr>
<td>N: [entity to Use]</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td></td>
</tr>
<tr>
<td>O: []</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>P: [Amount to Copy]</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bravo 2</th>
<th>Jan 2009</th>
<th>Feb 2009</th>
<th>Mar 2009</th>
<th>Apr 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>B: [Entity ID - Alpha 1]</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
<td>Alpha 1</td>
</tr>
<tr>
<td>C: [Entity ID - Alpha 2]</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
</tr>
<tr>
<td>D: [Current Entity]</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
</tr>
<tr>
<td>G: [if]</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
</tr>
<tr>
<td>H: [IF BRAVO 1]</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
</tr>
<tr>
<td>I: [Use Alpha 1]</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
</tr>
<tr>
<td>J: [else]</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
<td>Bravo 2</td>
</tr>
<tr>
<td>L: [Use Alpha 2]</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
</tr>
<tr>
<td>M: [end if]</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
</tr>
<tr>
<td>N: [entity to Use]</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
<td>Alpha 2</td>
</tr>
<tr>
<td>O: []</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>P: [Amount to Copy]</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
</tbody>
</table>

### Dates

\{XE "Scenario" /* MERGEFORMAT \} \{XE "Base Year" /* MERGEFORMAT \} \{XE "Function - Base Year for Active Scenario" /* MERGEFORMAT \} Function - Base Year for Active Scenario

### Function Description:

This function returns the base year for the active scenario.

### Example

The screen prints below show the results of this function. The base year for the Active Scenario is 2009.

Note that in order to display correctly in annual periods, you should format the line as average or ending balance.
Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Label</th>
<th>Formula/Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Base Year for Active Scenario</td>
<td>Base Year for Active Scenario()</td>
</tr>
</tbody>
</table>

Report Results

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2,006</td>
<td>2,006</td>
<td>2,006</td>
<td>2,006</td>
<td>2,006</td>
<td>2,006</td>
<td>2,006</td>
<td>2,006</td>
</tr>
</tbody>
</table>

{XE "Current Date" /* MERGEFORMAT */ XE "YYYYMM" /* MERGEFORMAT */ XE "Function" /* MERGEFORMAT */
Function - Current Date (YYYYMM)

Function Description:
This function returns the current month and year, formatted as YYYYMM (e.g. 200603).

Parameters:
None

Example:
The month and year in a report column is February 2006. This function will return 200602. After applying the default date format, 200602 will be displayed as Feb 2009. See example below.

Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Current Date (YYYYMM) Function</td>
<td>Current Date (YYYYMM)</td>
</tr>
</tbody>
</table>

Report Results

<table>
<thead>
<tr>
<th>2006-2010 Base Scenario</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
</tr>
</thead>
</table>

{XE "Current Month" /* MERGEFORMAT */ XE "Function" /* MERGEFORMAT */
Function - Current Month (1-12, 0 if annual)

Function Description:
This function returns the current month (from 1 – 12) in years run monthly, and 0 in annual periods.
Parameters:
None.

Example:
The screen prints below show the results of this function. January returns 1, February returns 2, December returns 12. This example was run with 2007 by month and 2008 and 2009 annual. The result returned for the annual years is 0 (zero).

Report Calculation

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Current Month (1-12, 0 if annual)</td>
<td>Current Month (1-12, 0 if annual)</td>
</tr>
</tbody>
</table>

Report Results

Function Description:
This function returns the current month (from 1 – 12) in years run monthly, and 13 in annual periods.

Parameters:
None.

Example:
The screen prints below show the results of this function. January returns 1, February returns 2, December returns 12. This example was run 2007 by month and 2008 and 2009 annual. The result returned for the annual years is 13.

Report Calculation

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Current Month (1-12, 13 if annual)</td>
<td>Current Month (1-12, 13 if annual)</td>
</tr>
</tbody>
</table>

Report Results
Function Description:
This function returns the current year of the run.

The screen prints below show the results of this function. Note that in order to display correctly in annual periods, you should format the line as average or ending balance.

Report Calculation

Report Results

Function Description:
This function returns the current period for the report run, starting 12 months prior to the start date set in the Manage Scenarios screen.

Periods are months or years. If your scenario is 2 years by month, and the report is running mixed monthly/annual, periods are:

1-12  Historical Year, processed so that 12 months of history exist
13-24  First forecast year
25-36  Second forecast year
37-39  Annual periods for years 3, 4 and 5

Example:
The screen print below shows results from the current period function with a start date of January 2006 for the scenario.

Report Calculation

Report Results
Function - Date for End of Year(YYYYMM)

Function Description:
This function returns a date (in YYYYMM format) which is the last date of the year. If you have a fiscal model, with fiscal year ending March, this could be 201303.
This function is designed to be used with functions like `VALUE FROM YYYYMM`, where you may need to know a value from the end of the year; for example you might want to know the cap ratio at the end of the year.

Function - Date Plus Months

Function Description:
This function returns a date (in YYYYMM format) which has been derived from a date on a report line plus a specific number of months

Parameters:
- Line for Date (YYYMM) - Select the report line for the target date. A drop list will open with the active report lines.
- Line for Months to Add - Select the report line with months to add. A drop list will open with all active report lines.
- Sign? – Select Yes to switch the sign on the result. Default is No.

Example:
The screen prints below illustrate this function. Months are added to the current date to which returns a new date.

Report Calculation

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Current Date</td>
<td>Current Date (YYYYMM)()</td>
</tr>
<tr>
<td>B</td>
<td>Months to add</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Date Plus Months Function</td>
<td>Date Plus Months([A:Current Date],[B:Months to add])</td>
</tr>
</tbody>
</table>

Report Results
Function Description:
This function returns a date (in YYYYMM format) which is the last date of the year. If you have a fiscal model, with fiscal year ending March, this could be 201203.

This function is designed to be used with functions like Value from YYYYMM, where you may need to know a value from the beginning of the year.

Function Description:
This function returns the date (in YYYYMM format) for a number on a line starting with the first period of the run. It returns YYYY12 in annual periods.

Parameter:
- **Line for Period** - Select the line from the current report that contains the period number.

Example:
The screen print below shows results from the Date for Period function where the Start date of the run in January 2005 with various input variables.

### Report Calculation

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Input</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Line for Period Function</td>
<td>Date for Period(1:A:Input)</td>
</tr>
</tbody>
</table>

### Report Results
Function - Days in Current Month

Function Description:
This function returns the number of days in the current month. February returns 29 days in a leap year. If running annual this function will return the number of days in the current year.

Parameter:
- **Sign?** – Select Yes to switch the sign on the result. Default is No.

Example 1:
In March this function will return a value of 31.

Example 2:
If the report is running over an annual period, this function will return 365.

Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Days in current month</td>
<td>Days in Current Month()</td>
</tr>
<tr>
<td>C</td>
<td>Days in year</td>
<td>Days in Current Year()</td>
</tr>
</tbody>
</table>

Report Results

<table>
<thead>
<tr>
<th>2006-2010 Base Scenario</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan</td>
</tr>
<tr>
<td>French 1</td>
<td></td>
</tr>
<tr>
<td>Days in current month</td>
<td>31</td>
</tr>
<tr>
<td>Days in year</td>
<td>365</td>
</tr>
</tbody>
</table>

Function - Days in Current Year

Function Description:
This function returns the number of days in the current year of the model run. Leap years will return 366 days. All other years will return 365 days.

Example 1:
In 2015 this function will return a value of 365.
**Example 2:**
In 2016 (a leap year) this function will return a value of 366.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Days in current month</td>
<td>Days In Current Month()</td>
</tr>
<tr>
<td>C</td>
<td>Days in year</td>
<td>Days In Current Year()</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th></th>
<th>2006-2010 Base Scen.</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan</td>
<td>Feb</td>
</tr>
<tr>
<td>French 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Days in current month</td>
<td>31</td>
<td>28</td>
</tr>
<tr>
<td>Days in year</td>
<td>365</td>
<td>365</td>
</tr>
</tbody>
</table>

{ XE "End Date" /* MERGEFORMAT */{ XE "Function - End Date (YYYYMM) For Feeder Scenario" /* MERGEFORMAT */{ XE "Scenario" /* MERGEFORMAT */Function - End Date (YYYYMM) For Feeder Scenario

**Function Description:**
This function returns the end date (YYYYMM format) for the defined feeder scenario (as specified on the **RUN SEQUENCES** screen). For Strategic Model scenarios, the feeder is a Detail Model scenario, and for Detail Model scenarios, the feeder is a Budget scenario.

**Example**
The screen prints below show the results of this function. Budget 2009-2014 is the defined feeder scenario, and the end date for the **RUN SEQUENCES** screen is 2014.

![Image of screen print showing Run Sequences]

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula-Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>End Date For Feeder Scenario</td>
<td>End Date (YYYYMM) For Feeder Scenario()</td>
</tr>
</tbody>
</table>
Report Results

<table>
<thead>
<tr>
<th>System Title</th>
<th>End Date For Feeder Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

{XE "Function - End Date (YYYYMM) For Report" /* MERGEFORMAT}
{XE "End Date" /* MERGEFORMAT}

Function - End Date (YYYYMM) For Report

Function Description:
This function returns the end date (YYYYMM format) for the current report.

Example
The screen prints below show the results of this function. The current scenario starts in 2009 and runs for 5 years, but note that the report runs for one additional year. Also note that in order to display correctly in annual periods, you should format the line as average or ending balance.

Report Calculation

![Edit Calculation](image)

Report Result

<table>
<thead>
<tr>
<th>System Title</th>
<th>End Date For Feeder Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

{XE "Function - End Date for Scenario" /* MERGEFORMAT}
{XE "End Date" /* MERGEFORMAT}

Function - End Date for Scenario

Function Description:
This function returns the end date (YYYYMM format) for the current scenario.

**Example**
The screen prints below show the results of this function. The base year for the active scenario is 2009 and it runs for 5 years. Note that in order to display correctly in annual periods, you should format the line as average or ending balance.

![Screen Print](image)

**Report Calculation**

**Report Results**

```
{ XE "Final Year" \* MERGEFORMAT }
{ XE "Function - Final Year For Active Scenario" \* MERGEFORMAT }
Function - Final Year For Active Scenario
```

**Function Description:**
This function returns the final year for the active scenario.

**Example**
The screen prints below show the results of this function. The active scenario begins in 2009 and runs for 5 years, thus the last year is 2013.

![Screen Print](image)

Note that in order to display correctly in annual periods, you should format the line as average or ending balance.

**Report Calculation**
Appendix: Functions

Report Results

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula/Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Final Year for Active Scenario</td>
<td>Final Year for Active Scenario()</td>
</tr>
</tbody>
</table>

Function Description:
This function returns the last period of actuals, as shown on the Manage Scenarios screen.

Example:
The screen prints below show report results for this function with an actuals date of December 2005. The result for all months is 12.

Report Calculation

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Last Actual Period function</td>
<td>Last Actual Period()</td>
</tr>
</tbody>
</table>

Report Results

<table>
<thead>
<tr>
<th>2009-2010 Base Scenario</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Actual Period function</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

Function Description:
This function is designed for bond payments but can be used for other purposes. Two attributes in the report entity group are required; the month payments start, and the month interval between payments. It returns 1 if this is an interval month given a start month and an integer interval.

Parameters:
- **Start Month** - Select the entity attribute for the start month of the sequence of payments.
- **Interval** - Select the entity attribute that contains the number of months between payments.

**Example:**

Screen prints below show an example of this function. The payment interval is every 3 months, and the start date is the bond issue date of January 2005. This function will return a 1 for every interval month. **Note**: This function works with dates that are before the start of the scenario time horizon. For example, if you have a preferred stock issue from June 1940 that pays dividends every 3 months, Month Interval returns 1 every March, June, September and December.

Generally this function is used to trigger a conditional loop to calculate the bond payment. Also note that lines B and C are not necessary for this function to work, they are only shown here to help illustrate the example.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>[Place Holder for Entity Description]</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Attribute - Issue Date</td>
<td>Attribute(Issue Date (yyyymm))</td>
</tr>
<tr>
<td>C</td>
<td>Attribute - Months between Payments</td>
<td>Attribute(Number of Months Between Payments)</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>Month Interval(Issue Date (yyyymm),Number of Months Between Payments)</td>
</tr>
<tr>
<td>E</td>
<td></td>
<td>Month Interval Function</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th>2006-2010 Base Scenario</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corp 6% P&amp;L Due 8/1/20</td>
<td>Jan 2005</td>
<td>Jan 2005</td>
</tr>
<tr>
<td>Issue Date</td>
<td>Jan 2005</td>
<td>Jan 2005</td>
</tr>
<tr>
<td>Months between Payments</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Month Interval Function</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

\{ XE "Month from YYYYYMM" /* MERGEFORMAT \}{ XE "Function - Month From YYYYYMM" /* MERGEFORMAT \}Function - Month From YYYYYMM

**Function Description:**
This function returns a month (1-12) given a line whose value is in the date format YYYYYMM.

**Parameters:**
- **Line (YYYYMM)** – Select the line from the current report that contains the date, in YYYYYMM format.
- **Sign?** – Select Yes to switch the sign on the result. Default is No.
Example:
The screen prints below show report results for this function against a line containing the current date. Note that annual cells return 12.

Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula-forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Date in YYMM format</td>
<td>Current Date (YYNMM)</td>
</tr>
<tr>
<td>C</td>
<td>Month from YYMM</td>
<td>Month from YYMM[8:Date in YYMM format]</td>
</tr>
</tbody>
</table>

Report Results

| Report Calculation |

{XE "Annual Factor" /* MERGEFORMAT */}{XE "Monthly Factor" /* MERGEFORMAT */}{XE "Function - Monthly or Annual Factor" /* MERGEFORMAT */}{Function - Monthly or Annual Factor}

Function Description:
This function returns 1/12 if the report is processing monthly, 1 (one) if the report is processing annually.

Example:
The screen prints below show report results for this function against a report running mixed monthly/annual. The scenario settings are 5 years, with 2 years monthly.

Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula-forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Monthly or Annual Factor</td>
<td>Monthly or Annual Factor ()</td>
</tr>
</tbody>
</table>
Report Results

Function Description:
This function returns the number of months between two dates, both of which need to be in YYYYMM format. The date arguments are passed in as lines. 200410 compared to 200410 returns 0, 200411 compared to 200410 returns 1.

Parameters:
- **Line 1 YYYYMM** - Select the line of the current report that contains the first date.
- **Line 2 YYYYMM** - Select the line of the current report that contains the second date.

Example:
Several examples are shown in the screen prints below. January's result of 10 is the number of months between January 2006 and March 2005.

Report Calculation

```
<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Current Date</td>
<td>Current Date (YYYYMM)()</td>
</tr>
<tr>
<td>B</td>
<td>Input dates</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Time Difference Function</td>
<td>Time Difference([A:Current Date],[B:Input dates])</td>
</tr>
</tbody>
</table>
```

Report Results

```
<table>
<thead>
<tr>
<th>2006-2010 Base Scenario</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Difference Function</td>
<td>10</td>
<td>0</td>
<td>16</td>
<td>27</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
```

Function Description:

```{XE "Function - Year From YYYYMM" \* MERGEFORMAT }{XE "Year" \* MERGEFORMAT }Function - Year From YYYYMM
```
This function returns a number for the year, given a line whose value is in the date format YYYYMM.

**Parameters:**
- **Line (YYYYMM)** – Select the line from the current report that contains the date, in YYYYMM format.
- **Sign?** – Select Yes to switch the sign on the result. Default is No.

**Example:**
The screen prints below show report results for this function against a line containing the current date.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line label</th>
<th>Formula/Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Date in YYYYMM format</td>
<td>Current Date [YYYYMM]</td>
</tr>
<tr>
<td>C</td>
<td>Year from YYYYMM</td>
<td>Year from YYYYMM [Date in YYYYMM format]</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B [Date in YYYYMM format]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C [Year from YYYYMM]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Financial**

```
{XE "Account" /* MERGEFORMAT */}{XE "Function" /* MERGEFORMAT */}Function - Account
```

**Function Description:**
This function will return the balance of any account or rollup node in the Planning Ledger Default Account Structure. It sums the values of account postings that roll up to a given node in the primary roll up structure. The Account function is generally used to construct summary financial statements from the Planning Ledger.

The Account function only works on reports that process by planning entity.

**Parameters:**
- **Account** - After clicking in the account selection box, the **SELECT ACCOUNT** dialog will open. Select the desired account or rollup node from the planning ledger default account structure.

**Example:**
Screen prints below illustrate several **ACCOUNT** function lines. Lines K and L are account functions, which will return the balances of account 501 and 142. Line J is an account function that returns the rollup node for Electric Revenue. Lines C through G are **ACCOUNT** functions that return the root rollup nodes.

### Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Root level account structure</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Revenue (rollup node)</td>
<td>Account(Revenue)</td>
</tr>
<tr>
<td>D</td>
<td>Expense (rollup node)</td>
<td>Account(Expense)</td>
</tr>
<tr>
<td>E</td>
<td>Net income (rollup node)</td>
<td>Account(Net income)</td>
</tr>
<tr>
<td>F</td>
<td>Assets (rollup node)</td>
<td>Account(Asset)</td>
</tr>
<tr>
<td>G</td>
<td>Liability (rollup node)</td>
<td>Account(Liability)</td>
</tr>
<tr>
<td>I</td>
<td>Selected Account function Items</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>Electric Revenue (rollup node)</td>
<td>Account(Electric Revenue)</td>
</tr>
<tr>
<td>K</td>
<td>Fuel 501 (account)</td>
<td>Account(501.0 Fuel - Fossil Steam)</td>
</tr>
<tr>
<td>L</td>
<td>Customer A/R 142 (account)</td>
<td>Account(142.0 Customer accounts receivable)</td>
</tr>
</tbody>
</table>

### Report Results

<table>
<thead>
<tr>
<th>2009-2010 Base Scenario</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago Electric</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Root level account structure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue (rollup node)</td>
<td>513,746</td>
<td>453,077</td>
<td>438,883</td>
</tr>
<tr>
<td>Expense (rollup node)</td>
<td>313,892</td>
<td>261,822</td>
<td>252,077</td>
</tr>
<tr>
<td>Net Income (rollup node)</td>
<td>199,864</td>
<td>168,246</td>
<td>146,605</td>
</tr>
<tr>
<td>Assets (rollup node)</td>
<td>5,262,956</td>
<td>5,359,998</td>
<td>5,522,050</td>
</tr>
<tr>
<td>Liability (rollup node)</td>
<td>5,262,956</td>
<td>5,359,998</td>
<td>5,522,050</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Selected Account function Items</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Revenue (rollup node)</td>
<td>513,746</td>
<td>453,077</td>
<td>438,883</td>
</tr>
<tr>
<td>Fuel 501 (account)</td>
<td>197,971</td>
<td>169,865</td>
<td>167,013</td>
</tr>
<tr>
<td>Customer A/R 142 (account)</td>
<td>356,072</td>
<td>333,503</td>
<td>303,667</td>
</tr>
</tbody>
</table>

The planning ledger contains data in a traditional format where credits are negative, and debts are positive numbers. In order to simplify writing reports, the account function will reverse the sign for any accounts or rollup nodes which are defined as revenues, liabilities, or net income in the account root. In the screen prints above, lines C, E and G are all negative balances in the planning ledger, but their signs are reversed by this function.

```{XE "Account Change" \* MERGEFORMAT }{XE "Function - Account Change" \* MERGEFORMAT }Function - Account Change```

**Function Description:**

This function returns the current period change in the selected account (or account rollup):
- Revenue, Expense & Cash – current period value.
- Liabilities - current period minus prior period
- Assets - prior period minus current period

These changes are defined as a Cash Flow Report works – an increase in accounts payable is a source of cash, so the current period minus the prior period is positive. Conversely, an increase in accounts receivable is a use of cash, so the prior period minus the current period is negative.

**Parameters:**
- **Account** - After clicking in the account selection box, the **SELECT ACCOUNT** dialog will open. Select the desired account or rollup node from the planning default account structure.

**Example:**
Screen prints below illustrate the **ACCOUNT CHANGE** function operating against several account rollups. Line B is a revenue account, so the **ACCOUNT CHANGE** returns the current period amount. Lines E and H are balance sheet accounts, so the **ACCOUNT CHANGE** function returns the actual change during the periods. Note that in annual periods, the function returns the full year amounts.

### Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Utility Revenue</td>
<td>Account(Electric Revenue)</td>
</tr>
<tr>
<td>C</td>
<td>Account Change - Utility Revenue</td>
<td>Account Change(Utility Revenue)</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Total Assets</td>
<td>Account(Asset)</td>
</tr>
<tr>
<td>F</td>
<td>Account Change - Total Assets</td>
<td>Account Change(Asset)</td>
</tr>
<tr>
<td>G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>Current and Accrued Liabilities</td>
<td>Account(Current And Accrued Liabilities)</td>
</tr>
<tr>
<td>I</td>
<td>Account Change - Current and Accrue...</td>
<td>Account Change(Current And Accrued Liabilities)</td>
</tr>
<tr>
<td>J</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Report Results

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B Utility Revenue</td>
<td>1,466,973</td>
<td>1,428,573</td>
<td>1,454,973</td>
<td>1,413,972</td>
<td>1,467,573</td>
<td>1,454,972</td>
<td>1,467,573</td>
<td>1,467,573</td>
</tr>
<tr>
<td>C Account Change - Utility Revenue</td>
<td>1,466,973</td>
<td>1,428,573</td>
<td>1,454,973</td>
<td>1,428,573</td>
<td>1,467,573</td>
<td>1,454,972</td>
<td>1,467,573</td>
<td>1,467,573</td>
</tr>
<tr>
<td>D Total Assets</td>
<td>1,260,131</td>
<td>1,262,610</td>
<td>1,268,732</td>
<td>1,273,962</td>
<td>1,268,732</td>
<td>1,273,962</td>
<td>1,268,732</td>
<td>1,268,732</td>
</tr>
<tr>
<td>E Account Change - Total Assets</td>
<td>56,737</td>
<td>58,467</td>
<td>62,694</td>
<td>52,298</td>
<td>56,737</td>
<td>62,694</td>
<td>52,298</td>
<td>56,737</td>
</tr>
<tr>
<td>F Current and Accrued Liabilities</td>
<td>2,467,459</td>
<td>2,485,100</td>
<td>2,475,285</td>
<td>2,416,271</td>
<td>2,467,459</td>
<td>2,485,100</td>
<td>2,475,285</td>
<td>2,467,459</td>
</tr>
<tr>
<td>G Account Change - Current and Accrue...</td>
<td>6,115</td>
<td>-17,203</td>
<td>-24,856</td>
<td>-10,099</td>
<td>11,044</td>
<td>20,623</td>
<td>19,495</td>
<td>22,728</td>
</tr>
<tr>
<td>H Current and Accrued Liabilities</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I Account Change - Current and Accrue...</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>J Current and Accrued Liabilities</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

593
Function Description:
This function will return the balance of any account or rollup node in the planning ledger secondary account structure. The ACCOUNT function is generally used to construct summary financial statements from the planning ledger. In all respects this function is identical to the Function - Account except it will return rollup node balances based on the secondary account structure selected in the parameter first. The function sums the values of account postings that rollup to a given node in a specified secondary account rollup structure.

Parameters:
- **Ledger Structure** - Using the drop down list, select the desired secondary account structure. This selection will be used in the account parameter (next parameter) to display the correct secondary account structure.
- **Account** - After clicking in the account selection box, the SELECT ACCOUNT dialog will open displaying the secondary account structure. Select the desired account or rollup node.

Example:
See Function - Account

Function Description: Function - Account Secondary Structure
This function will return the balance of any account or rollup node in the Planning Ledger secondary account structure. The ACCOUNT function is generally used to construct summary financial statements from the Planning Ledger.

In all respects this function is identical to the Function - Account except it will return rollup node balances based on the secondary account structure selected in the parameter first.

Example: See Function - Account
This function sums the values of account postings that rollup to a given node in a specified secondary account rollup structure.

**Parameters:**

- **Ledger Structure:** Using the drop-down list, select the desired secondary account structure. This selection will be used in the account parameter (next parameter) to display the correct secondary account structure.

- **Account:** After clicking in the account selection box, the `SELECT ACCOUNT` dialog will open displaying the secondary account structure. Select the desired account or rollup node.

```
{ XE "Acquisition Cost" /* MERGEFORMAT }{ XE "Function - Acquisition Cost" /* MERGEFORMAT }
Function - Acquisition Cost
```

**Function Description:**

This function returns the Acquisition cost for a Low-Level Planning Entity, as entered in the `MERGERS AND ACQUISITIONS` screen and is available in the Strategic Model only.

**Example:**

The spreadsheet and screen prints below show the `ACQUISITION COST` function working within a Strategic Model scenario. Below is the `MERGERS AND ACQUISITIONS` screen from the Strategic Model scenario.

![Spreadsheet and screen prints](image)

**Report Calculation**

The report below pulls the acquisition cost by planning entity.
Report Results

Note that the report returns the acquisition cost for the potential acquisition, in the proper year of the scenario. This allows you to change the dollar amounts and timing of potential acquisitions easily, using the **MERGERS AND ACQUISITIONS** screen.

Function Description:

The **Amortization Factor** function returns a fractional rate that will, if applied to a balance, fully amortize the balance to zero by the end date parameter. It returns the calculated amortization factor whose End Date and End Day are specified on the selected lines. Typically this function is used in Bond reports or Deferred Recovery Amortization reports. The amortization rate is based on days remaining to the end month and end day of the month. The formula for each month's amortization rate is - Days remaining for amortization/30. The amortization factor is always 1 (one) for the last month i.e. the end date (YYYYMM) parameter. This ensures that any remaining balance is fully amortized in the last month. If the current date is past the end date the function will return 0.00 (zero).

Parameters:

- **Line for End Date (YYYYMM)** - This parameter will be the last month of the amortization period. Typically attribute data will contain the
date, which is called to a report line. The report line is then used in the Amortization Factor function.

- **Line for End Day** - This is the day of the month in the end date parameter in which the amortization will be complete. Typically the day will be in attribute data, which is in turn called to a report line. This report line is then used in the **Amortization Factor** function. Note: If your report always needs a full month’s amortization in all months, put 30 on a formula line and use that line for this parameter.

**Example 1:**
End date parameter is May 2009, End Day parameter is 30, and the current date is March 2009. This function will return an amortization factor of 0.3333.

<table>
<thead>
<tr>
<th>Parameter - End Date (YYYYMM)</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter - End Day</td>
<td>30</td>
</tr>
<tr>
<td>Months Remaining</td>
<td>5</td>
</tr>
<tr>
<td>Days in the Month</td>
<td>30</td>
</tr>
<tr>
<td>Months * 30</td>
<td>150</td>
</tr>
<tr>
<td>Subtract days from end day</td>
<td>0</td>
</tr>
<tr>
<td>Days Remaining for Amortization</td>
<td>150</td>
</tr>
</tbody>
</table>

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Retire Date (YYYYMM)</td>
<td>2007, 705</td>
</tr>
<tr>
<td>B</td>
<td>Retire Day of Month</td>
<td>30</td>
</tr>
<tr>
<td>C</td>
<td>Amortization Factor</td>
<td>Amortization Factor([A Retire Date (YYYYMM)], [B Retire Day of Month])</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th>2006-2010 Base Scenario</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retire Day of Month</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Amortization Factor</td>
<td>0.2000</td>
<td>0.2500</td>
<td>0.3333</td>
<td>0.5000</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

**Example 2:**
End date parameter is May 2009, End Day parameter is 20, and the current date is March 2009. This function will return an amortization factor of 0.3750.
**Example 3:**
End date parameter is May 2009, End Day parameter is 12, and the current date is March 2009. This function will return an amortization factor of 0.4167.

**Report Calculation**

**Function - Book Depr Vintage: Removal**
Function Description:
This function returns the current period Book Depreciation on Asset Additions. Depreciation stops when Net Plant hits zero. This function has an option for additional depreciation in the first period.

Parameters:
- **Line for Depreciable close** - Select the report line that contains Plant Additions to be depreciated.
- **Line for Depreciable Rate** - Select the report line that contains the monthly Depreciation Rate.
- **[Optional] Line for percent Depreciation first month** - Select the report line that contains the first month’s Depreciation (if desired). If this option is not needed select Null from the drop-down list.

Example 1:
The chart and screen prints below illustrate this function in two ways,. The first chart columns (a) - (d) and report lines B - D show depreciation calculated with no additional depreciation in the first period.

Column (C) in the chart is the monthly depreciation calculated as column (a) times the monthly depreciation rate in column (b). Column (d) is the accumulated column (c).

This same calculation is performed by the function in the screen print line D where closings are in line B and the depreciation rate is on line C.
Note that total depreciation on additions is the summation of each month.

Example 2 - Additional Depreciation:
The second part of the chart, column (e) through (h) illustrates the additional first year depreciation parameter. The optional parameter for "Line for percent Depreciation first month" represents a line on the report that contains a factor which is multiplied by the first year depreciation rate.
In our example below the calculation is \( .00417 \times 0.5 = .00208 \) added to the first year depreciation rate.

Column (f) shows the additional first year depreciation rate, and column (g) shows the additional first year deprecation. Column (h) is the additional depreciation plus regular depreciation calculated in column d.

Screen prints below the chart show the report calculation and results. Line D contains the \textit{BOOK DEPR ADDITIONS} function without the additional first year rate parameter. Line G shows the function with the additional first year deprecation rate.

Note that depreciation is calculated on the beginning balance of additions. January closing of 100,000 is the beginning balance for February. Therefore no depreciation is calculated for January in this example.

\begin{center}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline
Closings & Depr Rate & Vintage & Cumulative & Additional 1st Months Depreciation & \\
(a) & (b) & (a \times b = c) & (d) & (e) & Addl Rate & Addl (a \times f = g) & Cumulative (d + g = h) \\
\hline
January & 100,000 & 0.00417 & & & 0.5000 & 0.00208 & 208 & 208 \\
February & 200,000 & 0.00417 & 417 & 417 & 0.5000 & 0.00208 & 417 & 833 \\
March & 300,000 & 0.00417 & 833 & 1,250 & 0.5000 & 0.00208 & 625 & 1,875 \\
April & 400,000 & 0.00417 & 1,290 & 2,250 & 0.5000 & 0.00208 & 833 & 3,333 \\
May & 500,000 & 0.00417 & 1,667 & 4,167 & 0.5000 & 0.00208 & 1,042 & 5,208 \\
June & 600,000 & 0.00417 & 2,083 & 6,250 & 0.5000 & 0.00208 & 1,250 & 7,500 \\
July & 100,000 & 0.00417 & 2,500 & 8,750 & 0.5000 & 0.00208 & 208 & 8,958 \\
August & 200,000 & 0.00417 & 4,17 & 9,167 & 0.5000 & 0.00208 & 417 & 9,583 \\
September & 300,000 & 0.00417 & 833 & 10,000 & 0.5000 & 0.00208 & 625 & 10,625 \\
October & 400,000 & 0.00417 & 1,290 & 11,250 & 0.5000 & 0.00208 & 833 & 12,083 \\
November & 500,000 & 0.00417 & 1,667 & 12,917 & 0.5000 & 0.00208 & 1,042 & 13,958 \\
December & 600,000 & 0.00417 & 2,083 & 15,000 & 0.5000 & 0.00208 & 1,250 & 16,250 \\
January & - & 0.00417 & 2,500 & 17,500 & 0.5000 & 0.00208 & - & 17,500 \\
February & - & 0.00417 & - & 17,500 & 0.5000 & 0.00208 & - & 17,500 \\
\hline
\end{tabular}
\end{center}

\textit{(b) Depreciation rate is 5 percent annual or \(0.05/12\) Monthly.}
\textit{(f) Rate for additional first year depreciation is \(\text{Depr Rate} \times 0.5 \text{ or } (5\% / 12) \times 0.5 = 0.00208\).}

\textbf{Report Calculation}

\begin{center}
\begin{tabular}{|c|c|}
\hline
Ref. Line Name & Formula/Source \\
\hline
A Ref. Line Name & Place Holder for Entity Description \\
\hline
B Closings & \text{input} \\
\hline
C Rate & \text{input} \\
\hline
D Book Depr Additions Function & \text{book Depr additions[@:Closings]:[C:Rate]} \\
\hline
E First Month depr multiplier & \text{input} \\
\hline
F Book Depr Additions Function w/ addl depr 1st year & \text{book Depr additions[@:Closings]:[C:Rate] (F First Month depr multiplier)} \\
\hline
\end{tabular}
\end{center}

\textbf{Report Results}
Appendix: Functions

Function - Book Depreciation Additions: Removal

Function Description:
This function returns the current period book depreciation using a removal rate on asset additions. Removal depreciation stops an input number of years after Net Plant hits zero, to simulate Removal Depreciation.

Parameters:
- **Line for Depreciable close** - Select the report line that contains plant additions to be depreciated.
- **Line for Removal Depreciation Rate** - Select the report line that contains the monthly removal depreciation rate.
- **Line for Years to Depreciate after Net Plant is zero** - Select the report line which contains the number of years to continue removal depreciation after Net Plant equals zero.
- **[Optional] Line for Percent Depreciation First Month** – Select a line for applying additional depreciation in the first month [optional]

Example:
The screen prints below illustrate this function. Note that removal depreciation stops one year after accumulated depreciation equals plant which is December 2012.

Report Calculation

Report Results
**Function Description:**

This function returns the current period book depreciation on vintage assets. Depreciation stops when net plant hits zero. This function assumes Net Plant = Gross Plant minus Accumulated Depreciation.

**Parameters:**

- **Line for Beg. Bal. Depreciable Plant** - Select the report line that contains the monthly plant balance.
- **Line for Beg. Bal. Accum. Depreciation** - Select the report line that contains the beginning balance of accumulated depreciation. Note that this parameter must contain the beginning balance of accumulated depreciation not the ending balance.
- **Line Depreciation Rate** - Select the report line that contains the monthly depreciation rate.

**Notes:**

- This function will return zero when the plant balance less accumulated depreciation equals zero.
- Reports using this function need to have multiple iterations.

**Example:**

Shown in screen prints below is a plant account with a balance of 1,000,000, accumulated depreciation balance of 956,500 on December 31, 2005, and a depreciation rate of 7.8% (0.65% per month).

This function will return depreciation of 6,500 per month. The last month’s depreciation will be adjusted so that accumulated depreciation will not exceed gross plant (4,500 in July). Subsequent month’s depreciation will be zero as long as accumulated depreciation is equal to the plant balance.

**Report Calculation**
Appendix: Functions

Report Results

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
<th>Actual Override</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Plant balance</td>
<td>Previous (Plant Balance)</td>
<td>Input</td>
</tr>
<tr>
<td>B</td>
<td>Beg Accumulated Depr.</td>
<td>Previous ([Beg Accumulated Depr.])</td>
<td>Input</td>
</tr>
<tr>
<td>C</td>
<td>Monthly rate (0.005%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Depreciation</td>
<td>Book Depr Vintage Plant ([A-Plant Balance] *[B-Beg Accumulated Depr.] [C-Monthly rate (0.005)])</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>End Accumulated Depr.</td>
<td>([B Beg Accumulated Depr.] - [D Depreciation])</td>
<td></td>
</tr>
</tbody>
</table>

Function Description:

This function returns the current period book depreciation using a Removal rate on vintage assets. Removal depreciation stops an input number of years after Net Plant hits zero, to simulate removal depreciation.

Parameters:

- **Line for Beg. Bal. Depreciable Plant** - Select the report line that contains the monthly Plant Balance.
- **Line for Beg. Bal. Accum. Depreciation** - Select the report line that contains the beginning balance of accumulated depreciation. Note that this parameter must contain the beginning balance of accumulated depreciation, not the ending balance.
- **Line for Removal Depreciation Rate** - Select the report line that contains the monthly removal depreciation rate.
- **Line for Years to depreciate after Net Plant is zero** - Select the report line which contains the number of years to continue removal depreciation after Net Plant equals zero.

Example:

The example below builds upon the example given in Function - Book Depr Vintage Plant. The last line of the report contains the function **BOOK DEPRECIATION VINTAGE: REMOVAL** using the following parameters:

- Line A - Plant Balance
- Line B - Accumulated Depreciation
- Line H - Removal Depreciation Rate
- Line I - Additional years for Removal Depreciation

**Notes**

- Removal depreciation continues beyond August 2006, the month accumulated depreciation equals Gross Plant.
- Removal Depreciation stops one year after accumulated depreciation equals plant which is August 2007.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
<th>Actual Override</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Plant balance</td>
<td>Previous [A:Plant Balance]</td>
<td>Input</td>
</tr>
<tr>
<td>B</td>
<td>Beg Accumulated Dep.</td>
<td>Previous [B:End Accumulated Dep.]</td>
<td>Input</td>
</tr>
<tr>
<td>C</td>
<td>Monthly rate (0.0065)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Depreciation</td>
<td>Book Depr/Plant [A:Plant Balance] + [B:Beg Accumulated Dep.] + [C:Monthly rate]</td>
<td>0.65%</td>
</tr>
<tr>
<td>E</td>
<td>End Accumulated Dep.</td>
<td>[B:Beg Accumulated Dep.] + [D:Depreciation]</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Removal Rate (.01)</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>G</td>
<td>Additional Years</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>H</td>
<td>Removal Depreciation</td>
<td>Book Depr/Plant [A:Plant Balance] + [B:Beg Accumulated Dep.] + [F:Removal Rate] + [G:Additional Years]</td>
<td></td>
</tr>
</tbody>
</table>

**Report Results**

**2006-2010 Base Sken**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
<th>Actual Override</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Plant Balance</td>
<td>1,000,000</td>
<td>1,000,000</td>
</tr>
<tr>
<td>B</td>
<td>Beg Accumulated Dep.</td>
<td>965,500</td>
<td>969,500</td>
</tr>
<tr>
<td>C</td>
<td>Monthly rate (0.0065)</td>
<td>0.65%</td>
<td>0.65%</td>
</tr>
<tr>
<td>D</td>
<td>Depreciation</td>
<td>6,500</td>
<td>6,500</td>
</tr>
<tr>
<td>E</td>
<td>End Accumulated Dep.</td>
<td>961,000</td>
<td>969,500</td>
</tr>
<tr>
<td>F</td>
<td>Removal Rate (.01)</td>
<td>1.00%</td>
<td>1.00%</td>
</tr>
<tr>
<td>G</td>
<td>Additional Years</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>H</td>
<td>Removal Depreciation</td>
<td>10,000</td>
<td>10,000</td>
</tr>
</tbody>
</table>

**Function Description:**

This function returns the IRR (Internal Rate of Return) of cash flows on a line. It is similar to the Excel IRR function. It requires at least one negative and one positive cash flow. Also, this function requires more than one iteration. It is not recommended for mixed monthly/annual reports.
The IRR is calculated by adjusting the rate until the net present value of the stream is less than +/- 0.000001, using the NPV function (below).

**Parameters:**
- **Line for Cash Flows (-/+)** - Select the report line containing the cash flows.
- **Guess** - Select the report line containing a guess at the IRR. This should be in percent format.

**Example:**
The screen prints below illustrate the IRR function. Cash Flow is the series of cash flows, and Guess is the percent guess. The IRR is returned for each period of the model run. Note that all series data will be used to calculate IRR for a line in a report. The series will be delimited by the amount of data available for the calculation or the number of periods the report is run for.

**Report Calculation**

**Report Results**

Function Description:
This function returns Net Present Value (NPV) by month for a series of values. It is similar to the Excel NPV function. The rate expected is annual in decimal - i.e. 0.06 for 6%. Calculation is: Flow(1) * 1/(1+rate/12) + flow(2) * (1/ (1+rate/12^2) + flow(3) * (1/ (1+rate/12)^3). (Calculation switches to 1/ (1+rate) in annual periods.)

Note: This function requires more than one iteration.
Parameters:
- **Line for Rate** - Select the report line containing the rate. Rate must be an annual decimal (0.06 for 6%).
- **Line for Cash Flows (-/+)** - Select the report line containing the cash flows.
- **Rate is Monthly (Default is Annual)** – Select this checkbox if the rate in the report is monthly data

Example:
The screen prints below illustrate the NPV function. "Value input" is the value series which NPV is calculated. NPV is returned each period of the UIPlanner model run.

Note that all series data will be used to calculate NPV for a line in a report. The series will be delimited by the amount of data available for calculation or the number of periods run.

Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Rate Input</td>
<td>Input()</td>
</tr>
<tr>
<td>B</td>
<td>Value Input</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>D</td>
<td>NPV: Financial function (A:Rate Input),(B:Value Input)</td>
</tr>
</tbody>
</table>

Report Results

<table>
<thead>
<tr>
<th>Rate Input</th>
<th>Value Input</th>
<th>NPV: Financial function</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.06</td>
<td>500</td>
<td>6.135</td>
</tr>
<tr>
<td>0.06</td>
<td>500</td>
<td>5.385</td>
</tr>
<tr>
<td>0.06</td>
<td>500</td>
<td>5.266</td>
</tr>
<tr>
<td>0.06</td>
<td>500</td>
<td>5.000</td>
</tr>
<tr>
<td>0.06</td>
<td>500</td>
<td>5.000</td>
</tr>
<tr>
<td>0.06</td>
<td>500</td>
<td>5.000</td>
</tr>
<tr>
<td>0.06</td>
<td>500</td>
<td>5.000</td>
</tr>
<tr>
<td>0.06</td>
<td>500</td>
<td>5.000</td>
</tr>
<tr>
<td>0.06</td>
<td>500</td>
<td>5.000</td>
</tr>
<tr>
<td>0.06</td>
<td>500</td>
<td>5.000</td>
</tr>
</tbody>
</table>

Function - PMT: Financial

Function Description:
This function returns the periodic payment required given an annual rate, end date, and principal amount. This function is similar to the Excel PMT function. The rate expected is annual in decimal - i.e. 0.06 for 6%.

Parameters:
- **Line for Rate** - Select the line from the current report that contains the annual interest rate. This rate will be divided by 12 for monthly periods in the calculation.
- **Line for End Date (YYYYMM)** - Select the line from the current report that contains the ending date. Data in this report line needs to be in YYYYMM format (i.e. March 2007 = 200703).
- **Line for Principal (PV)** - Select the line from the current report containing the Principal amount. Principal amount is the ending balance from the prior month.

**Example 1:**
The screen prints below show a payment calculation, Rate = 6%, End date = September 2013, and the Principal amount is $50,000,000. Results returned are the monthly interest and principal payments required to pay down the principal amount to zero by September 2013.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Rate</td>
<td>0</td>
</tr>
<tr>
<td>B</td>
<td>End Date</td>
<td>201309</td>
</tr>
<tr>
<td>C</td>
<td>Principal Amount</td>
<td>50,000,000</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>PMT: Financial function</td>
<td>PMT: Financial([A:Rate],[B:End Date],[C:Principal Amount])</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th>2006-2010 Base Scenario</th>
<th>Jan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>0.06</td>
</tr>
<tr>
<td>End Date</td>
<td>Sep 2013</td>
</tr>
<tr>
<td>Principal Amount</td>
<td>$50,000,000</td>
</tr>
<tr>
<td>PMT: Financial function</td>
<td>$673,605.25</td>
</tr>
</tbody>
</table>

**Example 2:**
The screen prints below show an abbreviated example how this function can be used to calculate interest payments, interest expense and a declining principal balance.

- Principal balance December 31 2005 = $50,000
- Interest rate = 6%
- Retirement date = May 31, 2006

Note that this report example below requires more than one iteration.

**Report Calculation**
Report Results

<table>
<thead>
<tr>
<th>2006-2010 Base Scen...</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Rate (0.05)</td>
<td>6.00%</td>
<td>6.00%</td>
<td>6.00%</td>
<td>6.00%</td>
<td>6.00%</td>
<td>6.00%</td>
<td>6.00%</td>
<td>6.00%</td>
<td>6.00%</td>
</tr>
<tr>
<td>Par Value</td>
<td>0.00</td>
<td>10,150.50</td>
<td>10,150.50</td>
<td>10,150.50</td>
<td>10,150.50</td>
<td>10,150.50</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Prior Month Principal</td>
<td>0.00</td>
<td>50,000.00</td>
<td>40,025.50</td>
<td>30,192.50</td>
<td>20,419.75</td>
<td>10,100.00</td>
<td>-0.00</td>
<td>-0.00</td>
<td>-0.00</td>
</tr>
<tr>
<td>Interest Accrual</td>
<td>0.00</td>
<td>250.00</td>
<td>200.50</td>
<td>150.75</td>
<td>100.75</td>
<td>50.50</td>
<td>-0.00</td>
<td>-0.00</td>
<td>-0.00</td>
</tr>
<tr>
<td>Principal Portion</td>
<td>0.00</td>
<td>9,900.50</td>
<td>9,950.00</td>
<td>9,995.75</td>
<td>10,049.75</td>
<td>10,100.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Ending Balance</td>
<td>50,000.00</td>
<td>41,018.50</td>
<td>31,142.50</td>
<td>21,419.75</td>
<td>11,110.00</td>
<td>-5.00</td>
<td>-0.00</td>
<td>-0.00</td>
<td>-0.00</td>
</tr>
</tbody>
</table>

{ XE "Tax Depreciation" \* MERGEFORMAT }{ XE "Function" \* MERGEFORMAT }Function - Tax Depreciation

Function Description:
This function calculates current period Tax Depreciation expense using the special entity group for Tax Depreciation rates. This function requires the use of the Tax Depreciation entity group and expects associations established between the report entity group and the Tax Depreciation special entity group.

The Tax Depreciation function returns Tax Depreciation on expenditures closed to Plant, not on the tax basis balance. Tax Depreciation on actual vintages are known and generally not forecast, but imported into the model forecast. Results of this function are calculated on an annual basis and spread to months evenly, as shown below.

Parameters:

- **Association** - Select the appropriate association to the Tax Depreciation special entity group from the drop-down list of all Associations in the report entity group. Multiple associations are necessary if more than one Tax Depreciation rate exists (i.e., Federal and State).
- **Line for close** - Select the report line from the drop-down list that contains closings to plant.
- **Optional inherit schedule from** – If desired, select the appropriate Association from the drop-down list to apply an optional inherit tax depreciation schedule.
- **Do NOT spread tax depreciation to actual periods** - When this box is checked, Tax Depreciation calculated for the current year will be spread over the remaining forecast actual months. For example, if Actuals are used in a model run through March, Tax Depreciation for the remaining months will be divided by 9 rather than 12.
Example:

Tax Depreciation Vintage Rates are applied to each vintage of annual closings to Plant. As shown, 2008 Tax Depreciation Expense is made up of three vintages:

\[
\begin{align*}
2006 \text{ vintage} &= 1,000,000 \times 25\% = 250,000 \\
2007 \text{ vintage} &= 500,000 \times 35\% = 175,000 \\
2008 \text{ vintage} &= 300,000 \times 40\% = 120,000 \\
\text{Total} &= 545,000
\end{align*}
\]

The screen prints below illustrate the Tax Depreciation function described above.

Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Plant Closing</td>
<td>Input()</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Tax Depreciation function</td>
<td>Tax Depreciation(Federal Tax Depreciation, (A: Plant Closing))</td>
</tr>
</tbody>
</table>

Report Results (Annual)

<table>
<thead>
<tr>
<th>2006-2010 Base Scenario</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year</td>
<td>Year</td>
<td>Year</td>
<td>Year</td>
<td>Year</td>
</tr>
<tr>
<td>Plant Closing</td>
<td>1,000,000</td>
<td>500,000</td>
<td>300,000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tax Depreciation function</td>
<td>400,000</td>
<td>550,000</td>
<td>545,000</td>
<td>230,000</td>
<td>75,000</td>
</tr>
</tbody>
</table>

Report Results (Monthly)

\{
XE "Function - Tax Depreciation Rate"
\}
\{ MERGEFORMAT \}{
XE "Tax Depreciation"
\}
\{ MERGEFORMAT \}Function - Tax Depreciation Rate
**Function Description:**
This function returns the tax depreciation rate. The Vintage year is supplied on a line, either YYYY or YYYYMM. In years processed monthly, the rate returned is divided by 12.

**Parameters:**
- **Association** - Select the appropriate association to the Tax Depreciation special entity group from the drop-down list of all Associations in the report entity group. Multiple associations are necessary if more than one Tax Depreciation rate exists (i.e., Federal and State).
- **Line for Vintage Year** - Select the report line from the drop-down list that contains the Vintage Year (either in YYYY or YYYYMM format).
- **Force rates to sum to 1** – Choose whether the function will force the rates sum to 1. Default is Yes.
- **Optional inherit schedule from** – If desired, select the appropriate association from the drop-down list to apply an optional inherit tax depreciation schedule.

**Example:**
The screen prints below illustrate the *Tax Depreciation* Rate function. Below are the Tax Depreciation rates in the Tax Depreciation special entity group.

<table>
<thead>
<tr>
<th>Object description</th>
<th>Tax Depreciation Rate - year 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACRS Tax Depr (10 yr)</td>
<td>10</td>
</tr>
<tr>
<td>MACRS Tax Depr (15 yr)</td>
<td>5</td>
</tr>
<tr>
<td>MACRS Tax Depr (20 yr)</td>
<td>3,750</td>
</tr>
<tr>
<td>MACRS Tax Depr (3 yr)</td>
<td>35.33</td>
</tr>
<tr>
<td>MACRS Tax Depr (31 yr)</td>
<td>3.20</td>
</tr>
<tr>
<td>MACRS Tax Depr (5 yr)</td>
<td>20</td>
</tr>
<tr>
<td>MACRS Tax Depr (7 yr)</td>
<td>14.29</td>
</tr>
</tbody>
</table>

Note regarding Force Rates to Sum to 1 – if it is expected that the Tax Depreciation rates should sum to 1, this option will adjust as needed. However, if not (i.e., bonus depreciation), make this option *NO*, and the function will pull the rates directly as entered.

**Report Calculation**

**Report Results (Monthly)**
Function Description:
This function returns the annual yield in percent on an instrument. This
function is similar to the Excel YIELD function:
YIELD(settlement,maturity,rate,principal,redemption,frequency,[basis]). Notice that basis is not supported (in Excel 30/360 or actual/360, etc.). The
formula is: pr=pmt * (1-(1/(1+r)^n)) / r + redemption * (1/(1+r)^n),
where n=number of payments, pmt=redemption*rate/frequency

Parameters:
- **Line for Issue Date (YYYYMM)** - Select the line from the current
  report that contains the ending date, in YYYYMM format (i.e. March
  2007 = 200703). Days are not supported.
- **Line for Retirement Date (YYYYMM)** - Select the line from the
  current report that contains the ending date, in YYYYMM format (i.e.
  March 2007 = 200703). Days are not supported.
- **Line for Annual Interest Rate** - Select the line from the current
  report that contains the annual coupon rate (.05 = 5%). This rate will
  be divided by 12 for monthly periods in the calculation.
- **Line for Original Issue Net Proceeds** - Select the line from the current
  report containing the original issue amount. i.e., par less issue
  cost - discount (premium).
- **Line for Redemption Amount** - Select the line from the current
  report containing the par price.
- **Line for payments per year (1, 2, or 4)** - Select the line from the current
  report containing the number of interest payments per year.
**Example 1:**
The screen prints below show a Yield calculation. Note that from the drilldown menu you can export the parameters from a given entity and month to Excel to check the formula.

### Report Calculation

<table>
<thead>
<tr>
<th>Field</th>
<th>Label</th>
<th>Formula or Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Issue Date</td>
<td>(Insert Holder for Entity Description)</td>
</tr>
<tr>
<td>B</td>
<td>Retire Date</td>
<td>(Insert Holder for Date)</td>
</tr>
<tr>
<td>C</td>
<td>Interest Rate</td>
<td>(Insert Holder for Rate)</td>
</tr>
<tr>
<td>D</td>
<td>Original Issue Proceeds</td>
<td>(Insert Holder for Proceeds)</td>
</tr>
<tr>
<td>E</td>
<td>Payment per Year</td>
<td>(Insert Holder for Payment)</td>
</tr>
<tr>
<td>F</td>
<td>Yield</td>
<td>Yield = (Original Proceeds / Payment per Year)</td>
</tr>
</tbody>
</table>

### Report Results

![Report Results Diagram]

**IDs**

```mermaid
{ XE "Association To" /* MERGEFORMAT */ { XE "Association ID" /* MERGEFORMAT */ { XE "Association" /* MERGEFORMAT */ { XE "Function" /* MERGEFORMAT */ Function - Association To
```

**Function Description:**
This function returns the ID of the entity group for the specified association.

**Parameters:**

- **Association** - Select the appropriate association from the drop-down list.

**Example:**
The entity group *Generation Units* has an association with the entity group *Fuel Type*.

The *French1* entity (in the entity group *Generation Units*) is associated with the entity *Coal* (in the *Fuel Type* entity group) which has an ID number of 21,334,497.

This function will return 21,334,497. If for some reason *French1* were converted to gas, as of the change date on the attribute editor, the function would return the ID of the gas fuel type. See the example below.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Association ID for Fuel Type</td>
<td>Association ID (Fuel Type)</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th>Graph</th>
<th>2006-2010 Base Scenario</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>French 1</td>
<td></td>
<td>21,334,497</td>
<td>21,334,497</td>
<td>21,334,497</td>
</tr>
</tbody>
</table>

Note that you can use the ‘Object Description’ line formatting option to display the entity group name instead of the ID.

```
{ XE "Function - Association to Second Dimension" \* MERGEFORMAT }
{ XE "Second Dimension" \* MERGEFORMAT }
{ XE "Association" \* MERGEFORMAT }
Function - Association to Second Dimension
```

**Function Description:**

The *ASSOCIATION TO SECOND DIMENSION* function has the same behavior as the current *ASSOCIATION TO* function except it executes on the second entity group of a 2-Dimensional report. This function returns the ID of the entity group for the specified association for the currently processed entity of the report’s second dimension.

**Parameters:**

- **Association** - Select the appropriate Association from the drop-down list.

**Example:**

The entity group *Alpha* has associations with the entity groups "Bravo" and "Charlie". The report in question is a 2-Dimensional report by Bravo and
Alpha. This function allows you to obtain the associations for Alpha (the second dimension). See the example below.

### Report Calculation

![Report Calculation Diagram](attachment:image.png)

### Report Results

![Report Results Table](attachment:image.png)

Note how you can use the ‘Object Description’ line formatting option to display the Entity Group name instead of the ID.

```
{ XE "Current Entity:Run" /* MERGEFORMAT }{ XE "Current Entity" /* MERGEFORMAT }{ XE "Run:Current Entity" /* MERGEFORMAT }{ XE "Run" /* MERGEFORMAT }{ XE "Function" /* MERGEFORMAT }
Function - Current Entity
```

### Function Description:

This function returns the Entity ID number of the current entity being processed in the report. This function can be used in conjunction with related functions such as the `ENTITY ID` to do event checking for an entity in a report.

### Parameter:
Primary or Secondary Entity Group - Select the primary or secondary entity group for the report.

Example:
The screen prints below illustrate the CURRENT ENTITY OF RUN function, with the Primary Group parameter. Note the results of the report are:

French 1 21,344,495
French 2 21,322,496
Dunes 21,344,492

Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Current Entity of the Run</td>
<td>Current Entity of Run( )</td>
</tr>
<tr>
<td>C</td>
<td>Entity ID for French 1</td>
<td>Entity ID(Generation Units French 1 )</td>
</tr>
<tr>
<td>D</td>
<td>Entity Group ID for Generation Units</td>
<td>Entity Group ID(Generation Units )</td>
</tr>
</tbody>
</table>

Report Results

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>French 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Entity of the Run</td>
<td>21,334,495</td>
<td>21,334,495</td>
<td>21,334,495</td>
</tr>
<tr>
<td>Entity ID for French 1</td>
<td>21,334,495</td>
<td>21,334,495</td>
<td>21,334,495</td>
</tr>
<tr>
<td>Entity Group ID for Generation Units</td>
<td>21,334,491</td>
<td>21,334,491</td>
<td>21,334,491</td>
</tr>
<tr>
<td>French 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Entity of the Run</td>
<td>21,334,496</td>
<td>21,334,496</td>
<td>21,334,496</td>
</tr>
<tr>
<td>Entity ID for French 1</td>
<td>21,334,495</td>
<td>21,334,495</td>
<td>21,334,495</td>
</tr>
<tr>
<td>Entity Group ID for Generation Units</td>
<td>21,334,491</td>
<td>21,334,491</td>
<td>21,334,491</td>
</tr>
<tr>
<td>Dunes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Entity of the Run</td>
<td>21,334,492</td>
<td>21,334,492</td>
<td>21,334,492</td>
</tr>
<tr>
<td>Entity ID for French 1</td>
<td>21,334,495</td>
<td>21,334,495</td>
<td>21,334,495</td>
</tr>
<tr>
<td>Entity Group ID for Generation Units</td>
<td>21,334,491</td>
<td>21,334,491</td>
<td>21,334,491</td>
</tr>
</tbody>
</table>

Note that you can use the Object Description line formatting option to display the Entity Group name instead of the ID.

{ XE "Current Report ID" /* MERGEFORMAT */ }{ XE "Function - Current Report ID" /* MERGEFORMAT */ }{ XE "Report ID" /* MERGEFORMAT */ }{ XE "Function" /* MERGEFORMAT */ }Function - Current Report ID

Function Description:
This function returns the object ID for the current report. A related function is REPORT ID, which returns the entity ID of a specific report, as opposed to the one being run.

This function is useful when you have shared reports. For example you may have a regulatory report for rate base, two versions with one showing end-
of-period and another one showing averages. The Average function (with the type of average on a Line) could be used with a test for the report ID, and an if to set the average option.

Note that you can use the Object Description line formatting option to display the report name instead of the ID

```
{XE "Entities" \* MERGEFORMAT }{XE "Entity Group" \* MERGEFORMAT }{XE "Entity Group ID" \* MERGEFORMAT }{XE "Function" \* MERGEFORMAT }
Function - Entity Group ID

Function Description:
This function returns the ID of the selected entity group.

Parameter:
- **Select Entity Group** - Select an entity group from the drop-down list of all entity groups.

Example:
The example below shows this function for three entity groups. In all three cases the Entity Group ID is returned for all periods of the report.

### Report Calculation

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Entity Group ID for Generation Units</td>
<td>Entity Group ID (Generation Units)</td>
</tr>
<tr>
<td>B</td>
<td>Entity Group ID for Fuel Type</td>
<td>Entity Group ID (Fuel Type)</td>
</tr>
<tr>
<td>C</td>
<td>Entity Group ID for Legal Entity</td>
<td>Entity Group ID (Legal Entity)</td>
</tr>
</tbody>
</table>

### Report Results

<table>
<thead>
<tr>
<th>2006-2010 Base Scenario</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity Group ID for Generation Units</td>
<td>21,334,491</td>
<td>21,334,491</td>
<td>21,334,491</td>
</tr>
<tr>
<td>Entity Group ID for Fuel Type</td>
<td>21,334,490</td>
<td>21,334,490</td>
<td>21,334,490</td>
</tr>
<tr>
<td>Entity Group ID for Legal Entity</td>
<td>8.517</td>
<td>8.517</td>
<td>8.517</td>
</tr>
</tbody>
</table>

Note that you can use the Object Description line formatting option to display the entity Group name instead of the ID.

```
Function - Entity Group ID for Current Report (Primary Group)

**Function Description:**
This function returns the ID of the primary entity group for the current report and is relevant only for reports with secondary entity groups).

**Parameters:**
None

**Example:**
The example below shows this function for a 2-Dimensional Report, run by Bravo/Alpha.

**Report Calculation**

**Report Results**
Function Description:
This function returns the ID of the secondary entity group for the current report, and is relevant only for reports with secondary entity groups).

Parameter:
None

Example:
The example below shows this function for a 2-Dimensional Report, run by Bravo/Alpha.

Report Calculation

![Report Calculation](image)

Report Results
Function - Entity ID

Function Description:
This function returns the ID of the specified entity within the specified entity
group. This function can be used in conjunction with related functions such
as CURRENT ENTITY OF THE RUN to do event checking for a specific entity in a
report.

Parameters:
- **Entity Group** - Select an entity group from the drop-down list of all
  entity groups.
- **Entity** - Select an entity from the drop-down list. Entities shown in
  the list are all entities in the entity group selected in the first
  parameter.

Example:
The screen prints below illustrate the ENTITY ID function. Where the
parameters are Entity Group = Generation units and the Entity = French1.
This function returns the ID number 21,334,495.

Note the first entity in the report is French 1 with an Entity ID number of
213,334,495, which is determined using the function "Current Entity of the
Run".)

Report Calculation
Report Results

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>French 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Entity of the Run</td>
<td>21,334,495</td>
<td>21,334,495</td>
<td>21,334,495</td>
</tr>
<tr>
<td>Entity ID for French 1</td>
<td>21,334,495</td>
<td>21,334,495</td>
<td>21,334,495</td>
</tr>
<tr>
<td>Entity Group ID for Generation Units</td>
<td>21,334,491</td>
<td>21,334,491</td>
<td>21,334,491</td>
</tr>
<tr>
<td>French 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Entity of the Run</td>
<td>21,334,496</td>
<td>21,334,496</td>
<td>21,334,496</td>
</tr>
<tr>
<td>Entity ID for French 1</td>
<td>21,334,495</td>
<td>21,334,495</td>
<td>21,334,495</td>
</tr>
<tr>
<td>Entity Group ID for Generation Units</td>
<td>21,334,491</td>
<td>21,334,491</td>
<td>21,334,491</td>
</tr>
<tr>
<td>Dunes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Entity of the Run</td>
<td>21,334,492</td>
<td>21,334,492</td>
<td>21,334,492</td>
</tr>
<tr>
<td>Entity ID for French 1</td>
<td>21,334,495</td>
<td>21,334,495</td>
<td>21,334,495</td>
</tr>
<tr>
<td>Entity Group ID for Generation Units</td>
<td>21,334,491</td>
<td>21,334,491</td>
<td>21,334,491</td>
</tr>
</tbody>
</table>

Note that you can use the ‘Object Description’ line formatting option to display the entity name instead of the ID.

{ XE "Option ID" /* MERGEFORMAT */{ XE "Function - Option ID" /* MERGEFORMAT */Function - Option ID

Function Description:
This function returns the ID of the specified option within the specified Option Set. (See below for more information on Option Sets). You might use this function to find out the LLPE type of the current entity.

Parameters:
- **Option Set** - Select an Option Set from the drop-down list.
- **Option** - Select an Option from the drop-down list. Options shown in the list are all options for the Option Set selected in the first parameter.
- **Sign?** – Select Yes to switch the sign on the result. Default is No.

Example:
Note regarding option sets and option IDs: Option sets are found in many places in UIPlanner – they are where you are given a choice in a drop-down list that is not generated from another entity group. The drop-down list choices are preset. The option IDs are the possible choices. Two examples:

1. Low Level Planning Entity: Each LLPE has an attribute for Type. The choices here are preset (the Option Set), rather than being selected from a list of entities. You could invoke this Option ID to find out the LLPE type.
2. Reports: There are a number of option sets in the **EDIT CALCULATION** screen: Line Usage, Month to Annual, Line Visibility, Annual to Month.

The screen prints below illustrate the **OPTION ID** function being used to identify whether the entity being run is an Eliminations company. The report finds the Option IDs for the eliminations companies from the Option Set that specifies LLPE types. You can compare this to the corresponding Attribute value for each LLPE to see if it is an Elimco.

**Report Calculation**

![Report Calculation Screen](image)

**Report Results**

```
{XE "Report ID" /* MERGEFORMAT */}{XE "Function - Report ID" /* MERGEFORMAT */}function - Report ID
```

**Function Description:**
The **REPORT ID** function returns the Entity ID of a specific report, as opposed to the one being run.

---

### Function - Scenario Type

**Function Description:**

This function returns the active scenario type:

1 = Budget, 2 = Detail Model, 3 = Strategic Model, 4 = Daily Cash Flow

**Parameters:**

None

**Example:**

The screen prints below illustrate the **Scenario Type** function.

#### Report Calculation

<table>
<thead>
<tr>
<th>Line</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Scenario Type</td>
<td>Scenario Type()</td>
</tr>
</tbody>
</table>

#### Report Results

![Report Results Image]

---

### Function - Scenario: Related Scenario

**Function Description:**

---
This function returns the Object Id of a related scenario (as defined in the \textit{Manage Scenarios} screen). You might use this function in a report that always reports how the current scenario varies from a specific scenario (e.g., the approved base forecast). See also \textit{Copy from Published Report}.

\textbf{Parameters:}

- \textbf{Related Scenario} – Select the desired related scenario from the drop-down list. The drop-down list displays the list of ten possible related scenarios. Note that you choose not the specific scenario, but the related scenario category 1-10. The function will return whatever scenario is defined for that item.

\textbf{Example:}

The screen prints below illustrate the \textit{Related Scenario} function. Below are the related scenarios as defined for the 2+10 Reforecast Model scenario.

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{related_scenario_example.png}
\caption{Example of Related Scenario Function}
\end{figure}

\textbf{Report Calculation}

Note that the second set of lines was formatted to display the scenario name, rather than the ID.

\textbf{Report Results}
Input

\{ \textit{XE} "Attributes" \textit{\* MERGEFORMAT} \}\{ \textit{XE} "Function" \textit{\* MERGEFORMAT} \} \textit{Function - Attribute}

**Function Description:**
This function returns the attribute value of the current entity during the run, given the selected attribute definition of the report's entity group. You can use an association for the current entity group to inherit an attribute from a related entity group. Also, you can optionally select a line for a default value if the specific attribute is NULL.

**Parameter:**
- **Attribute** - Select the attribute from the drop-down list. The list will contain all attributes for the report entity group (but not associations).
- **Optional Inherit Attribute From** – If the current entity group has an attribute that is linked to another entity group, you can choose to 'inherit' the value from the association.
- **Optional Default Value from Line** – Select a line in the current report to use as the default value if the specific attribute is null.

**Example:**
The report shown below is run over the Bond entity group which has several attributes. Two examples are shown in lines B and C of the report. Line B returns the "issue date" and line C returns the "Interest Rate". Attribute data is returned for each month of the report run.

**Attributes for the Bond Entity Group**
(\textit{ONE PARAMETER EDITOR} screen)

**Report Calculation**
Function - Attribute of Report

This topic is under construction

Function Description:

The \textit{Attribute of Second Dimension} function has the same behavior as the current \textit{Attribute} function, except that it allows you to query the attributes of the second Entity Group of a Two-Dimensional report. This function returns the attribute value of the current secondary entity of the run, given the selected Attribute Definition of the Report’s Secondary Entity Group. You can use an association for the current entity group to inherit an attribute from a related entity group. Also, you can optionally select a line for a default value if the specific attribute is NULL.

Parameters:

- **Attribute** - Select the attribute from the drop-down list. The drop list will contain all attributes for the report secondary entity group (but not associations).
- **Optional Inherit Attribute From** – If the current entity group has an attribute that is linked to another entity group, you can choose to ‘inherit’ the value from the association.
- **Optional Default Value from Line** – Select a line in the current report to use as the default value if the specific attribute is null.
Example:
The entity group Alpha has associations with the entity groups Bravo and Charlie. The report in question is a 2-Dimensional report by Bravo and Alpha. This function allows you to obtain the values of the Attributes for Alpha (the second dimension).

Report Calculation

Report Results

Note that can use the Object Description line formatting option to display the Entity Group name instead of the ID.

Function Description:
This function allows you to pull data into a Calculation Editor report from a Budget report. The budget entities must either match the entities of the report, or have an association to the entities of the report.
This function can save data that has been mapped to the line/entity by using Publish. A file named 'nnn_Budget_data_values' is created in the report_line_persist folder. This file can then be imported via the generic interface. Then, by using the MORE OPTIONS button in the Run Sequences screen, the mapped data can be read from the database as if it were imported. Note that this is a global switch. If you choose this option, all reports using the budget data function will look for imported data.

Other Notes:
- This function is designed to be run in a Budget Scenario. You cannot run it in a Model Scenario.
- You need to have selected the appropriate dept level in Departments in order to get the proper result from the Budget Report.
- If used 'inside a method', the one dimension of the budget report must be a Line or an entity that has a pointer to a line.
- This function is not supported currently for 2-D calculations.

Parameters:
- Report Definition – Select a Budget report from the drop-down list.

Examples - Introduction:
There are two ways to use the Budget Function.
- Using Live Budget Report - When run this way, the report will call the underlying Budget report each time the report is run
- Using Saved Data - When run this way, the report will look to the database time data for the data. The report must have been run and the data saved first.

Note that the underlying report is the same in both methods. The run reports switch tells the report calculation where to get the data:

Example 1: Using “Live” Budget Report
Running the Budget Data function this way, the report will call the underlying Budget report each time the report is run.
- Check the setting in the Run Control Options dialog accessed on Run Sequences:
• Verify that you have selected the department at the appropriate level:

• Run the report sequence. With this setting, the report runs the underlying Budget Report on the fly. See the drill down:

• If you click the blue text, you can bring up the underlying Budget report:

Example 2: Using “Live” Budget Report
In this method, UIPlanner treats the data in the report as input data, saved to the database.
The **Budget Data** function can save data that has been mapped to the line/entity by using Publish. A file named 'nnn_Budget_data_values' is
created in the report_line_persist folder. This file can then be imported via the generic interface. Then, by using the **MORE RUN OPTIONS** button in the **RUN SEQUENCES** screen, the mapped data can be read from the database as if it were imported. Steps:

- Run the report
- Publish results
- Go to generic interface, and import the file 'nnn_Budget_data_values'. Make sure to set the number of qualifiers. Below is a screen print:

![Screen Print](image1)

- Once you save the data, it is saved to the database as input values
- Then when you run the report again, you can choose to have the report use THESE values rather than rerunning the underlying report. You do this in the **RUN CONTROL OPTIONS** dialog:

![Run Control Options](image2)

- With this setting, the report uses the input data – see the drill down:
Function - Escalation Factor

Function Description:
This function returns the cumulative escalation factor for the Escalation Entity ID defined on the argument line. Factors returned are annual, with escalation factors starting after the base year, e.g. 1.0, 1.03, 1.0712 (1.03 x 1.04), etc.
Note – this function only available in the Strategic Model. See also ESCALATION RATE.

Parameters:
- Line for Entity ID of Escalation Rate – The report line that contains the Entity ID of the Escalation Rate for which you wish to calculate the cumulative factor. Note that the Escalation Rate entity group is a special one.

Example:
The spreadsheet and screen prints below show the ESCALATION FACTOR function working within a Strategic Model scenario. Below are the Escalation Factors themselves.

The spreadsheet below shows an offline calculation in Excel of what the cumulative factors should calculate to be.
Report Calculation

Report Results

Note that the **Escalation Factor** function produces the anticipated annual factors.

<table>
<thead>
<tr>
<th>Strategic - Base Case 2009-2026</th>
<th>Year 2009</th>
<th>Year 2010</th>
<th>Year 2011</th>
<th>Year 2012</th>
<th>Year 2013</th>
<th>Year 2014</th>
<th>Year 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPI</td>
<td>123.792</td>
<td>123.792</td>
<td>123.792</td>
<td>123.792</td>
<td>123.792</td>
<td>123.792</td>
<td>123.792</td>
</tr>
<tr>
<td>Escalation Rate - CPI</td>
<td>1.000</td>
<td>1.040</td>
<td>1.040</td>
<td>1.040</td>
<td>1.040</td>
<td>1.040</td>
<td>1.040</td>
</tr>
<tr>
<td>Escalation Factor - CPI</td>
<td>1.000</td>
<td>1.010</td>
<td>1.012</td>
<td>1.015</td>
<td>1.018</td>
<td>1.021</td>
<td>1.025</td>
</tr>
<tr>
<td>GNP</td>
<td>123.708</td>
<td>123.708</td>
<td>123.708</td>
<td>123.708</td>
<td>123.708</td>
<td>123.708</td>
<td>123.708</td>
</tr>
<tr>
<td>Escalation Rate - GNP</td>
<td>1.000</td>
<td>1.030</td>
<td>1.030</td>
<td>1.030</td>
<td>1.030</td>
<td>1.030</td>
<td>1.030</td>
</tr>
<tr>
<td>Escalation Factor GNP</td>
<td>1.000</td>
<td>1.010</td>
<td>1.016</td>
<td>1.020</td>
<td>1.025</td>
<td>1.026</td>
<td>1.030</td>
</tr>
<tr>
<td>PPI</td>
<td>123.776</td>
<td>123.776</td>
<td>123.776</td>
<td>123.776</td>
<td>123.776</td>
<td>123.776</td>
<td>123.776</td>
</tr>
<tr>
<td>Escalation Rate - PPI</td>
<td>1.000</td>
<td>1.025</td>
<td>1.025</td>
<td>1.025</td>
<td>1.025</td>
<td>1.025</td>
<td>1.025</td>
</tr>
<tr>
<td>Escalation Factor PPI</td>
<td>1.000</td>
<td>1.025</td>
<td>1.025</td>
<td>1.025</td>
<td>1.025</td>
<td>1.025</td>
<td>1.025</td>
</tr>
</tbody>
</table>

{XE "Escalation Rate" \* MERGEFORMAT }{XE "Function - Escalation Rate" \* MERGEFORMAT }

**Function Description:**

This function returns the escalation rate (e.g. 1.03, 1.04, 1.05) for the Escalation Entity ID defined on the argument line.

Note: This function is only available in the Strategic Model. See also **Escalation Factor**.
**Parameters:**

- **Line for Entity ID of Escalation Rate** – The report line that contains the Entity ID of the escalation rate you wish to see. Note that the escalation rate entity group is a special one.

**Example:**

The spreadsheet and screen prints below show the **Escalation Factor** function working within a Strategic Model scenario. Below are the escalation factors themselves.

![Spreadsheet and screen prints showing Escalation Factor function](image)

**Report Calculation**

![Spreadsheet showing Report Calculation](image)

**Report Results**

Note that the escalation rate lines of the report return the annual factors per the above..

![Report Results](image)
Function Description:

The Input function identifies a line in the **Calculation Editor** that can receive its value as an input. When the report is run, the function returns that line's inputted value for the current entity and time period of the run. All lines with the *Input* function are displayed in the **Time Data Editor** and can accept input values from there. Input lines can be populated either through the **Time Data Editor** or using the **Model Import** screen.

**Example:**

The Line Name of *Input Data Alpha* is used along with an *Input* function for a line in the calculation grid. When time dependent data is edited for this report, an Excel Input Template will be generated with a line labeled *Input Data Alpha*, and columns for inputting tax rate data for the time periods identified. Report results will display input data for the input line.

### Report Calculation

<table>
<thead>
<tr>
<th>Ref</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Input Data Alpha</td>
<td>Input()</td>
</tr>
<tr>
<td>B</td>
<td>Input Data Bravo</td>
<td>Input()</td>
</tr>
</tbody>
</table>

### Excel Data Entry Template

![Excel Data Entry Template Image]

### Report Results

![Report Results Image]
Function Description:
This function is identical to the \texttt{INPUT} function except for the additional parameter. It returns that line's inputted value for the current entity and time period of the run. If no input is found, it defaults to the value on the referenced line. Note that no input means there is no data at all. If any data exists, even zero, it is used.

Parameter:
- \textbf{From Line} - Select a line from the current report to use as the default value.

Example:
The screen prints below show this function returns the value in line A when there are no input values found for line B.

\begin{verbatim}
\textbf{Report Calculation}
\begin{tabular}{|l|c|}
\hline
Ref. & Line Name & Formula/Source \\
\hline
A & Default to line & \texttt{43} \\
B & Input Else Default to function & \texttt{Input Else Default To([A Default to line])} \\
\hline
\end{tabular}
\end{verbatim}

\begin{verbatim}
\textbf{Report Results}
\begin{tabular}{|c|c|c|c|c|c|}
\hline
2006-2010 Base Scenario & Jan & Feb & Mar & Apr & May \\
\hline
Default to line & \texttt{43} & \texttt{43} & \texttt{43} & \texttt{43} & \texttt{43} \\
Input Else Default to function & \texttt{43} & \texttt{43} & \texttt{43} & \texttt{43} & \texttt{43} \\
\hline
\end{tabular}
\end{verbatim}

Interface Only

Function Description:
This function returns a value read in by the import interface. Note that this function will only work in a report that is set to run as part of the Import Interface. The report must be compiled each time before running the Import.

Parameter:
- **Account** - After clicking in the account selection box, the *Select Account* dialog will open. Select the desired account or rollup node from the planning default account structure.

**Example:**
In the following example, we want to take certain equity accounts upon upload and book the corresponding investment in Subs elimination on the Elimco.

**Report Calculation**

You can see the results in *Browse Reports*. The *Get Value for Account* function returned the uploaded value for the requested account.

<table>
<thead>
<tr>
<th>Detail Model 2009-2013 Base Plan</th>
<th>Jan 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago Electric</td>
<td></td>
</tr>
<tr>
<td>Get Value for Account</td>
<td>-20,000</td>
</tr>
<tr>
<td>Current Entity</td>
<td>Chicago Electric</td>
</tr>
<tr>
<td>Entity ID of Elimco</td>
<td>Utility Energy Elimco</td>
</tr>
<tr>
<td>if</td>
<td></td>
</tr>
<tr>
<td>Equity - Chicago Electric</td>
<td>0</td>
</tr>
<tr>
<td>Equity - Chicago Steam</td>
<td>0</td>
</tr>
<tr>
<td>Equity - Suburban Gas</td>
<td>0</td>
</tr>
<tr>
<td>Total Equity</td>
<td>0</td>
</tr>
<tr>
<td>end if</td>
<td></td>
</tr>
<tr>
<td>Book Investment in Subs</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicago Steam</td>
<td></td>
</tr>
<tr>
<td>Get Value for Account</td>
<td>10,000</td>
</tr>
<tr>
<td>Current Entity</td>
<td>Chicago Steam</td>
</tr>
<tr>
<td>Entity ID of Elimco</td>
<td>Utility Energy Elimco</td>
</tr>
<tr>
<td>if</td>
<td></td>
</tr>
<tr>
<td>Equity - Chicago Electric</td>
<td>0</td>
</tr>
<tr>
<td>Equity - Chicago Steam</td>
<td>0</td>
</tr>
<tr>
<td>Equity - Suburban Gas</td>
<td>0</td>
</tr>
<tr>
<td>Total Equity</td>
<td>0</td>
</tr>
<tr>
<td>end if</td>
<td></td>
</tr>
<tr>
<td>Book Investment in Subs</td>
<td>0</td>
</tr>
</tbody>
</table>
Function - Interface Only: Get Value For Line

Function Description:
This function returns a value read in to a report line by the import interface. Note that this function will only work in a report that is set to run as part of the import interface. The report must be compiled each time before running the import.

Parameter:
- **Interface Data read into Report** – Select the report that the import is going to read data into.
- **Copy Value from Line** – Select the line from the import report that you want to get the value of.

Example:
In the following example, we want to take the value uploaded into the *Fuel Expense Report for Coal Expense*, adjust it and put the result onto another report. The uploaded data is:

<table>
<thead>
<tr>
<th>Line #</th>
<th>Qual 1</th>
<th>Qual 2</th>
<th>Qual 3</th>
<th>Year</th>
<th>Jan Yr-1</th>
<th>Feb Yr-1</th>
<th>Mar Yr-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chicago Electric</td>
<td>Fuel Expense Report</td>
<td>Coal Cost</td>
<td>2002</td>
<td>50000</td>
<td>50000</td>
<td>50000</td>
</tr>
<tr>
<td>2</td>
<td>Chicago Steam</td>
<td>Fuel Expense Report</td>
<td>Coal Cost</td>
<td>2003</td>
<td>10000</td>
<td>10000</td>
<td>10000</td>
</tr>
</tbody>
</table>

Report Calculation

Report Results
You can see the results in *Browse Reports*. The *Get Value For Line* function returned the uploaded value for the requested line.
Function Description:
This function returns a value read in by the import interface. Note that this function will only work in a report that is set to run as part of the import interface. The report must be compiled each time before running the import.

Parameter:
- **Select Line to copy** – Select a line in the current report to provide the value to set the account to.
- **Set Account In Interface** - After clicking in the account selection box, the Select Account dialog will open. Select the desired account from the planning default account structure. Note that you **MUST** select a detail account, as the function will not post to a rollup node.

Example:
In the following example, we want to take certain equity accounts upon upload and book the corresponding investment in Subs elimination on the Elimco. The source data uploaded is:

<table>
<thead>
<tr>
<th></th>
<th>201 - Common Stock at Par</th>
<th>2009</th>
<th>1</th>
<th>-10000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago Steam</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicago Electric</td>
<td></td>
<td></td>
<td></td>
<td>-20000</td>
</tr>
<tr>
<td>Suburban Gas</td>
<td></td>
<td></td>
<td></td>
<td>-5000</td>
</tr>
</tbody>
</table>

Report Calculation
Report Results
You can see the results on the **IMPORT SCREEN**. After running the import, when you click **COMMIT**, you can see the values about to be saved. The **SET VALUE FOR ACCOUNT** function set the target account to the total of the three subsidiaries.

![Import Screen](image)

**Function - Interface Only: Set Value For Line**

**Function Description:**
This function assigns a calculated value to be saved to a report by the import interface. Note that this function will only work in a report that is set to run as part of the Import Interface. The report must be compiled each time before running the Import.

**Parameter:**
- **Copy Value from Line** – Select the line in the current report that has the value you want to copy
- **Set Value In Interface** – Select the report that you want to write the value to
- **Set Value In Interface** – Select the destination line in the report. It must be tagged as ‘input’
Example:
In the following example, we want to take the value uploaded into the **Fuel Expense Report for Coal Expense**, adjust it and put the result onto another report. The uploaded data is:

<table>
<thead>
<tr>
<th>Line</th>
<th>Qual 1</th>
<th>Qual 2</th>
<th>Year</th>
<th>Jan Yn-1</th>
<th>Feb Yn-1</th>
<th>Mar Yn-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chicago Electric Fuel Expense Report</td>
<td>Coal Cost</td>
<td>2007</td>
<td>50000</td>
<td>30000</td>
<td>30000</td>
</tr>
<tr>
<td>2</td>
<td>Chicago Steam Fuel Expense Report</td>
<td>Coal Cost</td>
<td>2009</td>
<td>10000</td>
<td>10000</td>
<td>10000</td>
</tr>
</tbody>
</table>

**Report Calculation**

**Report Results**

You can see the results in the **MODEL IMPORT** screen. After running the import, when you click **COMMIT**, you can see the values about to be saved. The **SET VALUE FOR LINE** function took the amount from the Fuel Expense upload, adjusted it and wrote that amount to the Journal Entry Report.

**Math and Statistics**

```
{ XE "Generate Normaly Distributed Number" \* MERGEFORMAT }
{ XE "Function - Generate Normally Distributed Number" \* MERGEFORMAT } Function - Generate Normally Distributed Number
```

**Function Description:**

When called repeatedly, this function will provide a normally distributed data set. Approximately 68% of the time this function will return a value within..."
one standard deviation of the mean, approximately 95% of the time it will return a number within two standard deviations of the mean, and approximately 99% of the time it will return a number within 3 standard deviations of the mean. The average value returned from the function will be the mean.

This function requires multiple iterations.

Parameters:
- **Mean** - Select the report line that has the value for the mean.
- **Standard Deviation** - Select the report line that has the value for the standard deviation.
- **Return Decimal or Integer** - Specify if the desired result is an integer or decimal.

Function Description:
This function will return the largest (MAX) value in a range of lines for the period being processed.

Parameters:
- **Start Line of Range** - Select the report line that represents the first line in the range you want to check.
- **End Line of Range** - Select the report line that represents the last line in the range you want to check.

Example:
The screen prints below show the MAX function in use. Note that to calculate a minimum charge, you use the MIN function.

Report Calculation
Appendix: Functions

Report Results

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B: Minimum Charge Calculation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: [Standard Charge (Service Charge + Energy Charge + Demand Charge)]</td>
<td>50</td>
<td>50</td>
<td>75</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>D: Minimum Monthly Charge</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>E:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>F: [Minimum Charge]</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>G:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>H: Maximum Charge Calculation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I: [Billing Energy]</td>
<td>1,500</td>
<td>1,500</td>
<td>1,500</td>
<td>1,500</td>
<td></td>
</tr>
<tr>
<td>J: [Maximum Energy Rate]</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>K:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>L: [Maximum Monthly Charge]</td>
<td>450</td>
<td>450</td>
<td>450</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>M: [Calculated Energy Charge]</td>
<td>1,000</td>
<td>1,000</td>
<td>250</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>N:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>O: Maximum Energy Charge</td>
<td>450</td>
<td>450</td>
<td>250</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>P:</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

{ XE "Min" /* MERGEFORMAT */ { XE "Function - Min" /* MERGEFORMAT */ Function - Min

Function Description:
This function will return the smallest (MIN) value in a range of lines for the period being processed.

Parameters:
- **Start Line of Range** - Select the report line that represents the first line in the range you want to check.
- **End Line of Range** - Select the report line that represents the last line in the range you want to check.

Example:
The screen prints below show the MIN function in use. Note that to calculate a maximum charge, you use the MAX function.
**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula/Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Minimum Charge Calculation</td>
<td>Label Only</td>
</tr>
<tr>
<td>C</td>
<td>Standard Charge (Service Charge + Energy Charge + Demand Charge)</td>
<td>Input</td>
</tr>
<tr>
<td>D</td>
<td>Minimum Monthly Charge</td>
<td>Input</td>
</tr>
<tr>
<td>E</td>
<td>Minimum Charge</td>
<td>Max(C;Standard Charge (Service Charge + Energy Charge + Demand Charge);D)</td>
</tr>
<tr>
<td>F</td>
<td>Maximum Charge Calculation</td>
<td>Label Only</td>
</tr>
<tr>
<td>G</td>
<td>Billing Energy</td>
<td>Input</td>
</tr>
<tr>
<td>H</td>
<td>Maximum Energy Rate</td>
<td>Input</td>
</tr>
<tr>
<td>I</td>
<td>Maximum Monthly Charge</td>
<td>Input</td>
</tr>
<tr>
<td>J</td>
<td>Calculated Energy Charge</td>
<td>Input</td>
</tr>
<tr>
<td>K</td>
<td>Maximum Energy Charge</td>
<td>Min(I;Maximum Monthly Charge;J;Calculated Energy Charge)</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th></th>
<th>Jan 2009</th>
<th>Feb 2009</th>
<th>Mar 2009</th>
<th>Apr 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>B: Minimum Charge Calculation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: Standard Charge (Service Charge + Energy Charge + Demand Charge)</td>
<td>50</td>
<td>50</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>D: Minimum Monthly Charge</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>E: Minimum Charge</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>F: Maximum Charge</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>J: Calculated Energy Charge</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I: Maximum Energy Charge</td>
<td>1,500</td>
<td>1,500</td>
<td>1,500</td>
<td>1,500</td>
</tr>
<tr>
<td>H: Maximum Charge Calculation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>L: Maximum Monthly Charge</td>
<td>450</td>
<td>450</td>
<td>450</td>
<td>450</td>
</tr>
<tr>
<td>M: Calculated Energy Charge</td>
<td>1,000</td>
<td>1,000</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>P: Maximum Energy Charge</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Function - Natural Log**

**Function Description:**

This function returns the natural logarithm of an input amount. In simple terms, the natural logarithm of a number x is the power to which e (2.718281828) would have to be raised to equal x. For example, the natural log of e^2 (approximately 7.389) is 2, the natural log of e itself is 1 because e^1 = e, while the natural logarithm of 1 would be 0, since e^0 = 1. This function is equivalent to the Excel function IMLN.

**Parameters:**

- **Line** - Select the line from the current report that you want to calculate the Natural Log of.

**Example:**

```{XE "Natural Log" \* MERGEFORMAT }{XE "Function - Natural Log" \* MERGEFORMAT }Function - Natural Log```
The screen prints below illustrate the **NATURAL LOG** function. The spreadsheet below shows the calculation of the natural logs of several numbers, using the Excel IMNL function.

![NATURAL LOG Function Example](image)

**Report Calculation**

<table>
<thead>
<tr>
<th>MM ... Ref.</th>
<th>Line label</th>
<th>Formula-forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Input Data</td>
<td>Input()</td>
</tr>
<tr>
<td>B</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Natural Log of Input Data</td>
<td>Natural LogB (Input Data)</td>
</tr>
</tbody>
</table>

**Report results**

Note that the **NATURAL LOG** function returns the same results as produced by the Excel IMNL function.

![Function Description](image)

**Function Description:**

This function will return an entity order ranking based on the value of a selected line for the given period. A tie for 2nd between four entities will display as: 1,2,2,4. In Two-Dimensional reports it ranks the entity combination. Note also that this function will require additional report iteration and is in general fairly resource intensive for large entity groups, because sort logic is executed for every invocation (i.e. - every time period by entity combination). The **RANK** function takes an optional argument of an association. If an Association exists, the entities or entity combinations will be divided into sub-groups based on how they associate. The ranking returned will be the Entity's (or Entity Combination's) rank within the sub-group.
Parameters:

- **Line** - Select the line from the current report to be used for generating the ranking.
- **Largest Value ranks #1?** – This is a Yes/No switch, to allow you to rank in ascending or descending order. The Default is Yes.
- **Optional Inherit Association From** – If the current entity group is linked that to another Entity Group, you can choose to ‘inherit’ the association.

Example:
The screen prints below illustrate the **RANK** function against a series of Projects, using the Project Score. The spreadsheet below shows the final project scores, and a calculation of what the rank should be.

![Spreadsheet](attachment:spreadsheet.png)

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula-forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Project Score</td>
<td>Copy From(Project Evaluation.AC.[Rounded Score], )</td>
</tr>
<tr>
<td>C</td>
<td>Rank by Project Score</td>
<td>Rank(B[Project Score],Yes)</td>
</tr>
</tbody>
</table>

**Report Results**

Note that the rank for various projects as returned by the **RANK** function agrees with the rank as predicted via Excel above.
Function Description:
This function calculates a ratio for any two lines of a report for the current entity and time period. In addition, this function provides a ratio calculation in the consolidation sum section of the report. This function is calculated during a model run as well as at the final report generation. This is to avoid the following problem: Some reports that have been defined with only ratios might zero suppress the entire report unless the line contained a value.

Parameters:
- **Numerator Line** - Select the line from the current report to be used as the Numerator.
- **Denominator Line** – Select the line from the current report to be used as the Denominator.

Example:
The screen prints below illustrate the RATIO function. The January ratio of input lines B and C for French1 are 30 / 60 = 0.50. Note that results for the ratio function and the division formula are the same for each entity. However, the Ratio function will calculate a ratio of totaled results as seen in the Totals section of the report results. The division formula from line E of the report will be totaled in the Totals section. Results for this function are created at the time of reporting. Therefore, data is not available for drill-down or pull reporting.
Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Input Value B</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Input Value C</td>
<td>Input()</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>B divided by C</td>
</tr>
<tr>
<td>E</td>
<td></td>
<td>[B:Input Value B] / [C:Input Value C]</td>
</tr>
<tr>
<td>F</td>
<td>Ratio of B and C function</td>
<td>Ratio(([B:Input Value B],[C:Input Value C]))</td>
</tr>
</tbody>
</table>

Report Results

<table>
<thead>
<tr>
<th>2006-2010 Base Scenario</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>French 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Value B</td>
<td>50</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>Input Value C</td>
<td>30</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>B divided by C</td>
<td>0.50</td>
<td>1.00</td>
<td>1.667</td>
</tr>
<tr>
<td>Ratio of B and C function</td>
<td>0.50</td>
<td>1.00</td>
<td>1.667</td>
</tr>
<tr>
<td>French 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Value B</td>
<td>20</td>
<td>50</td>
<td>80</td>
</tr>
<tr>
<td>Input Value C</td>
<td>30</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>B divided by C</td>
<td>0.667</td>
<td>1.250</td>
<td>1.600</td>
</tr>
<tr>
<td>Ratio of B and C function</td>
<td>0.667</td>
<td>1.250</td>
<td>1.600</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Value B</td>
<td>50</td>
<td>90</td>
<td>130</td>
</tr>
<tr>
<td>Input Value C</td>
<td>50</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>B divided by C</td>
<td>1.167</td>
<td>2.250</td>
<td>3.267</td>
</tr>
<tr>
<td>Ratio of B and C function</td>
<td>0.556</td>
<td>1.125</td>
<td>1.625</td>
</tr>
</tbody>
</table>

\{XE "Round" /* MERGEFORMAT \} \{XE "Function" /* MERGEFORMAT \} Function - Round

Function Description:
This function returns the value in a selected line, rounded to a specified number of decimal places. If the rounding parameter is positive, it rounds to that number of places to the right of the decimal. If the parameter is negative, it rounds to that number of places to the left of the decimal.

Parameters:
- **Line** - Select the report line that contains the value you wish to report the rounded value of.
- **Digits** - Select the rounding parameter. It can range from -8 to +8.

Example:
The two screen prints below illustrate the \texttt{ROUND} function. The Report Calculation screen print shows all possible parameters. Note that the Report Results screen print shows the results all formatted to 6 decimal places.
Appendix: Functions

Report Calculation

<table>
<thead>
<tr>
<th>Ref. Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rounding Example</td>
<td>Label Only</td>
</tr>
<tr>
<td>Input Value</td>
<td>12,345,679</td>
</tr>
<tr>
<td>Target number</td>
<td>8:Input Value</td>
</tr>
<tr>
<td>F Rounded to 10,000</td>
<td>Round(D:Target number, -1)</td>
</tr>
<tr>
<td>G Rounded to 1,000</td>
<td>Round(D:Target number, -3)</td>
</tr>
<tr>
<td>H Rounded to 100</td>
<td>Round(D:Target number, -2)</td>
</tr>
<tr>
<td>J Rounded to 10</td>
<td>Round(D:Target number, -1)</td>
</tr>
<tr>
<td>K Rounded to 0.1</td>
<td>Round(D:Target number, 1)</td>
</tr>
<tr>
<td>L Rounded to 0.01</td>
<td>Round(D:Target number, 2)</td>
</tr>
<tr>
<td>M Rounded to 0.001</td>
<td>Round(D:Target number, 3)</td>
</tr>
<tr>
<td>N Rounded to 0.0001</td>
<td>Round(D:Target number, 4)</td>
</tr>
</tbody>
</table>

Report Results

<table>
<thead>
<tr>
<th>Rounding Example</th>
<th>Target number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12,345,679,945,679</td>
</tr>
<tr>
<td></td>
<td>12,350,000,000,000</td>
</tr>
<tr>
<td></td>
<td>12,345,000,000,000</td>
</tr>
<tr>
<td></td>
<td>12,345,000,000,000</td>
</tr>
<tr>
<td></td>
<td>12,345,000,000,000</td>
</tr>
<tr>
<td></td>
<td>12,345,679,900,000</td>
</tr>
<tr>
<td></td>
<td>12,345,679,950,000</td>
</tr>
<tr>
<td></td>
<td>12,345,679,940,000</td>
</tr>
<tr>
<td></td>
<td>12,345,679,945,700</td>
</tr>
</tbody>
</table>

\{ XE "Sum Down" \* MERGEFORMAT \}{ XE "Function" \* MERGEFORMAT }Function - Sum Down

Function Description:
This function sums the values of the lines above the current line, starting at the specified line.
Two items to note:
- The option 'Skip Embedded Sum Downs' will exclude any lines in the range that are sum downs.
- Sum Down works over if-else blocks, skipping the if lines and else lines.

Note – while you can skip over embedded sum downs, be aware that if you have embedded formula lines (A+B+C) which are themselves subtotals, the SUM DOWN function cannot skip over these.

Parameters:
- **From Line** - Select the report line where you want to start the summation.
- **Skip Embedded Sum Downs** – If this option is selected, the Sum Down will ignore any lines in the range that themselves are Sum-Downs.
- **Select this Option by Default (User Preference)** – If this option is selected, whenever you select the *Sum Down* function, it will be preset to the value selected in the first checkbox. E.G., if you check the box to ignore Embedded Sum-downs and check the default option, any time you select Sum Down it will already be set for you. As indicated, this is a User Preference.

**Example:**
The *Sum Down* function is used on line J in the example below. The *From Line* parameter is line C. The *Skip Embedded Sum Downs* option has been selected. The function will thus return the sum of all lines, skipping line G, which is a Sum Down.

### Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Label</th>
<th>Formula Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Income Statement</td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>Label Only</td>
</tr>
<tr>
<td>C</td>
<td>Operating Revenue</td>
<td>Label Only</td>
</tr>
<tr>
<td>D</td>
<td>Electric Revenue</td>
<td>Account(Electric Revenue)</td>
</tr>
<tr>
<td>E</td>
<td>Gas Revenue</td>
<td>Account(Gas Revenue)</td>
</tr>
<tr>
<td>F</td>
<td>Steam Revenue</td>
<td>Account(Steam Revenue)</td>
</tr>
<tr>
<td>G</td>
<td>Retail Revenue</td>
<td>Sum Down(C-Operating Revenue-J)</td>
</tr>
<tr>
<td>H</td>
<td>Affiliate Revenue</td>
<td>Account(Affiliate Revenue)</td>
</tr>
<tr>
<td>I</td>
<td>Goal Seek Revenue</td>
<td>Account(0.12 * Goal Seek Revenue)</td>
</tr>
<tr>
<td>J</td>
<td>Total Operating Revenue</td>
<td>Sum Down(C-Operating Revenue-J-Skip Embedded Sum Down)</td>
</tr>
</tbody>
</table>

### Report Results
Function - Trend

Function Description:
This function returns a value calculated using the trend of a line. It is similar to the Excel Trend function. It uses a least-squares approximation to fit a line into the data, beginning with the start of the run, and ending with the date specified. This function is

Parameters:
- **Line for End Date (YYYYMM)** - Select the report line containing the end date (in YYYYMM format) for the source data.
- **From Line** - Select the report line containing the data you want to trend.

Example:
The screen prints below show an example of the **TREND** function. The Excel sheet shows the source data, as well as the trend calculated using the Excel Trend Function.
Report Calculation

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula-forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Final Date for Trend Calculation</td>
<td>201012</td>
</tr>
<tr>
<td>C</td>
<td>Input Date</td>
<td>Trend()</td>
</tr>
<tr>
<td>D</td>
<td>Trend</td>
<td>TrendB([Final Date for Trend Calculation],C;[Input Date])</td>
</tr>
</tbody>
</table>

Report Results

Note that the trend for Jan 2011 through June 2012, as returned by the TREND function, agrees with the amounts as predicted via Excel above.

Function Description:

This function determines whether a number on a line falls within a specified range. The user can determine whether to use \( \geq \) or \( > \) for the floor and \( \leq \) or \( < \) for the ceiling.
or < for the ceiling. The user can choose to only specify the floor or the ceiling for the range and not both, in which case negative or positive infinity will be used as the unspecified floor or ceiling. If the user selects a line for the return value, the value of that line will be returned if the range check returns true. Otherwise, this function will return 0. If the special return type 'Amount in Range' is selected and if the value is below the floor, 0 is returned. If the value is above the ceiling, the range size (ceiling minus floor) is returned. If the value is within the range, the value minus the floor is returned.

**Process**

```
{ XE "Highlight Cell" /* MERGEFORMAT */ { XE "Function - Highlight Cell" /* MERGEFORMAT */ Function - Highlight Cell
```

**Function Description:**

This function will turn the referenced line to the selected color. On the *Browse Reports* screen, the cells for the specified line and item will be highlighted the specified color for any context (i.e. - period, entity, sub-entity) where this function was executed. For any contexts where this function was not executed those cells will not be affected.

The function is designed for use with conditional logic. Otherwise, standard formatting would accomplish the same objective. Note: The cell highlighting will only reflect the last report iteration.

**Parameters:**

- **Select Line to Highlight** - Select the report line you want to highlight.
- **Color** – Click on the box to bring up the detailed Color Grid. Select a color to use.

**Example:**

The screen prints below illustrate the use of the *Highlight* function within a set of conditional logic. The section at the top of the report calculates the year over year change in net income. There are input lines for the Earnings Bands in order to allow you to change the ranges without changing the report.

**Report Calculation**

Input values – The low and high bands were set at 0% and 5%. In other words, the function should color the line Red if earnings growth was below 0%, Yellow if between 0% and 6%, and Green if above 6%.
The screen print below shows how the conditional logic was built.

Report Results
Below are the final results.

Function - Highlight Report

Function Description:
If this function is called the containing report will be colored the specified color on the `RUN SEQUENCES` screen. The function must be called in its last iteration.

**Parameters:**
- **Color** – Click on the box to bring up the detailed Color Grid. Select a color to use.

**Example:**
The screen prints below illustrate the use of the `HIGHLIGHT REPORT` function within a set of conditional logic. Note that because this report colorization is set in the last iteration, you should be cognizant of iterations. Also, the report will set the colorization based on the last entity run for the entity group.

**Report Calculation**
The screen print below shows how the conditional logic was built. Lines B through H perform a series of checks on the Financial Statements. If all of the checks are within tolerance, the If-Test returns Line J (Green). Otherwise, it returns Line M (red). Because it will be set on the last entity run, we pull in the Balance Sheet amounts from the Consolidated entity.

![Conditional Logic Screen](image)

**Report Results**
Below is the `RUN SEQUENCES` screen showing the report color coded for the out-of-balance condition.
Here are the final results that gave rise to the report colorization.

```
{ XE "If Else" /* MERGEFORMAT */ }{ XE "Function" /* MERGEFORMAT */ } Function - If Else

Function Description:
This function allows the user to apply "if else" conditional logic on a single line of a report. Select two lines to compare and an operator to use when comparing them. Also select a line to be returned in a "true" condition and a line to be returned in a "false" condition.

Parameters:
- **Compare 1 (Line)** - Select a line in the active report from the drop list. This line will be compared to the Compare 2 parameter line.
- **Comparison Operator** - Select an operator from the drop-down list provided. Five choices presented are ( =, <, >, <=, >= ). This parameter will be used to compare the Compare 1 and Compare 2 parameters.
- **Compare 2 (Line)** - Select a line in the active report from the drop list. This line will be compared to the Compare 1 parameter line.
- **Value if True (Line)** - Select a line from the active report from the drop-down list. The line selected will be the results of this function if the condition is True.
• **Value if False (Line)** - Select a line from the active report from the drop-down list. The line selected will be the results of this function if the condition is False.

**Example:**
The *IF ELSE* function is illustrated in the screen prints below. The *IF ELSE* function returns 500 in January. \(10 > 8 = \text{True}\), therefore the true value is 500.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Comparison 1</td>
<td>Input()</td>
</tr>
<tr>
<td>B</td>
<td>Comparison 2</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Value if True</td>
<td>500</td>
</tr>
<tr>
<td>D</td>
<td>Value if False</td>
<td>800</td>
</tr>
<tr>
<td>E</td>
<td>IfElse function</td>
<td>IfElse([A:Comparison 1],&gt;,[B:Comparison 2],[C:Value if True],[D:Value if False])</td>
</tr>
</tbody>
</table>

**Report Results**

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison 1</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>Comparison 2</td>
<td>8</td>
<td>23</td>
<td>7</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>Value if True</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>Value if False</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>IfElse function</td>
<td>500</td>
<td>800</td>
<td>500</td>
<td>800</td>
<td>800</td>
</tr>
</tbody>
</table>

{XE "Account" /* MERGEFORMAT */}{XE "Insert Accounts Below" /* MERGEFORMAT */}{XE "Function" /* MERGEFORMAT */}Function - Insert Accounts Below

**Function Description:**
This function inserts account rollups and individual accounts below the selected rollup account. Note that the rollup on the specific account selected for this function is NOT included. Only those accounts/rollups that are below it in the first Ledger tree are included. Also note that the line label is replaced with the first account/rollup. Formatting for all inserted lines is copied from the line that starts the insert.

This function dynamically creates multiple lines of output (with drilldown), for all rollup nodes and accounts under the planning ledger node selected. This function is used to create diagnostic ledger reports that allow you see all at once all amounts at every rollup node simultaneously, down to individual accounts – with postings.

**Parameters:**
- **Account** - After clicking in the account selection box, the **Select Account** dialog will open. Select the desired rollup node from the planning default account structure.

**Example:**
The report calculation below has a single function at the revenue level node. Output results are all nodes and accounts below the node designated in the function.

Note that each rollup node is displayed with rollup totals. Each account is displayed with the amount for that account in the planning ledger.

**Report Calculation**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line Name</th>
<th>Formula/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Place Holder for Entity Description</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Revenue</td>
<td>Insert Accounts Below(Revenue)</td>
</tr>
</tbody>
</table>

**Report Results**

{XE "Post all transactions" /* MERGEFORMAT */}{XE "Function" /* MERGEFORMAT */}Function - Post All Transactions

This function is inactive

{XE "Sequence Iteration" /* MERGEFORMAT */}{XE "Function - Sequence Iteration Count" /* MERGEFORMAT */}Function - Sequence Iteration Count

**Function Description:**
This function allows you to check of the iteration count of the current sequence. The function will return the iteration number. If the sequence reaches the maximum number per the setting, the function will return 1. You would use this function in a report if you wanted to begin processing that report only after a certain number of iterations. An example might be a goal seeking report. For example, during the first several iterations of the sequence, the numbers may be changing too much. You might want to wait until the 3rd or 4th iteration to begin processing the report.

Parameters:
None

Example:
The example below shows a report where we have used the **SEQUENCE ITERATION COUNT** function to start running the calculation only in the 5th iteration. It would not run the report in the 1st through 4th iterations.

Report Calculation

{ XE "Function - Sequence Max Iteration" /* MERGEFORMAT }{ XE "Sequence Iteration" /* MERGEFORMAT }Function - Sequence Max Iteration

Function Description:
This function returns the maximum number of Iterations as set in the **MANAGE SEQUENCE SETS** screen for the currently running report sequence. You might use this function to trigger an event if the sequence is getting close to running the maximum number of iterations.

Parameters 1:
None
Example:
The example below shows the **SEQUENCE MAX ITERATION** function. The financial report sequence is set to run a maximum of 25 times. The report returns this result.

Report Calculation

Report Results

```plaintext
{XE "Tolerance Check Value for Repor" /* MERGEFORMAT */{XE "Function - Tolerance Check Value
```
for Report" /* MERGEFORMAT */ Function - Tolerance Check Value for Report

**Function Description:**
This function returns the maximum difference between iterations for this report.

This is defined as the largest change for any line for any entity in the last period processed. Note that this value is from the prior iteration, and is not really meaningful until the third iteration. Also note that the function does not return a value in the last period (the tolerance check period) because the value would by definition be the largest change for the report.

You might use this function to trigger or turn off processing of a report based on the check value for the report.

**Parameters:**
None

{ XE "Tolerance Check Value for Sequence" /* MERGEFORMAT */ { XE "Function - Tolerance Check Value for Sequence" /* MERGEFORMAT */ Function - Tolerance Check Value for Sequence

**Function Description:**
This function returns the maximum difference between iterations for the current sequence.

The maximum change is defined as the largest change for any line for any entity for any report in the sequence in the last period processed. Note that this value is from the prior iteration, and is not really meaningful until the third iteration. Also note that the function does not return a value in the last period (the tolerance check period) because the value would by definition be the largest change for the sequence.

You might use this function to trigger or turn off processing of a report based on the check value for the sequence.
Parameters:
None

Function - Tolerance for Report

Function Description:
Returns the tolerance setting for the current report (defined in GROUP REPORTS).

Parameters:
None

Function - Tolerance for Sequence

Function Description:
Returns the tolerance setting for the current sequence (defined in MANAGE SEQUENCE SETS, under ADVANCED PROPERTIES).

Parameters:
None

Function - Transfer Export Line

Function Description:
This function exports a line of a report for the T2 Text transfers between disconnected models. Lines you define with this function will be exported when you use the Publish T2 Text Transfer option on the Run Sequences screen.

Parameters:
• **Line to Export** - Select the report line that you want to export.

**Example:**
The screen prints below show an example of the T2 Export function. This report is run by Electric Revenue Schedule. It pulls in Total Revenue from the Electric Revenue Schedules report onto line B, and then calls that line to export.

**Function - Transfer Input Line**

**Function Description:**
This function is used to import data using the T2 Transfer functionality.

**Parameters:**
- **Line for Transfer Scenario Index** – Put the Index number of the related source scenario (this is set on the **MANAGE SCENARIOS** screen).
- **Report to Import** – Select the appropriate exported report.
- **Line to Import** – Select line containing the value you want.

**Example:**
The screen prints below show the T2 Import function in use.

Report Calculation
Report Results

**Other**

```
{ XE "Equation" /* MERGEFORMAT */ }{ XE "Function" /* MERGEFORMAT */ } Function - Equation
```

**Function Description:**
The **EQUATION** function is an internal function that is invoked when you type a formula in the **CALCULATION EDITOR** formula cell. You do not use the **FUNCTION EDITOR** to access this function.

**Parameters:**
None
Example:
The screen prints below illustrate some of the capabilities of the **EQUATION** function. They are based on the reference line letter and the standard convention for the order of mathematical expressions. The elements of Report Formulas are:

+ Addition  
- Subtraction  
* Multiplication  
/ Division  
( Open Parentheses  
) Close Parentheses  
^ Exponent

Report Calculation
Below are some examples of formulas you can create in the **CALCULATION EDITOR**. While you can build complex formulas following the standard conventions with parentheses, it is recommended that you follow the convention within UIPlanner of one function per line, and try to break complex formulas up into digestible pieces. See below.

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula-forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td>Place Holder for Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Input A</td>
<td>[Input A]</td>
</tr>
<tr>
<td>C</td>
<td>Input B</td>
<td>[Input B]</td>
</tr>
<tr>
<td>D</td>
<td>Input C</td>
<td>[Input C]</td>
</tr>
<tr>
<td>E</td>
<td>Input D</td>
<td>[Input D]</td>
</tr>
<tr>
<td>F</td>
<td></td>
<td>Label Only</td>
</tr>
<tr>
<td>G</td>
<td>ONE LINE</td>
<td>Label Only</td>
</tr>
<tr>
<td>H</td>
<td>A plus B times C minus D</td>
<td>( [Input A] + [Input B] ) * [Input C] - [Input D]</td>
</tr>
<tr>
<td>I</td>
<td></td>
<td>Label Only</td>
</tr>
<tr>
<td>J</td>
<td>MULTIPLE LINES</td>
<td>Label Only</td>
</tr>
<tr>
<td>K</td>
<td>A plus B</td>
<td>[Input A] + [Input B]</td>
</tr>
<tr>
<td>L</td>
<td>Times C</td>
<td>[Input C]</td>
</tr>
<tr>
<td>M</td>
<td>Minus D</td>
<td>[Input D]</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>Label Only</td>
</tr>
</tbody>
</table>

Report Results
Below are results of the above equations. Note that the same equation is shown in two variants: One line, and broken into several lines. The multi-step version is easier to understand.
Appendix: Functions

---

Function - Set Attribute Value

Function Description:
The `SET_ATTRIBUTE` function allows you to actually change the value of an entity's attribute based upon the results of a `CALCULATION EDITOR` report. This function is available in Budget Scenarios only.

Notes
- After running the report sequence containing the `SET_ATTRIBUTE.VALUE` function, you need to click `SAVE` in order to save the attribute changes to the database.
- One of the parameters of the `SET_ATTRIBUTE.VALUE` function is the destination Attribute case. Be cognizant of which case you select to save the data, if you use multiple Attribute cases.

Parameters:
- **Line** – select the line in the current report containing the value you want to save to the attribute.
- **Attribute** – Use the drop-down list to select an attribute for the current report Entity Group.
- **Case**: Select the Attribute case in which to save the data. This drop-down list will contain the cases from the active scenario.

Example:
The screen prints below illustrate the use of the `SET_ATTRIBUTE.VALUE` function. This example shows the calculation of a project score in a report, which is then saved back to the database. Generally, you would use this function in a separate report sequence, one that would not be
run every time. You would run this sequence, then select **Save** and update the attribute as desired.

**Report Calculations**

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<thead>
<tr>
<th>Ref.</th>
<th>Line label</th>
<th>Formula/Forecast</th>
</tr>
</thead>
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<tr>
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<td></td>
<td>Place Holder For Entity Description</td>
</tr>
<tr>
<td>B</td>
<td>Priority</td>
<td>Input()</td>
</tr>
<tr>
<td>C</td>
<td>Level of Effort</td>
<td>Input()</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>Input(A)</td>
</tr>
<tr>
<td>E</td>
<td>Composite</td>
<td>((B + C) \times (D \times 10))</td>
</tr>
<tr>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Set Project Score</td>
<td>Set Attribute Value/E (Composite), Project Score, Change Attributes</td>
</tr>
</tbody>
</table>

**Report Calculation**

The screen print below shows the Project Score Attribute has been updated, to the values calculated in the above report.
**GLOSSARY**

**A**

**Account:** Planning Ledger objects used to accumulate postings from reports, and inputs for actual. Accounts in the planning ledger are similar to accounts in a General Ledger.

**Account Roots:** Highest level of Planning Ledger Rollup Nodes. Required structure of the highest Planning Ledger Rollup Node. Revenue, Expense, Net Income, Asset, Liability, Direct Cash, and Indirect Cash.

**Account Structure:** Defined rollup nodes and accounts defined in the Planning Ledger.

**Account Structure Tree:** See Account Structure

**Actuals Date:** Date which designates when actual data should be used in UIPlanner.

**Amount Types:** Each budget row may be displayed using any number of amount types. Typically, amount types are loaded; Direct dollars, FTE, Hours, and loaded dollars. Amount types express the same budget row value.

**Association:** Special attribute for an entity group which points to another entity group. Example: The entity group Generation units could have an "association" or pointer to the Plant Type entity group.

**Attribute Data:** Facts about an entity. Attribute are assigned to the Entity Group. Attribute data is then entered for each entity.

**Attribute Definition:** Placeholder for facts about entities. Attributes are assigned to the Entity Group. Attribute data is then entered for each entity.

**C**

**Calculation Grid:** Grid found on the Edit Calculation screen that contains the lines of a report

**Case Definition:** Information about a case, i.e., Name, Description, Type, Owner, etc.

**Consolidation Sum:** Totals at the bottom of a report summing a report line for all entities.

**Customer Data:** Customer billing determinates, or results of tariff calculations.
**D**

**Default Rollup Structure:** Primary Planning Ledger Rollup Structure. Structure will be used by the Account Function.

**E**

**Entity:** Building blocks for structured data within UIPlanner. Entities are specific elements of an Entity Group. Example: John Hancock, John Doe, Sally Johnson are Entities in the "Employee" Entity group. Example 2: Generation plants French 1, French 2 and Dunes are "Entities" in the Generation Entity Group.

**Entity Group:** A collection of Entities with identical data structure. Example: Individual employees John Hancock, John Doe, Sally Johnson are Entities in the "Employee Entity Group". Example 2: Generation plants French 1, French 2 and Dunes are Entities in the Generation "Entity Group."

**Entity Group Tree:** Entity Group Structure, where the highest node is Super Entity Group, followed by Entity Groups, and finally Entities.

**Excel Input Template:** Excel spread sheet created for data entry of Input items for a report.

**F**

**From report:** Parameter used by the Rollup function. From Report and report line is the target of the rollup function.

**Function:** Pre-programmed routines to accomplish specific tasks on the Calculation Grid. Report functions are similar to functions in Excel using parameters as input for function arguments. Example: The "current date" function will return year and month.

**I**

**Interface mapping:** Process of mapping large amounts of external data to UIPlanner. Interface mapping generally exists to import actual general ledger and budget data.

**Iteration:** Number of times UIPlanner runs a report or sequence of reports.

**Iteration Across:** Setting on the Sequence Reports screen. Iteration Across will run each report in sequence order for all time periods before running the next report.
**Iteration Down:** Setting on the Sequence Reports screen. Iteration Down will run all reports in sequence for the first time period, all reports for the second time period, etc., for all time periods specified.

**Iteration Method:** How reports in a sequence are run, either Iteration across or Iteration down.

**L**

**Lag Factors:** Monthly factors (percents) representing cash receipt or payment for an accrual transaction posted to the planning ledger. Lag factors normally total 100 percent and make up a Lag Pattern.

**Lag Pattern:** A specific pattern of cash receipt or payment related to an accrual transaction. The lag pattern is represented by monthly lag factors.

**M**

**Menu Item:** Row at the top of the UIPlanner screen contains menu items. Each menu item contains a drop list of screens or options.

**O**

**Object:** Elements of the database. Object refers to elements of the UIplanner database, i.e., Entities, Reports, Cases, Accounts, Account Rollup nodes, Report groups, etc.

**P**

**Planning Ledger:** Similar to a General Ledger. The Planning ledger contains results of forecasted financial information generated by UIPlanner.

**Pointer to another Entity:** Establishes a relationship between two Entity Groups. Also called an Association to another Entity Group.

**Pooled Resource:** Entity in the Special type entity group, i.e., "Resource" that has a value of "Yes" in the "Pooled" attribute.

**Primary Entity Group:** The first Entity Group used when a report is run over two entity groups. See also: Secondary Entity Group.

**R**

**Report Batch Tree:** Tree structure displayed on the Browse Reports screen. The tree is made up of Report Batch, Report Group, Report (and Entity, if specified).
Report Elements: Parts of a report, i.e. Lines, Line labels, Totals, Consolidation Totals, etc.


Report Group: Group of common or related reports, created on the Group Reports screen.

Rollup Node: Grouping of accounts or other rollup nodes in the Planning Ledger. Rollup Nodes can be called in a report using the Account Function.

Run over: Reports "run over" an entity group or in some cases two entity groups. Run over is used to describe the processing of data for all entities in an entity group by a report.

Saved Search: Search criteria for detailed customer data, defined on the Customer Browser screen.

Scenario Definition: Information about a scenario, i.e., Name, Description, Type, Owner, etc.

Screen: Dialog box opened by UIPlanner to create, view or input data into the system.

Screen Tab: Contains a UIPlanner screen. Tabs are created upon the initial selection of a screen from the menu item list.

Secondary Account Structure: Additional account structures. The Planning Ledger has a primary account structure, and options to create any number of secondary account structures.

Secondary Entity Group: The second Entity Group used when a report is run over two entity groups. See also: Primary Entity Group.

Sequence: Defines the run order of reports. Reports are placed in a sequence before they can be run.

Sequence Set: A defined set of report sequences.

Special Type Entity Group: Contains specific information used in the processing of data in UIPlanner. Unlike typical Entity Groups, Special Type Entity Groups are required to contain specific information used in the interworking of UIPlanner logic.

Super Entity Group: A grouping of Entity Groups. Super Entity Groups are used to organize Entity Groups into sets.
**Tab:** See "Screen Tab"

**Time Dependent Data:** Data that changes over time typically, i.e., monthly or annual information. Time Dependent Data is always saved in UIPlanner by entity and report line.

**Tolerance:** Degree of precision checked by UIPlanner when running iterative reports or sequences. See Iteration.

**W**

**Winner logic:** Rules applied to multiple cases in a scenario to determine, in a logical manner, what data should be used in the model run. Winner logic selects the "winner" datum from all cases in the scenario.
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