Oracle
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Unifier Managers User Guide

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Contents

Working with Unifier Managers

The following explains how to work with Unifier managers.

Within our documentation, some content might be specific for cloud deployments while other content is relevant for on-premises deployments. Any content that applies to only one of these deployments is labeled accordingly.

Collapse by Default Option in Manager Attribute Forms

In the Block Properties window of a manager attribute form, there is a new checkbox called **Collapse by Default**. If the checkbox is checked, the block is collapsed by default. If the checkbox is unchecked, the block is expanded by default.

With the **Collapse by Default** option, you can avoid scrolling through irrelevant information.

The Block Properties are searched during the rendering of a manager attribute form to determine whether a block is collapsed or expanded at runtime.

Collapse by Default is applicable to most manager attribute forms, including: Activity Manager, Configurable Manager, Cost Manager, Document Manager, and Space Manager. This option is also applicable to Shell attribute forms as well as places where a preview of a manager attribute form is displayed, such as a variety of logs.

> **Note**: If you change the default behavior by performing the opposite action at runtime, the default expand or collapse option is displayed when the page is reloaded.

In This Section

Unifier Asset Manager

The Asset Manager module is part of the company workspace. It is used to manage assets and depreciation. You can track assets and depreciation on their associated asset sheets.

The Asset Manager allows you to:

▶ Create, organize, and manage company assets
▶ Define an unlimited number of asset classes, and design an asset attribute form per asset class
▶ Create assets manually, using templates, or importing
▶ Apply multiple asset depreciation methods: straight line, double decline, sum of years digits, manual
▶ Track the asset's total cost of ownership: roll up maintenance-related costs from projects or company level business processes to specific company account codes

The Asset Manager uses the three most common depreciation methods:

▶ Straight line
▶ Double decline, or sum of year digits
▶ Manual depreciation

Irrespective of method, asset depreciation is calculated for the entire life of the asset over whatever period you specify. For example, if an asset is depreciating over two years and you specify a monthly depreciation increment, then the asset's value will be recalculated each month for two years from the date of acquisition.

Asset Classes: Assets are grouped in classes (for example, buildings, equipment, etc.). The detail forms that are used to enter asset information can be designed in uDesigner, per class. For example, you can design and use different forms for entering information about your company's building assets and equipment assets. Each asset exists as a unique record.

Asset Codes: Asset codes are generated automatically when assets are created. The asset code will be built using different data elements defined on the asset form as segments. At runtime, the asset code is built automatically based on the data element values selected. A tree structure is automatically built to access these assets based on the asset codes. Assets with the same segment values will be grouped together to form a hierarchy.

Asset Sheets: You can track assets and depreciation on asset sheets. There is one asset sheet per class, listing details about each asset in that class, plus an asset summary sheet, which helps you track all of your assets in one place. User permissions are granted per asset class or sheet. If you cannot view any part of the Asset Manager to which you require access, contact your company administrator.

For information about language (internationalization) and CSV files refer to *Unifier General User Guide*.

In This Section

Creating and Managing Assets

You can create and manage your company assets in the Asset Manager in the company workspace portion of the Navigator.

Each asset that you add to the system exists as a unique record. You can create new assets manually by copying from a template within the same asset class, copying another asset in the same class, or by importing assets. The form that is used to enter the details about each asset is designed in Designerr for each class. The form design can vary greatly from class to class.

Access the Asset Manager

To access the asset manager

1) In User Mode, go to the **Company Workspace** tab and click **Asset Manager** in the left Navigator. The Asset Manager displays asset sheets and asset classes.
2) To access asset sheets, click the **Asset Sheets** node.
3) To access assets, select an asset class. The log opens for the asset class.

   The center navigation pane displays the segments of the asset codes hierarchically by their segments, as selected in the properties window for each asset. These nodes are created as asset codes are created. The right pane lists all assets created under the selected class.

Asset Manager navigation and asset codes

Assets are organized by the segments of the asset codes. Asset codes are based on segments. These segments are created when the asset is created, based on the values entered on the asset form. For example, for an asset class Buildings, the asset codes for individual assets may be built by location segments: country-state-city. You can then view all buildings in the asset class or drill down to all buildings per segment (per country, state or province, and city).

Click the asset class name in the asset navigator to view all assets created under the class, or click each segment to view assets matching the segment.

Create a new asset

You can create new assets manually by copying from a template within the same asset class, copying another asset in the same class, or by importing assets.

The form that is used to enter the details about each asset is designed in uDesigner for each class. The form design can vary greatly from class to class.

Each asset that you add to the system exists as a unique record.

You can manually create new assets or create assets by copying from another asset or from a template. If the asset record or template also has a depreciate schedule set up, it will also be copied to the new asset.

To create a new asset manually

1) In User Mode, go to the Company Workspace tab and click **Asset Manager** in the left Navigator. Select an asset class. The Asset Class navigator opens.
2) Select the node under which you want to create the new asset.
3) Click **New**. The Create New Asset form opens.
4) Complete the form. This form is similar to a non-workflow business process form and has two sections:
   ‣ **General:** In the upper portion of the form, enter all the details about the asset.
   ‣ **Depreciation Schedule:** Setting up a depreciation schedule is optional. Before you can set up a depreciation schedule, you must first save the form.
5) After completing the form, click **Save** to save changes to the upper form, or **Finish Editing** to save and close the form.

To create an asset by copying from a template

1) In the Asset Class navigator, click the **Copy** button and choose **Template**. A list window opens displaying all templates for the asset class.
2) Select a template and click **Open**. The Create New Asset form opens. The form may be populated with general and depreciation information from the template.
3) Make changes as needed and click **Save** or **Finish Editing** to save the new asset. After saving, the Depreciation Setup button becomes available.

To copy an asset

1) Select an asset from the log and click **Copy > Asset**. The form opens, with the information from the original asset.
2) Make changes as needed and click **Save** or **Finish Editing** to save the new asset. After saving, the Depreciation Setup button becomes available.

Working with Asset Sheets

Asset sheets are created automatically when asset classes are imported and activated. Asset sheets are listed in the Asset Sheet log window in the User Mode Asset Manager. There is one sheet per asset class, plus an asset summary sheet that summarizes all asset sheets. Assets are added to asset sheets as rows automatically, listed by the segmented asset code. In the asset summary sheet, the rows are the asset classes.

The asset summary sheet displays information of all asset sheets. It displays total values from individual asset class sheets. The asset summary sheet is created automatically once the first asset class is imported. Asset classes imported into Unifier are automatically added as rows.

Columns can be added to asset sheets. Some examples of columns include:

- ▸ Business processes (company-level BPs with the line items with asset code subtype are available; only the amount field is available.)
- ▸ Project cost columns; most columns from project cost sheets are available (only the amount field is available). This is available when projects are created under asset categories.
- ▸ Manual entry or formula columns.

Access asset sheets

Asset sheets are listed in the Asset Sheet log window in the Asset Manager. There is one sheet per class, plus a summary sheet which lists all sheets in all classes.

> **Note**: You must have permissions to access any listed sheet. If you need access to a sheet not listed in the log, contact your company administrator.

To access asset sheets

In User Mode, go to the **Company Workspace** tab and click **Asset Manager > Asset Sheets** in the left Navigator. The Asset Sheets log opens. The log lists any existing asset sheets: one asset sheet per class, which is automatically created when an asset class is activated, plus an asset summary sheet that summarizes asset class information.

To open an asset sheet

Select the sheet in the log and click **Open**.

View asset and column details

To view column details

Open the asset sheet and click a column heading. A view-only window opens displaying the column details.

To view asset details

Open the asset sheet and click a listed asset. Assets appear on the sheet as hyperlinks. A view-only window opens displaying the asset details.

View asset sheet properties

The Properties window for the asset sheet maintains the name and display options, and can be used to map a column to a company account code.

To open the asset sheet Properties window

In the Asset Sheets log, select the sheet and click the **Properties** button. In the Options tab, asset sheet columns can be mapped to company account codes. The total value of the column will roll up to the company accounts sheet.

Enter or edit asset sheet data

For manual data-entry columns, you can enter data directly into the sheet.

To enter asset sheet data

1) Open the asset sheet.
2) Click inside a manual entry column cell to enter data.
3) Click the **Save** button to save changes.

Create and view a snapshot

You can save a snapshot of an asset sheet or the asset summary sheet.

To save a snapshot

1) Open the asset sheet or asset summary sheet.
2) Choose **File > Create Snapshot**. The Create Snapshot window opens.
3) Enter a title and click **OK**.

To view a saved snapshot

1) Open the asset sheet or asset summary sheet.
2) Choose **View > Snapshot Log**. The snapshot log opens.
3) Select the snapshot from the list and click **Open**. A read-only view of the asset sheet or asset summary sheet opens, displaying the sheet data at the time of the snapshot.

Import asset sheet column data

You can enter column data into manual-entry columns by importing a CSV sheet. Columns are limited to those of numeric data elements on the asset form.

First, export the CSV structure, enter the data into the CSV file, and then re-import the CSV file.

To export a manual-entry column

1) Open the asset sheet.
2) Click **Export > Column Data**.
3) Save the CSV file to your local drive.

To enter column data

1) Open the CSV file.
2) Enter column data for each listed asset. Be careful not to change the CSV file structure.
3) Save the CSV file.

To import column data

1) Open the asset sheet.
2) Click **Import > Column Data**.
3) Browse to the CSV file containing the column data and click **OK**.

Copy data from one column to another

You can copy data from one manual entry column to another.

To copy data from one column to another

1) Click the **Edit** menu and choose **Copy > Column Data**. The Copy Column Data window opens.
2) Complete the window as described in the following table.

In this field	Do this
Copy from column	Select the manual entry column to copy the data from (numeric or date).
Percentage	Enter the percent of the value to copy. Enter 100% to copy the entire value.
Copy to column	Select the manual-entry column to copy the data to (numeric or date, based on the Copy from column selection.

Search for assets on an asset sheet

To search for assets:

1) Open the asset sheet.
2) Click **View > Find**. The Find window opens.
3) Choose a column from the asset sheet and enter a value to search.
4) Select the direction to search (up or down from the selection on the sheet).
5) Click **Find Next** to search for the entered value. You can click again to continue searching.
6) Click **Cancel** to cancel the search.

Export asset sheet or summary sheet data

You can export data from asset sheets or the asset summary sheet in CSV format.

To export an asset summary sheet

1) Open the asset summary sheet.
2) Click the **Export** button and choose **Summary Sheet**.
3) Save the CSV file to your local drive. The data is for reference only and cannot be re-imported.

To export summary data on an asset sheet

1) Open an asset sheet.
2) Click the **Export** button and choose **Summary Sheet**.
3) Save the CSV file to your local drive. The data is for reference only and cannot be re-imported.

> **Note**: In Cash Flow, Cost Sheet, and Earned Value, you can replace the Summary Sheet with the Activity Sheet as a source.

Understanding Reverse Auto-population

Certain data elements support reverse auto-population. These are specified in uDesigner. Reverse auto-population means that some values can be updated when other values are modified in a business process that has reached a specified status. Auto-population can occur on BPs that are in the same shell or across shells.

Depending on the setup in uDesigner, auto-population can occur in these instances:

▸ Changes to data elements in a BP upper form can result in changes to the upper form of another BP.
▸ Changes to the detail form in a BP can result in changes to the upper form and detail form of another BP.
▸ Changes to the upper form or detail form of a BP can result in changes in the Asset, Resource, or Planning Manager forms.

In the Asset Manager, reverse auto-population might occur if a move-order BP references an asset record. Updates on the move order can be reverse auto-populated on the asset.

Editing Multiple Assets from Asset Log (Bulk Edit)

If you have a large number of assets that need similar edits, you can use bulk edit to update all of the assets at once. You can update a maximum of 200 records using bulk asset edit. The bulk asset edit must be defined in uDesigner, and you must have the Allow Bulk Edit permission set on the asset class.

> **Note**: Bulk edits overwrite data without stopping for you to verify the overwrite of each record. Be sure that you have entered the data you want to edit correctly.

To update assets using bulk edit

1) Navigate to the asset log.
2) Select one asset or several assets, or perform a find to search for a group of assets to work with. You can select the assets from the asset log or the Find log.
3) Choose **Edit > Bulk Edit**. The Bulk Edit window opens. The fields displayed in this window depend on what was specified for detail form integration in uDesigner for the asset class.

   The Bulk Edit form includes all editable fields for the detail form for the asset class.
4) Modify the bulk edit form as needed.
5) Select the **Update** checkbox for the fields you want to update. The checkbox is automatically selected when you type into or modify a field. You can deselect it if you do not want to modify the field at this time.
6) Click **Update**. This launches the bulk update of the selected assets.

7) The Bulk Actions Status window displays after you click Update. This window allows you to monitor the progress of the bulk asset update. Click **OK** after all records have processed. Click **Cancel** if you want to cancel the bulk update in progress.

Printing an Asset Manager Form

You can print a copy of an Asset form. You can choose PDF, HTML or Custom print formats and select one of the following options:

▶ Save a copy of the form as a PDF file and print the file
▶ Print an HTML view
▶ Print from a Word file if a custom print layout has been created for the form

The Custom Print formats include the BI Publisher custom print templates designed in the **Custom Templates** node. If custom print layouts have been created for the Asset Manager, the form will print according to the layout that you select. See the following *Printing Options - Custom Format* for details.

To preview and print an Asset Manager form:

1) Open the Asset Manager record that you want to print.
2) From the **File** menu, choose **Print Preview**, then choose one of the following:
    ▸ **HTML** to view the form in the browser which can then be printed.
    ▸ **PDF** to open the form in Adobe Reader, which can be saved or emailed as a PDF file, or printed process, you are asked to save the changes to the form.
    ▸ **Custom** to select the BI Publisher, Microsoft Word, and PDF custom print templates from the same place as the current custom prints. See the following *Printing Options - Custom Format* for details.

    The Print Options window opens. This window displays the record information that can be printed.
3) Select the check boxes for the information that you want to print.
4) To select all the checkboxes, click the **Select All** checkbox. To deselect all, uncheck the **Select All** checkbox. If you deselect all checkboxes, only the header and footer will print.
5) Click **OK**. The preview form opens in an HTML or PDF (Adobe Acrobat or Reader) window, from which you can print.

    If you chose PDF, you can save a copy by clicking the **Save a Copy** button, or print. To print from HTML format, click on the **Print** icon in the upper right corner.

Printing Options for an Asset Manager Form

Following is a summary of the print options for an Asset Form.

Print option	What it prints
Detail Form	This prints the information entered on the form. Depreciation details in the line items are not printed.
General Comments	The general comment text and create details are printed.

Record Attachments	File attachments to the record are listed alphabetically by file name, and also include the file title, issue date, revision number, and file size.
Record Attachments > Comments	Prints comments associated with file attachments to the record. "Record Attachments" must also be selected to select this option.

To print an Asset Manager form with a custom print layout:

1) Open the Asset Manager form that you want to print. Be sure it is in a view mode.
2) From the File menu, choose **Print Preview**, then choose **Custom** to select the BI Publisher, Microsoft Word, or PDF custom print templates from the same place as the current custom prints (Custom Format Print selection window).
3) Select a layout and click **OK**. The File Download window opens.
4) Choose to **Open** or **Save** the file, which is a Microsoft Word DOC file.
5) Open the file in Microsoft Word and print. This feature can be used with Microsoft Word 2003 and 2007.

Printing Options - Custom Format

The Custom Format Print window has two sections:

‣ Select a custom print template
‣ Select a template and format to print

Both sections facilitate custom print template and format selections.

Select a custom print template

Lists all the custom print templates, including the custom print templates created in the **Custom Templates** node and the custom print templates. For example, the list may include BI Publisher custom print templates, Word, and PDF custom print templates.

If there are multiple custom print templates, all the published templates are listed in this section.

The "Select a template and format to print" is populated by the selection made in the "Select a custom print template" section.

Select a template and format to print

‣ If you select a BI Publisher custom print, then you can select the desired template and format from the drop-down lists.
‣ Template drop-down displays all the available templates for the selected format.
‣ Format drop-down displays the available formats for the selected template.
‣ If the custom print template was created using PDF or Word, then the "Select a template and format to print" is disabled.

Default template and format

‣ If a BI Publisher print template is selected, then the default values in the drop-down lists are set based on the default in the custom print template.

▸ When a BI Publisher print template is selected in the "Select a custom print template" section, the template and format are populated based on the default value selected at the time of designing the print template.

Unifier Configurable Managers (Configurable Modules)

Configurable managers have flexible coding structures that allow you to analyze your data. Configurable managers are created and named in uDesigner depending on the intended task. They can be created at the shell, project, or company level. Configurable managers provide additional functionality and do not replace existing managers. A configurable manager behaves like any other module in the Unifier.

There are two types of configurable managers:

▶ Code-based (code based)
▶ Code- and record-based (code and record based)

You can have up to 25 configurable managers (CM1, CM2, ..., CMx).

For Generic Cost Manager (CM0 or CM zero), see the **_Working with a Generic Cost Manager_** (on page 363) topic in this guide.

The configurable managers are nested under the **Configurable Modules** as shown below:

The configurable managers that you are working with will have different names and purposes.
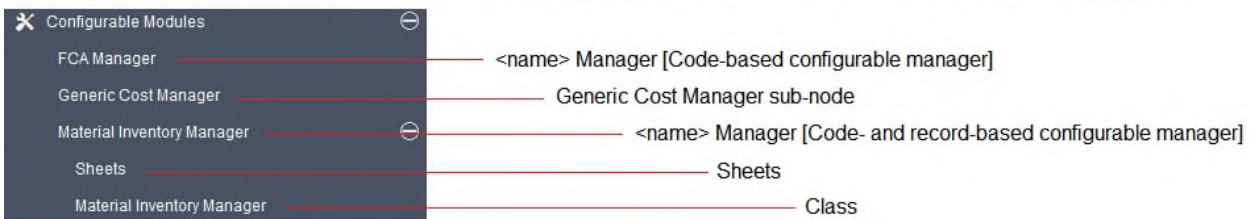
Configurable Modules

▶ <name> Manager [Code-based configurable manager]
▶ <name> Manager [Code- and record-based configurable manager]
  ▶ Sheets
  ▶ Class

> **Note**: The following sections may use the sub-nodes **Parts Manager**, **Material Inventory Manager**, **Condition Assessment Manager**, and so forth as examples of code-based or Code- and Record-based configurable managers.

For information about language (internationalization) and CSV files refer to _Unifier General User Guide_.

In This Section

Code- and Record-based Configurable Managers

A code-and-record-based configurable manager allows you to define codes and capture data using records. This type of manager allows multiple classes of sheets and records to be created (each with its own coding structure). For a code- and record-based manager, you must first create the manager sheet. Thereafter, Unifier automatically adds information to the sheet as it is gathered from records that were created from business processes tied to the sheet.

For example, a **Parts Manager** could be created to do the following:

▶ Categorize parts by type (or class) by creating records for classes
▶ Track inventory at various locations
▶ Maintain basic cost information
▶ Track parts transactions (bought, sold, received, or shipped)
▶ Monitor costs generated by transactions

Code-based Configurable Managers

A code-based configurable manager also allows you to define codes, but it works with sheets to analyze information generated manually or from BPs. All the data is consolidated in one sheet. For a code-based manager, you must manually enter the rows on the sheet. Thereafter, Unifier automatically adds data to the rows as you manually enter it, or as it is gathered from records that were created from business processes tied to the sheet.

For example, a **Condition Assessment Manager** could be created to do the following:

▶ Define a building systems code structure at the company level, project level, or shell level
▶ Design multiple BPs to track and calculate:
  ▶ Maintenance requirements
  ▶ Inspections
  ▶ Work orders
  ▶ Repairs

- ▸ Cost of maintenance
- ▸ Deficiency costs
- ▸ Renewal costs

▸ Various indexes, such as a facility condition index, to monitor the condition and usability of facilities

Access a Configurable Manager (Configurable Modules)

The configurable manager modules are designed in uDesigner and configured by your company administrator.

> **Note**: User permissions are granted per class or sheet. If you cannot view any part of the configurable manager to which you require access, contact your company administrator.

To access a configurable manager at the project level or shell level

1) Go to your project or shell (**User** mode).
2) Click **Configurable Modules** node to expand.

The managers reside under the **Configurable Modules** > **[configurable manager name]** in the left Navigator.

▸ If you are using a code- and record-based configurable manager, there are sheets and classes (for example, Sheets and Material Inventory Manager).
  - ▸ To access a sheet, click the **Sheets** node, and select a sheet from the log.
  - ▸ To access a class, select a class. The log for the class opens.
▸ If you are using a code-based configurable manager, there is just one sheet, which is listed under the log (for example Parts Manager).

To access a configurable manager at the company level (User mode)

1) Go to your company (**Company Workspace** > **User** mode).
2) Click **Configurable Managers** to expand.
3) Click a manager, class, or sheet sub-node to open.

To access a configurable manager at the company level (Admin mode)

1) Go to your company (**Company Workspace** > **Admin** mode).
2) Click **Templates** to expand.
3) Click **Shells** or **Configurable Modules** node to expand.

Reverse auto-population and Code- and Record-Based Managers

Certain Data Elements (DEs) support reverse auto-population (RAP). These are specified in uDesigner. RAP means that some values can be automatically updated when other values are modified in a Business Process (BP) form or record attribute form.

You can use RAP to **update** the fields on records, as well as, Attribute forms and Line items. This option can streamline the use of forms by keeping the information on them up-to-date with the latest Unifier data from components inside or outside the BP.

Depending on the set up in uDesigner, RAP can occur in these instances:

▶ Changes to the DEs in a BP Detail form under the Company level can result in changes to the record attribute form of a generic manager at   the Company level
▶ Changes to the DEs in a BP Detail form under the Standard Project level can result in changes to the record Attribute form of a generic manager at the Standard Project level
▶ Changes to the DEs in a BP Detail form under the Shell level can result in changes to the record attribute form of a generic manager at the Shell level

Creating Sheets and Records for a Code-and Record-based Manager (Standard View)

You can use the **Create** option to create a new code- and record-based sheet by way of the following methods:

▶ **Manually**

   Read the process for manually creating a sheet, below.

▶ **From Template**

   This option enables you to create a configurable manager from a template. The **From Template** option is available only if one or more configurable manager templates are defined at **Company Workspace** (admin mode).

▶ **From Shell**

   When you click this option, Unifier opens a window which lists all the shells that the administrator has created. You can copy a configurable manager sheet from a shell that is listed.

To create a code- and record-based sheet manually:

1) Click **Create** and click **Manual** to open the create sheet window.
2) In the overlay, enter the values. You can also edit existing values in the **Properties** tab, for example, change the **Picker** field value from **All Records** to records with their statuses set as "Active," "InActive," or both in the **Records with statuses** field.

   The **Default Filter View** drop-down field does not have any values when you create a new sheet. This field has a value for an existing sheet and can be changed.
3) When finished, from the top, click **Save**.
4) Click **Save** on the create sheet window.

You can use the **Create** option to create a new code- and record-based class.

Creating Sheets for a Code-based Manager (Standard View)

You can use the **Create** option to create a code-based configurable manger sheet;

▸ **Manually**

Read the process for manually creating a sheet, below.

▸ **From Template**

This option enables you to create a configurable manager from a template. The **From Template** option is available only if one or more configurable manager templates are defined at **Company Workspace** (admin mode). If no templates are defined, then this menu option will not be available. If you do not have create permission, this option is disabled. In this scenario, you can access rows or create more rows irrespective of the way that a sheet is created, manually or by template.

you cannot modify the segment sources. Creating as sheet by way of a template enables you to access the sheet rows.

▸ **From Shell**

When you click this option, Unifier opens a window which lists all the sheets that can be copied from other shells that the administrator has created.

To create a code-based configurable manager sheet manually:

1) Click **Create** and click **Manual** to open the create sheet window.

2) In the **Properties** tab, enter the values. You can also edit existing values in the **Properties** tab, for example, change the **Picker** field value from **All Records** to records with their statuses set as "Active," "InActive," or both in the **Records with statuses** field.

   The **Default Filter View** drop-down field does not have any values when you create a new sheet. This field has a value for an existing sheet and can be changed.

3) Click the **Segments** tab and add segments.

   You can add multiple segments by clicking the plus icon (+). When you click the plus icon (+), Unifier inserts a new row on the grid. Once you add a row, you must click the cell under the **Segment Source** label and select a source, which has been designed in uDesigner. You can use drag-and-drop to move the segments. To delete a segment click on the segment row and click the delete option (trash can icon). The **Segments** tab has a grid that is similar to the grid and fields of the Line Items in BPs.

4) When finished, from the top, click **Save**.

Click **Save** on the create sheet window.

Working with Configurable Manager Sheets (Classic View)

The following topics describe how to use configurable manager sheets.

Create a new sheet from an existing template

You can create a sheet by copying an existing template from the same class.

To copy an existing template

1) Select a class template from the log.
2) To copy a template, do one of the following depending on which level the template is:
   ▸ At the company level, click **Copy > Template**.
   ▸ At the project level, click **Copy > Project**.
   ▸ At the shell level, click Copy > <shell name>.
   The Properties window opens with the information from the original template.
3) Make changes as needed in the Properties window, and click **OK** to create the new sheet.

Add columns to a sheet

If you have created permission, you can add columns, but not rows, to a Configurable Manager sheet template. The columns can capture data from business processes or manually entered data.

To add a column to a sheet

1) Open the sheet.
2) Click **Columns**. The Columns log opens.
3) Click **New**. The Column Properties window opens. Complete the window as described in the table below.

In this field:	Do this:
Name	The Name field is populated with the data source value selected.
Datasource	Select a data source. The data sources available are data elements that are defined in the detail form for a class in uDesigner. Also listed are data elements based on **SYS Numeric Logical Datasource**, **SYS Date Logical Datasource**, **SYS Project Cost Datasource**, **SYS BP Currency Amount**, **SYS BP Decimal Amount**, and **SYS BP Integer Amount** data definitions. **Note**: You can add data picker fields as columns, but you cannot invoke the data picker from the sheet.
Width (pixels)	Enter the width the column should be. Maximum is 2000 pixels. (You can also manually resize the columns on the sheet.)
Alignment	Specify whether the data in the column should be left- or right-aligned, or centered.

Entry Method	Choose a data entry method for the column. The options vary depending on the data source selected: ▸ **Manual entry**: You can enter data directly into the cell, or data is rolled up from another source, such as the form. ▸ **Formula**: Formula types are numeric, date difference, and date add. See ***Add a formula column*** (on page 40) for details on working with formulas. ▸ **Define**: Use this method to specify data that should roll up from line items. Click the Define button and in the Formula Creation window, select the business processes and fields whose values should roll up to the manager sheet. You can select single fields to roll up, or you can add several fields together for a combined roll up amount.
Data Format	Specify how the column data appears for numeric columns. The options are: ▸ **Show as Percentage:** Data entered in a column is displayed as a percentage. For example, if you enter 0.25, it displays as 25%. ▸ **Decimal Places:** Select the number of decimal places to display (0 to 8). ▸ **Use 1000 Separator (,):** If you select this option, the entered data is formatted with a separator for numbers with more than three digits. For example, 1,000 rather than 1000. ▸ **Negative Number Format:** Specify if negative values are displayed with a negative sign or in parentheses.
Display Mode	Select **Hide** to make the column invisible to users. Select **Show** to display it. You can show/hide any column on the sheet, including the code name column.
Summary Rows	Specify what the summary rows display. ▸ **Blank:** Summary row remains blank. ▸ **Sum of All Rows:** Summary row displays the sum total of all row values for this column. ▸ **Use Formula Definition:** Formula entered in the Formula field applies to the summary row.
Total	Specifies what displays in the bottom summary row for each column: **Blank:** Summary row remains blank. **Sum of All Rows:** Summary row displays the sum total of all row values for this column. **Use Formula Definition:** Formula entered in the Formula field applies to the summary row.

Column Position After	Determines the position of the column on the sheet.

To copy a column

1) In the Column log, select a column and click **Copy**.
2) The Column Properties window opens. Make changes as necessary for the new column. You must change at least the data source.

View column properties

The Properties window for a column maintains the column name, data source, entry method, and other properties for that column.

To open the column properties window

In the sheet, click on a column link. The View Column window opens, showing the data source from which the column values are gathered and the data entry method, including any formula used to calculate the values.

Add a formula column

You can add a formula column to the sheet for data sources that are based on either the data definitions SYS Numeric Logical Datasource or SYS Date Logical Datasource.

You can define formulas for the following types:

▶ **Numeric:** This option is available if the data source is SYS Numeric Logical.
▶ **Data Difference:** This option is available if the data source is SYS Numeric Logical. It is used for formulas that calculate the difference between two dates.
▶ **Date Add:** This option is available if the data source is SYS Date Logical. It can be used to add values to a date to calculate a new date.

To create a numeric formula

1) In the column Properties window, choose **Formula** and select **Numeric**.
2) Click **Create**. The Create Formula window for numeric formulas opens.
3) Select either **Item** or **Sheet** from the data type drop-down list. Item lists data elements that are defined on the form. Sheet lists columns that are already defined on sheet.
4) Build a formula by doing the following:
   ▶ To include a data source in the formula, select the data source from the list and click **Select**.
   ▶ Click a mathematical modifier (plus, minus, and so on) and numbers on the keypad.
5) When the formula is complete, click **OK**.

To create a date difference formula

1) In the column Properties window, choose **Formula** and choose **Data Difference**. Click **Create**. The Date Difference window opens.

2) For Earlier Date and Later Date, click **Select**. Select a data element. The list includes date type data elements from the form or existing date type columns on the sheet.

3) Choose one of the following:

▸ **Calculations based on Calendar Days:** The calculation is based on calendar days and does not take company non-working days into account.

▸ **Calculations based on Work Days:** The calculation is based on the company calendar working and non-working days.

▸ **Show Partial Day**

4) Click **OK**.

To create a date add formula

1) In the column Properties window, choose **Formula** and choose **Data Add**. Click **Create**. The Date Add window opens.

2) For the **Date** field, click **Select** and choose a data element from the list.

3) For the **Add** field, click **Select** and choose a data element from the list.

4) Choose one of the following:

▸ **Calculations based on Calendar Days:** The calculation is based on calendar days and does not take company non-working days into account.

▸ **Calculations based on Work Days:** The calculation is based on the company calendar working and non-working days.

5) Click **OK**.

Open a sheet

Manager sheets are listed on the Sheet log of the configurable manager.

> **Note**: You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

To open a sheet for a code-based manager

1) Open the project or shell in which the manager resides and click Configurable Modules in the left Navigator. The Navigator expands to display the configurable managers that have been created for this project or shell.

2) Select the configurable manager you want to work in. Unifier displays the sheets log.

3) On the sheets log, double-click the name of the sheet. Unifier opens the sheet.

To open a sheet for a code-and-record-based manager

1) Open the project or shell in which the manager resides and click Configurable Modules in the left Navigator. The Navigator expands to display the configurable managers that have been created for this project or shell.

2) In the Navigator, click the name of the manager you want to work in. The Navigator expands to display a Sheets node.

3) In the Navigator, click the **Sheets** node. Unifier displays the sheets log, listing a sheet for every class created for the manager.

4) On the sheets log, double-click the name of the sheet. Unifier opens the sheet.

View record details

To view the details of a listed record, click the record. A view-only window opens displaying the record details.

View sheet properties

The Properties window for the sheet maintains the name and display options. It can be used to map a column to a company account code.

To open the sheet Properties window

In the Sheets log, select the sheet and click the **Properties** button.

▶ The General tab is described in the following table.

▶ In the Options tab, sheet columns can be mapped to company account codes.

Expand or collapse the sheet rows

For convenience in viewing sheet data, you can expand and collapse the rows to expose and close sub-items on the sheet.
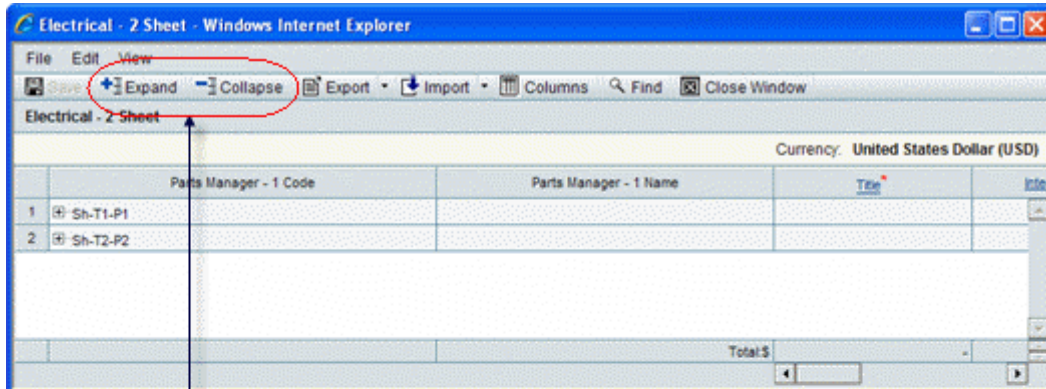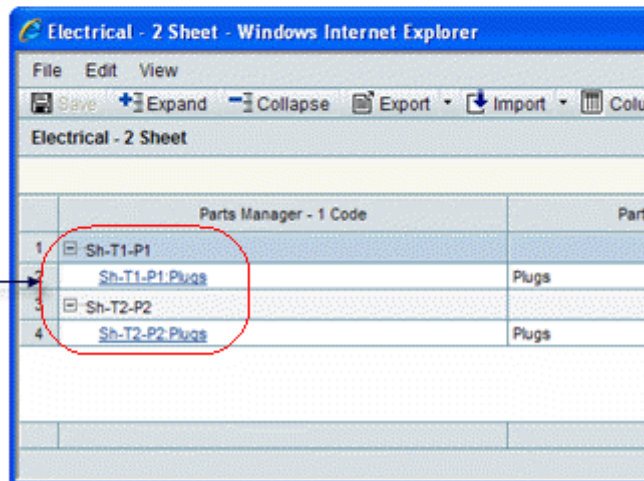
Drill down to more data

From the sheet, you can use hyperlinks to drill down to additional detail about the item.

| | | | Click the link to see details about the item. | The name is editable by double-clicking. | Click a column heading link to see the column's properties. | Underlined values are rolled-up values. Click a hyperlinked value to see rollup details. |

View or edit code details

Each row item on the sheet is identified by a code, which is in the first column on the sheet. The code is hyperlinked. If you want to see more details about a row item, click **Link**.

Code-based manager and record-based manager

Unifier displays a read-only copy of the Detail form, or the Attribute form, for that item. You cannot edit the displayed form because the manager retrieves the information from the records that have been created, automatically.

The sheet for a code-based manager is designed to be dynamically editable, so you can edit the fields that are not read-only (grayed out).   For a code-based manager, Unifier displays the Code Details window which shows the fields from the manager Attribute form. Note that the "Code" field is not editable.

If the field appears as a column on the sheet, any changes that you make to the field (in the Code Details window) will appear on the sheet. Reciprocally, any changes you make on the sheet will also appear on the Code Details window, for the item.

View rollup data

For code-and-record-based managers, BP line item data, such as costs and quantities, can be configured to roll up to the manager sheet from across shells. Cells that contain rolled-up data will show a hyperlinked value. You can click on this hyperlink to open a cell details window and view all the business process transactions that contributed to the rollup.
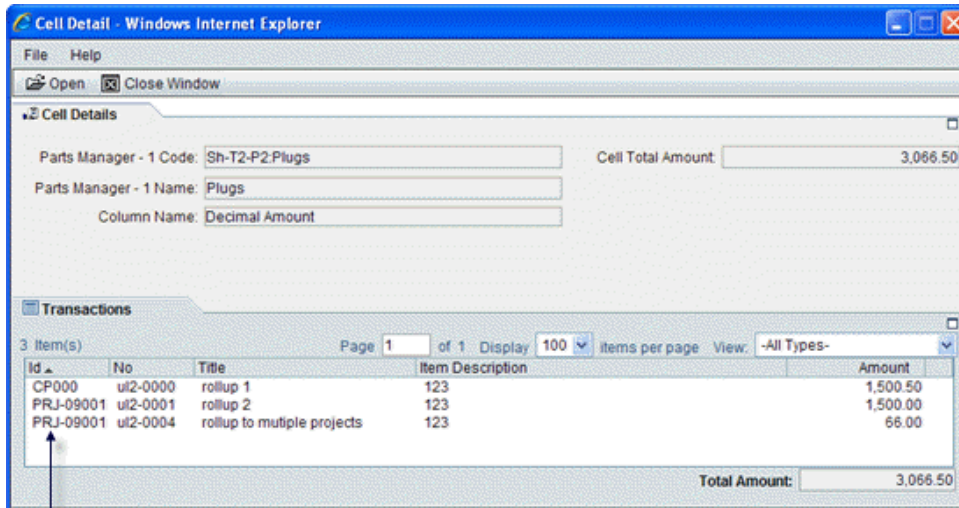
Every transaction will include an ID that includes the shell or project number where the BP record was created.

Double-click on a transaction to open the original BP record in view mode.
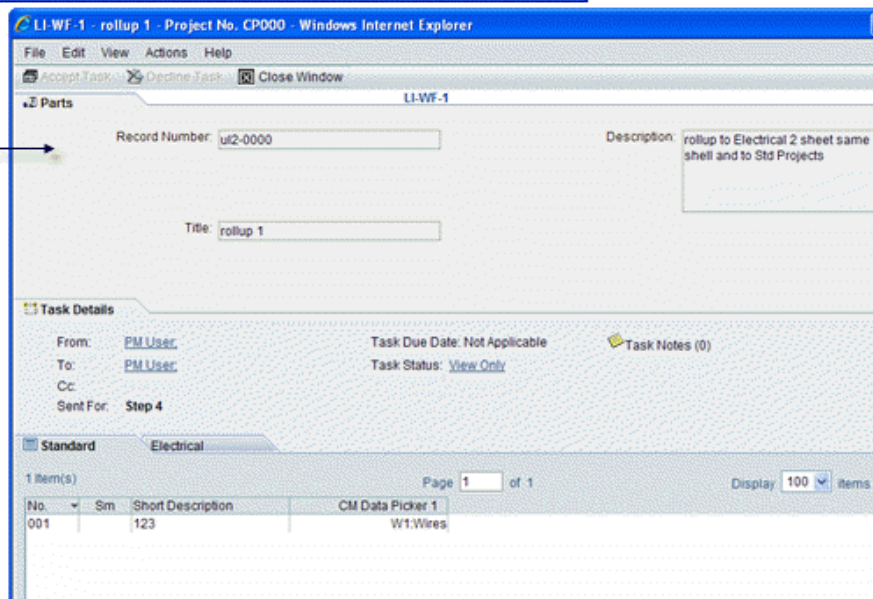
Sort the sheet content

If the manager sheet is in flat mode (that is, it lists the codes in a flat structure, rather than hierarchically), you can sort the content on the sheet by column. By default, Unifier shows column data in ascending order.

To sort column data

Click the column heading. Unifier will re-display the data in that column in descending order. To return the column data to ascending order, click the heading again.

Filter the sheet content

Some managers, particularly those configured to function across shells, can accumulate a substantial amount of data. To make viewing this data easier, you can create filters to restrict the content of the sheet.

To create a filter

1) Open the sheet.
2) From the View menu, choose **Filters...**. The Setup Filters window opens.
3) Click the **Add** button. The Add Filter window opens.
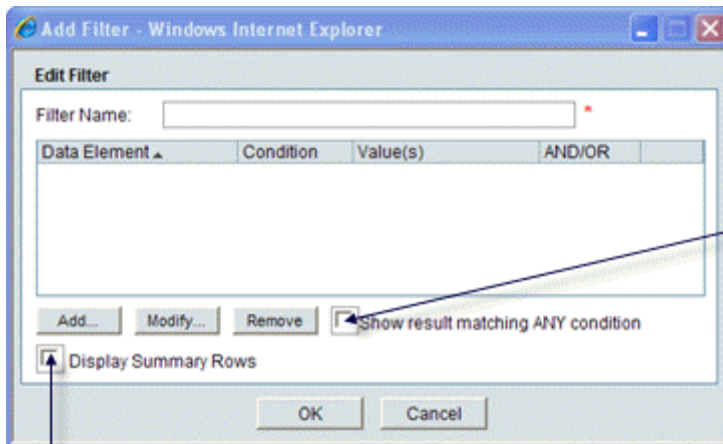
Select this checkbox if you want the field to meet any **one** of the conditions in this filter; otherwise, the field must meet all the conditions the filter specifies.

Select this checkbox if you want to see the summary rows recalculated based on the filtered view of the sheet.

4) In the **Filter Name** field, enter a name for this filter.
5) Click the **Add** button. The Query Condition window opens.
6) In the **Data Element** field, enter the name of the field you want to appear on the manager sheet.

    The values in the field must meet a condition (such as "equals" or is "greater than") to be included on the sheet.

    Depending on the data element you enter, the Query Condition window will display variable fields.
7) Click **OK**, or click **Apply Filter** to filter the sheet content.

To apply a filter to a sheet

1) Open the sheet.
2) From the View menu, choose **Filters...**. The Setup Filters window opens, showing a list of the filters that have been created for the sheet.
3) Select the filter you want to use and click **Apply Filter**.

Unifier displays a filtered view of the manager sheet. While in a filtered view, you can use all sheet functions except Export and Import.

If you want to re-display all the rows on the sheet, you can clear the filter by choosing **ClearFilters** from the **View** menu.

To edit a filter

1) Open the sheet.
2) From the View menu, choose **Filters...**. The Setup Filters window opens, showing a list of the filters that have been created for the sheet.
3) Select the filter you want to edit and click **Edit**.

Enter sheet data

For manual data-entry columns, you can enter data directly into the sheet.

To enter data on a sheet

1) Open the sheet.
2) Click inside a manual-entry cell and enter the data.
3) Click **Save**.

Edit sheet data

You can perform some editing on the sheet itself. Columns are designated with an entry method when they are added to the sheet. If the column specified "manual entry," you can enter data directly into that column on the sheet. If you change a field value on the sheet, Unifier will also change the field on the item's attribute or detail form.

> **Note**: The name of the row item is always editable. The code, however, is never editable.

To enter data on a sheet

1) Double-click inside a manual-entry cell. Unifier will highlight the cell data and open a text box.
2) Enter the data in the text box and click **Save**.

Create and view a snapshot

You can take a snapshot of a sheet to keep as a record and view later.

To create a snapshot

1) Open the sheet.
2) Select **File > Create Snapshot**. The Create Snapshot window opens.
3) Enter a title and click **OK**.

To view a saved snapshot

1) Open the sheet.

2) Select **View > Snapshot Log**. The Snapshot log opens.

3) Select a snapshot from the list and click **Open**. A read-only view of the sheet opens, displaying the sheet data at the time of the snapshot.

Copy data to another column

You can copy data from one manual-entry column to another.

To copy data from one column to another

1) Select **Edit > Copy > Column Data**. The Copy Column Data window opens.

2) Select the manual-entry column to copy, the percentage value, and the column to which to copy.

3) Click **Copy**.

Search for records on a sheet

To search for records:

1) Open the sheet.

2) Click **Find**. The Find window opens.

3) Select the search criteria:
   ‣ **Column:** Choose a column from the sheet.
   ‣ **Value:** Enter a value to search.
   ‣ **Search:** Select the direction to search from the selection on the sheet.

4) Click **Find Next** to search for the entered value. You can click again to continue searching.

5) Click **Cancel** to cancel the search.

Export sheet data

You can export data from columns that have been manually entered to a CSV file. The data is for reference only and cannot be re-imported.

To export columns from a sheet

1) Open the sheet.

2) Click the **Export** button and choose Codes (for code-based managers only) or Column Details.

3) Select the columns to export and click **OK**.

4) Save the CSV file to your local drive.

Import sheet column data

You can enter data into manual-entry columns by importing a CSV sheet. The column must be configured on the record detail form to accept numeric data elements.

To import column data

1) In the CSV file, enter data for each listed record. Be careful not to change the CSV file structure.

2) Save the CSV file.

3) Open the sheet to which you want to import the data.

4) Click the **Import** button and choose Codes (for code-based managers only) or Column Details.

5) Browse to the CSV file containing the column data and click **OK**.

> **Note**: You cannot delete summary rows from the sheet using a CSV import. You also cannot delete existing rows using CSV import if their codes have been added to business processes.

Working with Configurable Manager Sheets (Standard View)

The configurable managers are nested under the **Configurable Modules** as shown below:

The configurable managers that you are working with will have different names and purposes.
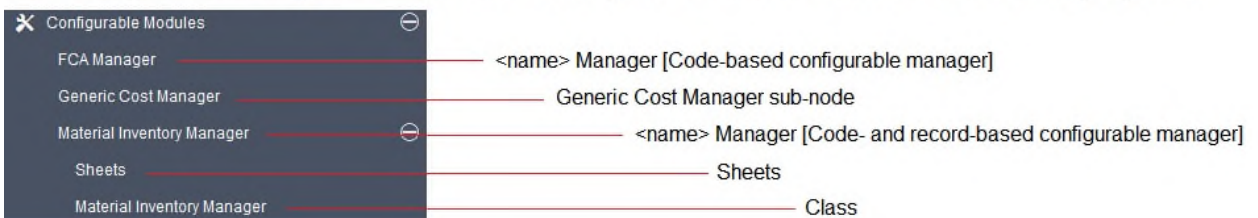
Configurable Modules

▸ <name> Manager [Code-based configurable manager]
▸ <name> Manager [Code- and record-based configurable manager]
   ▸ Sheets
   ▸ Class

The following explains applicable actions for each sub-node.

Add Columns or Rows to a Sheet

The following explains how to add columns or rows to a sheet, where applicable.

Configurable Modules: <name> Manager [Code-based configurable manager]

> **Note**: You must have the "Create" permission in order to proceed with adding columns or rows.

To add columns to a code-based configurable manager sheet:

1) Go to your shell or project in **User** mode.

2) From the left Navigator, click **Configurable Modules** node to expand.

3) Click your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right-hand side).

4) Double click on the sheet to open the sheet log window that displays the columns.

5) From the toolbar options, click **Add Column** (the icon with three vertical lines)   to open the **Add Column** window.

6) Enter values in the fields that are displayed.

7) After you are finished, select one of the following options:

    a. **Cancel**: To cancel the changes and close the window.

    b. **Save**: To save your work for creating a new column.

    c. **Save & Add New**: To save your work and begin creating a new column.

To add rows to a code-based configurable manager sheet:

1) Go to your shell or project in **User** mode.

2) From the left Navigator, click **Configurable Modules** node to expand.

3) Click your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right-hand side).

4) Double click on the sheet to open the sheet log window that displays the columns.

5) From the toolbar options, click **Add Row** (the icon with three horizontal lines)   to open the **Add Row** window.

6) Enter values in the fields that are displayed.

7) After you are finished, select one of the following options:

    a. **Cancel**: To cancel the changes and close the window.

    b. **Save**: To save your work for creating a new row.

    c. **Save & Add New**: To save your work and begin creating a new row.

Configurable Modules: Generic Cost Manager

For details see *Working with a Generic Cost Manager* (on page 363).

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Sheets

> **Note**: You must have the "Create" permission in order to proceed with adding columns. You cannot add rows. The columns can capture data from business processes or manually entered data.

To add columns to a Code- and record-based configurable manager sheet:

1) Go to your shell or project in **User** mode.

2) From the left Navigator, click **Configurable Modules** node to expand.

3) Click your code- and record-based configurable manager (**<name> Manager [Code- and record-based configurable manager]**) to expand.

4) Click the **Sheets** sub-node (**<name> Manager [Code- and record-based configurable manager]-Sheets**) to open the log. The log displays a list of sheets.

5) Double click on the sheet to open the sheet log window that displays the columns.

6) From the toolbar options, click **Add Column** (the icon with three vertical lines) [|||]   to open the **Add Column** window.

7) Enter values in the fields that are displayed.

8) After you are finished, select one of the following options:

    a. **Cancel**: To cancel the changes and close the window.

    b. **Save**: To save your work for creating a new column.

    c. **Save & Add New**: To save your work and begin creating a new column.

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Class

You can create new **<name> Manager [Code- and record-based configurable manager]-Class**, only.

Fields

The following details some of the fields:

In this field:	Do this:
Name	The Name field is populated with the data source value selected.
Datasource	Select a data source. The data sources available are data elements that are defined in the detail form for a class in uDesigner. Also listed are data elements based on **SYS Numeric Logical Datasource**, **SYS Date Logical Datasource**, **SYS Project Cost Datasource**, **SYS BP Currency Amount**, **SYS BP Decimal Amount**, and **SYS BP Integer Amount** data definitions. **Note**: You can add data picker fields as columns, but you cannot invoke the data picker from the sheet.
Type	
Data Format	Specify how the column data appears for numeric columns. The options are: ▸ **Show as Percentage:** Data entered in a column is displayed as a percentage. For example, if you enter 0.25, it displays as 25%. ▸ **Decimal Places:** Select the number of decimal places to display (0 to 8).

	▸ **Use 1000 Separator (,):** If you select this option, the entered data is formatted with a separator for numbers with more than three digits. For example, 1,000 rather than 1000. ▸ **Negative Number Format:** Specify if negative values are displayed with a negative sign or in parentheses.
Display Mode	Select **Hide** to make the column invisible to users. Select **Show** to display it. You can show/hide any column on the sheet, including the code name column.
Summary Rows	Specify what the summary rows display. ▸ **Blank:** Summary row remains blank. ▸ **Sum of All Rows:** Summary row displays the sum total of all row values for this column. ▸ **Use Formula Definition:** Formula entered in the Formula field applies to the summary row.
Total	Specifies what displays in the bottom summary row for each column: **Blank:** Summary row remains blank. **Sum of All Rows:** Summary row displays the sum total of all row values for this column. **Use Formula Definition:** Formula entered in the Formula field applies to the summary row.
Column Position After	Determines the position of the column on the sheet.

You cannot copy a column.

View Column Properties

The following explains how to open the column properties for each configurable manager.

Configurable Modules: <name> Manager [Code-based configurable manager]

To view the column properties:

1) Go to your shell or project in **User** mode.
2) From the left Navigator, click **Configurable Modules** node to expand.
3) Click your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right-hand side).
4) Double click on the sheet to open the sheet log window that displays the columns.
5) In a column click on a cell that has a link. The screen will divide in half and the lower portion of the screen displays the following tabs which provide details about the cell:
   ▸ **General**
   ▸ **Audit Log**
   ▸ **Transactions**
   ▸ **Cell Details**
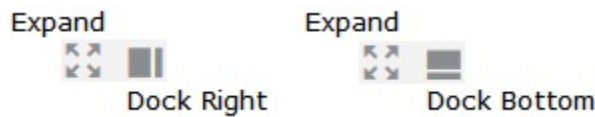
Use the Expand and Dock icons to adjust the display.

To close an expanded screen double-click on the three dots, on the boarder of the two screens.

Configurable Modules: Generic Cost Manager

For details see *Working with a Generic Cost Manager* (on page 363).

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Sheets

To view the column properties:

1) Go to your **<name> Code- and record-based configurable manager]-Sheets**. The log displays a list of sheets.

2) In a column click on a cell that has a link. A new window opens and the screen will divide in half. The properties pane (right-hand side of the window) contains the following tabs which provide details on each cell:
   ‣ **Comments**
   ‣ **Linked Records**
   ‣ **Linked Mail**
   ‣ **Audit Log**

Click **Maximize** icon to expand the properties pane. To minimize click the icon again.

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Class

To view the column properties:

1) Go to your **<name> Manager [Code-based configurable manager]-Class**. The log displays a list of sheets and the corresponding properties (on the right-hand side).

2) Double click on the sheet to open the sheet log window that displays the columns.

3) In a column click on a cell that has a link. The screen will divide in half and the lower portion of the screen displays the following tabs which provide details about the cell:
   ‣ **General**
   ‣ **Audit Log**
   ‣ **Transactions**
   ‣ **Cell Details**
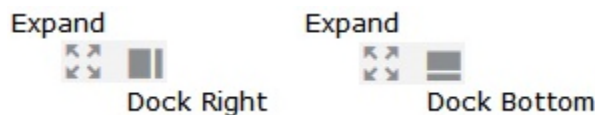
Use the Expand and Dock icons to adjust the display.

To close an expanded screen double-click on the three dots, on the boarder of the two screens.

Open a Sheet

Manager sheets are listed on the sheet log of the configurable manager.

> **Note**: You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

Configurable Modules: <name> Manager [Code-based configurable manager]

To open a sheet:

1) Go to your shell or project in **User** mode.
2) From the left Navigator, click **Configurable Modules** node to expand.
3) Click your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right-hand side).
4) Double click on the sheet to open the sheet log window that displays the columns.

Configurable Modules: Generic Cost Manager

For details see *Working with a Generic Cost Manager* (on page 363).

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Sheets

To open a sheet:

1) Go to your shell or project in **User** mode.
2) From the left Navigator, click **Configurable Modules** node to expand.
3) Click your code- and record-based configurable manager (**<name> Manager [Code- and record-based configurable manager]**) to expand.
4) Click the **Sheets** sub-node (**<name> Manager [Code- and record-based configurable manager]-Sheets**) to open the log. The log displays a list of sheets.
5) Double click on the sheet to open the sheet log window that displays the columns.

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Class

To open a sheet:

1) Go to your shell or project in **User** mode.
2) From the left Navigator, click **Configurable Modules** node to expand.
3) Click your code- and record-based configurable manager (**<name> Manager [Code- and record-based configurable manager]**) to expand.
4) Click the class sub-node (**<name> Manager [Code- and record-based configurable manager]-Class**) to open the log. The log displays a list of sheets.
5) Double click on the sheet to open the sheet log window that displays the columns.

View Record Details

To view the details of a listed record, click the record. A view-only window opens displaying the record details.

> **Note**: You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

Configurable Modules: <name> Manager [Code-based configurable manager]

To view record details:

1) Go to your shell or project in **User** mode.
2) From the left Navigator, click **Configurable Modules** node to expand.
3) Click your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right-hand side), **Properties** tab.

Configurable Modules: Generic Cost Manager

For details see **Working with a Generic Cost Manager** (on page 363).

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Sheets

To view record details:

1) Go to your shell or project in **User** mode.
2) From the left Navigator, click **Configurable Modules** node to expand.
3) Click your code- and record-based configurable manager (**<name> Manager [Code- and record-based configurable manager]**) to expand.
4) Click the **Sheets** sub-node (**<name> Manager [Code- and record-based configurable manager]-Sheets**) to open the log.
5) Click on a record to see the corresponding properties (on the right-hand side), **Properties** tab.

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Class

To view record details:

1) Go to your shell or project in **User** mode.
2) From the left Navigator, click **Configurable Modules** node to expand.
3) Click your code- and record-based configurable manager (**<name> Manager [Code- and record-based configurable manager]**) to expand.
4) Click the class sub-node (**<name> Manager [Code- and record-based configurable manager]-Class**) to open the log.
5) Click on a record to see the corresponding properties (on the right-hand side), **Record Details** tab.

View Sheet Properties

The following explains how to view the properties of a sheet.

> **Note**: You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

Configurable Modules: <name> Manager [Code-based configurable manager]

To view the properties of a sheet:

1) Go to your shell or project in **User** mode.
2) From the left Navigator, click **Configurable Modules** node to expand.
3) Click your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right-hand side), **Properties** tab.
4) Double click on the sheet to open the sheet log window that displays the columns.

5) Click the **Menu Options** drop-down icon ☰ ▼ and select **Properties**.

Configurable Modules: Generic Cost Manager

For details see **Working with a Generic Cost Manager** (on page 363).

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Sheets

To view the properties of a sheet:

1) Go to your shell or project in **User** mode.
2) From the left Navigator, click **Configurable Modules** node to expand.
3) Click your code- and record-based configurable manager (**<name> Manager [Code- and record-based configurable manager]**) to expand.
4) Click the **Sheets** sub-node (**<name> Manager [Code- and record-based configurable manager]-Sheets**) to open the log.
5) Click on a record to see the corresponding properties (on the right-hand side), **Properties** tab.
6) Double click on the sheet to open the sheet log window that displays the columns.

7) Click the **Menu Options** drop-down icon ☰ ▼ and select **Properties**.

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Class

To view the properties of a sheet:

1) Go to your shell or project in **User** mode.
2) From the left Navigator, click **Configurable Modules** node to expand.

3) Click your code- and record-based configurable manager (**<name> Manager [Code- and record-based configurable manager]**) to expand.

4) Click the class sub-node (**<name> Manager [Code- and record-based configurable manager]-Class**) to open the log.

5) Click on a record to see the corresponding properties (on the right-hand side), **Record Details** tab.

Create and View a Snapshot

You can take a snapshot of a sheet to keep as a record and view later.

> **Note**: You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

Configurable Modules: <name> Manager [Code-based configurable manager]

You cannot create a snapshot.

Configurable Modules: Generic Cost Manager

For details see *Working with a Generic Cost Manager* (on page 363).

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Sheets

To create and view a snapshot:

1) Go to your shell or project in **User** mode.

2) From the left Navigator, click **Configurable Modules** node to expand.

3) Click your code- and record-based configurable manager (**<name> Manager [Code- and record-based configurable manager]**) to expand.

4) Click the **Sheets** sub-node (**<name> Manager [Code- and record-based configurable manager]-Sheets**) to open the log. The log displays a list of sheets.

5) Double click on the sheet to open the sheet log window that displays the columns.

6) Click the **Menu Options** drop-down icon ≡ ▼ and select **Snapshots**.

7) Select one of these options:

  a. **Create**

    When you select **Create**, the **Save As Snapshot New** window opens which enables you to create a snapshot by entering the snapshot title and clicking **OK**.

  b. **Open**

    To open and view an existing snapshot, if available.

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Class

You cannot create a snapshot.

Export Sheet Data

You can export data from columns that have been manually entered to a CSV file. The data is for reference only and cannot be re-imported.

> **Note**: You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

Configurable Modules: <name> Manager [Code-based configurable manager]

To export sheet data:

1) Go to your shell or project in **User** mode.
2) From the left Navigator, click **Configurable Modules** node to expand.
3) Click your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right-hand side), **Properties** tab.
4) Double click on the sheet to open the sheet log window that displays the columns.
5) Click the **Menu Options** drop-down icon ☰ ▼ and select **Export**.
6) Select one of the following options:
   a. **Codes**
      To export a Microsoft Excel Comma Separated Values File.
   b. **Column Data**
      To export column details.

Configurable Modules: Generic Cost Manager

For details see *Working with a Generic Cost Manager* (on page 363).

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Sheets

To export sheet data:

1) Go to your shell or project in **User** mode.
2) From the left Navigator, click **Configurable Modules** node to expand.
3) Click your code- and record-based configurable manager (**<name> Manager [Code- and record-based configurable manager]**) to expand.
4) Click the **Sheets** sub-node (**<name> Manager [Code- and record-based configurable manager]-Sheets**) to open the log. The log displays a list of sheets.
5) Double click on the sheet to open the sheet log window that displays the columns.
6) Click the **Menu Options** drop-down icon ☰ ▼ and select **Export**.
7) Select one of the following options:
   a. **<sheet name> Summary Sheet**
      To export a Microsoft Excel Comma Separated Values File.

    b. **Column Data**

        To export column details.

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Class

To export sheet data:

1) Go to your shell or project in **User** mode.
2) From the left Navigator, click **Configurable Modules** node to expand.
3) Click your code- and record-based configurable manager (**<name> Manager [Code- and record-based configurable manager]**) to expand.
4) Click the class sub-node (**<name> Manager [Code- and record-based configurable manager]-Class**) to open the log. The log displays a list of sheets.
5) Double click on the sheet to open the sheet log window that displays the columns.
6) Click the **Actions** drop-down icon [Actions ▼] and select **Export CSV Template...**.
7) Follow the prompts to complete the export.

Import Sheet Column Data

To import column data

1) In the CSV file, enter data for each listed record. Be careful not to change the CSV file structure.
2) Save the CSV file.
3) Open the sheet to which you want to import the data.
4) Select **Menu Options.**
5) Click the **Import** button and choose Codes (for code-based managers only) or Column Details.
6) Browse to the CSV file containing the column data and click **Import**.

> **Note**: You cannot delete summary rows from the sheet using a CSV import. You also cannot delete existing rows using CSV import if their codes have been added to business processes.

You can enter data into manual-entry columns by importing a CSV sheet. The column must be configured on the record detail form to accept numeric data elements.

> **Note**: You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

Configurable Modules: <name> Manager [Code-based configurable manager]

To import sheet data:

1) Go to your shell or project in **User** mode.

2) From the left Navigator, click **Configurable Modules** node to expand.

3) Click your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right-hand side), **Properties** tab.

4) Double click on the sheet to open the sheet log window that displays the columns.

5) Click the **Menu Options** drop-down icon ⬚ and select **Import**.

6) Select one of the following options:

   a. **Codes**

      To import by opening a local folder and selecting a file.

   b. **Column Data**

      To import column details.

Configurable Modules: Generic Cost Manager

For details see ***Working with a Generic Cost Manager*** (on page 363).

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Sheets

To import sheet data:

1) Go to your shell or project in **User** mode.

2) From the left Navigator, click **Configurable Modules** node to expand.

3) Click your code- and record-based configurable manager (**<name> Manager [Code- and record-based configurable manager]**) to expand.

4) Click the **Sheets** sub-node (**<name> Manager [Code- and record-based configurable manager]-Sheets**) to open the log. The log displays a list of sheets.

5) Double click on the sheet to open the sheet log window that displays the columns.

6) Click the **Menu Options** drop-down icon ⬚ and select **Import**.

7) Click **Column Data** to import column details.

Configurable Modules: <name> Manager [Code- and record-based configurable manager]-Class

To import sheet data:

1) Go to your shell or project in **User** mode.

2) From the left Navigator, click **Configurable Modules** node to expand.

3) Click your code- and record-based configurable manager (**<name> Manager [Code- and record-based configurable manager]**) to expand.

4) Click the class sub-node (**<name> Manager [Code- and record-based configurable manager]-Class**) to open the log. The log displays a list of sheets.

5) Double click on the sheet to open the sheet log window that displays the columns.

6) Click the **Actions** drop-down icon [Actions ▾] and select **Import** to open the **Upload CSV** window and select a file.

Working with Configurable Manager Logs (Standard View)

The following topics describe how to use configurable manager sheets in Standard view. In particular, this section explains how to access, review, and create both code-based and code- and record-based configurable managers.

Code-Based Managers Log (Standard View)

The code-based configurable manager log is divided into two panes, left and right. The following explains the left pane elements of the log in details.

Left pane elements:

▶ Toolbar: **Create**

This option is available if a sheet has not been created. Once you create a configurable manager sheet, then there are will be no toolbar options.

▶ Column: **Title**, **Description**, and **Last updated**

Right pane elements:

This right pane is blank for an empty log. When you create a sheet, the right pane displays the Properties tab that captures the details of the sheet.

▶ **Properties** tab
  ▸ **Title**
  ▸ **Description**
  ▸ **Display Mode**
  ▸ **Default Filter View**
  ▸ **Picker**
  ▸ **Segments**
▶ Expand toggle key
  To expand the tab window.

Creating a Code-Based Configurable Manager (Standard View)

You can use the **Create** option to create a code-based configurable manger sheet;

▶ **Manually**
  Read the process for manually creating a sheet, below.
▶ **From Template**

This option enables you to create a configurable manager from a template. The **From Template** option is available only if one or more configurable manager templates are defined at **Company Workspace** (admin mode). If no templates are defined, then this menu option will not be available. If you do not have create permission, this option is disabled. In this scenario, you can access rows or create more rows irrespective of the way that a sheet is created, manually or by template.

you cannot modify the segment sources. Creating as sheet by way of a template enables you to access the sheet rows.

▶ **From Shell**

When you click this option, Unifier opens a window which lists all the sheets that can be copied from other shells that the administrator has created.

To create a code-based configurable manager sheet manually:

1) Click **Create** and click **Manual** to open the create sheet window.

2) In the **Properties** tab, enter the values. You can also edit existing values in the **Properties** tab, for example, change the **Picker** field value from **All Records** to records with their statuses set as "Active," "InActive," or both in the **Records with statuses** field.

   The **Default Filter View** drop-down field does not have any values when you create a new sheet. This field has a value for an existing sheet and can be changed.

3) Click the **Segments** tab and add segments.

   You can add multiple segments by clicking the plus icon (+). When you click the plus icon (+), Unifier inserts a new row on the grid. Once you add a row, you must click the cell under the **Segment Source** label and select a source, which has been designed in uDesigner. You can use drag-and-drop to move the segments. To delete a segment click on the segment row and click the delete option (trash can icon). The **Segments** tab has a grid that is similar to the grid and fields of the Line Items in BPs.

4) When finished, from the top, click **Save**.

5) Click **Save** on the create sheet window.

Code- and Record-Based Managers Log (Standard View)

Sheets

The sheets log is divided into two panes, left and right. The following explains the left pane elements of the log in details.

Left pane elements:

▶ Toolbar: **Create**, **Find on Page,** and **Print**

   Empty log has one option on the toolbar: **Create**.

   A non-empty log, in which sheets for all classes within the manager have not been created, has three options on the toolbar: **Create**, **Find on Page**, and **Print**.

   A log in which sheets for all classes have been created shows the options: **Find on Page**, **Print**.

▶ Columns: **Title**, **Description**, **Class**, and **Last updated**

Right pane elements:

This pane is blank for an empty log. When one or more sheets have been created, this pane shows a tab that captures the properties of a selected sheet.

- **Properties** tab
    - **Title**
    - **Description**
    - **Class**
    - **Display Mode**
    - To determine how the entries in a sheet are going to be displayed.
    - **Default Filter View**
    - **Picker**
- Expand toggle key

    To expand the tab window.

Class

The class log is divided into two panes, left and right. The following explains the left pane elements of the log in details.

Left pane elements:

- Toolbar: **Create**, **Actions**, **View**, **Edit View**, **Refresh**, **Print**, **Search**, **Find on Page,** and **Help**
- Column: **Attachments** and class-related titles

Right pane elements:

- **Record Details** tab which displays all the details related to the highlighted class.
- Expand toggle key

    To expand the tab window.

- Tooltip

    If an attribute form is present, then you can hover over the question mark (?) symbol to see more information in the form of a tooltip.

You can:

- The Actions option to perform:
    - Import
    - To import CSV file in order to create records in bulk.
    - Export CSV Template
    - Same as: Export Template > CSV. To export a CSV template.
    - Bulk Edit.
    - You must have permission to perform a bulk edit (similar to the same option in the non-Workflow BP record log).
- Print the log based on the current view. This would output a report similar to a UDR. You can use the print functionality to print the CM Class log. When you click Print, Unifier displays a Print Preview in HTML format.

▸ The layout of the printed information is based on the view. This means that the column order, columns displayed, applied filtering conditions, etc. will all be printed. You can print all pages.

> **Note**: If you select a record and the record summary is displayed, this information will not be included as part of the log print.

▸ Select the order of the columns in the log and define which columns must be visible.

▸ Sort on one or many columns within the log.

▸ Search the parameters displayed on the search window have all been configured in uDesigner. Search user interface and logic is similar to the search function in the non-Workflow BP record log).

▸ Group based on one column, or up to 3 columns, and define how the groups are sorted and how rows are sorted within the groups.

▸ Apply filters to individual columns.

▸ Lock columns so that they are fixed on the left-hand side and the remaining columns scroll on the right-hand side.

▸ The Help option to view the CM Class specific help, which has been set up by the Administrator. The tool tip for this icon are:

  ▸ <Class Name> help
  ▸ User Productivity Kit

▸ Use the *gear menu* (⚙) for each record to:

  ▸ Open

    To open a record.

  ▸ Copy

    To copy a record.

  ▸ Print-HTML
  ▸ Print-PDF
  ▸ Print-Custom

The system default for viewing Code- and Record-Based records is **All Records**. You others option are:

▸ **Records Created by Me**

▸ **Create New View**

  You can create new views by clicking the **Create New View...** option. Similar to the Tasks log view creation, the New View window has the following tabs:

  ▸ Columns
  ▸ Filters
  ▸ Group By
  ▸ Sort By

▸ **Manage Views**

  Use Manage Views to manage the user-defined views and the default views (OOTB).

  Note: Certain restrictions are placed for the view options provided in the OOTB.

> **Note**: Unifier uses the Classic view of the log (of the CM class) for the view definition.

The views, based on the designs, provide the following information:

Columns: The column layout, based on the uDesigner layout.

Sort By: Based on the Sort Order, in the uDesigner Sort Order.

Find: All search parameters in the **Find** are in the Filter page of the view.

Navigation: The Unifier Standard view does not display the navigation structure elements that are defined in uDesigner.

CM Class Record

You view the CM Class record summary from the logs.

Visibility of the panel

The Panel is displayed when you select a record.

The details in the panel is available only when a single record is selected.

When multiple records are selected, the panel displays the following content:

Details of multiple records cannot be viewed.

Content displayed in the Panel

The detail form of the CM Class attribute.

The Panel consists of one tab: **Record Details**.

Use maximize option to view the record details in the full screen mode. When the full screen mode is active, the screen occupies the right-hand section. Click minimize to return to the previous screen.

The record details contain the layout, block description, etc. This option is available in View only mode.

The picker type fields are displayed with just the values. There will be no hyperlinks. Click maximize to view this in an expanded form.

Group By row highlighted

When Group By row is highlighted, then the right-hand section does not display any details.

When you click the CM Class log, a log similar to the log of a non-Workflow BP record appears. You can double-click a record to open it. The following explains the log options.

Columns

As set of pre-designed columns and labels. You can adjust the columns in the log as follows:

▶ Visibility

Right-click on the column header and select to hide the column.

▶ Reposition

Drag and drop.

▶ Resize

Unifier keeps your adjustments without saving.

▶ Locking

Use the view option.

> **Note**: When you adjust the columns in the log, you modify the view settings. Unifier does not save your view automatically, except where it is noted. You can save the view using the "Save as" option. Unifier saves the column width adjustments that are made on top of the default settings (in uDesigner); however, you can change the width of a column.

The column marked with the "x" icon captures the errors if you attempt to save the grid with incorrect entries. This function is similar to the errors column in the BP Detail Form grid entry.

Row Number: This is a read-only column. This column does not have a header. As you insert new rows, delete rows, or reorders rows, the row numbers throughout the grid gets updated accordingly.

Segment Source: This is an editable, type-ahead and drop-down field. The drop-down values are the same as in the Classic view.

Delete Row: This column does not have a header. This column displays a delete icon for each row. Clicking at the icon deletes the selected row.

Drag Row: This column does not have a header. This column displays the reorder icon. You can select multiple rows and drag them to another position.

Creating a New Code- and Record-Based Configurable Manager Sheet (Standard View)

You can use the **Create** option to create a new code- and record-based sheet by way of the following methods:

▶ **Manually**

Read the process for manually creating a sheet, below.

▶ **From Template**

This option enables you to create a configurable manager from a template. The **From Template** option is available only if one or more configurable manager templates are defined at **Company Workspace** (admin mode).

▶ **From Shell**

When you click this option, Unifier opens a window which lists all the shells that the administrator has created. You can copy a configurable manager sheet from a shell that is listed.

To create a code- and record-based sheet manually:

1) Click **Create** and click **Manual** to open the create sheet window.
2) In the overlay, enter the values. You can also edit existing values in the **Properties** tab, for example, change the **Picker** field value from **All Records** to records with their statuses set as "Active," "InActive," or both in the **Records with statuses** field.

   The **Default Filter View** drop-down field does not have any values when you create a new sheet. This field has a value for an existing sheet and can be changed.

3) When finished, from the top, click **Save**.

4) Click **Save** on the create sheet window.

You can use the **Create** option to create a new code- and record-based class.

Bulk Editing Configurable Manager Records

If you have a large number of records that need the same edits, you can use **Bulk Edit** to update all the records at once. You can update up to 200 records at a time. Bulk editing must be defined in uDesigner, and you must have the **Allow Bulk Edit** permission set for the manager.

> **Note**: You cannot bulk edit codes or names.

To update records using bulk edit

1) Navigate to the Configurable Manager log.

2) Select one or more records or use **Find** to search for a group of records with specific criteria. You can select the records from the class log or the Find log.

3) Select **Edit > Bulk Edit**. The Bulk Edit window opens. The fields displayed depend on what is specified in uDesigner for detail form integration for the class.

> **Note**: Bulk edits overwrite data without asking you to verify each change. Be sure that you have entered the data you want to edit correctly.

4) The Bulk Edit form includes all editable fields for the detail form. Modify the Bulk Edit form as needed.

5) Select the **Update** checkbox for the fields that you want to update. The checkbox is automatically selected when you type in a field. You can deselect it if you do not want to modify the field.

6) To start the bulk update of the selected records, click **Update**. The Bulk Actions Status window displays the progress of the update.

7) Click **OK** after all records have processed. Click **Cancel** if you want to cancel the bulk update in progress.

Printing a Configurable Manager Form

You can print a copy of the record form for Code-based manager and record-based manager. You can choose PDF, HTML or Custom print formats and select one of the following options:

▸ Save a copy of the form as a PDF file and print the file

▸ Print an HTML view

▸ Print from a Word file if a custom print layout has been created for the form

The Custom Print formats include the BI Publisher custom print templates designed in the **Custom Templates** node. If custom print layouts have been created for the Configurable Manager, the form will print according to the layout that you select. See the following Custom Format Print Options for details. See the following *Printing Options - Custom Format* for details.

To preview and print a Configurable Managers form:

1) Open a Configurable Managers record that you want to print.
2) From the **File** menu, choose **Print Preview**, then choose one of the following:
   ▸ **HTML** to view the form in the browser which can then be printed.
   ▸ **PDF** to open the form in Adobe Reader, which can be saved or emailed as a PDF file, or printed process, you are asked to save the changes to the form.
   ▸ **Custom** to select the BI Publisher, Microsoft Word, and PDF custom print templates from the same place as the current custom prints. See the following *Printing Options - Custom Format* for details.

   The Print Options window opens. This window displays the record information that can be printed.
3) Select the checkboxes for the information that you want to print.
4) To select all the checkboxes, click the **Select All** checkbox. To deselect all, uncheck the **SelectAll** checkbox. If you deselect all checkboxes, only the header and footer will print.
5) Click **OK**. The preview form opens in an HTML or PDF (Adobe Acrobat or Reader) window, from which you can print.

   If you chose PDF, you can save a copy by clicking the **Save a Copy** button, or print. To print from HTML format, click on the **Print** icon in the upper right corner.

Print Options for Configurable Manager Form

The following summarizes print options.

Print option	What it prints
Detail Form	This prints the information entered on the form.
General Comments	The general comment text and create details are printed.
Record Attachments	File attachments to the record are listed alphabetically by file name, and also include the file title, issue date, revision number, and file size. **Note**: For BI Publisher template the sorting is done in the template; as a result, the alphabetical list of file names may not always apply.
Record Attachments > Comments	Prints comments associated with file attachments to the record. "Record Attachments" must also be selected to select this option.
Record Attachments > Comments > Attachments	List of file attachments attached to the comment are listed and contain the file title, issue date, revision number, and file size.

To print a Configurable Managers form with a custom print layout:

1) Open the form that you want to print. Be sure it is in a view mode.

2) From the File menu, choose **Print Preview**, then choose **Custom** to select the BI Publisher, Microsoft Word, or PDF custom print templates from the same place as the current custom prints (Custom Format Print selection window).

3) Select a layout and click **Ok**. The File Download window opens.

> **Notes**:
>
> - In case of the BI Publisher templates, you can select an output format and based on that selected output format the output file is generated. The output file appears in a new window.
> - In case of the PDF format, the output is a .pdf file and is displayed in a new window and save.
> - In case of the RTF format, the output is a .rtf file and you can open the .rtf file with Microsoft Word and save.
> - In case of the Excel format, the output is a .xls file and you can open the .xls file with Microsoft Excel and save.

Custom Format Print Options for Configurable Manager

The Custom Format Print Window for non-Workflow Configurable Manager forms has two sections:

- Select a custom print template
- Select a template and format to print

Both sections facilitate custom print template and format selections.

Select a custom print template

Lists all the custom print templates existing for the non-Workflow Configurable Manager forms, including the custom print templates created in the **Custom Templates** node and the custom print templates created in the configuration of the non-Workflow Configurable Manager forms. For example, the list may include BI Publisher custom print templates, Word, and PDF custom print templates.

If there are multiple custom print templates for the same non-Workflow Configurable Manager forms, all the published templates are listed in this section.

The "Select a template and format to print" is populated by the selection made in the "Select a custom print template" section.

Select a template and format to print

- If you select a BI Publisher custom print, then you can select the desired template and format from the drop-down lists.
- Template drop-down displays all the available templates for the selected format.
- Format drop-down displays the available formats for the selected template.
- If the custom print template was created using PDF or Word, then the "Select a template and format to print" is disabled.

Default template and format (non-Workflow)

▸ If a BI Publisher print template is selected, then the default values in the drop-down lists are set based on the default in the custom print template.

▸ When a BI Publisher print template is selected in the "Select a custom print template" section, the template and format are populated based on the default value selected at the time of designing the print template.

Custom Format Print Window for Workflow Configurable Manager forms

If there is only one custom print template, and it happens to be a BI Publisher template, then the print template is selected in the "Select a custom print template" section, and the template and format are populated based on the default value selected at the time of designing the print template.

The Custom Format Print window has three sections for Workflow Configurable Manager forms.

▸ Select a custom print template
▸ Select a template and format to print
▸ Select options for Workflow Progress

By default, when the Custom Format Print window is launched, all three sections are enabled and the first template is selected. The options seen in the subsequent sections are based on the selection made in the "Select a custom print template" section.

You are able to select options for workflow progress in the 'Select options for Workflow Progress" section of the Custom Format Print window for PDF and Word templates, which are created at the time of configuring the Workflow Configurable Manager forms.

If the selected custom print template is of a BI Publisher type, then the "Select options for Workflow Progress" section is disabled. This is because the custom print template designers can always use the system provided Workflow views to include workflow-related information in the template.

Default template and format (Workflow)

▸ When a BI Publisher print template is selected in the "Select a custom print template" section, the "Select a template and format to print" section is populated based on the default value selected at the time of designing the print template.

▸ If there is only one custom print template, and it is a BI Publisher template, then the print template is selected in the "Select a custom print template" section, and the template and format is populated based on the default value selected at the time of designing the print template.

Unifier Cost Manager

The Cost Manager consists of the modules and features listed below.

For information about language (internationalization) and CSV files refer to *Unifier General User Guide*.

In This Section

Accounts Sheet

The company accounts sheet is used to track company level accounts information, such as assets, resources, and facility maintenance. It is similar to a project or shell cost sheet, using account codes instead of CBS codes.

Cost Sheets

Project/Shell Cost Sheet: The project or shell cost sheet is a detailed accounting of the project's or shell's budget and costs. It works much like a spreadsheet within Unifier that calculates and maintains the project or shell cost information stored in the project or shell. The project or shell cost sheet rows contain unique CBS codes (or cost codes), which can be used to link project or shell or program costs to the general ledger for finance. Cost information can be entered manually, pulled from work packages or worksheets, or rolled up automatically from business processes when transactions occur in Unifier.

Project/Shell Cost Sheet Column Properties)

▶ The Datasource drop-down list contains a list of Single, Logical, and P6 datasources (only Published P6 Data sources as defined in the Standards and Libraries--Administration mode).
▶ The Element drop-down contains a list of options as defined in the Cost Sheets Templates.
▶ The Data Format option, Decimal, is selected for all the "Unit" fields that you have selected from the Element drop-down list.

> **Note**: The data sources do not list the P6 Summary Sheets in a Shell. Instead, the P6 Summary Sheets are from P6 Data Sources node, under Standards and Libraries. Unifier identifies the P6 Summary Sheet that is required for supplying data to the Cost Sheet by mapping the Summary Sheet "Type" to the column data source.

Program Cost Sheet: Program cost sheets are created automatically once a project cost sheet has been created in at least one project within the program. The columns of the program cost sheet can be set up to allow cost sheet data to roll up automatically from individual project cost sheets. The program cost sheet will display cost data for all projects within the program that have a status of active or on hold. The currency used is the company base currency. Projects on the program cost sheet are sorted automatically by ascending project number. As new projects are added to the program, and cost sheets are created for them, the new projects will be automatically added to the program cost sheet.

Company Cost Sheet: The company administrator can create a company-level cost sheet to display cost data across project or shells. Projects or shells on the company cost sheet are added by default as project- or shell-level cost sheets are created. Only active and on-hold projects or shells should be rolled up to a company-level cost sheet. Projects and shells are listed in order by project or shell number in an ascending order. Data rolls up to the company cost sheet columns from individual project or shell cost sheet columns by data source. The data displayed on the program cost sheet is view only.

Company Workspace (Company Cost Sheet Column Properties)

▶ The Datasource drop-down list contains a list of Single, Logical, and P6 datasources (only Published P6 Data sources as defined in the Standards and Libraries--Administration mode).

▸ The Element drop-down list contains a list of available options.
▸ The Data Format option, Decimal, is selected for all the "Unit" fields that you have selected from the Element drop-down list.

> **Note**: If the Base Currency is different from the Shell Currency, then the current "Active" Exchange Rate is used to display Costs in the Company Cost Sheet.

If you add a P6 Source column to the Company Cost Sheet, the data is acquired from the corresponding P6 Source column of the Shells in the Company.

Projects and Programs (Program Cost Sheet Column Properties)

▸ The Datasource drop-down list contains a list of Single, Logical, and P6 datasources (only Published P6 Data sources as defined in the Standards and Libraries--Administration mode).
▸ The Element drop-down list contains a list of available options.
▸ The Data Format option, Decimal, is selected for all the "Unit" fields that you have selected from the Element drop-down list.

Work packages: In addition to a project or shell cost sheet, multiple work packages may also be defined. A work package is a group of cost sheet rows that is a subset of the project or shell cost sheet. Work packages provide insight into the budget without providing full access to the details of the project or shell cost sheet.

Worksheets: Cost worksheets can be created to support the project or shell cost sheet. They can be used as sub-cost sheets, enabling specific calculations or data entry in a separate sheet, which can then be rolled up into a defined project or shell cost sheet column. For example, a worksheet can be used to offload complex calculations, which can be rolled up into a single cost sheet column. Worksheets support manual data entry and formulas. Business processes do not roll up to worksheets. Permissions can be controlled for individual worksheets. Worksheets are not independently reportable; however, cost sheet columns that reference worksheets can be reported on.

> **Notes**: For Base Commits, Change Commits, and Payment Application BPs of Summary Payment Application SOV type.
>
> ▪ The Costed line items (in Base Commits, Change Commits, and Payment Applications with SOV type, "Summary Payment Applications BPs) roll up to the Cost Sheet by using the "Amount" field.
> ▪ The Amount that rolls up to the Cost Sheet is the Costed Amount for each of the CBS codes that is added to the Cost Distribution grid.
> ▪ If the Line Item Amount = Costed Amount, you will see a discrepancy between the Total Amount seen in the Record > Line Item section, and the rolled up Amount to the Cost Sheet.
> ▪ You are able to go to the Line Item level details by opening the record in the Transactions section.

Funding

Company funding sheets: The company funding sheet tracks all sources of funding across all projects or shells and programs. You create only one sheet per company. Funding sources that are made available at project or shell sheet level are rolled up to the company sheet, which maintains the overall fund information. Once created, the company funding sheet can be edited, but not deleted. The company funding sheet must be created before creating individual project or shell funding sheets.

Project/Shell funding sheets: The project or shell funding sheet tracks how funding is being allocated and consumed at the project or shell level. Project or shell fund sheets work in conjunction with the company funding sheet. Allocating funding sources at project or shell level can be done manually or through a business process. A funding template and company funding sheet must be complete before you can create a project or shell funding sheet.

Commitment funding sheets: You can optionally set up commitment level funding, which allows you to allocate specific project/shell funds to individual base commit records. This works in conjunction with the SOV sheet to track base and change commit lines and balances.

Cash Flow Module and Cash Flow Curves

Unifier **Cash Flow** module includes the ability to create the following multiple curves and compare them on one Cash Flow Worksheet:

- **Baseline**
- **Forecast**
- **Actual (or Spends)**
- **Portfolio Budget**
- **Derived**
- **Custom curves**

You can create data source, distribution profiles, and cash flow curve templates to simplify creation of cash flow in multiple projects and shells.

Administrators can also set up base commit business processes to automatically create cash flow curves for the commitment record at a particular workflow step, or for non-workflow business processes, when the record is complete.

> **Note**: The Cash Flow worksheet in Standard View shows a blank page on safari browser.

Earned Value (EV) Module

The earned value module provides quantitative tracking information about project or shell status using earned value analysis. It provides specific numerical measurements for reviewing progress as the project or shell team advances through the work tasks allotted to the project or shell schedule.

The module helps project or shell managers track whether projects or shells are on schedule and on budget. It provides accurate and consistent methods to estimate the percent of budget spent, percent of work done, and percent of time elapsed.

See **Earned Value (EV)** (on page 317) section for more details.

Schedule of Values (SOV)

The Schedule of Values (SOV) module provides a way to assemble information from contract, change order and invoice/payment Business Processes into an Schedule of Values (SOV) sheet, streamlining the process of invoicing for completed phases of a Project/Shell.

SOV functionality is available with uDesigner-created Cost BPs for which the Allow creation of SOV option is defined. The Business Processes can be designed to create an SOV sheet automatically upon reaching the designated step.

The following is a list of Schedule of Values (SOV) sheet types:

▶ General spends
▶ Payment applications
▶ Summary Payment Applications

Generic Cost Manager

The Generic Cost Manager captures non-CBS cost-related activities such as rent, lease payments, landscape care, building maintenance and repair, remodel of building interiors, and more.

With this manager, you can capture and view cost transaction information based on a timescale, such as quarterly or yearly. Each shell can have one Generic Cost Manager. The Generic Cost Manager uses specific generic cost business processes as data sources.

Cost Manager (Standard)

The standard Cost Manager and the Generic Cost Manager work much the same way, but with different areas in Unifier. This table lists the areas and the indicates which cost manager works with each area.

The cost data from Project (Standard) and Shell (CBS) can both roll up to the Company level. The cost data from Shell (Generic) does not roll up to Company Level. See the **Working with a Generic Cost Manager** (on page 363) section for more information about Generic Cost Manager.

Cost Manager	Company	Program	Project (Standard)	Shell (CBS)	Shell (Generic)
Cost Manager (for CBS codes)	X	X	X	X	

Generic Cost Manager					X

The Generic Cost Business Process works with the Generic Cost Manager, in the context of a Shell, only. See the ***Working with Generic Cost Business Processes*** (on page 369) section for more information about Generic Cost Manager.

Rules and Rule Exceptions

Unifier employs a rules engine to help control costs as they roll up to the Cost Sheet. Your administrator creates rules to work with the rules engine. For example, your administrator might create a rule that enforces a budget limit on contracts so that invoices do not exceed the contract amounts.

When a cost exceeds a rule, it triggers a "rule exception," and Unifier displays a message window warning you of the exception. The window shows the level of the rule, an identifier, the rule that was exceeded, the current value of the field, and the value that triggered the rule exception.

Rule exceptions can be triggered by:

- Adding or copying a line item on the Cost Sheet
- Copying data from one column to another on the Cost Sheet
- Entering data directly into a cell on the Cost Sheet
- An email action that sends cost data to the sheet
- An integration transaction that sends cost data to the sheet
- I Step and S Step business process auto-creation
- A business process record that rolls up cost data to the sheet

Some users can override a rule violation. These users are specified when the administrator creates the rule. These users can choose to override the exception, or accept it.

If you override the rule exception, Unifier sends your user information and any comments you include to the audit log. If notification was specified when the rule was created, those users who were designated will be notified by email of the override.

If you accept the rule exception (click **Cancel**), you will stay on the current step.

> **Note**: Unifier does not display the rule exception warning if the cost data comes from an email action, an integration transaction. If you have override control, Unifier will assume that you want to override the rule and sends information to the audit log.

When your Administrator creates a rule template:

- If the checkbox **Include positive pendings in calculation** is selected, then Unifier adds the positive pending values when calculating the **Limit Expression**.
- If the checkbox **Include positive pendings in calculation** is selected, then Unifier adds the negative pending values when calculating the **Data Expression**.

> **Note**: Your Administrator can check both options or either one, when

creating a rule template.

The rule is implemented during runtime (as a cost type BP is routed in its workflow or is **Finish Edited**) and according to your choices.

Using Cost Manager

The Cost Manager consists of the modules and features listed below.

▶ **Cash Flow Curves**

Cash Flow is the distribution of cost over time; in other words, it is the movement of cash into or out of a project measured during a specific time period. Unifier displays this data using Cash Flow Worksheets that can display Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves.

▶ **Cost Sheet**

Cost Sheet captures data from data sources, such as cost code data values, budget, business processes by status, and manager sheets, for example Schedule Manager. Unifier dynamically updates the Company Cost Sheet with information from Project Cost Sheet.

▶ **Funding Sheet**

Funding Sheet tracks Company funding through allocation to, and consumption at, the Project level.

▶ **Schedules of Values**

Unifier Schedule of Values (SOV) feature provides a way to assemble information from Contract, Change Order, Invoice, and Payment Business Process into an SOV sheet and stream the process of invoicing for completed phases of a project. The following is a list of Schedule of Values (SOV) types:

  ▶ General Spends
  ▶ Payment Applications
  ▶ Summary Payment Applications

The following Cost rules affect how you can work with the Cost Manager modules:

▶ **Budget**
  ▶ The Budget must be greater than 0.
  ▶ This rule validates that a budget line item cannot be reduced below $0.

▶ **Revised Budget**
  ▶ The Revised Budget must be greater than or equal to Approved Commitments.
  ▶ This rule validates revised budget (approved budgets, budget transfers and budget changes) versus approved commitments (approved contracts, change orders, purchase orders and po amendments).

▶ **Invoice**
  ▶ An Invoice must be less than or equal to Approved Purchase Orders and PO Amendments.
  ▶ This rule validates invoices (approved invoices) versus approved purchase orders (approved purchase orders and po amendments).

▸ **Payment Application**

    ▸ A Payment Application must be less than Approved Contracts and Change Orders.

    ▸ This rule validates approved payment applications vs approved commitments (approved contracts, change orders).

The following actions can trigger the Cost rules:

▸ When you attempt to send a Business Process record to the next step, whose status activates the rule. For example, the rule may activate when a Business Process record reaches to the Pending or Approved status.

▸ When you have entered the data into a Cost Sheet manually.

▸ Web Services calls create records.

▸ Records are auto-created from other records.

About Cost Sheets

A Cost Sheet is a detailed accounting of the project budget and costs. A cost sheet works like a spreadsheet within Unifier, calculating and maintaining the project cost information stored in the project. Cost information is either entered manually or rolls up into the Project Cost Sheet when transactions occur in Unifier.

Types of Cost Sheet Data Entry

Cost sheet cells can be populated with data in the following ways, depending on how the column has been set up:

Manual entry: Your cost sheet may include some columns in which you can enter data through line items or directly into a cell. Line items can be added manually by copying data from an existing line item within the cell or from copying existing line item data from one column to another.

Business processes: Cost sheet data can also be rolled up automatically when cost-type business processes reach a specified status. For example, when a purchase order is approved, the amount can be rolled up to the appropriate column and CBS codes.

Formulas: Cell data is calculated from other column entries based on a formula defined for the column. The formula may include data from other columns.

Budget: Information from the project or shell budget can be rolled up to budget columns. This data is entered in the Budget window.

Worksheet: Data can be entered into worksheets and rolled up to cost sheet columns.

The following sections discuss how to view, enter, and manage cost sheet data and budget information.

Adding a New Cost Sheet

When adding a new Cost Sheet either by way of copying from a template or by way of copying from a CBS Shell instance, note the following:

Adding a new Cost Sheet by way of copying from a template

- ▶ If the CBS Shell instance *does not have* the Schedule Type Data Element on the attribute form, the templates that have the option "Enable P6 sources" selected are not available for use. That is to say, you are not able to add a cost sheet that has P6 Sources to the Shell.
- ▶ If the CBS Shell instance *does have* the Schedule Type Data Element on the attribute form, you can select the "Tree" structure cost sheet, only.

Adding a new Cost Sheet by way of copying from a Shell instance

- ▶ If the CBS Shell instance *does not have* the Schedule Type Data Element on the attribute form, the   Shell instance that have the option "Enable P6 sources" selected are not available for use. That is to say, you are not able to add a cost sheet that has P6 Sources to the Shell.
- ▶ If the CBS Shell instance *does have* the Schedule Type Data Element on the attribute form, you can select the "Tree" structure cost sheet, only.

More information about adding a new Cost Sheet

- ▶ Enable P6 sources

  You can select any Cost Sheet *with* the option "Enable P6 sources" selected, or *without* the option "Enable P6 sources" selected.

  Once a new Cost Sheet is created within a CBS Shell instance, the option "Enable P6 sources" is carried over from the source. The "Enable P6 sources" option is editable as long as no columns are added to the Cost Sheet via the P6 Data sources. If a Cost Sheet contains columns that use P6 Data Sources, you cannot edit (Select or Deselect) the "Enable P6 sources."

Working with Project or Shell Cost Sheets

This section discusses working with cost sheets in Standard Projects and in CBS-code based shells.

For information about cost sheets in generic shells, see ***Working with a Generic Cost Manager*** (on page 363).

Cost Sheet Sub-node (Standard View)

When you click the **Cost Sheet** sub-node (Project or Shell > **User** mode > **Cost Manager**), the **Cost Sheet** log opens which displays the cost sheets, worksheets, and work packages (where available) within the project or shell. The log has the following elements:

- ▶ Toolbar
- ▶ Grid displaying the list of all the sheets within the project or shell
- ▶ Right-hand pane capturing the details of each sheet

The **Cost Sheet** log toolbar options:

Create	Enables you to create a:
	▶ **Worksheet**
	▸ **From Template**
	▸ **From Projects**
	▶ **Work Package**
Actions	Enables you to set the permissions (**Permissions**).
View	Enables you to set the view of the log by showing all sheets or group the sheets by type, through selecting one of these options, respectively:
	▶ **All**
	▶ **Group by Type**
Refresh	Enables you to update the information of the items listed on the log.
Print	Enables you to:
	▶ **Print**
	▶ **Export To CSV**
	▶ **Export To Excel**
Find on Page	Enables you to activate the find cells for each column in order to find a particular item.

The **Cost Sheet** log grid column headings:

▶ **Name**
▶ **Reference No.**
▶ **Date Created**
▶ **Created By**
▶ **Type**
▶ **Status**

The **Cost Sheet** log tabs (right-hand pane), when you select a worksheet:

▶ **Properties** tab
▶ **Permissions** tab
▶ **Audit Log** tab

The **Cost Sheet** log tabs (right-hand pane), when you select a work package:

▶ **Properties** tab
▶ **Audit Log** tab

To open a sheet, you can double-click on the sheet or click the *gear menu* (⚙) and select open. Once you open a cost sheet, the **Cost Sheet** overlay opens. The following explains the elements of the **Cost Sheet** overlay.

Project or Shell Cost Sheet (Standard View)

When you open a project or shell cost sheet (**Cost Manager** node > **Cost Sheet** sub-node > <**Project Cost Sheet**>), the **Cost Sheet** overlay window opens and the following elements appear on the screen:

▶ Cost Sheet header and locked/unlocked indicator
▶ Toolbar enabling access to several actions
▶ Grid with rows (if available) and columns

The **Cost Sheet** overlay window toolbar options are as follows:

Manage Rows	**Note**: This option is available only to those users who have permission to modify the cost sheet rows. Clicking at this option enables you to open a new grid sheet (inline), on top of the cost sheet, titled: **Manage Rows**.
	For a tree-structure cost sheets, the **Manage Rows** sheet has the following toolbar options:
	▸ **Add Sibling**
	▸ **Add Child**
	Note: When no cost code has been created yet, the toolbar has only the **Add** option (instead of the two separate **Add Sibling** and **Add Child** options).
	▸ **Refresh**
	▸ **Print**
	▸ **Find on Page**
	▸ **Expand All Groups** or **Collapse All Groups**
	For a flat-structure cost sheets, the **Manage Rows** sheet has the following toolbar options:
	▸ **Add**
	Clicking **Add**, when no row has been selected, adds a new row at the bottom of the existing rows.
	Clicking **Add**, when a row has been selected, insert a new row below the selected row.
	You can always drag the row to move it above or to any other valid place.
	▸ **Refresh**
	▸ **Print**
	▸ **Find on Page**
	When you make changes, the following additional options (appear on the top, right-hand corner of the screen) enable you to cancel or save your changes:
	▸ **Cancel**
	▸ **Save**
	The **Manage Rows** sheet has the following columns that are stationary:
	▸ Cost Code
	▸ Code Name
	Other columns on the **Manage Rows** sheet vary as per design (as defined in the cost sheet attribute form in uDesigner).
	For each cost code row in the **Manage Rows** sheet, you have the following options columns at the very end:
	▸ **Notes**
	An indicator to show if a cost code row is associated with notes.
	▸ **Attachments**
	An indicator to show if a cost code row is associated with attachments.
	▸ **Delete**

Add Column	Enables you to open the **New Column** overlay window which contains the following fields:
	▶ **Name**
	Similar to the Classic View of Column Properties window, when you create a new column in the current cost sheet.
	▶ **Type**
	The drop-down menu enables you to select the values:
	▶ From Business Processes (the default value for **Type**)
	Select the From Business Processes option if you want to have a column in the Cost Sheet log the pulls data from the **Amount** field of a Business Process. If you select this option, then:
	- The **New Column** form (overlay window) stays as is.
	- The **Data Source** drop-down menu gets updated to show a list of all Business Process datasources which can be used to create a column.
	Note: The datasources that have already been used to create a column will not be included in the list. You must populate the mandatory options, on the form, in order to create the new column successfully.
	▶ Direct Entry
	Select the Direct Entry option when you want to enter **Numeric** values into the cell directly. When you select this option on the overlay form, similar to the "From Business Process" option, the form stays as is. The only difference is that the **Data Source** drop-down menu displays "Logical Sources," only. Also, those sources that have already been used to create a column will not be displayed in this list.
	▶ Line Item Content
	Select the Line Item Content option when you want to enter data for each cell in the column in a line item format, allowing multiple line item entries per cell. The total is displayed in the cell. When you select this option on the overlay form, the overlay form stays as is. The behavior of the **Data Source** drop-down menu is the same as when you select the "Direct Entry" option.
	▶ From Worksheet
	Select the From Worksheet option when you want to populate the data in the Cost Sheet column from another column in an already existing worksheet within the project or shell. When you select this option:
	- The **Data Source** drop-down menu displays a list of all those logical sources that allow the "Sheet" type entry method.
	- The sources that have already been used to create a column do not show up in the list.
	The Type drop-down menu will contain two additional options:
	- Sheet Name
	This is an editable drop-down menu (same as the "Name"

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Forecasting	**Note**: This option is available only if the cost sheet is enabled for forecasting. When you click this option, the Classic View of **Forecast Adjustment** window opens.
Refresh	Enables you to see the added values to the columns of the sheet.
Print	Enables you to print or export the log content.
Find on Page	Enables you to search for a sheet on the log.
Expand All Groups or **Collapse All Groups**	Enables you to expand or collapse the sheets to see the subordinates.

Menu Options	Enables you to conduct and access:
	
	▶ **Import**
	   ▸ **Summary Budget**
	   ▸ **CBS Details**
	▶ **Export**
	   ▸ **Summary Cost Sheet**
	   ▸ **Summary Budget**
	   ▸ **CBS Details**
	   ▸ **Column Details**
	▶ **Columns**
	   ▸ **Unhide**
	   ▸ **Restrictions**
	▶ **Snapshots**
	   ▸ **Create**
	   ▸ **Open**
	▶ **Currency**
	   ▸ **Project Currency**
	   ▸ **Base Currency**
	▶ **Budget Distribution**
	   See Budget Distribution below for details.
	▶ **Row Coloring**
	   ▸ **Multi-Color**
	   ▸ **Single-Color**
	▶ **Properties**
	▶ **Audit Log**

Currency Toggle	Enables you to switch the cost sheet currency from Project Currency to Base Currency (or vice versa).

The **Cost Sheet** overlay window column options may vary. The following are a list of possible columns:

- Sequence No.
- CBS Code (or Cost Code): Static column
- CBS Item (or Code Name): Static column
- Assigned Budget
- Purchase Orders (Approved)
- Change Orders (Approved)
- Invoices (Approved)
- Contingencies
- LI Content
- Risks & Issues (Closed)
- Forecasts
- Budget Approval (Approved)
- Budget Transfers (Approved)
- CBS/WBS Actuals (Approved)
- Contract Change Orders (Approved)
- Contracts (Approved)

The bottom of the **Cost Sheet** log (underneath the second column from the left--after the Sequence No. column) displays the totals for the amounts for each column.

The bottom of the **Cost Sheet** log (left-hand corner) displays the total number of items.

When you right-click on a cell heading, you will see the following options:

- **Insert**
- **Properties**
- **Hide**
- **Delete**
- **Lock after this column**

When you right-click on a cell within the cost sheet, you will see the following options:

- **Add Sibling Row**
- **Add Child Row** (available only if the selected cell row is not associated with any cost item or line item data)
- **Insert Column Before** (not available if you select a cell within the CBS Code or the CBS Item columns)
- **Insert Column After** (not available if you select a cell within the CBS Code column column)
- **Copy**
- **Delete**

When you click on a cell, the **Cost Sheet** screen opens a pane on the right-hand side that has the following tabs:

- **General**
- **Attachments**
- **Notes**
- **Fund Assignment Order**

These tabs provide additional information about each cell. Where allowable, you can update the fields within each tab.

The **Budget Distribution** overlay window contains the following elements:

When the **Budget Distribution** is locked (padlock icon in locked position)	The following blocks (accordion menu) are visible: ▶ **Overview** If available, the right-hand pane of this block (accordion menu) contains the following tabs: ▸ **Attachments** ▸ **Audit Log** ▸ **Lock/Unlock History** ▶ **Distributed Amount** Enables you to see the **Cost Code**, **Code Name**, **Type**, and **Distributed Amount**. You can use the toolbar options to refresh, print (or export), find, and collapse the information in the log. The right-hand pane of this block (accordion menu) contains the following tabs: ▸ **General** ▸ **Attachments** ▸ **Notes** All of the fields are read-only. If you click **Unlock**, you must enter a reason.
When the **Budget Distribution** is unlocked (padlock icon in unlocked position)	You have all the options available in the locked position, and you can change the values in the editable fields. Once finished, you must click **Save & Lock**.

Cost Sheet Views

In addition to opening and viewing a cost sheet within a project or shell, you can create your own views with filters, groupings, etc. to modify the default view of the cost sheet. Upon navigating to the cost sheet node in the new interface, a **Views** option is available after the **Add Column** option. This is similar to how views are seen in Business Process logs in the Standard interface.

When the cost sheet is created from the source template, the sheet has only one view. This view is the **Default** view, which is selected from the **View** dropdown. You can also select the **Create New View** option to create new views or the **Manage Views** option to manage (Rearrange or Delete) existing views from the **View** dropdown.

Similar to BP logs in the Standard interface, the View dropdown within the cost sheet log is followed by the **Edit View** option.

Creating New Cost Sheet Views

When you choose **Create New View**, a **New View** window is displayed. A **View Name** text box with **New View** as the default value can be seen at the top of the window. Validations are performed to ensure that the view has been given a unique name.

The **View Name** text box is followed by the **Cancel**, **Apply**, and **Save** options. If you choose **Cancel**, then the creation of the new view is cancelled and you are brought to the previous view in the cost sheet. If you choose **Apply**, then the changes in the **New View** window are applied while the overlay window remains as is. If you choose **Save**, then the new view is saved and loaded into the cost sheet.

There are four tabs below the **View Name** text box, including: **Columns**, **Filters**, **Group By**, and **Sort By**.

Columns Tab in the Create New Views Window

The three sections under the **Columns** tab are: **Available Columns**, **Selected Columns**, and **Lock after Columns**.

In addition to the previous sections, there are three options located between the **Selected Columns** section and the **Lock after Columns** section. These options are: **Group Management**, **Group Selected Columns**, and **Delete Group**.

For a new view, the **Available Columns** section displays a list of all the columns from the **Default Cost Sheet** view. **Cost Code** and **Cost Name** columns are not available in the list because they are part of all views by default. The columns that you have view restrictions for are also not available in the list.

In the case of a new view, the list in the **Selected Columns** section is blank. You can select one or more columns from the **Available Columns** list and move those columns to the **Selected Columns** list. The following tooltip is next to the **Selected Columns** label: "These columns will be seen in the view. The last column in this list will not be available for locking."

> **Note**: If you select **Apply** or **Save** without choosing a column from the **Available Columns** list, then a view with **Cost Code** and **Cost Name** columns is created.

If you choose one or more columns from the **Selected Columns** section and select the **Delete Group** option, then the following message is displayed: "Only Groups can be Deleted."

When you select multiple columns and then select the **Group Selected Columns** option, a dialog box that contains a **Group Name** text box is displayed. You can enter the group name and save that group name by selecting the **Save** option. In order to create a column group, you must enter a name into the **Group Name** text box. The max character limit for a group name is 255 characters.

Upon choosing the **Group Management** option, a new window that shows the created groups as tabs is displayed. You can enter or edit the **Group Title**, but know that the **Group Title** is a mandatory field. Along with the lists of **Available Columns** and **Selected Columns in the Group**, there are also two checkboxes. You can select the **Show last column when group collapsed** checkbox as well as the **Collapse group by default** checkbox.

The **Available Columns** list displays the columns that exist in the default view of the cost sheet. One or more columns can be selected from the **Available Columns** list and moved to the **Selected Columns in the Group** list. Columns that are apart of another group are italicized. Each group must contain at least one column, as empty groups are not honored. You can re-order the columns in a group by selecting any of the arrow options.

Once you create a group, the group is displayed in the **Selected Columns** section of the previous window with a **Column Tree** icon and the group name. This group name contains a hyperlink that takes you to the **Group Management** window and selects the previously selected column.

All changes are saved upon selecting the **Save** option.

The **Lock after Columns** section contains a **Left Lock after column** dropdown and a **Right Lock after column**.

If you choose a column in the **Left Lock after column** dropdown, then the list for **Right Lock after column** displays the remaining columns from the **Selected Columns** list. For example, if there are 20 columns in the **Selected Columns** list and you choose column 4 in **Left Lock after column**, then **Right Lock after column** displays columns 4-19. Another scenario is if you select column 19 in **Left Lock after column**, then **Right Lock after column** displays column 19.

The **Left Lock after column** dropdown initially displays every column from the **Selected Columns** list, except for the last column. **None** is selected in the dropdown by default. When **None** is the value in the dropdown, it means that no column has been chosen to be locked from the left side of the sheet.

This **Lock** dropdown contains a list of entries from the **Selected Columns** section. No group columns are displayed.

For the **Right lock after column** dropdown, **None** is selected by default. When **None** is the value in the dropdown, it means that a right lock column has not been chosen for the view. The remaining values in the dropdown consist of a dynamic list that gets populated based on the value chosen in the **Left Lock after column** dropdown.

Filters Tab in the Create New Views Window

For both Tree and Flat Structure cost sheets, there are three sections in the **Filters** tab, including: **Cost Code Segment**, **System-Defined Cost Attributes**, and **Sheet Columns**. The **Cost Code Segment** section displays each cost code segment as an attribute that can be used to apply filters to the cost sheet. The **System-Defined Cost Attributes** section displays all "uuu" data elements from the Cost Attribute form in uDesigner. The **Sheet Columns** section displays all columns from the cost sheet in order.

> **Note**: Filters get applied to only leaf-level codes within the cost sheet. Summary cost codes do not show up in the filter results.

Group By in the Create New Views Window

The dropdown in the **Group By** tab displays all attributes from the Cost Attribute form and all cost code segments.

Sort By in the Create New Views Window

In the **Sort By** tab, all the columns from the default cost sheet are available.

Managing Cost Sheet Views

Similar to BP logs in the Standard interface, the **Default** view and all the manually created views are available in the **Manage Views** window. This window has the same features as other logs, which also have the **Views** feature within them.

Editing Cost Sheet Views

Similar to other logs in the Standard interface, the view name is read-only in the **Edit View** window. The view name is followed by the options available for cancelling the edit action, saving changes, and saving the view with a new name, or **Cancel**, **Apply**, and **Save**. When you select **Save**, a small overlay form is displayed where you can save the view with a new name.

Functionality within Cost Sheet Views

In the **Default** view, you can perform any of the actions listed below:

‣ Drag and drop columns
‣ Rearrange column order
‣ Select a column header to change the **Sort By** column
‣ Right-click on a column header to choose the **Lock after this column** option

When you perform any of the above actions, the prefix of the view name becomes **Modified**. The **Edit View** option is disabled. Therefore, you cannot save the **Modified** view.

The remaining *gear menu* (⚙) for the rows and columns remain as they are in the Standard interface of the cost sheet. All of the toolbar options remain as they are in the Standard interface of the cost sheet. You must save any modifications that were made to the **Default** view without changing the view name to **Modified**.

In a manually created view, you cannot perform any of the actions listed below:

▶ Manage rows
▶ Add columns
▶ All Menu (A.K.A. Hamburger) actions
   ▶ The only exceptions are Row Coloring in the case of a Tree structure cost sheet, and Import and Export options for both Flat and Tree structure of the cost sheet.
      ▪ Import options: This has the sub-menu option 'Column Details' using which customer can choose a column from the view and import data into it. The import action allows import into all leaf rows of the cost sheet and not just the ones present within the view.
      ▪ Export options: Same as above, this has a sub-menu option: 'Column Details'. Use this option to select the column from which data should be exported. Once chosen, customer can export of column data.This exports data from all leaf rows from the cost sheet and not just the ones present within the view.
▶ All *gear menu* (⚙) actions
▶ All Column Menu actions

When you select a value in any of the cost sheet cells, the **General** tab in the right pane is displayed as read-only.

You can drag and drop columns to any place on the cost sheet. When this action is performed, the prefix of the view name becomes **Modified**. However, in the case of a manually created view, you can select **Edit View** and ultimately choose **Cancel**, **Apply**, or **Save** after making modifications in the **Columns**, **Filters**, **Group By**, or **Sort By** tabs.

After the **View** drop-down, there are many available options from the Standard interface of the cost sheet, including: **Refresh**, **Print**, **Find on Page**, **Expand/Collapse**, **Menu Options—Row Coloring**, and **Currency**. If you make changes to the Row Coloring or the Currency of the cost sheet, these changes are not saved to the view.

The **Group By** options that are within the view definition are visible as a grouping section with the appropriate rows grouped in it. Each group, along with its appropriate rows, displays an additional column that shows the group's name before the **Cost Code** column. There is no column header for this grouping column.

When a **Group By** option applies to the view, the group's summary row displays the summary value that is based on the **Total** option in the column's properties.

A special case for creating views is the addition of a few columns. After creating a view, your administrator can take away your permissions to the columns that you added. When you try to open the view, those columns are no longer visible. The **Edit View** window does not show the columns in the **Selected Columns** section nor the **Available Columns** section.

Menu Options in Worksheet

A typical **Cost Sheet** log (<Project or Shell> > **Cost Manger** node > **Cost Sheet** sub-node) has the following types of sheets when you switch the view of the log from default to another type of view (**View** > **Group by Type**):

▶ **Cost Sheet**
▶ **Work Package**
▶ **Worksheet**

In the **Group by Type** view, the records are grouped under each category.

When you open the project cost sheet (**Cost Sheet**), when it is locked, you can use the **Menu Options** (the three horizontal line drop-down icon) to perform the following actions for the project cost sheet:

▸ **Import** - Column Details
▸ **Export** - Column Details
▸ **Row Coloring** - Multi-Color and Single-Color

The **Menu Options** (the three horizontal line drop-down icon) and sub-menu options are not available for work package (**Work Package**) records.

When you open a worksheet (**Worksheet**), you can use the **Menu Options** (the three horizontal line drop-down icon) to perform the following actions for the worksheet:

▸ **Note**: The view of the worksheet can be **Default**.
▸ **Import** - Column Details
▸ **Export** - Summary Work Sheet and Column Details
▸ **Columns** - Copy Column Data
▸ **Snapshots** - Create and Open
▸ **Currency** - Project Currency and Base Currency
▸ **Row Coloring** - Multi-Color and Single-Color
▸ **Properties**
▸ **Audit Log**

Open a Project or Shell Cost Sheet

The ability to open, view, enter data, work with the column structure or modify properties on a cost sheet is dependent upon the permissions that you have. Contact your project or company administrator if you have questions regarding your permission levels.

> **Note**: When you first open the sheet, the opening view will depend on the **Default View** option selected in the Properties window. Your cost sheet administrator can set this default view. Cost sheets can be resized and split/unsplit (see *Resize cost sheet window* (on page 94) or *Split or unsplit cost sheet window* (on page 94)).

To open a project or shell cost sheet

1) Open the project or shell.
2) Click **Cost Manager > Cost Sheet** in the left Navigator. The Cost Sheet log opens.
3) The cost sheet will be displayed in bold font in the log. Select the sheet from the log and click **Open**. The Project Cost Sheet opens.

This item	Does this
Save As	Click this button to save a snapshot copy of the cost sheet.
Rows	Opens the Rows window, from which you can add

This item	Does this
	or manage rows.
Columns	Opens the Columns log, from which you can add or manage cost sheet columns, or assign access restrictions.
Find	Click to search for a cost code.
Split	Splits the window vertically so you can scroll through the columns while maintaining a view of the CBS code.
Fund Assignment Order	Opens the Fund Assignment window (if the Funding Manager is used). Allows you to set the project or shell fund assignment order at the CBS level.
Cost Sheet cells	Click on a cell to view the Cell Details window.
CBS Code	Click on the CBS code name to open the CBS Detail window.
Column Heading	Click on a column heading to view more information about the column type.
File Menu > Open	Opens the Snapshot log.
File Menu > Import	Click and select one of the following: ▶ Summary Cost Sheet ▶ Summary Budget ▶ CBS Details ▶ Column Details
File Menu > Export	Click and select one of the following: ▶ Summary Budget ▶ CBS Details ▶ Column Details
File Menu > Properties	Opens the Properties window.
Edit Menu > Budget Distribution	Opens the Budget Distribution window, in which you can manage the budget or lock/unlock the budget.
Edit Menu > Copy > Column Data	Copy data from one column to another, from one or multiple rows.
View Menu > Currency	Click and select the display currency in which to display the cost sheet data.
View Menu > Audit Log	Opens the Audit log for the cost sheet.
View Menu > Expand	Expands all CBS codes. There is also an Expand button.
View Menu > Collapse	Collapses all CBS codes. There is also a Collapse

This item	Does this
	button.

Cost Sheet Restrictions

Your Administrator can configure cost sheet restrictions to restrict users or groups from viewing or editing columns within a cost sheet. The behavior of these restrictions depends upon the Company-level Global setting **Override column restrictions**.

The following feature applies to the following cost sheets:

▶ Company-level
▶ Program-level
▶ Shell-level
▶ Project-level

For each type of cost sheet, the user's corresponding groups must be taken into account (company-level, program-level, and project/shell level) for the column restrictions.

If the option **Override column restrictions** *is not selected*, then:

If the user belongs to a group which does not allow editing or viewing a column in the cost sheet (or a user is individually restricted), then the user will be restricted from editing or viewing a column in the cost sheet.

If the option **Override column restrictions** *is selected*, then:

It allows user to view or edit a cost sheet column if any of the restricted groups or the individual user is allowed to view or edit the column.

For more details on Unifier Cost Sheet column behavior, when the checkbox is checked, consider the following scenarios:

For all the groups which are configured for restrictions on a cost sheet column, if all of the groups to which a user belongs are restricted from viewing or editing the column and if the user is individually configured and restricted to view or edit that column, then the user will be restricted from viewing that column.

If the user (who is configured for restrictions in the cost sheet) is not restricted from viewing or editing the column, or if the user belongs to a group that is not restricted from viewing or editing the column, then the user is not restricted from viewing or editing that column.

If the user does not belong to any groups that are configured for restrictions on a column in the cost sheet, and the user is not configured individually for restrictions in the cost sheet, then the user is not restricted from viewing or editing the column.

In order for the user to be able to view a cost sheet column, the user must have **View** permission for the cost sheet. If the user does not have **View** permission for the cost sheet, the user cannot view the cost sheet columns even if the user belongs to a group that is configured to view the cost sheet columns.

When you select or deselect the option of **Override column restrictions** and save the change, Unifier approves the change immediately, and you do not need to sign out and sign back in Unifier.

Resize cost sheet window

The cost sheet window can be resized by clicking the **Minimize** or **Maximize/Restore** buttons in the upper right corner of the window, or by dragging the edges of the window to the size that you need.

Split or unsplit cost sheet window

When working with a cost sheet with many columns, it can be useful to split the window using the **Split** and **Freeze** toggle buttons. This allows you to scroll through the columns in the right half of the window, while maintaining a view of the CBS Code and CBS Item columns in the left half.

To display the cost sheet in split window mode

1) In the cost sheet window, click the **Split** button. The sheet is split into two sections.
2) You can click on the vertical split line and move it horizontally to adjust the size of the panes, if desired.
3) Use the scroll bars at the bottom of the window to scroll horizontally through the columns. When you have the left portion of the window in the position you want (for example, to view the CBS Code or CBS Item column), click the **Freeze** button to lock it in place.
4) Scroll through the columns in the right half of the window to view or enter data as necessary.
5) You can click **Freeze** again to unlock the left half, or click **Split** again to restore the window.
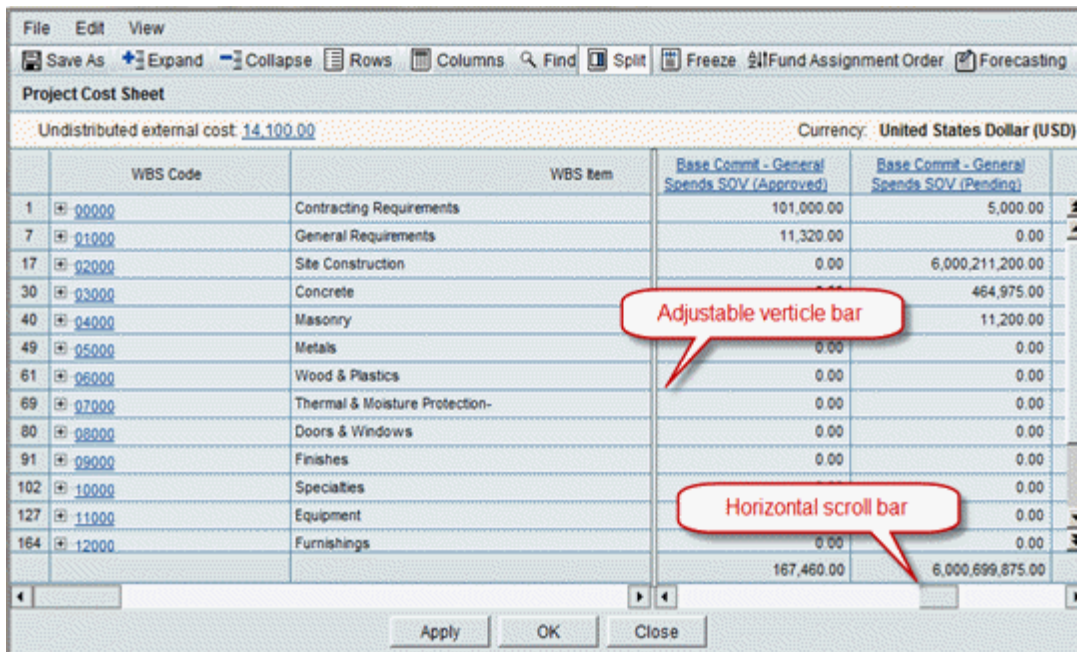
Entering Data into a Cost Sheet

The following topics describe how to enter data into a cost sheet.

Add a line item to a project or shell cost sheet

A cost sheet column may be defined for manual data entry, depending on the column definition:

▸ **Manual, line item content:** The data is entered in a line item format, allowing multiple line item entries per cell. The total is displayed in the cell.
▸ **Manual, direct entry:** Numeric values are entered directly into the cell.

To add a line item to a project or shell cost sheet

1) From the project or shell Cost Sheet window, click the link in the line item cell. The Cell Detail window opens.
2) Click the **Add** button. The Line Item window opens.
3) Complete the Line Item window as described in the following table.
4) Click **OK**. The new line item will be added to the Cell Detail window.

In this field	Do this
Short Description	This description will appear on the Cell Detail window.
Long Description	Optional, to provide more information.
Work Package	Select a work package, if any, with which to associate the line item.
Spend Category	Select a spend category if this has been set up to be tracked.
Quantity	Enter a quantity (at least 1) as applicable.
Unit of Measure	Select the appropriate choice from the list.
Unit Cost	Enter this manually.
Amount	Automatically calculated as Quantity X Unit Cost.
Delete Line Item	Click this button to delete the line item from the Cell Detail window.

> **Note**: For budget-related columns (for example, Assigned Budget), you can enter line item data as long as the undistributed balance is at least as large as the line item amount. The undistributed balance will adjust as line items are added, displaying the budget amount left.

To add a line item cost entry by copying an existing line item

1) In the project or shell Cost Sheet window, click the link in the line item cell. The Cell Detail window opens. Any existing line items will be listed in the lower portion of the window.

2) Select the line item to copy and click the **Copy Line Item** button. The Line Item window opens with the original line item entry information filled in.

3) You may make changes as necessary for the new entry, or leave as is to make an exact copy of the original line item.

4) Click **OK**. The new line item will be added to the Cell Detail window.

Enter data directly into a cell

Some manual entry cells are configured for direct entry, rather than line item entry. Data entry cells do not have links.

To enter data into direct entry cells

1) Click inside the cell. The cell becomes editable.

2) Enter the numeric value directly into the cell.

Copy data from one column to another

You can copy the data from any manual entry column to another.

To add line items by copying existing data from one column to another

1) Open the project or shell Cost Sheet window, click the **Edit** menu and choose **Copy > Column Data**. The Copy Column Data window opens.

2) Complete the Copy Column Data window as described in the table below.

3) Click **Copy**. The data in the first column will be copied into the second column.

In this field	Do this
Copy type	Choose one of the following: ▶ Cell total only: Copies the total value displayed in the cell. The new line item will be labeled as "Copy of *original column name*," ignoring quantity and unit cost. ▶ Cell detail: Copies all cell detail information from the original line item.
Copy from column	From the drop-down list, select the column to copy. Only line item entry columns will be listed.
Percenta	You may enter a percentage value to copy. For example, if you choose 10%,

ge	then 10% of the value of the original column value will be copied into the new column.
Copy to column	From the drop-down list, select the column into which you want the line items copied
Rows	Choose one of the following from which you want to copy the values: ▸ All: To copy values to all of the rows. ▸ Partial: To copy the values of selected rows only. Click the **Select** button to choose the rows to copy.

View column properties

To view column properties

Click the column heading. All column headings except the first two (CBS Details and CBS Item) are hyperlinks that open the View Column window. The window shows information about the column, such as the data source, entry method or formula, data format, and format of the last total row.

Change cost sheet currency

You can view cost sheet data in the company base currency or the project or shell currency, which may differ.

> **Note**: This is also applicable to work packages and worksheets.

To choose the display currency on a cost sheet or worksheet

1) Open the project or shell Cost Sheet or worksheet window.
2) From the **Edit** menu, click **Currency** and choose the currency from the list.

To choose the display currency on a work package

1) Open the work package window.
2) Click the currency drop-down list in the upper right corner of the sheet and choose the currency from the list.

Expand or collapse CBS codes

You can expand or collapse all CBS codes in a cost sheet. If you have a large number of CBS codes in a tree structure, you can expand that structure to view all of the CBS codes at once.

To expand or collapse CBS codes in a cost sheet

1) Open the project or shell Cost Sheet or worksheet window.
2) Click **View > Expand** to expand all of the CBS codes in the cost sheet. **Click View > Collapse** to collapse all of the CBS codes in the cost sheet. Alternatively, you can click the **Expand** and **Collapse** buttons.

View cost sheet cell details

The values displayed in a cost sheet cell may reflect information from multiple line items, business process transactions, or results of a calculation from other cells. The following procedures discuss how to view the details about an entry in a cost sheet cell.

To open the Cell Detail window

In the project or shell Cost Sheet dialog, click the link of the cost code. The Cell Detail tab in the right pane displays the contents of the cost attribute form.

> **Note:** If the data elements in the Cost Attribute form have tooltips, then they will appear in the form of a questions mark (?) symbol. You can hover over the question mark (?) symbol to see more information.

To view manual line item entry details

From the Cell Detail window, double-click a listed line item. The Line Item window opens.

To view business process transaction details

1) From the Cell Detail window, double-click a listed line item. A copy of the business process transaction opens. In here, you can view or take action on the BP transaction.
2) Double-click a BP line item. The BP's Line Item window opens.

To view formula cell details

1) In the Cell Detail window, if line items from manual entry columns or BP transaction columns are included in the calculation, they will be listed in the lower portion of the window, with the calculated value for each line item.

> **Note**: In the Forecasts and Forecasts (Unaccepted) columns, if data sources are from a business process enabled for costs sheet forecasting, the Cell Detail window contains an Include in Forecast button.

2) Click a listed line item. If the line item is a BP transaction, the BP form opens. If the line item is a manual entry, the Line Item window opens.
3) To view the formula used for the column, click the **Formula** link.

To view budget cell details

The Cell Detail window displays as line items information generated from the budget, as applicable. Typical budget columns include assigned budget. The undistributed balance amount will be displayed as a line item. You may add line items if the undistributed balance is at least as large as the line item amount.

This item	Does this
Attach	Allows you to attach files to the cell from your local machine (My Computer) or from the Document Manager (Primavera Unifier Folder). You can view existing file attachments by clicking the **Attachments** link in the

	upper portion of the window.
Add Notes	Click to add a note to the cell. You can view existing notes by clicking the **Notes** link in the upper portion of the window.
Add	Click to add a line item (transaction) to the cost sheet (applicable for manual transaction columns).
Remove	Allows you to remove a selected line item.
Copy	Adds a line item by copying an existing one.
View Menu > Audit Log	Opens the Audit Log for the cell.

To open a workflow BP record from cost sheet

For a workflow BP, you can:

▸ Accept task, if the BP record is not in the end-step
▸ Modify the BP record and route it to the next step. The cost sheet will be refreshed if the record is routed to next step. If you edit the BP record and save it, then Unifier saves a draft.

To open a non-workflow BP record from cost sheet

You can open and take action on a non-workflow BP record if you have Edit permission. If the BP record is in non-edit mode, then the Edit option is available.

If you do not have Edit permission, then you can view the BP record, only.

If you do not have View permission, then Unifier will display the message, "You do not have permission to view record."

To open a BP record from cost sheet (Record Editors or Step Editors)

When the BP record editor, or step editor, opens the BP record from cost sheet, then editor can edit the BP record if the BP record is in accepted state, and the editor has View permissions to view the BP record.

Upon opening the record, the editor will see the Save option, only. The editor can edit the BP record but cannot route the BP record to the next step, or submit the BP record.

Add Notes or Attachments to a Cell

You can add notes or attach files to any cell in the cost sheet. Files can be uploaded from your local environment (My Computer) or from the Document Manager (Primavera Unifier Folder).

To access cell detail notes and attachments
1) In the Cost Sheet window, click in any cell that displays as a link (line item entry, formula, or automatic entry from a BP). The Cell Detail window opens.
2) You can add a note, view existing notes, add a file attachment, or view attached files.

To add notes to a cell

1) In the Cell Detail window, click **Add Notes**. The Add Notes window opens.
2) Type the note in the text box and click **OK**. Each time you add a new note, the **Notes counter** in the Cell Detail window updates to reflect the number of notes that exist for the cell.

To view notes attached to a cell

1) If any notes have been added to the cell, the **Notes** link on the Cell Detail window will display the number of notes.
2) Click the **Notes** link. The Notes List opens, displaying all of the notes that have been added. Each note displays the user who added the note, and the date and time it was added.

To modify or delete cell detail notes

Notes added to a cost sheet cell cannot be modified or deleted.

To attach files to a cell

In the Cell Detail window, click **Attach** and choose:

▶ **My Computer** to attach the file from your local system. The procedure is the same as for uploading files to the Document Manager. For rules on attaching files in Unifier refer to *Unifier General User Guide*.

▶ **Primavera Unifier Folder** to attach documents from the Document Manager. The window opens, displaying the project or shell documents files and folders. Select the files and folders to attach and click **OK**.

> **Note**: Folders are not attached. The contents of selected folders are attached in a flat list. Documents with duplicate file names will not attach.

To view attached files

1) If any files have been attached to the cell, the **Attachments** link on the Cell Detail window will display the number of attached files.
2) Click the **Attachments** link. The Attachments window opens.
3) Choose a file and click **Open**. The document will open in the viewer selected in your user preferences.

To delete an attached file

1) In the Cell Detail window, click the **Attachments** link to open the Attachments window.
2) Select the file to be deleted, then click the **Delete** button.

To download a copy of an attached file

1) In the Cell Detail window, click the **Attachments** link to open the Attachments window.
2) Select the file to be downloaded and click **Download**.
3) Browse to a location on your local system and click **OK**. Click **Yes** to confirm.

Search for CBS codes (rows)

You can search for a particular cost code by searching for one or multiple segments.

To search for a cost code

1) In the Cost Sheet window, click **Find**. The Cost Code Find window opens.

2) Select the cost code segments you want to search by and click **OK**.

   The results will be shown in a separate cost sheet window. The new window also has split capability so that you can keep the CBS code in view and scroll through the columns.

Edit cost sheet data

The following procedures discuss how to modify cost sheet data. Manually entered cost sheet data can be edited or modified directly from the cost sheet (assuming you have modify permissions).

Cost sheet entries rolled up from transaction BPs or calculated in formula columns are not editable. Data rolled up through business processes can only be modified by submitting business processes such as change orders. Formula column cells will reflect changes made to other column data used in the calculations.

To edit direct entry data

1) In the project or shell Cost Sheet window, click inside the cell to edit. The cell becomes editable.

2) Enter the new value.

To edit line item data

1) In the project or shell Cost Sheet window, click the link in the cell to edit. The Cell Detail window opens. Line items are listed in the lower portion of the window.

2) Double-click the line item to edit. The Line Item window opens.

3) Edit the Line Item window as needed.

4) Click **OK** to save changes and close the Line Item window.

To delete a line item

1) From the project or shell Cost Sheet window, click the link in the cell in which to delete the line item. The Cell Detail window opens.

2) Do one of the following:
   ▸ Select the line item to delete, then click **Remove**. The line item is deleted.
   ▸ Double-click the line item to open the Line Item window. Click the **Delete** button.

3) Click **Yes** to confirm.

To edit or delete data rolled up from a business process

Cost sheet data originating from a business process cannot be edited from the cost sheet.

Data must be edited in the business process record if it is still active or through an appropriate change BP, such as a change order.

To edit or delete data calculated in a formula column

Formula column cells will reflect changes made to other column data used in the calculations. Click the column heading to view the formula and display the cost sheet columns used in the calculation. This will help you determine whether to edit the formula, the data on another column, or other source.

Save or view cost snapshots

You can save a snapshot or a read-only view of the project or shell cost sheet and worksheets. You can view a snapshot in both project and transaction currencies. Snapshots cannot be deleted.

To save a snapshot of the cost sheet or worksheet
1) Open the cost sheet or work sheet.
2) Click the **Save As** button. The Save As Snapshot window opens.
3) Enter a title and click **OK**.

To view the snapshot
1) Open the cost sheet, work package, or worksheet.
2) Click the **File** menu and choose **Open**. The Snapshot Log window opens, displaying the list of snapshots.
3) Select a snapshot and click **Open**. A non-editable view of the cost sheet or worksheet opens, displaying the sheet at the time the snapshot was taken.

Importing and Exporting Cost Sheet Data

You can import CBS detail information into a cost sheet manual entry column from a comma-delimited-value (CSV) file, such as a Microsoft Excel spreadsheet saved in CSV format.

> **Note**: For information about internationalization and CSV files refer to *Unifier General User Guide*.

To import project or shell cost sheet information
1) In the project or shell cost sheet, click **File** > **Import** and then choose one of the following:
   - **Summary Budget:**

     Summarizes the budget information.
   - **CBS Details:**

     Lists CBS codes and CBS details information for each.
   - **Column Details:**

     Summarizes column details for specific columns.

     For a project level cost sheet, the following columns are available for import/export:

     - Assigned Budget

     - Yet To Buy

     - AFC

- Project Cost 1 to Project Cost 100, for columns where the Entry Method is set to Manual Entry for either Direct entry into cell or Line Item content (either visible or hidden)

2) Browse to the CSV file to import, select it, and click **OK**.

Note the following:

Import Option	Rules
Summary Budget	The following rules apply when importing into the cost sheet: ▶ Negative numbers are not allowed for budget distribution amount. ▶ There is no check on import whether the total capital or expense budget was exceeded. After the import is completed, return to the Budget Distribution page and save and lock the budget. Once the budget is locked, the system performs the necessary check to determine if the total capital or expense budget has exceeded the original budget.
CBS Details	The following rules apply to the CBS details when importing into the cost sheet: ▶ CBS details are updated, and new, valid CBS details are added in the order specified in the CSV file. ▶ The complete CBS code, including the parent code, must be valid and in the correct order in the CSV file.
Column Details	The following rules apply to the column details when importing into the cost sheet: ▶ This selection adds a column to the cost sheet and is usually done as part of the administration of the cost sheet. ▶ For the Assigned Budget (or Budget Remaining Balance) column and Manual Entry column, all of the existing budget line items are deleted and replaced with the new budget line items defined in the CSV file, even if the CSV file only provides a partial list of CBS codes. ▶ Values in the Distributed Budget column are for reference only.

Once you have constructed the cost sheet and distributed the budget, you can export specific cost sheet information, saving it to a local file system in a comma-separated-value (CSV) format.

To export project or shell cost sheet data

1) In the project or shell cost sheet, select **File** > **Export** and then choose one of the following options.

▶ **Summary Cost Sheet:**
Creates a summary of all rows, columns, and data on the cost sheet.

▸ **Summary Budget:**

Creates a summary of the budget window information.

▸ **CBS Details:**

Lists all of the CBS codes on the cost sheet and the CBS details information for each.

▸ **Column Details:**

Creates a summary of column details for the selected column.

For a project level cost sheet, the following columns are available for import/export:

- Assigned Budget

- Yet To Buy

- AFC

- Project Cost 1 to Project Cost 100, for columns where the Entry Method is set to Manual Entry for either Direct entry into cell or Line Item content (either visible or hidden)

The Summary Cost Sheet option only supports saving the structure for reference purposes. The other three exported files can be modified and then imported into a new or existing project or shell cost sheet.

2) Read the confirmation message and click **Yes** to continue.

You can open the file in a compatible program, such as Microsoft Excel, to review it before saving.

3) Click **Save** and specify the location in which to save the CSV file.

> **Note**: If you open the CSV file, you will see that it contains notes regarding modifying the columns and data in the exported file for re-importing into a cost sheet. Follow the notes embedded in the CSV file for modifying columns and data in the exported file.

You can create Cost Based Structure (CBS) Codes in Cost Sheets.

Importing Cost Sheet Data from P6

P6 Schedule contains CBS Structure, or Codes, and sends the CBS codes to Unifier Cost Sheet CBS Codes, also called CBS Codes.

▸ If you select to use, or run, the Synchronization "Create CBS in Unifier Cost Sheet" within the Gateway, the Unifier Cost Sheet within the integrated Unifier Projects receive the CBS Codes created via integration.

▸ If the Unifier Cost Sheet contains preexisting CBS Codes, or contains no Cost Codes, you can choose to run the Synchronization to create CBS Codes in Unifier, via integration.

CBS Codes created in P6 have "imported" root to Leaf Structure and are not under any hierarchy that has been created manually. An "imported" Leaf CBS Code in Unifier appears under an "imported" root and non-root Summary CBS Codes; however, you can create "manual" Leaf CBS Codes under "imported" Summary CBS Codes.

Notes:

- When you are creating a Summary CBS Codes in Unifier by using a CSV file, ensure that you select the corresponding "Exposed to P6" correctly.
- When you are creating a Summary CBS Codes in Unifier by using Web Services, the "Exposed to P6" option remains deselected.
- If you hide a parent Summary CBS Code, all the corresponding children will be hidden.
- If you do not select a Summary CBS Code, the corresponding Leaf codes will remain unselected.
- If you select one Leaf code, the corresponding parent Summary CBS Code will be selected.
- If you hide a Leaf code, the hidden Leaf code remains hidden in P6 CBS picker, but the Summary CBS Codes stay as they were.

About Synchronization methods

Note: The Synchronization Methods are defined in P6 and not Unifier.

Complete:

When Synchronization Method = Complete, P6 sends *all* CBS levels/codes to Unifier via Gateway.

Unifier receives the attributes for each CBS and uses the "Default" value of each Cost Segment to create Cost Codes within Unifier Cost Sheet.

If the number of CBS levels in P6 Schedule is fewer than the number of Cost Segments in corresponding Unifier Cost Sheet, then Unifier creates two CBS Codes for each lowest level CBS code sent from P6:

▸ One Summary CBS code
▸ One dummy Leaf CBS Code under the Summary CBS code

Levels:

When Synchronization Method = Levels, P6 sends *selected* CBS levels/codes to Unifier via Gateway. The selected CBS levels/codes are the codes that are up to a defined number of levels within the P6 Schedule. The remaining CBS codes are not sent.

Unifier receives the attributes for each CBS and uses the "Default" value of each Cost Segment to create Cost Codes within Unifier Cost Sheet.

If the number of CBS levels in P6 Schedule is fewer than the number of Cost Segments in corresponding Unifier Cost Sheet, then Unifier creates two CBS Codes for each lowest level CBS code sent from P6:

▸ One Summary CBS code
▸ One dummy Leaf CBS Code under the Summary CBS code

Partial:

When Synchronization Method = Partial, P6 sends selected CBS levels/codes to Unifier via Gateway. The selected CBS levels/codes are the codes that are selected as "Integrated." The remaining CBS codes are not sent.

Unifier receives the attributes for each CBS and uses the "Default" value of each Cost Segment to create Cost Codes within Unifier Cost Sheet.

If the number of CBS levels in P6 Schedule is fewer than the number of Cost Segments in corresponding Unifier Cost Sheet, then Unifier creates two CBS Codes for each lowest level CBS code sent from P6:

▶ One Summary CBS code
▶ One dummy Leaf CBS Code under the Summary CBS code

> **Notes**:
> - You can switch between the synchronization methods at any point.
> - When CBS codes are sent from P6 to Unifier, mark the codes as Imported from P6.

Defining the budget

Once the project or shell cost sheet is defined, you can define the project or shell capital and expense budget amounts and begin distributing the budget to the various CBS accounts. Budgets are managed in the Budget Distribution window.

About budget and budget distribution

Once the project or shell cost sheet is defined, you can define the project or shell capital and expense budget amounts and begin distributing the budget to the various CBS accounts. Budgets are managed in the Budget Distribution window.

> **Note**: Users with module-level modify permission can lock and unlock the budget distribution. An exception to this is if Assigned Budget is one of the cost sheet columns, and the user has view restrictions on the column. If a user cannot view the Assigned Budget column, the Budget Distribution menu option is not available. In addition, the user cannot import a summary budget.

Open the Budget Distribution window

To open the Budget Distribution window:

1) Open the project or shell cost sheet.
2) Click the **Edit** menu and select **Budget Distribution**. The Budget Distribution window opens.
3) Use the information in the table below to enter budget information as necessary.
4) Click **OK** to save and exit.

Item	Description
Project or Shell Capital Budget	
Project or Shell Expense Budget	
Scope of Budget	
Comments	A text field for any budget-related comments.
Undistributed Capital Amount	
Undistributed Expense Amount	
Lock Date	If the budget is currently locked, the lock date displays.
Status	Shows if the budget is currently locked or unlocked.
Lock/Unlock Explanation (View)	Click the **View** link to open an audit log that lists the dates, times, and explanations for lock and unlock budget instances.
Project or Shell Currency	Displays the currency used in the project or shell. This may differ from the base currency.
Base Currency	Displays the base currency used for your company.
Exchange Rate	This is the calculation that is used to convert the base currency to the project or shell currency.
No. of Attachments	Displays the number of files, if any, attached to the budget window. Click on the link to view or download.
Budget Distributed Amount	The lower part of the window displays each CBS code row that appears on the cost sheet. Enter the budget amount for each one. Clicking on a CBS code link will open the CBS Detail window.
Attach	Click this button to attach files to the budget distribution window.
Save & Lock	This button is available if the budget is currently unlocked. Clicking it locks and distributes the budget. You will be prompted to provide an explanation for this action.
Unlock	This button is available if the budget is currently locked. Clicking it unlocks the budget to allow for modification to the budget window and cost sheet rows. You will be prompted to provide an explanation for this action.
Audit Log	This button accesses the audit log, which records budget activity.

Distribute and lock the budget

Once the Budget Distribution window has been completed, you can distribute the budget and lock the budget.

To distribute and lock the budget

1) Complete the Budget Distribution window.
2) Click **Apply** to save changes.
3) Click **Save & Lock**.
4) When prompted, enter an explanation for locking the budget, then click **OK**.
5) Click **Close** to close the Budget Distribution window.

Unlock the budget

If the budget has been locked, you must unlock it to make any budget changes or certain cost sheet modifications, such as adding or modifying cost sheet rows.

To unlock the budget

1) From the Budget Distribution window, click the **Unlock** button.
2) When prompted, enter an explanation for unlocking the budget, then click **OK**.
3) You can make edits to the budget or cost sheet as needed, then save and lock the budget again.

Permission matrix for the Budget Distribution window

Assigned Budget			Budget Distribution				Import Summary Budget
Not Added	Added		Lock	Unlock	View	Edit	
X	X		Yes	Yes	Yes	Yes	Yes
	Restrictions (View)	Restrictions (Edit)					
	Yes		No	No	Yes	No	No
	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	No		No	No	No	No	No

Managing Project/Shell Cost Sheets and Properties

The ability to modify cost sheet rows, columns or properties is dependent on your user permissions. Contact your project or company administrator regarding your permission levels.

View or edit cost sheet properties

Cost sheet properties include the name, description, structure definition (flat or tree), CBS code, CBS item titles, and switches for forecast details and forecast inclusion functionality.

Most properties are not editable in the cost sheet once it has been created. The exception is the **Default View**, which can be edited.

To open the cost sheet Properties window

1) Open the cost sheet Properties window by doing one of the following:
    ‣ Select the cost sheet from the log and click the **Properties** button on the toolbar.
    ‣ Open the cost sheet. Click the **File** menu and choose **Properties**.
2) The Properties window opens.
    ‣ The **General** tab displays the Title and Description, and enables the administrator to set a Default View for when the cost sheet is opened from the log.
    ‣ The **Structure** tab displays the CBS Code segment and display structure used in the cost sheet. This information is view-only once the cost sheet has been created.
    ‣ The **Options** tab displays display and forecasting information used in the cost sheet. This information is also view-only after the cost sheet is created.

Working with Cost Sheet Forecasting

Cost sheet forecasting allows you to manage the forecast process by detail line items. It utilizes cost-type base commits, change commits, or generic business processes that were included in the Forecasts (Unaccepted) formula.

Here is a high level overview of the Cost sheet forecasting process.

1) When a forecast-enabled commitment routes to a terminal status it attains "Unaccepted" status, for example, Base Commits (Unaccepted). Note: this is different from Base Commits (Approved) or any other routing status.
2) In this example Base Commits (Unaccepted) line items become available for inclusion in the cost sheet forecast.
3) When you click the Forecasting button, the Forecast Adjustment log opens, where you can see all unaccepted line items, based upon the formula used in the Forecasts (Unaccepted) column.
4) As these line items are accepted into the forecast, the unaccepted status changes to accepted, for example, Base Commits (Accepted).
5) Depending upon cost sheet configuration, for the amount accepted into the forecast:
    ‣ Yet To Buy automatically decreases
    ‣ Forecast (Unaccepted) decreases
    ‣ Forecast increases

To accept line items into the forecast

1) In the cost sheet, click the **Forecast** button. The Forecast Adjustment log opens.

2) Select the line items that you want to include in the forecast and click the **Include in Forecast** button. Select either **All Line Items** or **Selected Line Items**. The Select Adjustment Option window opens.

3) In the Select Adjustment Option window you have three options. Your selection of an option controls how your cost sheet uses the Yet To Buy (YTB) and Allowance For Change data sources to construct the forecast. Option behavior is as follows:

Automatically adjust YTB

▸ The system automatically changes the line item to Accepted status, subtracts the amount from the YTB (or adds it if designed to do so), and includes the line item amount in the forecast, if configured to do so.

▸ Cell Details displays a line item for System Auto Adjustment that shows the transaction in the YTB column

▸ Because the value of the YTB cannot become negative, each transaction will be processed individually. This may result in only certain transactions being processed, and others staying at Unaccepted status. If the transaction was not processed because doing so would have yielded a negative YTB, the system will cause an alert. The unaccepted line items will be available to view in the Forecast Adjustment window.

Manually adjust YTB and AFC

▸ This option becomes available in the Cell Detail window when you click the Include in Forecast button

▸ You can add, delete, or modify line items before including commits into the forecast

▸ The system does not validate the entry or automatically update the YTB in the cost sheet

No adjustment

▸ The system will automatically add the commitment into the forecast, if configured, and change the status to Accepted. It will not update the Yet To Buy or Allowance For Change columns.

Working with Yet to Buy (YTB) and Allowance for Change (AFC) data sources

Cost sheet forecasting is designed to leverage the YTB and AFC data sources. If your company's forecast process uses the YTB and AFC data sources then you may configure Unifier to automatically reduce the YTB as you accept commits into the forecast.

In the following example Total Commits is at $4,000, Yet To Buy is at $2,000, Pending Forecasts (i.e. Forecasts (Unaccepted)) is at $2,000, and Forecasts is at $2,000.

Total Commits	Yet To Buy	Pending Forecasts	Forecasts
4,000.00	2,000.00	2,000.00	2,000.00

When the $2,000 in the Pending Forecasts column is accepted into the Forecasts column, then the Yet To Buy decreases by that amount.

Total Commits	Yet To Buy	Pending Forecasts	Forecasts
4,000.00	0.00	0.00	4,000.00

Here we see the amounts in Yet To Buy and Pending Forecasts are reduced and the amount in Forecasts is increased. The Yet To Buy value may never go below zero.

If designed to do so, the line item commitment may increase the YTB instead of reducing it. For example, if you have a change commit that adds scope to a project, when that change commit is approved you may want to add scope to the YTB.

If your company's forecast process does not use YTB or AFC, you may still use cost sheet forecasting. When the Yet To Buy column is added to the cost sheet, column details will show any actions previously taken with the YTB.

To manually adjust YTB and AFC

1) Click the link in the cost sheet cell to open the Cell Detail window.

   In any column built with the Forecast(Unaccepted) data source, the Cell Detail window will have an Include in Forecast button.

2) Select the line item in the Transactions log and then click **Include in Forecast**.

   The Select Adjustment Option window is now available.

3) Select **Manually adjust YTB and AFC**. The Forecast Adjustment window opens.

4) To include items in Transactions in the forecast:
   a. Select a line item.
   b. In the **Action** field select **Mark**. Unifier refreshes the sheet.
   c. Repeat the last step and select Include marked in Forecast.

      The option Include marked in Forecast changes the status of any marked transactions to Accepted and becomes a data source for use in the forecast, if included in the Forecast formula.

      Manual actions taken are not validated; you can include a value in the forecast without touching the YTB or AFC.

Working with Work Packages

A work package is a group of cost sheet rows that is a subset of the project or shell cost sheet. Work packages display view-only data taken directly from the project or shell cost sheet and is not editable in the Work Package window. Data must be edited in the project or shell Cost Sheet window.

Create a work package

The following procedure discusses how to create a work package.

> **Note**: Once a work package has been created, it cannot be deleted.

To create a work package

1) In the Navigator in User Mode, open the project or shell.
2) Click **Cost Manager** in the left Navigator and then **Cost Sheet**. The Cost Sheet log opens.
3) Click the **New** button. The Work Package Properties window opens.
4) You can attach files to the work package by clicking the **Attach** button.
5) Use the information in the following table to complete the Work Package Properties window and click **OK**.

In this field	Do this
Title	Enter a title, which displays in the log.
Reference No.	Enter a unique reference number.
Creator	This will be populated automatically with the name of the user creating the work package.
Date Initiated	This is populated automatically with the initiated date.
Status	Select **Active** or **Inactive**.
Owner	
Vendor	
Description	You may enter a description of the work package here.
Comments	Allows for any additional comments.
Attach	Click this button to attach files to the work package.
No. of Attachments	This link displays the number of files, if any, attached to the work package. Click on the link to view or download.

Open a work package

To open a work package:

1) Open the project or shell.
2) Click **Cost Manager > Cost Sheet** in the left Navigator. The Cost Sheet log opens.
3) Work packages are listed in the log in regular (not bold) font. Select a work package from the log and click **Open**. The Work Package opens.

> **Note**: You can click the **Split** button to split the window to scroll through the columns while maintaining the CBS code in view. A summary of the work package data can be exported into a CSV file from this window.

Change work package currency

You can view work packages in the company base currency or the project currency, which may differ.

To choose the currency in which to display the work package data

Open the Work Package window. In the upper right corner of the window, click the **Currency** drop-down list and choose the currency.

View work package properties

To open the Work Package Properties window:

From the project or shell Cost Sheet log, select the work package and click the **Properties** button. The Properties window opens.

Export work package data

You can save summary work package data to a local file system in a CSV format.

To export work package data

1) From the Work Package window, click the **Export** button.
2) Read the confirmation message and then click **Yes** to continue.
3) You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.
4) Click **Save** and specify the location in which to save the CSV file.

Working with Worksheets

Worksheets are extensions of the cost sheet. They can be used as subcost sheets, enabling specific calculations or data entry in a separate sheet, which can then be rolled up into a defined project or shell cost sheet column. The rows equal the CBS codes on the cost sheet. Worksheets can have multiple columns for data entry or formula calculations, but do not support data rolled up from business processes.

Example uses of a worksheet:

▶ A worksheet can be used to off-load complex calculations requiring multiple columns. The final value can be rolled up into a single cost sheet column.

▶ Worksheets are governed by individual permissions. You can design worksheets to use as a method of data entry or review for users that you do not want to have any access to the project or shell cost sheet, for example, a contractor who is developing an estimate.

A cost sheet column can be associated with a worksheet as the data entry method. A worksheet column can also be associated with another worksheet, as long as there is not a circular reference. There can be multiple worksheets in a project or shell.

> **Note**: A circular reference is referred to a reference in which the last field references the first field and creates a closed loop.

A worksheet template can be created in Administration Mode. Permissions can be controlled for individual worksheets. Worksheets are not independently reportable; however, cost sheet columns that reference worksheets can be reported on.

Create a worksheet

You can create a worksheet by copying a worksheet template or copying a worksheet from another project or shell.

To create a worksheet from a template

1) In User Mode, click **Cost Manager > Cost Sheet** in the left Navigator. The Cost Sheet log opens.

2) Click **New** and select **Worksheet > Copy from Template**. The Copy from Template window opens.

3) Select the template to copy and click **OK**. The worksheet appears in the log.

To create a worksheet from another worksheet

1) In User Mode, click **Cost Manager > Cost Sheet** in the left Navigator. The Cost Sheet log opens.

2) Click **New** and select **Worksheet > Copy from Project or Copy from Shell**. The Copy from Project or Shell window opens. The window lists each worksheet in each project or shell. If there are multiple worksheets in a project or shell, each will be listed separately.

3) Select the project or shell worksheet to copy and click **OK**. The worksheet appears in the log.

You can add manual-entry or formula columns to a worksheet. Rows are created automatically from the CBS codes in the cost sheet.

Open a worksheet

To open a worksheet directly from the log

In User Mode, click **Cost Manager > Cost Sheet** in the left Navigator. The Cost Sheet log opens. Select the worksheet from the log and click **Open**.

> **Note**: When you first open the sheet, the opening view will depend on the **Default View** option selected in the Properties window. Your cost sheet administrator can set this default view. Worksheets can be resized and split/unsplit the same way as cost sheets (see *Resize cost sheet window* (on page 94) or *Split or unsplit cost sheet window* (on page 94)).

To open a worksheet from the cost sheet

Click on cost sheet column data that refers to a worksheet as data entry.

Adding a column to a worksheet is similar to adding a column to the cost sheet. You can add manual-entry (direct or line item) columns or formula columns. You can also add columns that reference other worksheets. This allows interaction between worksheets.

The available data sources are Project Worksheet Cost 1 through 50.

To add a column

1) Open the worksheet and click the **Columns** button. The Columns Log opens.

2) Click **New**. The Column Properties window opens.

3) Complete the column properties as usual for a column.

   If you are creating a formula, the data sources that are available for the formula are limited to the other columns on the worksheet.

4) Complete the window and click **OK**.

View or edit worksheet properties

Worksheet and worksheet type properties can be viewed and edited. The ability to edit worksheet properties is dependent on your user permission settings. Contact your project or company administrator if you have questions regarding your user permission settings.

To view or edit worksheet properties

When you click on your existing project cost sheet from the **Cost Sheet** log (<Project/Shell> > **Cost Manager** node > **Cost Sheet** sub node), the right-hand pane of the log displays the following tabs:

- **Properties tab**
- **Audit Log tab**

When you open (*gear* (⚙) menu or double-click) your existing project cost sheet from the **Cost Sheet** log (<Project/Shell> > **Cost Manager** node > **Cost Sheet** sub node), the Cost Sheet window opens and displays the currency, series of toolbar options, and the project cost sheet.

> **Note**: You cannot edit your existing project cost sheet from the **Cost Sheet** log.

When you click on a worksheet type in the **Cost Sheet** log (<Project/Shell> > **Cost Manager** node > **Cost Sheet** sub node), the right-hand pane of the log displays the following tabs:

- **Properties tab**
- **Permissions tab**
- **Audit Log tab**

These tabs enable you to edit or change the name or description of a worksheet type, view permissions for it, and view a log listing the changes in it.

When you open (*gear* (⚙) menu or double-click) a worksheet type in the **Cost Sheet** log (<Project/Shell> > **Cost Manager** node > **Cost Sheet** sub node), the worksheet overlay window opens which contains details about the worksheet. If you click on any of the cells, under any column in the worksheet, then the **Cell Detail** window opens which enable you to view the information, add attachments, add notes, and so forth.

Modify worksheet default view

You cannot modify a worksheet default view, but you can create new views and set any newly created view as the default view.

Add a worksheet column to the cost sheet

You can roll up the data from a worksheet column into a project or shell cost sheet column.

To add a worksheet column to the cost sheet

1) In the cost sheet, click **Columns**, then click **New**. The Column Properties window opens.

2) In the **Datasource** column, choose any of the project or shell cost data sources **Project Cost 1** through **Project Cost 25**.

3) For Entry Method, choose **Worksheet**.

4) Choose the worksheet (name), and then the column within the worksheet.

5) Complete the rest of the Properties window and click **OK**.

Assign permissions to the worksheet

You can configure the permission settings for each worksheet, allowing you to control access to each worksheet individually. The owner of the worksheet is granted permission to access and modify it automatically. The owner must grant permissions for other users or groups to access a worksheet.

To assign permissions to a worksheet

1) In User Mode, click **Cost Manager > Cost Sheet** in the left Navigator. The Cost Sheet log opens.

2) Select one or more worksheets and click **Actions > Permissions**. You can also click the *gear menu* (⚙) and click **Permissions** to assign permissions to only one worksheet. The Permissions window opens.

3) In the Permissions table, type the user or group name in the **Add** box and select the user or group to grant access.

4) By default, each listed user or group will be granted **View** permission, allowing them to open the worksheet. To grant additional permissions, select the checkboxes that correspond to the user or group:

   ▸ **All**: User will have **View**, **Edit**, and **Modify Permission**.

   ▸ **Modify Permissions:** Allows user to control the worksheet's permission settings.

   ▸ **Edit Data:** User can import worksheet information, save a snapshot, edit worksheet properties, and add columns.

   ▸ **View**: User can view the worksheet.

5) Click **Save,** or click **Save & Next** to go to the next worksheet.

You can Remove user or group permission by clicking the trash-can icon in the **Remove** column.

> **Note**: Permissions can only be set for worksheets. You cannot set permissions for cost sheets or work packages.

Import worksheet column details

You can only import data into columns that are defined as manual data entry.

To import column details

1) Click **File > Import > Column Details**, or click the **Import** button and choose **Column Details**. The Select Column window opens.

2) Select the column and click **OK**.

Export worksheet details

This will allow the user to export details of the worksheet. The following options are available under Export:

> ▸ **Summary Worksheet:** This option will export the entire worksheet similar to cost sheets.
> ▸ **Column Details:** You can only export data from manual data-entry columns.

To export a summary worksheet

Click **File > Export > Summary Worksheet**, or click the **Export** button and choose **Summary Worksheet**.

Project or Shell Cost Sheet Log

When you click the Cost Sheet node on the left-hand navigator (user mode), you can see the Cost Sheet log layout.

> **Note**: The functions of the options presented in this section have been explained in the preceding sections of the Working wit Project or Shell Cost Sheet. This section explains new functions and procedural differences.

The log contains the following types of records:

▸ Cost Sheet
▸ Worksheets
▸ Work Packages

Cost Sheet Log

When you select a cost sheet row (click on a cost sheet row) the right-hand pane opens. The right-hand pane has the following tabs that provide more details on a cost sheet that you have selected:

> ▸ **Properties**
> ▸ **Audit Log**

The **Properties** tab contains the following fields:

> ▸ **Name**
>
>   Cost Sheet Name. Read only field.
> ▸ **Description**
>
>   Cost Sheet Description. Read-only field.
▸ **Structure**

  Read-only field. Displays the selected Radio option only. For example, if cost sheet Structure is 'Flat', then this field displays the 'Flat' only (and not 'Tree') structure.
▸ **Sort WBS**

  Editable checkbox that is displayed only if the structure is 'Flat'.
▸ **Segments**

Displays a preview of the cost code structure using the segments and cost code separator as defined by the user.

▶ **CBS Code Label**

Read-only field.

▶ **CBS Item Label**

Read-only field. This is same as existing field 'CBS Item' within the block 'Labels' and tab 'Options.'

▶ **Forecast Details**

Read-only. Displays the radio option selected by the user when defining the cost sheet.

▶ **Forecast Inclusion**

Read-only. Displays the radio option selected by the user when defining the cost sheet.

▶ **Enable Cost Sheet Forecasting**

Read-only checkbox. It is displayed only if the user has selected this option.

▶ **Enable P6 sources**

Editable checkbox.

The **Audit Log** tab displays the Audit log (View > Audit Log) for the cost sheet.

The right-hand pane has the 'Expand' icon at the top right. Use it to expand or collapse the pane.

The left-hand pane lists all of the shell instances of the same type (the shell in which cost sheet is being created).

If you create a cost sheet in a standard project, then the list shows a list of all standard project instances in the company, and you can copy cost sheet from any source.

The Cost Sheet log layout contains the following columns:

▶ **Name**
▶ **Type**

This will be the default sort column, followed by sort on **Name**

▶ **Status**
▶ **Date Created**
▶ **Created By**
▶ **Reference No.**

This column does not appear in an empty log or if there are no work packages in the log. That is to say that this column appears only if there are work packages within the log.

The following options are available on the toolbar:

▶ **Create**
▶ **View**
▶ **Find**

The following explains each option in details.

Create

When no Cost Sheet has been created yet, there are two sub-menu options available:

▶ **from Template**

Lists all of the available Cost Sheet Templates within the company. You can create a Cost Sheet within the project/shell when you click New > Cost Sheet > Copy from Template.

▶ **from \<shell type\>**

When you select this option, the Create Cost Sheet from Project window opens. In this window you can:

   ▶ See the selected project

   ▶ Manually enter columns from a list of available columns

   ▶ Determine the shell size, location, and duration

The fields in this window capture the factors that you can copy over manual entry columns from source project/shell cost sheet to destination. The Available Columns displays a list of all manual entry columns from the selected project cost sheet. You can select none or any number of available columns in the right section. The Factors fields enable you to enter a factor to copy over the manual entry columns into the cost sheet.

When you click **Done**, a new cost sheet will be created in the project.

View

The default view is **All** which results in the display of all sheets in the log. You can select **Group by Type** view which results in the cost sheets grouped by type, with the cost sheet at the top.

Find

To find an item on the log. You can do a text based 'Find' on each column.

When no records have been created within the log, the right-hand pane is blank. You can collapses the right-hand pane.

When there are records within the Cost Sheet node, then the Project Cost Sheet is selected by default.

When there are records within the Cost Sheet node, the **Create** option has the following sub-menu options:

▶ Worksheet (Same as creating the cost sheet from a template or from another project. Selecting any template creates a new worksheet in the project by copying the selected template.)

   ▶ from Template (Selecting any template creates a new worksheet in the project by copying the selected template.)

   Project Cost Sheet - Template 1 < listing all the available WorkSheet Templates in the Company

   Project Cost Sheet - Template 2 < listing all the available WorkSheet Templates in the Company

> ▸ from Project (Selecting from project enables you to select a worksheet from another shell of the same type in which the worksheet is being created. This picker is similar to the 'Select Project' picker in 'Create Cost Sheet from Project' window. Similar to 'Select Project' picker in 'Create Cost Sheet from Project' form, when you click at the 'Select Project' picker a flat list of all worksheets from all shells of same type as the one in which the worksheet is being created. You can select 'Create Worksheet (from project) and then navigate to some other log within Unifier without taking any action in the resulting overlay form. In such scenario, when you return to the Cost Sheet log, the previously opened overlay form will continue to show up in the log.

▸ Work Package

When you select to create a new Work Package, you will see a new overlay window (Create Work Package). The 'Owner' picker is similar to a single-select type-ahead user picker at other places in Unifier (For example: Transfer Ownership action within BP logs). The 'Vendor' picker is a single select type-ahead Company picker (similar to the single select user picker). Both pickers provide suggestive text informing you that these are type-ahead boxes.

If you select more than one record from the cost sheet log at the same time, the right-hand pane will be blank with message: Details of multiple records cannot be viewed.

> **Note**: If you select more than one worksheet at the same time, then the right-hand pane displays the **Permissions** tab.

Worksheet Log

When you select a project or shell worksheet (click on the row), the right-hand pane opens and displays the following tabs:

▸ **Properties**
▸ **Audit Log**

The **Properties** tab is displayed by default and contains properties of the Worksheet. The General block in this tab has the following tabs:

▸ **Name**: Worksheet Name. Editable Text Box, DD will be same as existing
▸ **Description**: Worksheet description. Editable text box, DD will be same as existing.

The **Audit Log** tab displays the Audit log (View > Audit Log) for the Worksheet.

The right-hand pane has the 'Expand' icon at the top right. Use it to expand or collapse the pane.

If you select more than one record from the worksheet at the same time, the right-hand pane displays the Permissions tab. This will enables you to set permissions for more than one worksheet at the same time.

To grant permission to a worksheet

1) In User Mode, click **Cost Manager > Cost Sheet** in the left Navigator. The Cost Sheet log opens.
2) Select one or more worksheets and click **Actions > Permissions**. You can also click the *gear menu* (⚙) and click Permissions to assign permissions to only one worksheet. The Permissions window opens.

3) In the Permissions table, type the user or group name in the **Add** box and select the user or group to grant access.

4) By default, each listed user or group will be granted **View** permission, allowing them to open the worksheet. To grant additional permissions, select the checkboxes that correspond to the user or group:

   ▸ **All**: User will have **View**, **Edit**, and **Modify Permission**.

   ▸ **Modify Permissions:** Allows user to control the worksheet's permission settings.

   ▸ **Edit Data:** User can import worksheet information, save a snapshot, edit worksheet properties, and add columns.

   ▸ **View**: User can view the worksheet.

5) Click **Save.**

6) When editing one record at a time, click the **left arrow** to view the previous worksheet or the **right arrow** to view the next worksheet.

7) After exiting the Permissions window, the Permissions tab will be refreshed with the updated information.

You can Remove user or group permission by clicking the trash-can icon in the **Remove** column.

Work Packages

When you hover over a Work Package row, the *gear menu* (⚙) displays.

When user will select a Work Package row (click on the Work Package row), the right-hand pane opens and displays the following tabs:

▸ **Properties**

▸ **Attachments**

> **Note**: The 'Vendor' is a company picker.

The **Properties** tab is displayed by default and contains properties of the Work Package. The General block contains all of the elements of the Work Package properties window.

The **Attachments** tab has the same elements of the Attachments tab in a BP log. You can add attachments from a Document Manager, or your local computer, from this tab.

The *gear* (⚙) menu, for any attachment has the following options:

▸ **Review**

▸ **Autoview Review**

▸ **Download**

▸ **Remove**

You can right-click on multiple attachments and perform download or remove.

Working with the Company Cost Sheet

Like other cost sheets, the ability to work with a company cost sheet is dependent upon the permissions that you have. Contact your project or company administrator if you have questions regarding your permission levels.

Open the company cost sheet

When you first open a company cost sheet, the opening view that you see will depend on the Default View option selected in the cost sheet Properties window.

To open a company cost sheet

1) Go to the Company Workspace tab and click **Cost Manager > Cost Sheet** in the left Navigator. The Cost Sheet log opens.
2) Select the company cost sheet from the log and click **Open**. The Company Cost Sheet opens.

> **Note**: Company cost sheets can be resized and split/unsplit the same way as project or shell cost sheets (see *Resize cost sheet window* (on page 94) or *Split or unsplit cost sheet window* (on page 94)).

Search for project or shells (rows)

You can search for projects or shells that are listed on the sheet. A new Company Cost window will open, displaying only those project or shells meeting the search criteria.

To search for a project or shell

1) In the Company Cost Sheet window, click **Find**. The Search window opens.
2) Select the search criteria and click **OK**.

Export company cost sheet data

You can export summary cost data and column details into a CSV file.

To export company-level cost sheet data

1) From the company cost sheet, click the **Export** button and then choose one of the following:
   ‣ **Summary Cost Sheet:** This allows you to export complete cost sheet information, including project or shell name, number, and data from all columns.
   ‣ **Column Details:** This exports only Company Cost 1 to Column Cost 25 logical data sources that are configured as manual entry. Click **Column Details** to open the Select Column window and select the columns to export.
2) Read the confirmation message and then click **Yes** to continue.
3) You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.
4) Click **Save** and specify the location in which to save the CSV file.

Import company cost sheet data

You can import manual entry columns into the cost sheet from a CSV file, such as a Microsoft Excel spreadsheet saved in CSV format.

To import company cost sheet data

1) In the company cost sheet, click the **Import** button then choose **Column Details**.
2) Browse to the CSV file to import, select it, and click.

View or edit company cost sheet properties

The ability to edit company cost sheet properties is dependent on your user permission levels.

To view or edit company cost sheet properties

Select the cost sheet from the log and click the **Properties** button, or open the cost sheet and click **File > Properties**. The Properties window opens. In this window, you can change the default view in the General tab or map account codes to company cost sheet columns in the Options tab.

Working with the Program Cost Sheet

The following sections describe how to open a program cost sheet, search for listed project or shell cost sheets, and import and export cost sheet information.

Data rolls up to the program cost sheet columns from individual project or shell cost sheet columns by data source. The data displayed on the program cost sheet is view only.

Open the program cost sheet

To open a program cost sheet:

1) Open the program and click **Cost Manager > Cost Sheet** in the left Navigator. The Cost Sheet log opens.
2) Select the program cost sheet from the log and click **Open**. The Program Cost Sheet opens.

> **Note**: You can click the **Split** button to split the window to scroll through the columns while maintaining the CBS code in view. A summary of the work package data can be exported into a CSV file from this window.

This item	Does this
Save As	Click this button to save a snapshot copy of the cost sheet.
Export	Click and select one of the following: Summary Cost Sheet Column Details

Import	Imports column details.
Columns	Opens the Columns log, from which you can add or manage cost sheet columns.
Find	Click to search for a cost code.
Split	Splits the window vertically so you can scroll through the columns while maintaining a view of the project or shell number.
Cost Sheet cells	Click on a cell to view the Cell Details window.
Project or Shell Number	Click on the project or shell number to open the project or shell cost sheet.
Column Heading	Click on a column heading to view more information about the column type.
File Menu > Open	Opens the Snapshot log.

Search for project or shells (rows)

You can search for projects or shells by project or shell type and project or shell site. A new Program Cost window will open, displaying only those project or shells meeting the search criteria.

To search for a project or shell

1) In the Program Cost Sheet window, click **Find**. The Search window opens.
2) Select the search criteria and click **OK**.

Export program cost sheet data

To export program-level cost sheet data

1) In the program cost sheet, click the **Export** button and then choose one of the following:
   ‣ **Summary Cost Sheet:** This allows you to export complete cost sheet information, including project or shell name, number, and data from all columns.
   ‣ **Column Details:** This exports only Program Cost 1 to Program Cost 25 logical data sources that are configured as manual entry. Click **Column Details** to open the Select Column window and select the columns to export.
2) Read the confirmation message and then click **Yes** to continue.
3) You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.
4) Click **Save** and specify the location in which to save the CSV file.

Import program cost sheet data

You can import manual entry columns into the Cost Sheet from a comma-delimited (CSV) file (such as a Microsoft Excel spreadsheet saved in CSV format.)

To import program cost sheet information

1) From the program cost sheet, click the **Import** button then choose **Column Details**.
2) Browse to the CSV file to import, select it, and click **OK**.

Working with Company Accounts Sheets

The company accounts sheet is used to track company level accounts information, such as assets, resources, and facility maintenance. It is similar to a project or shell cost sheet, using account codes instead of CBS codes.

Account codes are independent of CBS codes, but are similar in structure format. Company-level business processes can be designed in uDesigner to roll up to the accounts sheet (line items are associated with account codes).

Open the accounts sheet

To open the accounts sheet:

1) In User Mode, select **Company Workspace > Cost Manager > Accounts Sheet**. The Accounts Sheet log opens. If an accounts sheet has been created, it will be displayed in the log.
2) Select the sheet and click **Open** (example below.)

> **Note**: When you first open the sheet, the opening view will depend on the **Default View** option selected in the Properties window. Your accounts sheet administrator can set this default view. Accounts sheets can be resized and split/unsplit the same way as project or shell cost sheets (see *Resize cost sheet window* (on page 94) or *Split or unsplit cost sheet window* (on page 94)).

The accounts sheet works similarly to cost sheets. Like cost sheets, you can:

▸ Enter data into manual data-entry columns.
▸ View rolled up transaction details by clicking a cell with a hyperlink.
▸ View a column definition by clicking a column heading.
▸ Copy column data from one column to another (**Edit > Copy > Column Data**; the original values will be overwritten).
▸ Save and view snapshots (**File > Create Snapshot**; **View > Snapshot Log**).
▸ Import and export column details.
▸ Export accounts summary sheet.

Activate or deactivate account codes

You can control the status of account codes. If an account code is inactive, it will be displayed on the accounts sheet, but will not be available for selection in an Account Code picker, such as on company account business process transactions.

To activate or deactivate an accounts code

1) Open the accounts sheet.
2) Click the **Account Status** button. The Account Code Status window opens.
3) Select one or more account codes.
4) Click **Activate** or **Deactivate**.

View or edit accounts sheet properties

Accounts sheet properties can be viewed and edited. The ability to edit properties is dependent on your user permission settings. Contact your project or company administrator if you have questions regarding your user permission settings.

To view or edit accounts sheet properties

Select the accounts sheet from the log and click the **Properties** button, or open the accounts sheet and click **File > Properties**. The Properties window opens. The following properties are displayed and are editable by the cost administrator:

▸ **Title**: This is the title of the sheet, and displays in the log.

▸ **Description**: This optional field can be used to provide a description or other information about the accounts sheet.

▸ **Display Mode**: This determines whether the accounts codes are displayed in a flat list, or a hierarchical tree mode. This setting can be switched back and forth as needed.

▸ **Default View**: These are the settings that determine how the sheet appears when first opened by any user from the log.

About Funding

The Funding manager helps you to keep track of where project or shell funding comes from and how it is being spent. This feature is accessed via the Funding node under the Cost Manager. Use the Funding sheet to specify the appropriation and assignment of funds from each source. You can automate fund appropriation and assignment when used with Cost business processes.

Company and project/shell funding

▸ **Design and import a fund attribute form in uDesigner.** This will be used as the Fund Details window when adding new funds to the company funding sheet, or viewing fund properties. A fund picker, used to add funds to business processes or the project/shell funding sheet, can also be designed. This is an optional step. If you do not create a fund attribute form, a default fund code form and fund picker will be used.

▸ **Import and set up fund business processes.** You can use business processes for fund allocations, fund assignment (consumption), and fund credits.

▶ **Create and set up the Company Funding Sheet.** The company funding sheet tracks the funds that can be used to fund project or shell expenses. The following procedures assume that the rows (funds) and columns of the funding sheet have already been created.

Create and set up the Project/Shell Funding Template and Sheet. The project or shell funding sheet tracks the funds that have been allocated from company funds for a particular project or shell. The project or shell funding sheet is based on the funding template, which is created first. The following procedures assume that the project/shell funding sheet has been created, rows and columns have been added. **Note**: The rows correspond to funds chosen from the company funding sheet. Funds can be added manually, or can be added via fund allocation business processes, discussed later in this section.

▶ **Define funding assignment rules.** Funding assignment rules are set up in the project/shell funding sheet and/or template. These determine which business processes are used for fund appropriations and assignments and how to consume funds (ratio or fund order) if you will be using automatic fund assignment from business processes. The following procedures assume these options have been set up.

▶ **Create funding rules in the rules engine.** Optionally, funding rules can be created in the rules engine that can help you manage your funds and fund balances, for example, to prevent fund balances from becoming less than zero.

Commitment level funding

Optionally, funding at the base commit (contract) level can be set up.

Commitment funding works in conjunction with the **Schedule of Values** (SOV) sheet. SOV line items have an impact on the commitment funding sheet and its data through fund assignment.

Before you begin. Be sure that the project/shell funding has been set up, with funds allocated and available on the project/shell funding sheet. Data sources are available for project/shell funding sheets (and company funding sheets) to track funding that is assigned for specific base commits. Also, be sure the data source **Scheduled Value** has been added as a column to the SOV structure for the project or shell. Commitment funding uses the SOV to track base commit and change commit amounts, and uses the **Scheduled Value** column to track remaining balances.

▶ Import and set up business processes for commitment funding. In addition to business processes that are used for project/shell funding, you can design business processes for use with commitment funding. In uDesigner, commitment funding is enabled on the base commit; automatic generation of an SOV must also be enabled. Then, the ability to view and/or assign funds is enabled per step on the base commit and the corresponding change commit. Be sure the linked spends business process has been enabled to consume funding.

▶ Create and set up Commitment Funding Template. This template is used to create a commitment funding structures in the project or shell, which in turn is used to create the individual commitment funding sheets for each base commit record. These procedures assume a template has been created and set up with columns.

▶ Define funding assignment rules. This is done in the Assignment tab of the Properties window. Assignment rules can be defined in the commitment funding template, structure or sheets. (This procedure assumes assignment rules have been defined in the template, and will be copied to the structure and individual sheets.)

▶ Create Commitment Funding Sheet Structure. Structures are created at the project level in user mode from a commitment funding template. When commitment funding sheets are created from base commit records, this default structure is used. Details about creating commitment funding structures from an existing template are found later in this section.

▶ Create individual commitment funding sheets. This is done automatically the first time you click the Funding button on a base commit business process form (this button becomes available on specific steps as designed in uDesigner). After creation, the commitment funding sheet is available for viewing or modification by clicking the Funding button on the base commit or associated change commits, or from the Commitment Funding log itself. Details about creating commitment funding sheets is found later in this section.

▶ Configure permissions. In addition to module level permissions that are needed to create and modify templates, structures and sheets, record level permission must be granted to individual commitment funding sheets. By default, the owner of the base commit will have permissions to the sheet. Additional users must be granted view or edit permissions. This is discussed later in this section.

Company Funding Sheet vs. Project or Shell Funding Sheets vs. Commitment Funding Sheets

The first step to setting up funding is to create and set up a company funding sheet, where individual funding sources are set up.

For example, a corporation's funding sources may include different types of corporate accounts. For municipal or educational facilities, funds may come from bond measures, grants, donations or other sources. All of these funding sources will be listed and tracked on the company funding sheet. As funds are consumed via business processes or manually in individual project or shells, this data is rolled up to the company funding sheet.

Project or shell funding sheets track how your company's funding is being spent on each project or shell. It tracks individual transactions, which are rolled up to the company funding sheet. All project or shell funding sheets must be created based on a funding template.

If you are using commitment funding, you will create a commitment funding template, which is used to create the commitment funding structure within a project or shell. As base commits (that are designed for commitment funding in uDesigner) are routed and approved, a commitment funding sheet is created, based on this structure, for each base commit record.

Working with the Company Funding Sheet

The following procedures described managing funds on the company funding sheet.

Open the company funding sheet

The company funding sheet is accessed from the company level Cost Manager.

To open the company funding sheet

1) Go to the Company Workspace tab and click **Cost Manager > Funding** in the left Navigator. The Funding log opens.
2) Select the company funding sheet and click **Open**. The Company Funding Sheet opens.

> **Note**: You can click the **Split** button to split the window to scroll through the columns while maintaining the fund listing in view.

About company funding sheet columns

The columns on the company funding sheet are used to track project and shell level funding and keep track of fund balances.

A common way to enter the starting value of a fund is by adding a Company Funding column to the company funding sheet. This is generally a manual entry column (either direct entry or line item entry). The original value of each fund (one fund per row) is entered into this column.

Additional columns commonly track fund assignments (consumption) made against each fund in projects or shells. These can be in the form of business process transactions or manual funding assignments. Each project or shell level business process or manual entry column can be rolled up to the company funding sheet separately, or project/shell fund assignments can be totaled in the project/shell sheet, and rolled up to the company sheet. A good practice is to have a fund balance formula column that tracks the difference between the original fund value minus all funding assignments, which provides a running balance for each fund. A rule can be created in the Rules Engine to make sure that this fund balance never becomes less than zero (or other specified value).

To view column details

In the funding sheet, click a column header link to view the column details. This will display the data source and, for formula columns, display the formula used.

About company funding sheet rows

Each row in the company funding sheet corresponds to one fund. Depending on how the company funding sheet is set up, the starting value of each fund may need to be manually entered. This is commonly done in a column using the Company Funding data source.

If you are working with a large number of funds, there are ways to help you find the fund that you are looking for. You can search for individual fund codes using the Find feature. You can also create and apply filters, which can be used to temporarily limit the number of funds displayed on the sheet. For more information, see the following topics: *Searching for Fund Codes* (on page 143), *Creating and Applying Filters* (on page 144).

To view fund details

In the funding sheet, click the fund code link (in the **Fund Code** column) to open the Fund Details.

▸ If a **Fund Attribute** form has been designed in uDesigner, this window shows the fields on the form.
▸ If a **Fund Attribute** form is not being used, the default window opens, showing basic information such as the fund code, fund name and description.

Add currency amounts to company funds

Once the company funding sheet has been set up, the funds must be "funded" -- enter the funding amounts that will be used to fund your projects and shells. Commonly, the Company Funding data source is used as a manual entry column to enter the starting amount of each fund, or add additional funds to it. This column can be direct entry or line item entry.

This procedure assumes the funds have already been added to the sheet. It also assumes that a column has been added to the sheet for manual fund entry. Commonly, this uses the **Company Funding** data source. You can click a column heading to verify the data source used.

To add a value to a company fund

1) Open the company funding sheet.
2) Locate the column that is used for adding value to company funds on the sheet, commonly, the **Company Funding** column.
3) Do one of the following:
    ‣ If the column is direct entry, click inside the cell and enter the amount. If the cell already has a value, you can modify it.
    ‣ If the column is line item entry, click the link in the cell. The Cell Detail window opens in which you can can take these actions.
        ▪ Click **Add Line Item** to add a new line item.
        ▪ Select a line item and click **Copy Line Item** to add a line item by copying another.
        ▪ Double-click an existing line item to modify it.
        ▪ Select a line item and click **Remove Line Item** to remove it.
4) Enter the line item information in the Line Item window and click **OK**.

The amount in the **Company Funding** column can be used as the starting amount of a fund. Other columns on the company funding sheet can be used to roll up transaction and manual funding amounts from project/shell funding sheets, and formula columns can be added to keep track of the fund balance.

Activate or deactivate company funds

You can active or deactivate company funds, which controls their availability for project or shell funding. If you set a fund to "Inactive" at company level, then that fund will no longer be available for project- or shell-level funding sheets; however, if a fund is already listed on a project or shell funding sheet, inactivating the fund at the company level will not affect the fund.

To set the company fund status

1) Open the company funding sheet
2) Click the **Fund Status** button on the toolbar. The Fund Status window opens.
3) Select a fund in the table, then click **Activate** or **Deactivate**.
4) Click **Close** to exit the window.

Import or export Company funding sheet information

You can export a summary of the funding sheet, which creates a CSV file that contains the rows, columns and data on the funding sheet. You can also export a CSV file containing fund details, which includes all fund codes on the sheet and the data captured for them from the Fund Details window. This is available in company, project and shell funding sheets.

You can also import fund details to a company funding sheet. This allows you to add fund codes to a funding sheet directly from a CSV file, rather than add them manually.

For details, see *Importing and Exporting Project/Shell Funding Sheet Information* (on page 146)

Working with Project or Shell Funding Sheets

The Project/Shell Funding Sheet tracks how funding is being allocated and consumed at the project or shell level. Project or shell funding sheets work in conjunction with the company funding sheet. Fund allocation, assignment and credits can be done manually, or through a business processes.

> **Note**: Since funding originates at the company level in the company funding sheet, funding is always done in base currency, even if the project currency is different.

Open a project or shell funding sheet

The project or shell funding sheet is accessed from the **Cost Manager** > **Funding** > **Funding Sheet** log.

> **Note**: There is only one funding sheet per project or shell.

To open a project or shell funding sheet

1) Open the project or shell and click **Cost Manager** > **Funding** > **Funding Sheet** in the left Navigator. The **Funding Sheet** log opens.

2) Click the *gear menu* (⚙) and select **Open**, or double-click, on the project or shell funding sheet to open the funding sheet window.

   You can click the *gear menu* (⚙) and select **Open Classic Interface**, to open the project or shell funding sheet in Classic View.

The **Funding Sheet** window has the following, typical, page headers:

▸ Funding Sheet
▸ Currency
▸ Unassigned (Project Level)
▸ Commitment Level
▸ CBS Level

The **Funding Sheet** window has the following toolbar options:

> **Note**: For projects that do not have funding sheet, you can use the **Create** toolbar option (in **Funding Sheet** window) to create a funding sheet. The **Create** option will not be displayed for the users with View permission. To create a funding sheet, click **Create** to open the **Select Template** window and select a template.

Funding Sheet Window Toolbar Option	*Description*
Manage Rows (icon with three horizontal lines)	Opens the **Manage Rows** window which enables you to manage the displayed rows based on the available company fund codes.
Add Column (icon with three horizontal lines)	Opens the **New Column** window that enables you to enter data about the new column.
View	▶ Default ▶ Create New View ▶ Manage Views
Edit View	Opens the **Edit View** window which enables you to manage the displayed view based on the following tabs: ▶ Columns ▶ Filters ▶ Group By ▶ Sort By
Fund Assignment Order	Opens the Fund Assignment Order window which enables you to manage the order for: ▶ Fund Code ▶ Fund Name ▶ Status ▶ Reorder: Bring the pointer to the cell to activate the move-pointer, click and hold, and move the row to a desired location.
Refresh	Enables you to refresh the contents of the **Funding Sheet** window.
Print	▶ Print ▶ Export To CSV ▶ Export To Excel

Find on Page	Enables you to find a particular record on the page.
Menu Options	- Export - Summary Fund Sheet - Fund Details - Row Coloring - Multi-Color - Single Color - Properties - Audit Log

Create and Edit Transactions

You can manually enter transaction line item.

> **Note**: Including attachments is not permitted in line items. Cloud customers who have migrated to the 20.6 version of Unifier will not be able to see the previous attachments or add new attachments post migration.

About project/shell funding sheet columns

The columns on the project/shell funding sheet are used to track the funding on that project or shell, and to keep track of the fund balances that have been appropriated for its use.

Commonly, the Project Funding column is used to enter the allocation amount of each fund for that project/shell.

Additional columns commonly track fund assignments (consumption) made against each fund. These can be in the form of business process transactions or manual funding assignments, with one column for each business process, and manual entry columns for project level funding and CBS level funding.

The Records Funded at Project Level (or CBS Level) column(s) can be used to track the totals of business process transactions involving fund assignment. This is used for records already reaching terminal status. The Transient Records Funded at Project Level (or CBS Level) column(s) works similarly, but is used for records that are currently in process, and have already been funded before reaching terminal status. These columns can also include any credited funding that may occur due to invoice credits or other negative amounts.

Commitment level funding can be tracked on the project/shell funding sheet using the columns Commitment Funding (tracks funds that are allocated across base commit and change commit business process records enabled for commitment funding), Records Funded at Commitment Level (sum of all spends records that are funded at the commitment level), and Transient Records Funded at Commitment Level (sum of all in-process records that are funded at the commitment level).

A good practice is to add a fund balance formula column that tracks the difference between the original fund value minus all funding assignments, which provides a running balance for each fund.

To view column details

In the funding sheet, click a column header link to view the column details. This will include the data source and, for formula columns, display the formula used.

About project/shell funding sheet rows

Each row in the project or shell funding sheet corresponds to a fund that has been allocated for use on this project or shell. Each fund originates on the company funding sheet.

Fund allocation can be done manually, by adding rows to the project/shell funding sheet. A fund picker is used to select which funds from the company funding sheet to add.

Funds can also be allocated to a project by using a fund allocation business process that is designed to choose the funds and funding allocation amounts for the project/shell.

For manually allocated funds, the starting amount of each fund can be entered manually. Commonly, the Project Funding column is used to enter the starting value of each fund when funds can be used for the project regardless of CBS code, or the CBS Funding column is used when funding is specified per CBS code. These value can roll up to the company funding sheet column of the same data source.

If you are working with a large number of funds, there are ways to help you find the fund that you are looking for. You can search for individual fund codes using the Find feature. You can also create and apply filters, which can be used to temporarily limit the number of funds displayed on the sheet. For more information, see the following topics: *Searching for Fund Codes* (on page 143), *Creating and Applying Filters* (on page 144).

To view fund details

In the funding sheet, click the fund code link (in the Fund Code column). The Fund Details opens. If a Fund Attribute form has been designed in uDesigner, this window will include the fields added to the form in the design. If a Fund Attribute form is not being used, the default window opens, listing basic information such as the fund code, fund name and description.

View Project/Shell funding sheet properties

The Properties window defines general setup information and assignment details for the funding sheet.

To view project or shell funding sheet properties

1) In the project or shell Funding log, select the funding sheet and click the **Properties** button. The Properties window opens.
    ‣ The General tab defines the Title, Description and Display Mode for the sheet. If you have edit permissions, you can edit these, including switching back and forth between the display mode options as needed.
    ‣ The Assignment tab is used to define the funding assignment options:

- ▪ **Project and CBS Level**: Specifies the sources of fund allocation for the project or shell, either manual entry or via fund appropriation business processes.

- ▪ **Assignment Levels and Rules**: For each funding business process that has been set up for the project or shell, this specifies how funds are assigned, either manually, Auto Order, or Auto Ratio:

For more information, see *About Project/Shell funding assignment options* (on page 135).

2) Click **OK** or **Cancel** to close the window.

About Project/Shell funding assignment options

Funding assignment options for the project or shell are defined on the Assignment tab of the Properties window. (Open the funding sheet, and choose **File > Properties**.) This includes defining how fund allocation can be done, specifying whether manual assignment is allowed, defining the business processes that can be used to assign funds to project or shells or to specific CBS codes, and defining assignment levels.

Project Level and CBS Level: Specifies how funds can be added for this project or shell. This can be Manual (appropriate funds manually from the company funding sheet), and/or through funding appropriation business processes.

You can define funding appropriations at the project level (not associated with specific CBS codes), and at the CBS level (funding is specified per CBS code). You can "mix and match" for each project, with some business processes using project level funding, and others CBS level. Manual fund appropriations can be done at both levels.

Assignment Levels and Rules: Specifies how assignment is done for each funding business process that has been set up for the project or shell: Manual, Auto Order, or Auto Ratio. It also specifies whether funds are assigned at the Project Level (funding is consumed based on the total of the spends business process, providing greater flexibility for fund assignment), or CBS Level (funding is consumed per line item of a spends business process, which provides greater control over how funds are spent on each item.)

- ▶ **Manual**: Funds can be manually assigned. As spends business processes (e.g., invoices or payment applications) are routed and reach specified statuses, the amounts to be funded are collected under the Unassigned total on the funding sheet. A **Funding** button becomes available on the business process form. Clicking the button opens the Funding window, in which funds can be assigned.

- ▶ **Auto Order**: Funds are assigned automatically when a spends business process reaches a specified status. Funds are assigned based on the fund order, which is defined on the funding sheet by clicking the **Fund Assignment Order** button. When funds are consumed on one fund, then the next funding source is used for funding. Once all funds are consumed, remaining spends are collected under Unassigned.

- ▶ **Auto Ratio**: Funds are assigned automatically when a spends business process reaches a specified status. Funds are assigned based on the fund ratio, which is automatically calculated based on current fund levels. Once all funds are consumed, remaining spends are collected under Unassigned.

View funding sheet cell details

The values displayed in a cell on the funding sheet may reflect information from multiple line items, business process transactions, or results of a calculation from other cells. The following procedures discuss how to view the details about an entry in a funding sheet cell.

To open the Cell Details window

In the Funding Sheet window, click the link in the line item cell to view information. The Cell Detail window opens.

To view manual line item entry details

In the Cell Detail window, double-click a listed line item. The Line Item window opens.

To view business process transaction details

1) In the Cell Detail window, double-click a listed line item. A view-only copy of the business process transaction opens.
2) Double-click a line item. The Line Item window opens.

To view formula cell details

In the Cell Detail window, if line items from manual-entry columns or business process transaction columns are included in the calculation, they will be listed in the lower portion of the window, with the calculated value for each line item.

1) Click a listed line item. If the line item is a BP transaction, the business process form opens. If the line item is a manual entry, the Line Item window opens.
2) To view the formula used for the column, click the **Formula** link.

View Audit Logs

Audit logs are available within the Fund Detail and Cell Detail windows of the project or shell funding sheet. The Audit log captures all of the events that took place, including what action occurred, who took the action, and the value that was created or modified.

To view the project or shell funding audit log

Open the project or shell funding sheet and do one of the following:

- From the View menu, click **Audit Log**.
- Click a listed fund to open the Fund Detail window, and then click the **Audit Log** button.
- Click a cell link (line item or project or shell allocation entry) to open the Cell Detail window. From the View menu, click **Audit Log**.

To view commitment funding audit logs

Open the commitment funding sheet and do one of the following:

- From the View menu, click **Audit Log**.
- Click a listed fund to open the Fund Detail window, and then click the **Audit Log** button.
- Click a cell link (line item or project or shell allocation entry) to open the Cell Detail window. From the View menu, click **Audit Log**.

To view an audit log of company funding

Open the company funding sheet and do one of the following:

▸ From the Funding Sheet View menu, click **Audit Log**.
▸ Click on a listed fund to open the Fund Detail window, then click the **Audit Log** button.
▸ Open the Cell Detail window. From the View menu, click **Audit Log**.

The Audit log captures all of the events that took place, including what action occurred, who took the action, and the value that was created or modified.

Allocating Funds to a Project or Shell

This section discusses fund allocation. Allocation refers to reserving a certain amount of a company fund to a particular project or shell.

Funds can be allocated to a project or shell either by manually adding rows to the project/shell funding sheet and entering allocation amounts, or through business processes transactions, which automatically add the rows and allocation amounts.

Refer to *Unifier Business Processes User Guide* to review information about Schedule of Values (SOV) Sheets and Business Processes.

Fund allocation can be done at the project/shell level (funds are available to any expense in the project or shell), or at the CBS level (funding is allocated per CBS code).

Manually enter project/shell fund allocation amounts

Once the project/shell funding sheet has been set up, the funds must be "funded" -- enter the funding amounts that will be used to fund your projects and shells. The following procedures discuss manually allocating funds and entering amounts to the funds that will be used in the project or shell. (Fund allocation using business processes is discussed in a later section.)

Commonly, the Manual Funding By Project data source is used as a manual entry column to enter the starting amount of each fund, or add additional funds to it. This column can be direct entry or line item entry, and is used for project level fund allocation. The Manual Project by CBS data source can be added to the project/fund cost sheet, and values added there. The same column data source can be added to the project/shell funding sheet to display the values added to the cost sheet column. This is used for CBS level fund allocation.

The following procedures assume that the appropriate funds (rows) and columns have already been added to the funding sheet. You can click a column heading to verify the data source used. For details about adding funds (rows) or columns to the company funding sheet.

To enter project level fund allocation values (on the funding sheet)

1) Open the project or shell funding sheet.
2) Locate the column that is used for adding value to funds on the sheet, commonly, the **Manual Funding by Project** column.
3) Do one of the following:
   ▸ If the column is direct entry, click inside the cell and enter the amount. If the cell already has a value, you can modify it.

▸ If the column is line item entry, click the link in the cell. The Cell Detail window opens. You can:

  ▪ Click **Add Line Item** to add a new line item.

  ▪ Select a line item and click **Copy Line Item** to add a line item by copying another.

  ▪ Double-click an existing line item to modify it.

  ▪ Select a line item and click **Remove Line Item** to remove it.

  Enter the line item information in the Line Item window and click **OK**.

This amount can be used as the starting project level amount of a fund. Other columns on the funding sheet can be used to track transactions, and formula columns can be added to keep track of the fund balance.

To enter CBS level fund allocation values (on the cost sheet)

1) Open the project or shell cost sheet.

2) Locate the column that is used for adding value to funds by CBS code, commonly, the **Manual Funding by CBS** column.

3) Click the link in the cell. The Cell Detail window opens. You can:

  ▸ Click **Add Line Item** to add a new line item.

  ▸ Select a line item and click **Copy Line Item** to add a line item by copying another.

  ▸ Double-click an existing line item to modify it.

  ▸ Select a line item and click **Remove Line Item** to remove it.

4) Complete the Line Item window.

5) Select a fund from the fund picker by clicking the **Select** button for the Funding Source. The fund picker lists the funds that are active at the company level. To search for a specific fund, click **Find**.

6) Click **OK**. The new line item will be added to the Cell Detail window. If the **Manual Funding by CBS** column has also been added to the project/shell funding sheet, the value will display there.

To add funding sheet data through a formula

Formula columns calculate results based on data entered in other columns. You cannot enter data directly into a formula column. You may click the funding sheet column header to view the data source for the cells in the column. If the column is a formula column, it will be displayed, and you can view which other columns are used in the calculation.

Allocate funds through business processes

Funds can be allocated to a project or shell using a fund allocation business process, which was defined in uDesigner. Following is a summary of the business process types and design options that may be used:

▸ **Project level**:

  ▸ Cost type, subtype line items with fund code, classification generic.

  ▸ Workflow or non-workflow

▸ **CBS level**:

- ▸ Cost type, subtype line items with CBS and fund code, classification generic.
- ▸ Workflow or non-workflow

Commonly, columns are added to the funding sheet to capture funding allocation business process transactions. The Project Funding column might be used (as a formula) to capture the sum of all allocations and manual allocation for each fund.

To allocate funds and enter amounts through a business process

1) Create the business process record.
2) Add line items as necessary.
   - ▸ Select a fund from the fund picker by clicking the **Select** button for the Funding Source. The fund picker lists the funds that are active at the company level. To search for a specific fund, click **Find**.
   - ▸ The Line Item window may also include a CBS picker, for CBS level allocations.
3) Route the business process record as usual.

Assigning and Crediting Project/Shell Funds

This section discusses assigning (consuming) funds on project and shell funding sheets. When funds are "assigned," it means they are consumed from the allocated amount for that project or shell. Funds can also be credited back to the source when necessary.

Fund assignments are based on spends type business processes within the project or shell (e.g., invoices or payment applications), which enables accurate funding and tracking of project expenses. Funds are assigned based on the amount of a spends record, and can never exceed that amount. The behavior of funding business processes depends both on the design options chosen in uDesigner and the Assignment Levels chosen on the project/shell funding sheet properties.

Funding assignments are based on business processes transactions, and commonly, columns are added to the funding sheet to track spends business processes eligible for funding. Formula columns may also be added to track the totals of these records, which may include Records Funded at Project Level (and/or CBS Level), for completed records; and Transient Records Funded at Project Level (or CBS Level), to track funding on records that are funded while in process. Values can also roll up to the company funding sheet if the same data source columns are added.

View Unassigned amounts

When spends business processes are set up to be funded manually, the amount of the record initially is captured in one of the Unassigned fields on the funding sheet. This value displays until the entire amount of the record has been fully funded. For Project level funding, the amount displays in the Unassigned (Project Level) field; for CBS level funding, the amount shows up in the Unassigned (CBS Level) field.

If commitment level funding is being done, you may also see an amount under Unassigned (Commitment Level). These funds are managed on the commitment funding sheet.

It is possible that an Unassigned amount can be negative, as the result of a credit invoice that has not yet been credited back to the funding source.

> **Note**: These can also be rolled up to the cost sheet using the Unfunded Record data source.

To view unassigned amounts

1) Open the project or shell funding sheet.

   If business process transactions have occurred that have not yet been funded, the total of the record(s) will display in one of the Unassigned fields in the upper portion of the sheet.

2) Click the link next to Unassigned (Project Level) or Unassigned (CBS Level). The Cell Detail window opens. The window lists transaction records that have not yet been fully funded.

Manual vs. automatic fund assignment

Funding assignments can be done automatically or manually. This is set in the funding assignment levels in the funding sheet properties.

Manual fund assignment

For manual assignments, and depending on the design of the business process, the following may occur:

- You may be able to view or perform funding assignments or credits at any step in the workflow (or for a non-workflow business process, any status). When the business process is in process, it is referred to as a "Transient Record." This allows the record to be funded, edited and reviewed before the record is finalized and closed.
- When funding is enabled (or can be viewed), a Funding button appears on the business process form. Click the button to open the Funding Window.
- It is possible that the business process can be designed to disallow funding assignments or credits at the end step (or terminal status if non-workflow). This option prevents further editing of funding assignments or credits after the record has gone through a review process.

Good practice tips: Review the invoice line items and be sure they are accurate before doing funding. A good practice for design is to disallow line item from being edited after fund assignment steps. This will prevent the invoice line items from being edited after funding has already been assigned.

Automatic fund assignment

For automatic assignments, the following generally occurs

- Automatic funding occurs when the record reaches the **End** step in the workflow business process, or when **Finish Editing** is clicked in the non-workflow business process.
- The funds are assigned based either on the fund assignment order, or by the ratio of the amounts of each fund, as determined in the assignment options in the Properties.

It is possible to adjust funding after automatic fund assignments.

About crediting funds

Sometimes it is necessary to credit back funds that have already been assigned. The same general procedures for assigning funds can be used for crediting funds as well. You may need to credit funds back to the credit source if:

▸ You receive an invoice credit from a vendor, and funds have already been assigned to the original invoice amount.

▸ A mistake was made in the original fund assignment, either by assigning too high a value, or assigning funds from the wrong fund.

You cannot credit more of a fund than has been consumed.

You can also credit previously assigned funds back to the fund source, either due to receiving a credit invoice or line item (e.g., a vendor credit), or to correct a previous assignment error.

About business processes enabled for funding

Business process behavior is dependent on the how the business process was designed in uDesigner, and the assignment options chosen in the project/shell funding sheet. In general, the design determines when funding assignments can be viewed or performed, and the assignment options determine whether the assignment is done manually or automatically, and at what levels.

Spends type business processes (e.g., invoices or payment applications) can be designed in uDesigner to consume funds. Following is a summary of the business process types and design options that can be used:

Project level:

▸ Cost type, subtype line items with fund code, classification generic, general spends or payment application.

▸ Workflow or non-workflow.

▸ Each action form can be enabled with the following options: "View fund assignment" and "Allow fund assignment." This option allows funding assignments to be viewed or performed at any step in the workflow (or any status if non-workflow). The "Allow fund assignment" option is applicable when the business process is set up for manual assignment in the funding assignment levels in the funding sheet properties.

▸ An option can be set for the business process that disallows manual fund assignment once the record reaches end step (or terminal status for non-workflow). When this option is chosen, it takes precedence over the "Allow fund assignment" setting, even if an action form is used on the end step. This option does not affect automatic fund assignments. This option is found on the Edit Studio window, **Options** tab.

CBS level:

▸ Cost type, subtype line items with CBS and fund code, classification generic, general spends or payment application.

▸ Other options are the same as for project level.

Manually assign or credit funds (unassigned funds)

Normally, if a spends business process record has not been set up to automatically assign funds upon reaching a certain status, then that record total will show as Unassigned Funds in the project/shell funding sheet.

When the funding business process reaches a specified workflow step or status, a **Funding** button appears on the business process form. Clicking the Funding button opens the Funding window, allowing manual fund assignment.

Funds can be manually assigned at the project or shell level (project or shell funding sheet), CBS level (project or shell cost sheet), or business process level (spends business process record designed to consume funds).

If a credit invoice (negative line item or invoice amount) has been submitted, this can be used to credit previously consumed funds back to the source, or can be used to credit another fund. You cannot credit an amount that is more than has been consumed.

> **Note**: This section discusses assigning and crediting funds on the project/shell funding sheet. See also *Assigning and crediting commitment level funds* (on page 155).

To manually assign funds at the project or shell level from the funding sheet

1) Open the project or shell funding sheet.
2) In the upper portion of the window, click the link next to **Unassigned (project or shell Level)**. This link displays the amount of funds that are not currently assigned to a particular fund.

   The Cell Detail window opens. The Cell Detail window displays the list of spends business process records that have not yet been fully funded. A record can appear on this list if you do not have enough funds available during an auto-assignment process, or if you set Manual as the assignment rule for the business process under the funding sheet Assignment tab.
3) Select one or more records from the list and click the **Assign to Funds** button on toolbar. The Manual Fund Assignment window opens
4) Enter a percent (%) amount for each record against a funding source.
5) Click **OK**.

> **Note**: Because the number of decimal places is limited to two in the Manual Fund Assignment window, some amounts from funds can never be consumed. If you cannot use funds completely through the Assign to Funds window, go to the Spend BP record and manually consume the fund by entering the amount.

To manually assign funds at the CBS level from the cost sheet

1) Open the project or shell cost sheet.
2) In the upper portion of the window, note the amount shown in the **Unassigned at CBS Level** field. This is an amount that gets rolled up from the unfunded record data source in the project or shell cost sheet.
3) Click on a cell under the Unfunded Records column for a CBS code.
4) The Cell Detail window opens. The Cell Detail window displays the list of records that are not funded.
5) Select one or more records from the list and click the **Assign to Funds** button on the toolbar.
6) Enter a percent (%) amount for each record against a funding source.
7) Click **OK** to close the form.

> **Note**: Funds can be automatically consumed at the CBS level by defining the fund order for each CBS Code from the Fund Assignment Order window on the Project/Shell cost sheet, and setting the assignment level to CBS Auto Order.

To manually assign or credit funds from a business process record

1) Open the business process record that needs to be funded. If the record is at a specified workflow step and status that allows funding, a Funding button is available.
2) Click the **Funding** button on the toolbar. The Funding window opens.
3) Select a line item from the upper pane. The bottom pane will display a list of funds that are available for that line item.
4) Enter the amounts for fund assignment. This is subtracted from the fund balance. For credits, enter negative amounts; the amount entered is added back to the fund balance.
5) Click **OK**.

   If the business process is configured to use individual commit line items as SOV line items, the upper pane will not show a list of line items. You will see a total amount under the Unassigned Amount field.

Reassign project/shell funds from a business process record

In addition to assigning or crediting funds from the funding sheet, you can also adjust the funding allocations that were rolled up to the funding sheet directly from the business process record in which the transaction took place.

To reassign project or shell funds

1) Open the business process record in which you want to reassign funds.
2) Click the **Funding** button. The Cell Detail window opens.
3) Click **Select**. The fund picker opens.
4) Select the funding source from which to assign funds.

   Depending on the design of the BP, the Fund picker may display all funds being used by the company or only those funds currently allocated to the project or shell.
5) Click **OK**. The Assign to Fund window opens.
6) Enter the percentage of the transaction amount to assign to the new fund and click **OK**.

Searching for Fund Codes

If you are working with a large number of funds, there are ways to help you find the fund or funds that you are looking for. You can search for individual fund codes using the Find feature. You can also create and apply filters, which can be used to temporarily limit the number of funds displayed on the sheet.

You can use the Find button to help you find a particular fund on company, project or shell funding sheet, or a funding template. You can search by any column on the funding sheet, and is available if the display mode is Flat or Tree. Find is available on company, project and shell funding sheets and templates.

In addition, you can search for funds in a fund picker. The fund picker displays when you are adding funds to a project/shell funding sheet, or funds when adding line items to a business process record used for funding.

To search for a fund on a funding sheet

1) Open the project or shell funding sheet.

2) Click the **Find** button on the toolbar. The Find window opens.

3) Complete the Find window:

  ▶ **Column**: Choose a column name. This drop-down contains the names of all columns that are displayed on the funding sheet, including Fund Code and Fund Name.

  ▶ **Value**: Enter a value for which to search. You can enter a full or partial word, number or other value. (Do not enter a wildcard character for partial entries.) The format of your entry will depend on the type of value you are searching for. If you are searching for a fund code, you can include the code separator if one is used (for example, a dash).

  ▶ **Search**: Choose **Up** or **Down**. For new searches, use Down. If a value is found, it will be selected on the sheet. If you want to continue to search, you can choose to search up or down from the current selection.

4) Click **Cancel** to close the Find window.

To search for a fund in a fund picker

1) Open the funding sheet or business process record.

2) Open the fund picker by doing one of the following:

  ▶ On a project or shell funding sheet or template, add a row to the sheet by clicking **Rows**, then **Add Row**. In the Fund Details window, click the **Select** button next to the field for choosing a fund (e.g., Fund Code).

  ▶ In the business process record, click the **Select** button next to the field for choosing a fund (e.g., Fund Code).

  The Fund Picker opens.

3) You can search for a specific fund in the fund picker:

  a. Click the **Find** button. The Find window opens. The window that opens will depend on the design in uDesigner.

    ▪ If an attribute form is not defined, the default Find window will allow you to search by Fund Code or Fund Name.

    ▪ If an attribute form is defined, the Find window can also be designed in uDesigner, and you may have additional fields to search by.

  b. Enter search criteria and click **Search**. This limits the number of funds that are displayed to those that match the search criteria.

4) Click **OK**. The fund appears as a row on the Funding Sheet. Funds are displayed in alphabetical order on funding sheet.

Creating and Applying Filters

If you are working with a large number of funds, it may be useful to display a subset of the total number of funds when working with the funding sheet. For example, you may want to only view new funds for the current year.

You can temporarily limit the number of funds displayed on the sheet by applying a filter. This feature is available on company, project and shell funding sheets, and funding sheet templates.

Create and manage filters on a project/shell funding sheet

If you have Create or Modify permissions, you can create and save any number of filters. Anyone with permission to view the funding sheet can view and apply saved filters.

These procedures are applicable to company, project or shell funding sheets, and funding templates.

To create a new filter

1) Open the funding sheet.
2) Click the **View** menu and choose **Filters**. The Filters window opens. This window lists any filters that may have been created and saved previously.
3) Click the **Add** button. The Edit Filter window opens. In this window, you can add one or more conditions to use for filtering the funds display.
4) Enter a Filter Name. This name will display in the Filters window.
5) Click the **Add** button. The Add Query Condition window opens. You can enter one or multiple conditions.
6) Do the following:
    a. Choose a Data Element: This drop-down lists all data elements that are on the fund attribute form. Any data elements in a hidden block are not available.
    b. Choose a Condition: This drop-down displays a list of conditions. This list is based on the type of data element selected.
    c. Choose a value: Depending on the type of data element, choose a value that the query condition must meet.
        ▪ Data Element: Lists the data elements on the fund attribute form.
        ▪ Constant Value: You can enter a full or partial entry of the value to filter by. This is similar to entering search criteria. For example, if you want to display only funds with "2010" in the fund code, then choose the data element Fund Code, condition of equals, and 2010 as a constant value. For pulldown or other multiple-entry fields, a Select button appears, allowing you to select a value.
7) If you add multiple conditions, and want the filter to be applied if any one listed condition is met, then select the **Show result matching ANY condition** checkbox.

> **Note**: By default, the conditions are additive, meaning that all conditions must be met in order for the condition to be applicable. Select the checkbox if any one condition will suffice.

8) Click **OK** to save and close each window.

To modify a filter

1) Open the funding sheet.
2) Click the **View** menu and choose **Filters**. The Filters window opens.
3) Choose a filter from the list and click the **Edit** button. The Edit Filter window opens.

4) You can edit the filter name, or add, modify or remove a condition.

> ▸ To modify a condition, select the condition from the list and click the **Modify** button.
> ▸ To remove a condition, select the condition and click the **Remove** button.

5) Click **OK** to save your changes.

To delete a filter

1) Open the funding sheet.
2) Click the **View** menu and choose **Filters**. The Filters window opens.
3) Choose a filter from the list and click the **Remove** button. Click **Yes** to confirm.

Apply a filter to limit the fund code display

By applying a filter to the funding sheet, you can temporarily reduce the number of fund codes that are displayed on the sheet.

To apply a filter

1) Open the funding sheet.
2) Click the **View** menu and choose **Filters**. The Filters window opens. This window lists any filters that have been created and saved.
3) Choose a filter from the list and click the **Apply Filter** button.

The funding sheet will display only those funds meeting the conditions of the filter selected. The top of the sheet will display the name of the filter.

To clear the filter and display all funds

If the funding sheet has a filter applied, click the **View** menu and choose **Clear Filter**. The sheet will refresh to display all funds.

Importing and Exporting Project/Shell Funding Sheet Information

You can export a summary of a funding sheet, which creates a CSV file that contains the rows, columns and data on the funding sheet. You can also export a CSV file containing fund details, which includes all fund codes on the sheet and the data captured for them from the Fund Details window.

You can also import fund details to a company funding sheet. This allows you to add fund codes to a funding sheet directly from a CSV file, rather than add them manually.

This procedures are applicable to company, project and shell funding sheets.

Export funding sheet information

You can export a summary funding sheet, which is a CSV file containing the rows (funds), columns and data on the funding sheet. You can do this in a company, project or shell funding sheet. Summary funding sheet information cannot be re-imported.

To export a funding sheet summary

1) Open the company, project or shell funding sheet.
2) Click the **Export** button and then choose **Summary Fund Sheet.**

3) Read the confirmation message and then click **Yes** to continue.

You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.

4) Click **Save** and specify the location in which to save the CSV file.

Import and export fund details

You can export fund detail information from a company, project or shell funding sheet to a CSV file. This contains all of the information captured in the Fund Details form when the funds were added to the company funding sheet. When you export the fund details from the company funding sheet, the details of all funds are exported; exporting from a project or shell funding sheet gives the details of those funds added to that sheet.

When adding funds to a company funding sheet, you can use the export file as a template, add fund details to the CSV file, then re-import the file to add funds to the company funding sheet. You cannot use import to add funds to a project or shell funding sheet.

To export fund details from a funding sheet

1) Open the company, project or shell funding sheet.

2) Click the **Export** button and then choose **Fund Details.**

3) Read the confirmation message and then click **Yes** to continue.

You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.

4) Click **Save** and specify the location in which to save the CSV file.

To import fund details into a company funding sheet

1) Open the company funding sheet.

2) Be sure you first export the fund details and save the CSV file.

Note the instructions at the top of the file. Remove any existing funds that may be listed in the export file, so that only the column headings remain. The instructions at the top of the file can remain. Save the file.

3) Add the fund details for the funds that you want to import. Be sure to complete all required fields. Do not add fund codes that already exist on the funding sheet.

4) Click the **Import Fund Details** button**.**

5) Browse to the CSV file and click **Ok**. The funds you added to the import file will be added to the company funding sheet.

> **Note**: If any errors occur, download and open the error file, and correct the CSV file before reimporting. Common errors include trying to import fund codes that already exist on the sheet, or not completing required fields.

Working with Commitment Funding Sheets

When using project/shell level funding (described in the previous sections), the fund assignment procedure does not distinguish which funds to consume for invoices or payment applications that come in for different base commit records (i.e., contracts or purchase orders). There may be times when a base commit needs to be funded by a specific fund or funds. If you want to allocate and assign specific funds for each contract, then you can use commitment funding.

Commitment funding works in conjunction with project/shell level funding (the funds allocated to a commit must first be present in the project/shell funding sheet), and with the schedule of values (SOV) sheet that is created for the base commits (as the SOV keeps track of the line items and amounts of the base commits and any change commits).

> **Notes**:
>
> - The terms "base commit" and "contract" may be interchanged in the descriptions, but both refer to cost-type business processes of sub-type "Line items with CBS Code" and classification "base commit." Common examples are contracts and purchase orders.
>
> - If you are enabling a base commit for commitment funding, its linked spends business process (general spends invoice or payment application) will then consume funds at the commitment level, not the project level. If you want to do commitment funding with some contracts, and project level funding with other contracts, you should use a different "set" of base commit, change commit and spends business processes to use for each type of funding that you want to do.

If you will be using commitment level funding, then a sheet structure must be created for the project or shell, which consists of columns and assignment rules (in the Properties). Commitment funding sheets are created for each base commit record, using this default structure. Funds (rows) are added to the commitment funding sheets, and fund amounts are allocated from available project/shell funds to each sheet.

> **Note**: Although commitment funding sheets are based on the structure, you can still modify the columns and properties of individual sheets. You can also modify the commitment funding structure after sheets have been created. Modifications to the structure will be reflected on new sheets, but will not affect existing sheets.

Create a commitment funding sheet structure

Structures are created by copying a commitment funding template. The commitment funding structure defines the column structure that will be used for the individual commitment funding sheets that are created from base commit records. It can also define the assignment levels and rules to use for each sheet (in the Properties window). (These procedures assume a commitment funding template has been created and set up).

Structures can also be created in a project or shell template, which will then be copied to projects/shells created from it. Structures created in project/shell templates can also be "pushed" to existing projects using Update Projects or Update Shells.

If you modify the columns or properties of the commitment funding structure, existing sheets will not be affected. New sheets created from the edited structure will reflect the modifications. You can modify the columns and properties of individual commitment funding sheets without affecting the default structure.

To create a commitment funding sheet structure

1) Open the project or shell and click **Cost Manager > Funding > Commitment Funding Sheet** in the left Navigator. The Commitment Funding Sheet log opens. The log should be empty. If commitment funding sheets are already present, then a structure already exists.

2) Click the **Create Structur**e button. The Commitment Funding Sheet window opens, listing the available templates.

> **Note**: When a structure is created, the Create Structure button becomes Update Structure.

3) Select a template from the list and click Open. Click Yes to confirm. You can use this structure as is or make edits as necessary.

To view or edit the commitment funding sheet structure

1) From the Commitment Funding Sheet log, click the **Update Structure** button. The Commitment Funding Structure window opens.

2) Click the **Columns** button to add, view or edit columns. Managing columns on the structure is done the same way as on a commitment funding sheet template. For details about commitment funding columns.

3) You can also modify the structure properties:
   a. In the structure window, click the **File** menu and choose **Properties**.
   b. In the General tab, you can modify the **Title** and **Description**. The Title will be used as the default name of each commitment funding sheet created from it.
   c. You can also modify assignment levels and rules. Click the Assignment tab.

4) Close the Commitment Funding Structure window

Create a commitment funding sheet

The Commitment Funding Sheet allows you to allocate project or shell funds to a specific "commitment" (base commit) business process record (for example, a contract or a purchase order). Changes to the original contract through the use of associated change commits will also be reflected on the funding sheet. The commitment funding sheet is also used to track the consumption of those funds as spends business processes (invoices or payment applications) are created.

There is one commitment funding sheet for each base commit business process record. You create the sheet directly from the base commit record once it reaches a step at which funding has been enabled. (The design is done in uDesigner. For workflow BPs, funding can be enabled per step; for non-workflow BPs, funding will be enabled when the form is editable. The funding sheet may also be available for viewing on view forms, depending on the design. The funding sheet is available if a Funding button is present on the base or change commit record toolbar.)

Be sure the following is in place before creating the commitment funding sheet:

▶ A commitment funding structure has been created. The sheet will use this default structure. Columns can be modified, removed or added to the sheet; this will not affect the default structure.

▶ The project or shell funding sheet has been created, and funds allocated to it from the company funding sheet.

▶ In order to use commitment level funding, a Schedule of Values (SOV) sheet must be created for the base commit. The commitment funding sheet uses the SOV to track base commit and change commit line items, amounts, and remaining balances. Be sure the SOV sheet has a column using the datasource Scheduled Value, as this is used by the commitment funding sheet.

If the fund assignment levels and rules have been defined in the structure, then these will be copied to the new sheet. These definitions can be added or edited in the sheet as needed.

The user who creates the sheet becomes the owner and automatically has full permissions to view and edit the sheet. If other users will need to view or edit the sheet, you will need to give them permission.

After the sheet is created, you then allocate funding for that record from the available project or shell funds. Fund allocation is done manually on the commitment funding sheet; allocation and consumption can be tracked on the project/shell funding sheet by adding the appropriate columns.

To create a commitment sheet

1) Open the base commit business process record on which you want to perform commitment funding.

   If commitment funding has been enabled on the base commit itself, and on the current step, a Funding button will be present on the business process toolbar.

> **Note**: If the Funding button is not present, contact your project/shell administrator, or other administrator managing business processes, to verify that commitment funding is available for the business process, that it is available on the current step, and that you have the proper permissions. In addition, it is possible that on some steps (and on View forms), the Funding button will be present, but has been designed to open a view-only version of the sheet.

2) Click the **Funding** button.
3) Click **Yes** to confirm. The Commitment Funding Sheet is created, based on the structure.

Grant permission to a commitment funding sheet

Grant permission to a commitment funding sheet

The user who creates the commitment funding sheet automatically becomes the owner and has full permissions to modify the sheet and enter data. If other users will need to view or edit the sheet, the owner will need to give them permission.

To grant a user or group commitment funding sheet permissions

1) On the Commitment Funding Sheet log, select a sheet.

2) Click the **Permissions** button. The Edit Permission window opens.

   The upper pane of the window displays any users or groups who have already been granted permission to the sheet.

3) To add users or groups who are not listed, click the **Add** button. The User/Group Picker opens.

4) Select one or more users and/or groups, and click **OK**.

5) In the upper pane of the Edit Permission window, select one or more users or groups.

6) Select the permission level for the selection:

   ▸ **Modify Permission**: This will allow user to modify record level permissions

   ▸ **Edit**: This will allow user to modify data on the sheet

   ▸ **View**: This will allow user to view the sheet

7) Click **OK**.

8) Repeat if you have more users or groups to add, or that you need to assign different permission levels.

9) To remove permissions from a listed user or group, select user/group and either modify the permission levels to a lower level, or click the **Remove** button to remove all sheet-level permissions.

Access commitment funding sheets

Commitment funding sheets are based on individual base commit records (e.g., contracts or purchase orders) on which commitment funding has been enabled in the uDesigner design. The structure (columns) of the sheets is based on a structure, which in turn is based on a commitment funding sheet template.

Commitment funding sheets can be accessed from the Commitment Funding Sheet log, or from the base commit record with which the sheet is associated. (Accessing the sheet from the commit record is dependent upon the business process design: for workflow business processes, funding is enabled per step; for non-workflow business processes, funding will be enabled when the form is editable. The funding sheet may also be available for viewing on view forms, depending on the design. The funding sheet is available if a **Funding** button is present on the base commit record toolbar.)

> **Note**: Remember that commitment funding sheets have record-level permission. The creator of the base commit becomes the creator of the commitment funding sheet created from it, and must grant view or edit permission to other users that may need to access it.

To access commitment funding sheets

Do one of the following:

▸ In the Commitment Funding Sheet log, select a sheet and click **Open** (or double-click the sheet).

▸ Open the base commit or change commit record. If a **Funding** button is present on the toolbar, you can click it to open the commitment funding sheet.

About commitment funding columns

The columns on the commitment funding sheet are used to manage and track the funding allocation, assignment and fund balances for the commit record.

> **Note**: In these column definitions, the terms All Funds and Discrete Fund refer to the fund assignment options (from the Fund Assignment window, accessed from the SOV sheet or commitment funding sheet). These options determine how the SOV lines (and therefore, the commit lines) will be funded, either automatically or manually from the entire list of funds available to the commit, or by one specific fund.

The **Funding Across All Funds** column is used to enter (or calculate) the amount of each fund to allocate for this base commit record. The rows on the sheet are the funds that will be used to fund the commit. The value entered here will be the fund amount available for all commit lines that have "All Funds" as assignment. This can be a manual entry column, or a formula that uses another manual entry column as the basis of the formula.

Additional columns commonly track fund assignments (consumption) made against each fund. These can be in the form of business process transactions or manual funding assignments. System provided data sources that can be used for columns include the following:

▸ **Funding By Discrete Fund**: This column displays the sum total of all the line items of base and change commits that are funded by a specific (or "discrete") fund This value can be used to determine the fund balance during consumption.

▸ **Records Funded Across All Funds**: Reflects the total of funds consumed from records that are funded based on All Funds, whether funding is done manually or automatically.

▸ **Records Funded By Discrete Fund**: Displays the total of funds consumed from records that are funded based on a discrete fund, whether funding is done manually or automatically.

▸ **Fund Balance Across All Funds**: This column tracks the fund balance across all funds. The formula used is (Funding Across All Funds) - (Records Funded By All Funds).

▸ **Fund Balance By Discrete Fund**: This column tracks the fund balance by specific fund chosen in the Fund Assignment window. The formula used is (Funding By Discrete Fund) - (Records Funded By Discrete Fund).

▸ **Funding Ratio Across All Funds**: The value of this column is calculated automatically. It reflects the % ratio to use when performing fund assignment ratio during consumption. The formula is (Funding Across All Funds Per Fund) / Total of Fund Balance Across All Funds).

Assignment rules

The assignment levels and rules are defined on the Assignments tab in the Properties window of the commitment funding sheet. This step is mandatory in order to do commitment level funding.

The **Assignment** tab lists the spends business processes that are linked to base commits enabled for commitment level funding. For each listed business process, you define how fund assignment will be done when these spends records come in against the base commit:

▸ **Commitment Level - Manual**: Funds are manually assigned at runtime. As spends business processes are routed and reach specified status, the amounts to be funded are collected under the Unassigned total on the commitment funding sheet, similar to project/shell level manual funding. You can then select each line of the spends BP and assign funds at runtime. This can be done on transient records or in terminal status (depending on design). Consumed funds roll up to the commitment funding sheet and the project funding sheet.

▸ **Commitment Level - Auto Ratio**: Funds are assigned automatically when the spends business process reaches a specified status. Funds are assigned based on the fund ratio, which is calculated based on the current fund levels, and is managed and tracked on the commitment funding sheet. If all funds are consumed, any remaining spends amounts are collected under Unassigned.

You can define these assignment rules on the commitment funding template. When you create a commitment funding structure in a project or shell, these assignment rules will be copied to it, and when you create new sheets from the structure, they will be copied to the sheets. If you need to, you can modify these rules on individual structures and sheets.

Fund Assignment details per SOV line

This is an optional step that allows you to provide details about fund assignment or consumption for each line on the base commit or any change commits. You access the Fund Assignment window by clicking the Fund Assignment button on the commitment funding sheet or the SOV sheet associated with the base commit.

▸ If you do not define any assignment options in this window, then All Funds is the default selection. This means that all funds that have been allocated to the base commit on the commitment funding sheet will be available for funding each line of the spends business process created against it (either manually or by auto ratio, as defined by the assignment rules). When this is chosen, funding information is captured on the commitment funding sheet in columns using data sources referencing "across all funds."

▸ There may be times when you need to specify that a specific fund must be used to fund a specific CBS code on the base commit or a change commit. You can select a specific fund (or "discrete fund") to fund selected SOV lines. When this is chosen, funding information is captured on the commitment funding sheet in columns using data sources referencing "by discrete fund."

Once the commitment funding sheet is created, you can add rows and allocate funds to it.

About commitment funding sheet rows

Each row in the commitment funding sheet corresponds to a fund that has been allocated for use on that commitment. Fund allocation can be done manually, by adding rows to the commitment funding sheet. The funds that are available for allocation are those on the project or shell funding sheet.

View or edit commitment funding sheet properties

The properties of a commitment funding sheet are copied from the structure it was created from (which in turn was copied from a template). You can use these properties, or modify them as necessary.

To view or edit commitment funding sheet properties

1) On the Commitment Funding Sheet log, select a sheet.

2) Click the **Properties** button. The Properties window opens.

3) In the General tab, you can modify the Title and Description.

4) In the Assignment tab, you can modify the assignment levels and rules to use for this sheet.

> **Note**: Assignment Levels must be defined before you will be able to process spends records (invoices or payment applications) against this base commit. If you change an assignment rule (for example, from Manual to Auto Ratio), the change will take place on new spends records, it will not affect spends records already in process. See **About commitment funding assignment options** (on page 154)

About commitment funding assignment options

Fund Assignment refers to how funds are to be consumed as spends type business processes (e.g., invoices and payment applications) come in against the base commit that is being funded.

Initial assignment rules are defined in the Assignment tab on the commitment funding Properties window. Additional details can be defined in the Fund Assignment window. To access the fund assignment window, click the **Fund Assignment** button on the commitment funding sheet or SOV sheet for the base commit. The Fund Assignment window is not accessible until the SOV sheet has been created.

Allocating funds for commitment funding

Similar to project/shell funding sheets, the rows of a commitment funding sheet correspond to the funds that you want to use to fund the associated base commit (plus any linked change commits). The funds that are available to add as rows are those that have been added to the project/shell funding sheet.

After adding a row, you allocate how much of that fund you want to make available to the base commit directly on the sheet. That is, you must add a column to the commitment funding sheet using the data source **Funding Across All Rows**. This is the column to use for fund allocation.

This column can be manual entry or formula. If it is manual entry, you can enter the fund allocation amount directly to the cell. If you use a formula, you must also include another manual entry column to use to enter an amount, and include that in the formula. For example, you might want to use your own ratio of certain funds in the initial allocations. You can add a manual entry column, then use the formula calculation for the **Funding Across All Rows** column.

Add and manage commitment funding sheet rows (funds)

The rows that you add to a commitment funding sheet are the project or shell funds that you are allocating to the associated base commit and any change commits.

You add rows (funds) to the project/shell commitment funding sheet, but not the template or structure. You can delete a row as long as no assignments have been made against the fund.

> **Note**: Once fund assignments have been made against them, you will

not be able to delete the row. Once the sheet is saved, you cannot edit the fund; if you need to choose a different fund, first delete the row then create a new one.

To add rows (funds) to the commitment funding sheet

1) Open the commitment funding sheet.

2) Click **Add Rows**. A new row is added to the sheet.

3) Click the drop-down in the **Fund Code** column and select a fund code from the list. The fund codes listed are those that are on the project or shell funding sheet.

   For each row, you will need to allocate how much of the fund to make available to the commit. You can do that now or wait until all the rows have been added.

4) To add another row, click the **Add Rows** button again, and choose a code. Fund codes can only be used once on the sheet; therefore, once a code has been used in a row, it will not appear on the list again.

5) Click **Save** on the commitment funding sheet to save your changes.

To delete rows

1) On the commitment funding sheet, select one or more rows.

2) Click the **Delete Rows** button.

3) Click **Yes** to confirm.

Allocate fund amounts to a commitment funding sheet row

You allocate the project/shell funds to use for each fund directly on the commitment funding sheet per row. The sheet must have a column that uses the data source "Funding Across All Rows." This is the column to use for fund allocation.

This column can be manual entry or formula. If it is manual entry, you can enter the fund allocation amount directly to the cell. If you use a formula, you must also include another manual entry column to use to enter an amount, and include that in the formula. For example, you might want to use a ratio of certain funds in the initial allocations. You can add a manual entry column, then use the formula calculation for the Funding Across All Rows column.

To allocate fund values to a row

1) Open the commitment funding sheet.

2) For each row, double-click the cell of the column you are using for the manual entry portion of fund allocation (e.g., the Funding Across All Rows column). This makes the cell editable.

3) Enter the amount to use for fund allocation.

4) Click **Save** on the commitment funding sheet to save your changes. When you save the sheet, a validation check will be run to make sure that the allocation amounts do not exceed the fund balance of each fund on the project/shell funding sheet.

Assigning and crediting commitment level funds

Assigning (consuming) or crediting funds on a commitment funding sheet is similar to a project or shell funding sheet, with some exceptions. This section assumes that the concepts of assigning and crediting funds of project or shell funding sheets is already understood.

As with project/shell funding, fund consumption on commitment funding sheets is done using general spends or payment application business processes that have been designed to consume funds. (When the spends BP is linked to a base commit that has been enabled to do commitment funding, then funds are consumed from the commitment funding sheet, not the project/shell funding sheet.) As in project/shell funding, funds are assigned from the spends record based on the amount of that record. The behavior of funding business processes depends both on the design options chosen in uDesigner and the Assignment Levels chosen on the commitment funding sheet properties.

Like project/shell funding, fund assignment can be done manually or automatically (by fund balance ratio). This is determined in the **Fund Assignment** rules set in the sheet Properties.

About business processes enabled for commitment funding

Commitment funding is enabled on the CBS-code-based base commit. The design of the base commit forms determine when the **Funding** button appears on the base commit or change commit record. This button allows you to create the commitment funding sheet for the record, and also to access the funding sheet from the record. (Commitment funding sheets can also be accessed directly from the commitment funding sheet log.)

As in project and shell funding, you use spends type business processes (e.g., invoices or payment applications) to consume funds. If the spends business process is linked to a base commit that is enabled for commitment funding, then the spends record will consume funds from the commitment funding sheet rather than the project/shell funding sheet.

If you will be doing both project/shell funding and commitment funding, then use a different set of linked base commit / change commit / spends business processes for each.

View Unassigned amounts (Commitment Level)

When spends business processes are set up to be funded manually, the amount of the record initially is captured in the Unassigned (Commitment Level) field on the commitment funding sheet. This value displays until the entire amount of the record has been fully funded. For Project level funding, the amount displays in the Unassigned (Project Level) field; for CBS level funding, the amount shows up in the Unassigned (CBS Level) field.

It is possible that an Unassigned amount can be negative, as the result of a credit invoice that has not yet been credited back to the funding source.

> **Note**: These can also be rolled up to the cost sheet using the Unfunded Record data source.

To view unassigned commitment funding amounts

1) Open the commitment funding sheet.

    If business process transactions have occurred that have not yet been funded, the total of the record(s) will display in the Unassigned field in the upper portion of the sheet.

2) Click the link next to Unassigned (Commitment Level). The Cell Detail window opens. The window lists transaction records that have not yet been fully funded.

Assigning or crediting unassigned funds on the commitment funding sheet

Manually assign or credit unassigned funds

If there are unassigned funds, you can assign them manually from the spends business process record or from the commitment funding sheet.

When the spends record reaches a specified workflow step or status, a Funding button appears on the form. Clicking the Funding button opens the Funding window, allowing manual fund assignment.

If a credit invoice (negative line item or invoice amount) has been submitted, this can be used to credit previously consumed funds back to the source, or can be used to credit another fund. You cannot credit an amount that is more than has been consumed.

To manually assign funds from the commitment funding sheet

1) Open the commitment funding sheet.

2) In the upper portion of the window, click the link next to Unassigned (Commitment Level). This link displays the amount of funds that are not currently assigned to a particular fund.

   The Cell Detail window opens. The Cell Detail window displays the list of spends business process records that have not yet been fully funded. A record can appear on this list if you do not have enough funds available during an auto-assignment process, or if you set Manual as the assignment rule for the business process under the funding sheet Assignment tab.

3) Select one or more records from the list and click the **Assign to Funds** button on toolbar. The Manual Fund Assignment window opens

4) Enter a percent (%) amount for each record against a funding source.

5) Click **OK**.

> **Note**: Because the number of decimal places is limited to two in the Manual Fund Assignment window, some amounts from funds can never be consumed. If you cannot use funds completely through the Assign to Funds window, go to the Spend BP record and manually consume the fund by entering the amount.

To manually assign or credit funds from a spends business process record

1) Open the business process record that needs to be funded. If the record is at a specified workflow step and status that allows funding, a Funding button is available.

2) Click the **Funding** button on the toolbar. The Funding window opens.

3) Select a line item from the upper pane. The bottom pane will display a list of funds that are available for that line item.

4) Enter the amounts for fund assignment. This is subtracted from the fund balance. For credits, enter negative amounts; the amount entered is added back to the fund balance.

5) Click **OK**

Automatic fund assignments at the commitment level

Automatic fund assignment works similarly at the commitment level as it does in project/shell funding. The available automatic funding option is auto-ratio by fund balance (if All Funds is chosen in the Fund Assignment window), or a specific (discrete) fund can be used.

See *Manual vs. automatic fund assignment* (on page 140), *About crediting funds* (on page 140), *About commitment funding assignment options* (on page 154), *About commitment funding columns* (on page 152).

About Cash Flow

Cash Flow

Cash flow is the distribution of cost over time. That is to say, cash flow is the movement of money in or out of a project (or business) during a specific time period.

> **Note**: In the context of capital projects, cash flow is the estimating of future spends to be incurred on a project, based on current actuals.

The term cash flow is synonymous with cash flow forecasting, spends forecasting, and time-phasing of budget, which all refer to the availability of proper funding in each future period (month, quarter, or year).

Cash flow management includes the following steps:

1) Establishing a baseline spending plan: **Baseline**
2) Tracking actual costs: **Actuals**
3) Calculating future expenditures based on project schedules: **Forecast**

> **Note:** Cash flow forecasting is used to ensure that cash is available when payments are due.

You can create cash flow at multiple levels in a project to:

▸ Track cash flow for the entire Project/Shell: **Project/Shell**
▸ Track the costs associated with summary CBS code: **Summary CBS**
▸ Track cash flow at the CBS code level, across all or specific CBS code: **CBS**
▸ Track cash flow data for an entire commit record, including base commits, change commits, and related invoice: **Commitment**

About Cash Flow Curves

In general, cash flow curves are graphical presentations of the expenditures or spends. Cash flow curves enable you to:

▸ Pull data from cost sheets, business process records, or schedule sheets
▸ Record cash flow history by way of using snapshots
▸ Generate cash flow curve reports

The cash flow management steps can be displayed as *cash flow curves* in Primavera Unifier.

The following are *three most common*, *and important*, standard cash flow curves. See ***Creating Cash Flow Curves (Classic View)*** (on page 170) for details on all types of Cash Flow Curves.

Baseline

▶ The time-phased distribution of the project budget over the project duration.
▶ The project budget distributed over the duration of the project, indicating how the budget might be spent.

> **Note**: A project can have multiple baselines (original, revised, etc.).

Actuals

▶ The spends that have actually been incurred (approved invoices, or in some cases, accruals).
▶ Spends is defined as periodic outlay of money, tracked per CBS.
▶ The project spending, which includes actual invoices received for each period.

> **Note**: The Actuals (spends) can be compared to baseline budget to maintain budgetary control.

Forecast

▶ The time-phased distribution of the project forecast, from the latest Actuals (spends).
▶ The expected spends for the future.

> **Notes**:
>
> ▪ The start point of a Forecast curve is the end of the latest Actuals, and the end point is the total forecast.
> ▪ You can use cash flow forecasting to ensure that cash is available when payments are due.
> ▪ Forecast is updated as new actuals are incurred.

A Cash Flow Curve requires a data source, which your administrator can create in the Standards &Libraries node.

▶ **Data Sources**

Used to identify Cash Flow Curves and Roll up data to program and company worksheets. Multiple data sources can be defined per curve type, depending upon business needs. Example: "Original baseline and Current baseline" data sources can be defined for type "Baseline". For roll ups, curves are summarized across data sources.

▶ **Curve Type**

Used with pre-defined categories of Cash Flow Curves: Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom. Each curve type has its own logic to address different business requirements.

▶ **Distribution Profiles**

Used to distribute data automatically in the Cash Flow Worksheet.

▶ **Detail curve templates**

Used to make Cash Flow Worksheet.

▸ **Roll up curve templates**

Used to create curves in Programs that roll up cash flow data from Projects/Shells.

Cash Flow Curves Types

There are two types of cash flow curves:

1) **Detail curves**: Cost per period.
2) **Rollup curves**: Each period includes sum of all previous periods.

Detail curves

A family of curves can be defined at a Project/Shell level or Program/Company level. Each curve within the family is based on a data source (one curve per unique data source).

A Cash Flow Detail curve is a curve that is used to monitor the movement of cash at different detail levels in a project.

The following is a list of detail levels in a project:

▸ **Project/Shell**
▸ **Summary CBS**
▸ **CBS**
▸ **Commitment**

For each detail level in a project, you can specify the following curve types:

▸ **Baseline**

Depicts the project budget that is spread over the duration of the project. Users can define multiple baselines for a project.

▸ **Actuals** (Spends)

Depicts the expenditures (spends) that have actually incurred.

▸ **Forecast**

Depicts the projection of the future costs, based on current expenditures (Actuals or Spends).

▸ **Portfolio Budget**

Depicts the Baseline curve, or Forecast curve, used for portfolio optimization scenarios in Unifier Portfolio Manager.

▸ **Derived**

Depicts the Baseline curve, or Forecast curve, used for portfolio optimization scenarios in Unifier Portfolio Manager.

> **Note**: The Derived curve is used to convert the sources currencies to a currency used by the Portfolio Budget curve.

▸ **Custom**

Depicts cost data other than Baseline, Actuals, etc.

> **Note:** Custom curves can include any other cost data you want to view

graphically.

Rollup curves

A Rollup curve includes a group of curves with Active status, summarized by data source, across Projects/Shells in a Program or across all Projects/Shells in a Company.

A Cash Flow Rollup curve facilitates the aggregation of cash flow data source (from Projects/Shells and CBS) to Company and Program Cash Flow WorkSheets.

> **Note**: A Cash Flow Rollup curve can only be created in Company Workspace and Program levels.

You can compare curves side-by-side, in the Cash Flow Worksheet, to view Cash Flow distribution over time.

Cash Flow Log Window (Standard View)

The **Cash Flow** log is the starting place for cash flow operations.

To access the **Cash Flow** log go to the shell and switch to the user mode. Click the **Cost Manager** module to expand. Click the **Cash Flow** node to see the **Cash Flow** log.

The **Cash Flow** log:

▸ Displays all existing cash flow curves that you have access to
▸ Provides options for managing cash flow curves (creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users)

> **Note:** If you are working in a shell or project, the **Cash Flow** log displays cash flow *detail curves*. If you are working in a company or a program, the log displays the *rollup curves*.

The project or shell **Cash Flow** log has the following toolbar options:

Create	Create new cash flow curves. Your options are:
	▸ Manual: Create curves manually.
	▸ From Template: Create curves by using available templates.
	▸ Summary Curve: Create summary curves using existing curves in the log

Actions	To do the following on the log items as a whole or individually: ▶ Refresh ▶ Roll up Status ▶ Delete ▶ Manage Distribution Profiles **Notes**: Distribution profiles are generally managed by an administrator. If you select one or more detail curves and one or more Summary curves and proceed to update the roll up status, then the system ignores the selected Summary curves and updates the roll up statuses of the selected detail curves.
View	View the log of all cash flow curves. You can create new views, manage views, or edit the current view.
Edit View	Open the Edit View page and change the columns, filters, groups, and sorting of the items on the log.
Refresh Log	Refresh cash flow curves on the log.
Print	To print, export to CSV, or export to Excel the log items.
Find on Page	Search the Cash Flow log

The **Cash Flow** log displays a list of cash flows. Information about each cash flow record is presented in the following columns:

Refresh Data	To refresh each curve data and view the refresh status, as well. Refresh Data has three states: Refresh Now, In Progress, and Refresh Complete. The refresh actions apply to Detail Curves and not to Summary Curves.
Name	Name of the curve.
Description	Description for the curve
Detail Level	This option applies to Detail Curves only and will be blank for Summary Curves.
Type	Type of the curve.
Status	Curve status. The Status column applies to Summary Curves and not to Detail Curves. This column should be blank for Detail curves.
Time Scale	The time taken by the process. This option applies to Detail Curves only and will be blank for Summary Curves.

Rollup Status	This can be "Active" or "Inactive." This option controls whether the cash flow data from the current project or shell is rolled up to the Program or Company cash flow curves, or not.
	This option applies to Detail Curves only and will be blank for Summary Curves.
Last Saved	The date the cash flow curve properties were last updated and saved.
	This option applies to Detail Curves only and will be blank for Summary Curves.
Auto Refresh	A detail cash flow curve can be set up to refresh automatically as per a schedule. This column shows the auto-refresh frequency, if the curve has been set up for the same, else, it shows as blank.
	This option applies to Detail Curves only and will be blank for Summary Curves.

Each cash flow detail curve has a **Refresh Data Now** option (Refresh Data has three states: Refresh Now, In Progress, and Refresh Complete) to allow you to get the most up-to-date information about the highlighted record, and a *gear menu* (⚙) that enable you to conduct the following:

> **Note**: When you highlight a number of detail curves on the log, the *gear menu* (⚙) menu enables you to **View Summary**. This options enables you to display the Summary Curve window for all selected curves.

Open	Open a curve.
Copy	Copy a curve. It opens the Create New Cash Flow Curve window. All options and values within this window are pre-populated by way of information in the Properties of the source curve.
	Note: The Name field in this window will be prefixed with "Copy of."
	You can make changes as needed and click **OK** to open the new detail curve window.
Delete	Delete existing cash flow curves.
	Note: When you select one or more curves (cash flow detail curves or summary cash flow curves) and click Delete, if you select, Yes in the resulting window, then the selected cash flow detail curves will be deleted.
Refresh Now	Refresh Data has three states: Refresh Now, In Progress, and Refresh Complete.
Roll up Status	A single menu option with two sub-options:
	▸ Active
	▸ Inactive
	To manage cash flow curves rollup status.

Properties	To open the Properties window and access the following tabs:
	▶ General (Detail Level, Time Scale, and Period Close Settings) ▶ Curves ▶ Filter (Filter settings) ▶ Options (Number Format) ▶ Schedule (Refresh Cashflow, Frequency, Range of Recurrence) ▶ Summary (add the curve to Summary curves)

When you click and highlight a cash flow, the right pane displays the following tabs:

Permissions	Grant cash flow curves viewing and/or usage permission to other users
Schedule	Set Scheduled Runs, Frequency, and Range of Recurrence.
History	See the history of all refreshes (manual or scheduled) on a detail curve.

Summary Cash Flow Curve

If there is more than one detail curve in the log, then one additional (system-generated) curve, the "Summary Cash Flow Curve" will be displayed in the log. Also, in this case, the view is defaulted to the "Group by Type" such that the detail curves and the summary curves are seen grouped by their type in separate arrangement or structure. The following shows the additional options specific to the "Summary Cash Flow Curve."

Create Summary Curve window options:

This window (overlay page) appears when you select **Summary Curve** from the **Create** toolbar option.

▶ **Name**
▶ **Status**
▶ **Description**
▶ **Detail Curves**

   Enables you to select from available detail curves from the project or shell. You can select one or more curves and move them to the "Selected" section.

▶ **Cancel** and **Save**

   When you click **Save**, the **Create Summary Curve** window (Overlay page) closes, and the newly created summary curve appears in the log, as a row.

As soon as you create a second detail curve, the system- defined "Summary Cash Flow Curve" is created automatically, and the Cash Flow log view changes to "Group by Type." The "Summary Cash Flow Curve" is displayed under the "Summary Curves" grouping. Similarly, if you delete the second last detail curve from the log, the Summary Cash Flow Curve will get deleted automatically from the grid. In this case, if there are no more user-defined summary curves, then the view returns to "All" instead of "Group by Type."

The following explains the *gear menu* (⚙) options (or right-click at a single Summary Curve) for the Summary Curves:

▶ **Open**

   To open the Summary curve window.

▸ **Copy**

To open the "Create Summary Curve" window (overlay) form in Standard View. When you copy, all of the options from the source curve properties are copied into the "Create Summary Curve" window (overlay) form.

▸ **Delete**

To delete the Summary Curve. This option will not be available for the system-defined Summary Cash Flow Curve.

The right pane for a Summary Curve log displays one tab: **Properties**. The **Properties** tab displays all of the options of the "Create Summary Curve" window (overlay) form and allows you to make changes.

> **Note**: You cannot make changes to the properties of the system-defined Cash Flow Summary Curve. For the system-defined Cash Flow Summary Curve, all options in the **Properties** tab appears as read-only.

The system-defined Cash Flow Summary Curve values, for each option, are:

▸ **Name**: Summary Cash Flow Curve

▸ **Status**: Active

▸ **Description**: System-defined Summary Cash Flow Curve

▸ **Detail Curves**: The names of all Detail Curves from the Cash Flow log (the "Selected Curves" section).

If you select multiple Detail Curves, then the right pane displays the following tabs:

▸ Permissions

This tab is similar to that of the single Detail Curve.

▸ Schedule

This tab is similar to that of the single Detail Curve. When you select multiple curves then all of the options in this tab will be empty. Any changes made in this tab, when saved, applies to all of the selected curves.

If you select multiple Summary curves, then the right pane will be blank.

If you select a combination of Detail and Summary curves, then the right pane will be blank.

> **Note**: If you have "View-only" permission, for Cash flow, then none of the right pane tabs (for both Detail as well as Summary curves) will be visible to you.

Cash Flow Project Overview (Standard View)

When you open a curve from the cash flow log, you see the cash flow project overview. The cash flow project overview provides a visualization of key information, snapshot changes, and system snapshots for faster understanding of project financial conditions.

Calculating Inflow, Outflow, and Variance

▸ Inflow = the sum of all inflow amounts against a common timeline

▶ Outflow= the sum of all outflow amounts against a common timeline
▶ Variance = outflow – inflow

Variance Analysis

You can view inflow vs. outflow analysis in the three tiles at the top of the cash flow worksheet:

▶ **Current Cost Variance** shows the difference between the current cost inflow and the current cost outflow. The change in current cost variance against the last snapshot displays beside the total.
▶ **At Completion Cost Variance** shows the difference between the at completion cost inflow and the at completion cost outflow. The change in the at completion cost variance against the last snapshot displays beside the total.
▶ **At Completion Schedule Variance** shows the difference between the at completion schedule inflow and the at completion schedule outflow in months. The change in the at completion schedule variance against the last snapshot displays beside the total.

A bar chart corresponding to the colors of the curves is visible below the variance amount. Hover over a bar to display a tooltip with corresponding information, and click **Click to Open** to open the curve worksheet.

Variance Analysis Table

Click **Show More** at the bottom of the tile to view a Variance Analysis Table containing the following columns:

▶ Curve Name
▶ Current total
▶ Changes from last Snapshot
▶ At Completion Total
▶ Changes from last Snapshot
▶ End Date
▶ Changes from last Snapshot

Forecast Analysis

Forecast curves include a separate forecast analysis section in which you can view Spends vs. Forecast analysis and Forecast vs. Baseline analysis. This section contains four tiles:

▶ **Remaining <Forecast Curve Name> Amount** shows the difference between the at completion forecast amount and the approved spends till date. The change in the remaining forecast amount against the last snapshot is displayed beside the total.
▶ **Remaining <Forecast Curve Name> Amount** shows the difference between the at completion baseline amount and the approved spends till date. The change in the remaining baseline amount against the last snapshot is displayed beside the total.
▶ **Remaining <Forecast Curve Name> Time** shows the difference in date between the forecast curve end date and the actuals end date. The change in the remaining forecast end date against the last snapshot displays beside the total.
▶ **Remaining <Forecast Curve Name> Time** shows the difference in date between the baseline curve end date and the actuals end date. The change in the remaining baseline end date against the last snapshot displays beside the total.

Forecast Analysis Table

Click **Show More** at the bottom of the tile to view a Forecast Analysis Table containing the following columns:

- ▸ Curve Name
- ▸ Total
- ▸ Changes from last Snapshot
- ▸ Remaining Total
- ▸ Changes from last Snapshot
- ▸ End Date
- ▸ Changes from last Snapshot
- ▸ Remaining Time
- ▸ Changes from last Snapshot

Granting Cash Flow User Mode Permissions

Before others can access a cash flow curve that you created, they need user mode permission. This is different from permission granted in Administration Mode, which is for general access to the module. You grant user mode permission per detail curve in the project or shell.

> **Note**: Granting cash flow User Mode permissions explained in this section is different from permission granted in Administration Mode, which is for general access to the module (Refer to the *Unifier Administration Guide* for details. You grant User Mode permission per detail curve in the Project/Shell.

To give users permissions to work with a cash flow curve

1) Open the **Company Workspace** tab and click **Cost Manager** > **Cash Flow** in the left Navigator. The Cash Flow log opens.
2) Select one or more detail curves from the log, click **Actions**, and click **Permission** to open the **Edit Permission** window.
3) Click picker in the **Add** to open the User/Groups window. Select one or more users or groups to grant permission to, click **Done** and then click **OK**.
4) In the Edit Permission window, select one or more users or groups, and select any of the following permissions:
   - ▸ Modify Permission: Allows user to modify permissions to the curve. This also automatically selects Edit Data.
   - ▸ Edit Data: Allows user to enter or edit data for manual data entry curves.
   - ▸ View: By default, when you add a user or group to the window, they are granted View permission, which allows them to access and view the curves and data.
5) Click **Save**.

When the user creates a Cash Flow by way of copying from Project/Shell template through the **Workflow Setup** sub-node:

If the step in the **Workflow Setup** (in the project, admin mode) has a Cash Flow template, then all of the permissions in the Cash Flow template will be copied over to the created Cash Flow.

When the user selects a Cash Flow template at the record level:

If at the time of creating a commit BP record, the user has selected a Cash Flow template, then all of the permissions in the Cash Flow template will be copied over to the created Cash Flow.

About Portfolio Manager Budget Curves

The Portfolio Budget curve is linked to scenarios in the Portfolio Manager. The project manager must create this curve. Once created, the curve shows the initial budget projections.

When you open a Portfolio Budget curve, you can view the data in the transaction currency, if different from the project currency.

> **Note**: If the currencies of your data sources are different, you can create a base currency using the Derived curve as your data source.

For cash flow purposes, the Portfolio Manager extracts a project's baseline or forecast budget numbers for use in a scenario sheet.

During a portfolio analysis, the Portfolio Manager can produce three different Portfolio Budget curves:

1) **Shared Budget curve**
2) **Approved Budget curve**
3) **Original Budget curve**

> **Note**: Before you can use these curves, you must add them to your project.

You can pull data from the three different Portfolio Budget curves (Unifier Portfolio Manager) into the Cash Flow curves within your Project/Shell.

> **Note**: If the currency of data pulled from any of the three different Portfolio Budget curves (Unifier Portfolio Manager) is different from the Project/Shell currency, you can create a Derived curve (using the existing curves within a family) that converts data from existing curves to a different currency.

Shared Budget curve

This curve shows the portfolio planner's proposed number for the project. You will not have access to this curve until the planner shares a scenario. You can include this curve on the cost worksheet, along with the forecast budget, or any other budget curve, in order to see the difference between your project's numbers and the planner's proposed budget numbers.

Approved Budget curve

When a scenario is approved in the Portfolio Manager, the budgets for each project in the scenario are marked "approved." They are then locked and stored in the Portfolio Manager. An Approved Budget curves shows the approved budget for the project for that planning period (usually a year).

Original Budget curve

This curve is for a project in execution. This budget is the last approved budget for the project before it moves into its execution phase. This approved budget becomes the project's original budget; and this original budget, plus any changes that occur to the numbers during the life of the project, becomes the project's approved budget.

Financial Period in Cost Manager

The Portfolio Budget curves (Shared, Approved, and Original), in Cash Flow, are linked to Portfolio Manager scenarios.

User can attain data from the Portfolio Budget curves (Shared, Approved, and Original), from the Portfolio Manager scenario in Parent Shell, into the Cash Flow curves within a Project/Shell.

During a portfolio analysis, the Portfolio Manager can produce the following Portfolio Budget curves:

▸ **Shared Budget curve**

The Shared Budget curve displays the portfolio planner's proposed number for the project.

The User can include the Shared Budget curve on the Cost worksheet (along with the forecast budget or any other budget curve) in order to see the difference between the project numbers and the planner's proposed budget numbers.

▸ **Approved Budget curve**

When a scenario is approved in the Portfolio Manager, the budgets for each project in the scenario are marked "approved."

Unifier lock and stores the budgets in Portfolio Manager.

An Approved Budget curve displays the approved budget for the project for the planning period (usually a year).

▸ **Original Budget curve**

The   Original Budget is the last approved budget for the project before it moves into its execution phase.

The approved   Original Budget becomes the project original budget. This original budget (and any changes that occur to the numbers during the life of the project) becomes the project approved budget.

The Portfolio Manager scenario (with Financial Period as the Period Structure) created in the parent Shell will push/pull the data from respective curve only. That is to say:

  ▸ For the child Shell, it has the same Financial Period in its options, and

  ▸ It will consolidate the data for only those Cash Flows where the timescale has been selected as Financial Period.

If the user selects a financial period from the 'by' drop-down list, then the corresponding drop-down list for financial period will get populated with the Financial Period present in the Shell options.

Other options, in timescale, will be disabled (for format and so forth), and it will remain blank with other options enabled (for format and so forth).

For Baseline and Forecast type curves, the summary sheet spreads and schedule manager spreads will be assigned to the relevant period.

For the Actuals, the cost sheet columns and effective dates will be used to assign the values to the relevant period.

For a Cash Flow curve, the X-axis for graph will still remain the same but the points in the curve will be based on the Financial Period that has been selected. The columns in the grid will be based on the Financial Period that has been selected, also.

Creating Cash Flow Curves (Classic View)

You can create cash flow curves either manually or automatically. You can also use existing cash flow curve templates to facilitate the creation of cash flow curves.

Cash flow curves require a data source, which your administrator can create in Standards & Libraries. For details refer to the *Unifier Administration Guide*.

There are multiple ways to create a cash flow curve (new, from a template, or copy). The following describes the basics of how to create a cash flow curve in Unifier.

> **Note:** You must have permission to access and configure cash flows.

To create a cash flow detail curve:

1) Open **Unifier** and go to your project or shell tab.
2) Ensure that you are in **User Mode**.
3) From the left Navigator click **Cost Manager** > **Cash Flow**.
4) From the Cash Flow log select your project or shell.
5) From the Cash Flow log toolbar click **New** to open the Properties window (the General tab is open by default).

> ▪ **Note:** At this point, you can also select a cash flow template, if one is made available by your administrator. To select a template, click the down-arrow next to New and select a template.

6) In the Name field, enter a name for the new cash flow curve.
7) In the Description field, enter a brief description about the new cash flow curve.
8) Ensure that the following options are selected:

Rollup Status: **Active**

Values represented by this new cash flow curve will roll up to program and company level Cash Flow WorkSheets.

Detail Level: **Project/Shell**

This new cash flow detail curve will track cash flow for the entire Project/Shell.

9) Click the **Curves** tab.

10) Click **Add** to a list of available data source options. Each curve that you add is based on a data source that your administrator has defined as is available in this list.

> ▪ **Note:** Each data source can only be used once in a Cash Flow WorkSheet.

11) Click to select the desired data source (Example: Baseline) for the new cash flow detail curve.

12) Based on your selected data source, a Curve Setup window (Cash flow by ...) for your selected data source opens (Example: Cash flow by Project/Shell – Baseline).

13) Review the information in the Curve Setup window. The contents o the *Name* and the *Type* fields are auto-populated and cannot be changed. The default option settings for all subsections of this window specify manual entry for all cash flow values (Manual).

14) Click **OK** to go back to the Properties window. Notice that the curve is now listed in the Curves tab window.

You can click Add to create another curve based on a different data source.

When finished, click the curve that is listeded in the Curves tab window (Example: Baseline) to select, and then click the **Filter** tab.

In the **Filter** tab you can determine the cash flow data displayed by the curves. Your filtering options are:

▸ All CBS codes from cost sheet (selected by default)
▸ Summary CBS codes
▸ CBS codes

Click the **Options** tab to set the Number Format for your curve.

Click the Schedule tab to set the following schedule options for your curve:

▸ Refresh Cash Flow
▸ Frequency
▸ Range of Recurrence

When finished, click **OK** to open the Cash Flow WorkSheet window for your curve.

Cash Flow Properties Settings Highlights (Classic View)

The cash flow Properties window contains six tabs:

▸ **General**

Specify timescale, detail level, and period close settings that will apply to all curves you create on the Curves tab.

▸ **Curves**

Create the family of curves (Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves) to be added to the Detail Curve Cash Flow WorkSheet. You can add multiple curves to the worksheet. Each curve must be associated with a data source, which is defined by an administrator. Curves are color-coded based on data source.

▶ **Filter**

Specify CBS codes or Summary CBS codes (for hierarchical CBS structures only) that are included in the cash flow data. If no codes are specified, cash flow curves will reflect all CBS codes present on the project cost sheet.

▶ **Options**

Specify format for numbers displayed on the Cash Flow WorkSheet.

▶ **Schedule**

Enable automatic refresh of the cash flow curve or specify a refresh schedule.

▶ **Summary**

Displays the default summary tab within the tab.

The Properties descriptions below apply to Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves. The descriptions were written to familiarize you with available cash flow capabilities.

For Cash Flow by Project/Shell Detail Level

▶ **Curves** tab

Distribute amount from cost sheet column field and From/To Dates. This is where you add the curves based on available data sources.

▶ **Baseline**, **Forecast**, **Portfolio Budget**, **Derived**, and **Custom** curves

If you want to automatically distribute a Cost amount from a cost column, the column must be selected in the Project/Shell. You can choose a curve for a Project/Shell template as long as you are creating a new Project/Shell from the template and are copying both the curve and the cost sheet.

▶ **Actuals (or Spends)** curve

Because you must select a cost sheet column associated with Spends data in the Project/Shell, a Spends curve can only be created in a Project/Shell (or similar to the above, in a project/shell template). You will not be able to add a Spends curve in a company-level template.

▶ **Forecast** curve

If you define Forecast to start a the end of the Spends curve, the Forecast options use data from the Spends curve. Forecast options can only be set if a Spends curve is present.

▶ **Portfolio Budget** curve

The Portfolio Budget curve shows current project-row plan data from a Portfolio Sheet. When plan data changes, it becomes visible in the cash flow graph as a parallel curve so project managers can clearly see the variance between their projections and portfolio planner-initiated changes.

▶ **From Date and To Date**

These fields can be set up to pull start and finish dates from the master schedule sheet in the project or shell. These can be selected in a project or shell template. At runtime, be sure the master schedule sheet is set up and has dates in the date element fields chosen for the curves.

> **Note**: In manual mode, Unifier pegs cost data distribution to the From Date. If there are date changes, Unifier shifts the curve on the timeline based on From Date modifications. Each time period (month or year) on the curve retains the value of the original distribution as long as the duration remains the same. If date changes make the cash flow curve duration longer or shorter, Unifier will not re-balance or redistribute cost data to match the modified curve length (the data will change.)

For Cash Flow by CBS Detail Level

Curves tab

Use dates from Schedule Sheet field - Effective for the baseline curve only, you can view cost distribution information by CBS code in a schedule sheet.

The properties window for each curve type displays these settings:

▸ Distribute amount from cost sheet column field and From/To Date fields. This is similar to Cash Flow by Project/Shell Detail Level above.

▸ Auto by default profile by CBS field.

For Baseline, Forecast and Custom curves, you cannot select "Auto by default profile by CBS" in a company template, but you can in the project/shell, since this setting relies on the CBS codes used in the project or shell. You can choose it for a project/shell template as long as you are creating a new project or shell from the template and are copying both the curve and the cost sheet.

> **Note**: You won't be able to double-click the CBS Summary to view the CBS details.

For Cash Flow by Summary CBS Detail Level

Curves tab

Distribute amount from cost sheet column field and From/To Date fields. This is similar to Cash Flow by CBS Detail Level above.

Curves tab

Auto by default profile by Summary CBS field. Similar to CBS detail level, for Baseline, Forecast and Custom curves, you cannot select "Auto by default profile by Summary CBS" in a company template, but you can in the Project/Shell, and a Project/Shell template as long as you are creating a new project or shell from the template and are copying both the curve and the cost sheet.

For Cash Flow by Commitment Detail Level

General tab

- ▸ Business Process and Base Commit Record fields.
- ▸ For a Commitment detail level, you must select the base commit type business process to use. Be sure that you selected business processes that are being used in the Project/Shell.
- ▸ In the Base Commit Record field, you must select the record at runtime. This is not selectable in the template, since records do not exist in templates. The list displays all records you have permission to view. If a detail curve already exists for that record, you will not be able to choose the same record again.
- ▸ Curves tab, Include Change Commits and Spends Business Process.

If you chose these options, ensure that you have selected Change Commits that are being used in the Project/Shell, and are associated with the selected Base Commit.

> **Note**: If the cash flow is attached to a Portfolio Manager scenario, the planner-modified baseline curve appears adjacent to the original baseline in the Cash Flow WorkSheet. This lets the project Manager easily spot the difference between the initial projection and the planned suggestion.

Distribution Profiles (Classic View)

When working with templates versus detail curves in Project /Shell, distribution profiles can be:

- ▸ Created in Administration Mode (in Standards & Libraries).
- ▸ Used when selecting auto distribution for curves.

At runtime, you can create additional distribution profiles within the project's cash flow module. When working with curves, you can apply the profiles created in Administration Mode, or in the project or shell.

> **Note:** If you are creating a new Project /Shell from a Project /Shell template, and are copying the cash flow module, then template properties and permissions will be copied into the new project or shell.

Cash Flow Properties Settings: General tab (Classic View)

The **General** tab of the cash flow Properties window is where you define shared characteristics for this family of curves. For example, all of the curves added here will share the same Time Scale, Detail Level, and Period close settings.

To create a cash flow details curve and complete the Properties **General** tab:

1) Open Unifier.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).

3) From the Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the **Cash Flow** log window (right-hand pane). The **Cash Flow** log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users. To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The **Properties** window opens and displays the **General** tab as default.

> **Note**: If you have a cash flow template that you want to use, click the New drop-down list (the down arrow) and select **From Template** to open the **Template Log (Cash Flow Templates)** window.

4) Click to select a cash flow from the **Cash Flow** log window and click **Properties** to open the cash flow **Properties** window.

5) Complete the fields in the **General** tab using the information in the following table and when finished click **OK** to save work and open the **Cash Flow WorkSheet** that you added.

After the **General** tab is complete, you can save as is, or continue by adding the curves that will make up the detail curve. See *Cash Flow Properties Settings: Curves tab (Classic View)* (on page 179).

In this Field:	Do this:
Name	Enter a unique name for the curve in the Name field.
Description	(Optional) Enter a brief description in the Description field.
Rollup Status	Select an option for Rollup Status. The options control whether the data is rolled up to Program or Company cash flow curves, or not. Active: The curve will roll up to Program or Company cash flow the next time the curves are refreshed. Inactive: The curve will not roll up to Program or Company cash flow the next time the curves are refreshed.
Detail Level	Select a detail level option from the Detail Level box. The selected option determines the level-of-data the cash flow curves will display. Choose one: Project/Shell: Choose this to track cash flow for the entire project or shell. For example, Baseline and Actuals curves might chart the budget and cash outlay across the entire project. Summary CBS: Choose this option to track cash flow by summary CBS codes. **Note**: In order to select this option, the cost sheet used in the Project/Shell must be a tree structure. CBS: Choose this to track cash flow within a Project/Shell at the CBS code level. This allows you to track cash flow across the project for specific CBS codes, or for all CBS codes. Commitment: Choose this option to track cash flow associated with a

In this Field:	Do this:
	particular commitment record and its line items. This includes, for example, a base contract and optionally their referenced change commits. This selection activates the following fields:
	Business Process: Click the drop down menu and choose a business process. Listed are the Project/Shell level business processes of type "Base Commit." When creating a template, choose the one that is likely to be used in the projects/shells the template will be used in. When creating the curve in a Project/Shell from the template, you may need to verify that the business process chosen here is active in the project or shell, or pick another from the list.
	Reference Elements: The worksheet will display the reference elements. By default, the Record Number will display as the number. You can click the drop down menu and choose an element to display as the Name (Record Number, Status or Title).
	Base Commit Record: This is selectable in a project or shell, but not in a template. Click the Select button. Choose the commitment record from the list of available records in the project or shell. Each commitment record can be selected only once.
	Note: You can set up the automatic creation of a cash flow curve when a base commit record is created and completed or reaches a particular step. This is done in the BP Setup for the business process.
Time Scale	Select the Time Scale. The time scale determines the scale and format in which the data is shown on the Cash Flow WorkSheet.
	By Month or Year. The default is Month.
	Format: Choose the format that you want the month and year displayed on the graphs. The default is M YYYY.
Period Close Settings	Define the Period Close Settings. The options allow you to choose some automatic settings that will happen at the end of each period (month or year, as chosen in the Time Scale field).
	Enable auto snapshot on
	The Enable auto snapshot on option determines when an automatic snapshot will be taken of the data. Click Select to open the Details window.
	The Enable auto snapshot on option determines when an automatic snapshot will be taken of the data. Click Select to open the Details window.
	If you selected Month for Time Scale (the preceding step): You can choose a specific date each month to automatically take a snapshot, or specify a particular day (such as the first Monday of the month), in the Details window.
	If you selected Year for Time Scale (the preceding step): You can specify the exact date to take the snapshot each year (or a particular day such as

In this Field:	Do this:
	the first Monday of January), in the Details window. See the examples after the final step.
	Note: After an auto-snapshot is taken, the curve will be refreshed immediately. Actuals (or "spends") will resume after the auto-snapshot is completed.
	Examples of using Enable auto snapshot on, Cutoff spends, and Resume Spends
	Company A wants to take an auto snapshot of its cash flow data every time period. Company A would choose a particular date (such as the 3rd of the month for Month, or anuary 3 for Year). Unifier would take the snapshot and refresh the cash flow curve. They do not select the Cut off spends option.
	Company B regularly reviews and revises forecast projections during fixed days every time period. Because it does not want new Spends records to hit the Cash Flow WorkSheet during this period, they choose the Cut off spends option. This option requires that Enable auto snapshot be selected first. The company sets this option so that an auto snapshot is taken of their changes just before spends are resumed. Snapshots can then be used for comparison of previous forecasts with the current month. Any spends records that came in during the forecast period are not lost; the Resume Spends option determines whether those spends records will be included in the previous month's cash flow, or pushed to the next time period.
	Cutoff spends
	This option is applicable for Actuals (or "spends") type curves.
	Selecting this option will temporarily stop spends business processes (for example, Invoices) from hitting the Cash Flow WorkSheet during analysis periods.
	Notes:
	▸ The **Enable auto snapshot on** option must be selected first. Actuals (or "spends") will resume after the auto-snapshot is completed.
	▸ If no value is specified, then the last date of the current month is presumed.
	▸ Unifier marks the time of the Cutoff spends date at the beginning of the day. For example, on June 30, the data can become locked at the beginning of the day and not at the end of the day, therefore, preventing the user from making any last minute changes before the start of the next month.
Period Close Settings (Continued)	**Apply Spends to**
	The selections under this period close settings option allow you to apply spends to an effective date or before/after a Cutoff spends date.
	By default, Cutoff spends will resume immediately after an auto-snapshot

In this Field:	Do this:
	is taken.
	Note: If there is a gap between the Cutoff spends date and the Enable auto snapshot on date, any spends that came during that period are not lost.
	For example, if a Cutoff spends date is October 26 and the Enable auto snapshot on date is November 2, (and the Time Scale is monthly) that defines the freeze period. Any spends that come in on October 27, 28, 29, 30, 31, and November 1 will not hit the cash flow sheet during the freeze period. After the Enable auto snapshot on date is reached, spends will be included back in October for spends (Oct 27-31) or November for spends (Nov 1-2), and the effective date will be honored.
	The same month/year as the effective date
	Note: The text of the options under Apply Spends to change based on the selection that you made for the Time Scale (By: Month or By: Year).
	If this option is chosen, once the freeze period is lifted, spends data is included back in the current period. The final output is similar to the case where no period close settings are applied since the effective date is honored. Spends for Oct 26-31 will be included in October and Nov. 1-2 spends will be included for November.
	For example, if the cutoff date is the 26th of October and the snapshot date is the 2nd November, the freeze period is Oct 26 – Nov 2nd. Any spends that come in on Oct. 27, 28, 29, 30, 31 and Nov. 1, and 2 will not show on the cash flow sheet during the freeze period. After the auto snapshot date is reached, these spends will be included back in either Oct for spends (Oct 27-31) or Nov for spends (Nov 1- 2) and the effective date will be honored.
	The next month/year if after the cutoff date
	Once the freeze period is lifted, spends data from the cutoff date to the end of the month will be included in the next month/year. Spends for Oct 26-31 will be included in November and Nov. 1-2 spends will be included for November.
	The previous month/year if on or before the cutoff date
	Once the freeze period is lifted, spends data from the start of the month up to the cutoff date will be included in the previous month/year. Spends for Oct 26-31 will be included in September and Nov. 1-2 spends will be included for November.
	Note: During the Cutoff spends period, even if automatic refresh of the curve occurs as set in the Schedule tab, spends data will not hit the cash flow sheet until spends are resumed again.

Cash Flow Properties Settings: Curves tab (Classic View)

In the Curves tab of the cash flow Properties window, you can add the curves you would like to include in the Cash Flow WorkSheet. See the *About Cash Flow Worksheets* (on page 301) section for more for details.

Based on the data sources that you have defined in **Company Workspace** > **Administration Mode** > **Standards & Libraries** > **Cash Flow** > **Data Sources**, you can create:

▸ Baseline curve
▸ Custom curve
▸ Derived curve
▸ Forecast curve
▸ Portfolio Budget curve
▸ Actual (Spends) curve

Depending on the type, the curve setup options will differ. You can define one curve for every data source.

> **Note**: The Portfolio Budget curve is linked to scenarios in the Portfolio Manager. The project manager must create this curve. Once created, the curve shows the initial budget projections.

When you open a curve, you can view the data in the transaction currency, if the transaction currency is different than the project currency.

Baseline Curve (Classic View)

You can construct cash flow curves by Project/Shell, Summary CBS codes, by CBS, or by a specific Commitment business process and record. The Baseline curve options reflect the detail level selections you made on the General tab.

This section explains the following topics:

▸ To add a Baseline curve for cash flow by Project/Shell
▸ To add a Baseline curve for cash flow by Summary CBS or CBS
▸ To add a Baseline curve for cash flow by Commitment

To add a Baseline curve for cash flow by Project/Shell:

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the left Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.

5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Project/Shell under Detail Level.

6) Click the **Curves** tab.

7) Click **Add** and select the data source of type Baseline. The Cash Flow by Project/Shell - Baseline window opens.

8) Complete the fields in this window using the information in the following table. When finished click **OK** to save work and open the Cash Flow WorkSheet that you added.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source
Type	No action. This field displays the curve type: Baseline
Distribution	Distribution spreads the amount value between cash flow time periods. Choose one: *Manual* You enter values into each field manually. *Auto by default profile* You can choose one of the available Distribution Profiles, that were defined in Standards & Libraries > Cash Flow > Distribution Profiles, or from those that were defined directly in the Project/Shell cash flow log (Edit > Distribution Profiles). This will be used as the default profile; however, at runtime, you can change which profile to use. Click Select to open the Select Distribution Profiles window. Select a distribution profile to use as the default profile for the curve. The default profile is used for the initial display and calculations in the Cash Flow WorkSheet. You can change the distribution profile from the worksheet. If you do this, the default profile will automatically update to reflect the current selection.

In this Field:	Do this:
Cost	You can choose the cost column when creating a curve in a Project/Shell but not in templates. Choose one of the following options: Manually enter amounts for each period (available if you chose Manual above) You can enter cost information in the Total field on the worksheet. Auto distribute total amount across all periods (available if you chose Auto by default profile above) This will automatically distribute the amount in the Total field using the selected default profile. Distribute amount from cost sheet column This option will take the amount in the selected Cost Sheet column, and either allows you to distribute it manually (if you chose Manual distribution), or use the default distribution profile (if you chose Auto by default profile). An example column would be a budget.
Schedule From Date To Date	Define the range of dates to use to plot the cash flow data. If you choose to take dates from the schedule sheet elements, the Master schedule sheet for the Project/Shell is used. Determine what dates to start the curve and end the curve. Choose one of the following options for each date: *Manual* User enters the date directly in the Cash Flow WorkSheet. *Data element from schedule sheet* Choose a schedule sheet data element from the list. The date will be populated automatically from the schedule sheet name (picker) when the cash flow curve is refreshed. If these dates are changed on the selected schedule sheet, then the changes will be reflected on cash flow after the next refresh of the curves.

To add a Baseline curve for cash flow by Summary CBS or CBS:

1) Open **Unifier**.

2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).

3) From the left Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

> **Note**: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.

5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Summary CBS (for summary CBS codes) or CBS (for cash flow by individual CBS codes) under Detail Level.

6) Click the **Curves** tab.

7) Click **Add** and select the data source of type Baseline. The Cash Flow by Summary CBS - Baseline or Cash Flow by CBS - Baseline window opens.

8) Complete the fields in this window using the information in the following table. When finished click **OK** to save work and open the Cash Flow WorkSheet that you added.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source
Type	No action. This field displays the curve type: Baseline

In this Field:	Do this:
Distribution	Distribution spreads the amount value between cash flow time periods. Choose one:
	Manual
	You enter values into each field manually.
	Auto by default profile per CBS (for CBS Detail Level curves) or *Auto by default profile summary CBS* (for Summary CBS Detail Level curves)
	You can specify a default profile per CBS code (or Summary CBS code) one CBS at a time or by selecting multiple CBS codes. See the following instructions for details.
	The initial distribution profile is default. You can change the distribution profile at runtime.
	Follow these instructions for CBS Detail Level curves:
	Note: You can use the same instructions for Summary CBS Detail Level curves
	To set default distribution profile for one CBS:
	- Click Auto by default profile per CBS > Details to open the Edit Distribution Profiles (CBS Details) window.
	- Click to select a CBS > double-click the cell under the Default Profile column for that CBS > Click the desired distribution profile from the list.
	Note: You can use Find to search for a specific CBS code.
	To set default distribution profile for multiple CBSs:
	- Click Auto by default profile per CBS > Details to open the Edit Distribution Profiles (CBS Details) window.
	- Click to select a CBS > Hold down the Ctrl or Shift key on your keyboard and then click each CBS that you want to select > Click Bulk Edit to open the Select Distribution Profiles (Distribution Profiles) window > Click the desired distribution profile from the list > Click Select.
	Note: You can use Find to search for specific CBS codes.
	When the Edit Distribution Profiles (CBS Details) window appears, ensure that the correct profiles have been selected and when finished, click Save.

In this Field:	Do this:
Distribution (continued)	*Use data from Schedule Sheet* This option enables you to choose a schedule sheet and view the cost distribution information by CBS. **Note**: The Cash Flow by Summary CBS – Baseline does not have this option. To use data from schedule sheet, follow these instructions: Select Use data from Schedule Sheet > Click Select to open the Schedule Sheets window > Select the desired schedule sheet > Click Open. The selected schedule sheet appears in the Use dates from Schedule Sheet field. *Use Data from P6 Source* **Note**: The Cash Flow by Summary CBS – Baseline does not have this option. The data picker lists all the P6 Data sources under the Standards & Libraries node (User mode > Company Workspace > P6 Data Sources. **Note**: This option is unavailable (greyed out) when Shell Schedule Type = Duration Based. If you select this option, Cost and Dates information data come from P6 Summary Sheet (spread) based on P6 Data Sources. A secondary drop-down list, **Data Type**, contains the data types available: At Completion and Planned. If you select **At Completion**, the system draws the Baseline curve using the At Completion Cost spread. If you select **Planned**, the system draws the Baseline curve using the Planned Cost spread.

In this Field:	Do this:
Cost	You can choose the cost column when creating a curve in a Project/Shell but not in templates. Choose one of the following options:
	Manually enter amounts for each period (available if you chose Manual above)
	You can enter cost information in the Total field on the worksheet.
	Auto distribute total amount across all periods (available if you chose Auto by default profile above)
	This option automatically distributes the amount in the Total field using the selected default profile.
	Distribute amount from cost sheet column
	This option takes the amount in the selected Cost Sheet column, and either enables you to distribute it manually (if you chose Manual distribution), or it enables you to use the default distribution profile (if you chose Auto by default profile).
	An example column would be a budget.
Schedule From Date To Date	Here you define the range of dates to use to plot the cash flow data. Your options are:
	Use dates from Schedule Sheet
	To take dates from the schedule sheet elements, the Master schedule sheet for the project/shell is used.
	Use dates from P6 Summary Sheet
	The data picker lists all sheets from the 'P6 Summary Sheets' node under the Schedule Manager node.
	Note: This option is unavailable (greyed out) when shell Schedule Type = Resource Loaded or Cost Loaded.
	If you select this option, the dates information data come from P6 Summary Sheet (spread).
	Note: This option is available when the Distribution option is Manual, or Auto by default profile per CBS.
	A secondary drop-down list, **Dates Type**, contains the date types available: Planned and At Completion, with Planned as default selection. Using the Start and Finish dates of the selected dates type, the system draws the cash flow curve.
	If you select **Planned**, the system draws the Baseline curve using the Planned Start and Planned Finish dates of the selected Summary Sheet.
	If you select **At Completion**, the system draws the Baseline curve using the At Completion Start and At Completion Finish dates of the selected Summary Sheet.

To add a Baseline curve for cash flow by Commitment

You can build one Baseline curve per Commitment record. When you build a Baseline curve for individual line items, the Schedule of Value (SOV) type influences distribution options.

▶ If the SOV lists individual line items by CBS you can distribute cost for each line item individually.

▶ If the SOV groups line items, you cannot distribute cost for each line item individually.

For costs distributed in the transaction currency, Unifier calculates and stores the distribution in project currency using the exchange rate table.

1) Open **Unifier**.

2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).

3) From the left Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane).

 The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

 To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

 Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.

5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Commitment under Detail Level.

6) Click the **Curves** tab.

7) Click **Add** and choose a data source of type Baseline. The Cash Flow Commitment - Baseline window opens.

8) Complete the fields in this window using the information in the following table. When finished click **OK** to save work and open the Cash Flow WorkSheet that you added.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source
Type	No action. This field displays the curve type: Baseline
Cash Flow Granularity	**Note**: The Cash Flow Granularity option that you select determines the Distribution Method options that are available. The Cash flow granularity options determine the level of record detail available in the cash flow curve. You can roll up base and change commits and see individual records separately, or you can drill to individual line items in a Commitment record.

In this Field:	Do this:
Single distribution of sum of base commit and all changes	**Note**: Selecting this option limits the Distribution Method to Manual entry of values per cash flow period, only. In User Mode, you must open the Cash Flow Details window to complete time scale fields and distribute the rolled up values of the base commit record and any change commit records.

By individual record (base commit and all changes separately)	Selecting this option enables you to select the following options from the Distribution Method:
	
	Manual entry of values per cash flow period
	
	    Use this option to manually enter the time scale and to distribute costs.
	
	Auto distribution
	
	    Use this option to utilize a pre-defined distribution curve. In User Mode, the curve data is read-only, but you can change the distribution profile. This selection requires a sub-selection.
	
	Manual Dates and manual profile selection
	
	    Use this option to manually enter the time scale and select a distribution curve.
	
	Business process dates and default profile selection
	
	    Use this option to select the time scale from fields on the business process. Click Details to open the selection window. There are four columns in the Auto Distribution window.
	
	        Business Process: List comes from the Cost-type business processes available in your company
	
	        From Data Element: Select the date you want the distribution to start
	
	        Note: You can only select a Date element from the Upper Forms and not from the Business Process Detail forms.
	
	        To Data Element: Select the date you want the distribution to end
	
	        Default Profile: If desired, select a pre-defined profile.

In this Field:	Do this:
By line items within each individual record	Selecting this option enables you to select the following options from the Distribution Method:
	Manual entry of values per cash flow period
	Use this option to select record line items. In User Mode you can:
	See each selected line item in the Cash Flow Details window; the columns come from the business process.
	Select a profile on the detail window for each line.
	Select the distribution profile manually.
	Auto distribution
	Use this option to manually enter dates and select a distribution profile.
Distribution Method	**Note**: The Cash Flow Granularity that you selected determines the Distribution Method options that are available.
	Read the following sections in this table for details:
	Single distribution of sum of base commit and all changes
	By individual record (base commit and all changes separately)
	By line items within each individual record
	Note: By default, Unifier displays Commitment curve cost data in the record transaction currency, which is stored in project currency (using the active currency exchange rate table). If the transaction currency is different from the project currency, you can change the currency view between transaction and project currencies, but you can only edit data in the transaction currency. If there is a more recent value in the exchange rate table, refreshing the curve will refresh the cost data.
Commit Change Processes to be included	Add Commit Change business processes according to the status. **Note**: These line items are also seen in the Cash Flow Curve Details window.

Actuals (Spends) Curve (Classic View)

The Actuals (or "spends") Curve tracks actual invoice transactions. It pulls the data from a column of the cost sheet. Choose a column associated with the data source for the Spends-type business process and status that you want to track.

This section explains the following topics:

▸ To add Actuals (or "spends") curve for cash flow by Project/Shell
▸ To add Actuals (or "spends") curve for cash flow by Summary CBS or CBS
▸ To add Actuals (or "spends") curve for cash flow by Commitment
▸ About Actuals (Spends) Curve and Forecast Curve

> **Note**:   For Base Commits, Change Commits, and Payment Application BPs of Summary Payment Application SOV type (the Cash Flow family curves for Actuals (or "spends") curve for cash flow by Commitment):
>
> - If the Effective Date (uuu_effective_date) field has been defined in the Detail Form design, then this date is used as the effective date for the Costed Line Items.
> - In the absence of the Effective Date (uuu_effective_date) field, the Workflow end date will be used for Cash Flow.
> - You can see the Costed Amount for the Cash Flow curves of Actual (Spends) type level CBS and Summary CBS.
> - You can see the Line Item amount for the Cash Flow curves of Actual (Spends) type level Project/Shell.

To add Actuals (or "spends") curve for cash flow by Project/Shell

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the left Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

   Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.
4) Select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.
5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Project/Shell under Detail Level.
6) Click the **Curves** tab.
7) Click **Add** and choose a data source of type Actuals. The Cash Flow Project/Shell - Spends window opens.
8) Complete the fields in this window using the information in the following table. When finished click **OK** to save work and open the Cash Flow WorkSheet that you added.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source: Acutals
Type	No action. This field displays the curve type: Spends

In this Field:	Do this:
Cost	*Distribute amount from cost sheet column* Choose a cost sheet column associated with the Spends-type business process and status. The Cost sheet column selection is only available when creating curves in a Project/Shell, not a template (since there is no cost sheet to reference). If you are creating a detail curve template, you will not be able to add a Spends curve.

To add Actuals (or "spends") curve for cash flow by Summary CBS or CBS

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the left   Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

   Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.
4) Select a cash flow from the Cash Flow log window and click Properties to open the cash flow Properties window.
5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Summary CBS or CBS under Detail Level.
6) Click the **Curves** tab.
7) Click Add and choose a data source of type Actuals. The Cash Flow by Summary CBS - Spends or Cash Flow by CBS - Spends window opens.
8) Complete the fields in this window using the information in the following table. When finished click **OK** to save work and open the Cash Flow WorkSheet that you added.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source: Actuals.
Type	No action. This field displays the curve type: Spends

In this Field:	Do this:
Cost	*Distribute amount from cost sheet column*
	Choose a cost sheet column associated with the Spends-type business process and status.
	The Cost sheet column selection is only available when creating curves in a Project/Shell, not a template (since there is no cost sheet to reference).
	If you are creating a detail curve template, you will not be able to add a Spends curve.
	Use Actuals from P6 Data Source
	Note: The Cash Flow by Summary CBS – Actuals does not have this option.
	The data picker lists all the P6 Data sources under the Standards & Libraries node (User mode > Company Workspace > P6 Data Sources.
	Note: This option is unavailable (greyed out) when shell Schedule Type = Duration Based.
	If you select this option, the system draws the Spends curve using the Actual Cost spread from the selected P6 Data source.

To add Actuals (or "spends") curve for cash flow by Commitment

> **Note**: When you open this curve, you can view the data in two different currencies by switching between project and transaction currencies.

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the left Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

    To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

    Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.
4) Click to select a cash flow from the Cash Flow log window and click Properties to open the cash flow Properties window.
5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Commitment under Detail Level.
6) Click the **Curves** tab.
7) Click **Add** and choose a data source of type Actuals. The Cash Flow by Commitment - Spends window opens.

8) Complete the fields in this window using the information in the following table. When finished click **OK** to save work and open the Cash Flow WorkSheet that you added.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source: Acutals
Type	No action. This field displays the curve type: Spends
Cash Flow Granularity	Select By line items from Schedule of Values if you want to get cash flow individual line items from the Actuals (or "spends") record.
Cost	*Select Spends Business Process* Choose the Spends Business Process to use. The Spends-type business processes and the related status that are associated with the Base Commit are listed in the box. Choose the business processes and statuses that you want to include in the curve.

About Actuals (Spends) Curve and Forecast Curve

Unifier complies with the initial profile. If Actuals (or "spends") are received for a portion of the curve, and the Forecast curve is connected to Actuals (or "spends"), Unifier takes the already-consumed-profile portion out of the equation and redistributes the unconsumed pending profile portion.

Examples

▸ The Forecast curve starts from Jan 2012- Dec 2014, stretching Unifier's default 20 point distribution profile over 36 periods.

▸ Actuals were received January 2012 February 2012, and March 2012.

▸ These three periods of Forecast curve already consumed 1.67 points of period distribution.

▸ The Forecast end date is now changed to December 2015.

▸ The Forecast curve is now March 31 2012 to December 2015.

▸ Unifier then distributes the remaining 18.33 points of profile over 45 periods.

If there are some CBS codes that have received Actuals (or "spends") and some CBS codes that did not, then the CBS codes that did not receive Actuals (or "spends") will be replaced by 0 at the end of the month, or on the cutoff date (depending on the UI settings).

If there are some CBS codes that have received future Actuals (or "spends") and some CBS codes that did not, then the Forecast Curve will not reflect future Actuals (or "spends") until they become current.

The following section explains the Forecast Curve.

Forecast Curve (Classic View)

This section explains the following topics:

▸ General Information about Forecast Curve

▶ To add a Forecast Curve for cash flow by Project/Shell
▶ To add a Forecast Curve for cash flow by Summary CBS or CBS
▶ To add a Forecast Curve for cash flow by Commitment
▶ Forecast Curve Behavior Test Cases

To add a Forecast Curve for cash flow by Project/Shell

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the left Navigator pane, click **Cost Manager** to expand and click Cash Flow to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations.

   The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

   Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.
4) Select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.
5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Project/Shell under Detail Level.
6) Click the **Curves** tab.
7) Click **Add** and choose a data source of type **Forecast**. The Cash Flow by Project/Shell - Forecast window opens.
8) Complete the fields in this window using the information in the following table. When finished click **OK** to save work and open the Cash Flow WorkSheet that you added.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source: Forecast
Type	No action. This field displays the curve type: Forecast

In this Field:	Do this:
Distribution	Distribution spreads the amount value between cash flow time periods. Choose one of the following options: *Manual* To enter values in each field manually. **Note**: Selecting the Manual distribution option enables you to select the following two Cost options, only: Manually enter amounts for each period Distribute amount from cost sheet column *Auto by default profile* To select one of the available profiles from the Distribution Profiles. You can choose one of the available Distribution Profiles, that were defined in Standards & Libraries > Cash Flow > Distribution Profiles, or from those that were defined directly in the Project/Shell cash flow log (Edit > Distribution Profiles). The selected profile will be used as the default profile; however, at runtime, you can change which profile to use. Select Auto by default profile > Click Select. The Select Distribution Profiles (Distribution Profiles) window opens. Select a profile to use for the curve, as default profile, and click Select. **Note**: If the initial Forecast uses a distribution profile, and has a configuration start at the end of Actuals (or "spends"), the profile does not impact Forecast distribution when you receive Actuals (or "spends").

In this Field:	Do this:
Cost	**Note**: The distribution method that you select determines the Cost options that are available.
	Choose one of the following options:
	Manually enter amounts for each period (available if you chose Manual distribution)
	You can enter cost information in the Total field on the worksheet.
	Auto distribute total amount across all periods (available if you chose Auto by default profile distribution)
	This option distributes the amount in the Total field automatically, using the selected default profile.
	Distribute amount from cost sheet column
	This option takes the amount in the selected Cost Sheet column and enables you to either:
	Distribute it manually (if you chose Manual distribution)
	or
	Use the default distribution profile (if you chose Auto by default profile distribution)
	For a forecast column, an example of a column choice would be a Spends-type business process and status.
Schedule From Date To Date	Select, or define, the range of dates to use to plot the cash flow data. If you choose to take dates from the schedule sheet elements, the Master schedule sheet for the Project/Shell is used.

In this Field:	Do this:
Schedule Forecast Options	Choose one of the following options:
	Begin calculations at end of curve
	Select this option if you want to automatically start the forecast at the end of a selected spends curve for each time period.
	Select Begin calculations at end of curve > Click the drop-down list and select your desired option. For example, you can select Actuals (or "spends") curve if this curve exists.
	Replace current period forecast with Actuals on cut off date
	If you select this option, and the period close settings have not been specified, then Unifier replaces the Forecast Curve with Actuals (or "spends") Curve on the end of the month curve.
	Note: The cumulative graph will not show the forecast connected to Actuals until Unifier overwrites the Forecast with Actuals.
	Allow edit of current period forecast until replacement by Actuals
	This option enables you to reconfigure the forecast until the date set to replace the forecasted values with Actuals (or "spends").
	Note: If the cutoff date is not specified, but the Replace current period forecast with Actuals on cut off date and Allow edit of current period forecast until replacement by Actuals checkboxes are marked, then Unifier does not allow edits to the Forecast Curve after the end of the month curve.
	The options under Distribute unassigned amounts from Spends are available only if you have chosen:
	Auto by default profile for Distribution
	Begin calculations at end of curve for Forecast Options
	The following options, under Distribute unassigned amounts from Spends enable you to automatically distribute any overestimated or underestimated Actuals (or "spends") amounts from the original forecast.
	using weighted average over all remaining periods
	Enter the number of time periods.
	using weighted average over next _____ period(s)
	Enter the number of time periods, 1 or more, not to exceed the number of periods remaining.

To add a Forecast Curve for cash flow by Summary CBS or CBS

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).

3) From the left Navigator pane, click Cost Manager to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations.

The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.

5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Summary CBS or CBS under Detail Level.

6) Click the **Curves** tab.

7) Click **Add** and choose a data source of type Forecast. The Cash Flow by Summary CBS - Forecast or Cash Flow by CBS - Forecast window opens.

8) Complete the fields in this window using the information in the following table. When finished click **OK** to save work and open the Cash Flow WorkSheet that you added.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source: Forecast
Type	No action. This field displays the curve type: Forecast

In this Field:	Do this:

Distribution	Distribution spreads the amount value between cash flow time periods. Choose one of the following options:
	
	Manual
	
	    To enter values in each field manually.
	
	    Note: Selecting the Manual distribution option enables you to select the following two Cost options, only:
	
	    Manually enter amounts for each period
	
	    Distribute amount from cost sheet column
	
	Auto by default profile per CBS
	
	    To select one of the available profiles from the Distribution Profiles. Follow these instructions for CBS Detail Level curves:
	
	    Note: You can use the same instructions for Summary CBS Detail Level curves
	
	    To set default distribution profile for one CBS:
	
	        Click Auto by default profile per CBS > Details to open the Edit Distribution Profiles (CBS Details) window.
	
	        Click to select a CBS > double-click the cell under the Default Profile column for that CBS > Click the desired distribution profile from the list.
	
	        Note: You can use Find to search for a specific CBS code.
	
	    To set default distribution profile for multiple CBSs:
	
	        Click Auto by default profile per CBS > Details to open the Edit Distribution Profiles (CBS Details) window.
	
	        Click to select a CBS > Hold down the Ctrl or Shift key on your keyboard and then click each CBS that you want to select > Click Bulk Edit to open the Select Distribution Profiles (Distribution Profiles) window > Click the desired distribution profile from the list > Click Select.
	
	        Note: You can use Find to search for specific CBS codes.
	
	        When the Edit Distribution Profiles (CBS Details) window appears, ensure that the correct profiles have been selected and when finished, click Save.

In this Field:	Do this:
Distribution (continued)	*Use data from Schedule Sheet* This option enables you to choose a schedule sheet and view the cost distribution information by CBS. **Note**: The Cash Flow by Summary CBS – Forecast does not have this option. To use data from schedule sheet, follow these instructions: Select Use data from Schedule Sheet > Click Select to open the Schedule Sheets window > Select the desired schedule sheet > Click Open. The selected schedule sheet appears in the Use dates from Schedule Sheet field. *Use Data from P6 Source* **Note**: The Cash Flow by Summary CBS – Forecast does not have this option. The data picker lists all the P6 Data sources under the Standards & Libraries node (User mode > Company Workspace > P6 Data Sources. **Note**: This option is unavailable (greyed out) when Shell Schedule Type = Duration Based. If you select this option, Cost and Dates information data come from P6 Summary Sheet (spread) based on P6 Data Sources. A secondary drop-down list, **Data Type**, contains the data types available: At Completion and Remaining. If you select **At Completion**, the system draws the Forecast curve using the At Completion Cost spread. If you select **Remaining**, the system draws the Forecast curve using the Remaining Cost spread.

In this Field:	Do this:

Cost	You can choose the cost column when creating a curve in a Project/Shell but not in templates. Choose one of the following options:
	
	Manually enter amounts for each period (available if you chose Manual above)
	
	    You can enter cost information in the Total field on the worksheet.
	
	Auto distribute total amount across all periods (available if you chose Auto by default profile above)
	
	    This option automatically distributes the amount in the Total field using the selected default profile.
	
	Distribute amount from cost sheet column
	
	    This option takes the amount in the selected Cost Sheet column, and either enables you to distribute it manually (if you chose Manual distribution), or it enables you to use the default distribution profile (if you chose Auto by default profile).
	
	    An example column would be a budget.

Schedule
From Date
To Date
	Select, or define, the range of dates to use to plot the cash flow data.
	
	If you choose to take dates from the schedule sheet elements, the schedule sheet name (picker) for the Forecast is used.
	
	Use dates from P6 Source
	
	Note: This option is available for CBS, only.
	
	    The data picker lists all the P6 Data sources under the Standards & Libraries node (User mode > Company Workspace > P6 Data Sources.
	
	    Note: This option is unavailable (greyed out) when Shell Schedule Type = Cost or Resource Based
	
	    If you select this option, the Dates information data come from P6 Summary Sheet (spread) based on P6 Data Sources.
	
	    A secondary drop-down list, Data Type, contains the data types available: At Completion and Remaining.
	
	    If you select **At Completion**, the system draws the schedule from At Completion Start and At Completion Finish.
	
	    If you select **Remaining**, the system draws the schedule from Remaining Start and Remaining Finish.

In this Field:	Do this:
Schedule Forecast Options	Choose one of the following options:
	Begin calculations at end of curve
	Select this option if you want to automatically start the forecast at the end of a selected spends curve for each time period.
	Select Begin calculations at end of curve > Click the drop-down list and select your desired option. For example, you can select Actuals (or "spends") curve if this curve exists.
	Replace current period forecast with Actuals on cut off date
	If you select this option, and the period close settings have not been specified, then Unifier replaces the Forecast Curve with Actuals (or "spends") Curve on the end of the month curve.
	Note: The cumulative graph will not show the forecast connected to Actuals until Unifier overwrites the Forecast with Actuals.
	Allow edit of current period forecast until replacement by Actuals
	This option enables you to reconfigure the forecast until the date set to replace the forecasted values with Actuals (or "spends").
	Note: If the cutoff date is not specified, but the Replace current period forecast with Actuals on cut off date and Allow edit of current period forecast until replacement by Actuals checkboxes are marked, then Unifier does not allow edits to the Forecast Curve after the end of the month curve.
	The options under Distribute unassigned amounts from Spends are available only if you have chosen:
	Auto by default profile per CBS for Distribution
	Begin calculations at end of curve for Forecast Options
	The following options, under Distribute unassigned amounts from Spends enable you to automatically distribute any overestimated or underestimated Actuals (or "spends") amounts from the original forecast.
	using weighted average over all remaining periods
	Enter the number of time periods.
	Using weighted average over next _____ period(s)
	Enter the number of time periods, 1 or more, not to exceed the number of periods remaining.

In this Field:	Do this:
Schedule Forecast Options (continued)	*Use dates from P6 Summary Sheet* The data picker lists all sheets from the 'P6 Summary Sheets' node under the Schedule Manager node. **Note**: This option is unavailable (greyed out) when shell Schedule Type = Resource Loaded or Cost Loaded. If you select this option, the dates information data come from P6 Summary Sheet (spread). **Note**: This option is available when the Distribution option is Manual, or Auto by default profile per CBS. A secondary drop-down list, **Dates Type**, contains the date types available: At Completion and Remaining. Using the Start and Finish dates of the selected dates type, the system draws the cash flow curve. If you select **At Completion**, the system draws the Forecast curve using the At Completion Start and At Completion Finish dates of the selected Summary Sheet (spread). If you select **Remaining**, the system draws the Forecast curve using the Remaining Early Start and Remaining Early Finish dates of the selected Summary Sheet (spread).

To add a Forecast Curve for cash flow by Commitment

1) Open **Unifier**.

2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).

3) From the left Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

   Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Click to select a cash flow from the Cash Flow log window and click Properties to open the cash flow Properties window.

5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Commitment under Detail Level.

6) Click the **Curves** tab.

7) Click **Add** and choose a data source of type Commitment. The Cash Flow by Commitment - Forecast window opens.

8) Complete the fields in this window using the information in the following table. When finished click **OK** to save work and open the Cash Flow WorkSheet that you added.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source: Forecast
Type	No action. This field displays the curve type: Forecast
Cash Flow Granularity Single distribution of sum of base commit and all changes	Manual entry of values per cash flow period. **Note**: This is the only available option. If you select this option, you can only select the Manual entry of values per cash flow period option for Distribution Method. In User Mode, you must open the Cash Flow Details window to complete time scale fields and distribute the rolled up values of the base commit record and any change commit records.

In this Field:	Do this:

Cash Flow Granularity
 	
By individual record (base commit and all changes separately)
	Use with:
	
	Manual entry of values per cash flow period option under Distribution Method
	
	Auto distribution option under Distribution Method
	
	    Either with the Manual dates and manual profile selection option, or the Business process dates and default profile selection option.
	
	    Selecting the Manual entry of values per cash flow period option under Distribution Method enables you to manually enter the time scale and to distribute costs.
	
	    Selecting the Auto distribution option under Distribution Method enables you to utilize a pre-defined distribution curve. In User Mode curve data is read-only, but you can change the distribution profile.
	
	    Selecting the Auto distribution option under Distribution Method requires selecting one the following sub-selection:
	
	        Manual Dates and manual selection of profile: Use this option to manually enter the time scale and select a distribution curve.
	
	        Business process dates and default profile selection: Use this option to select the time scale from fields on the business process. Click Details to open the selection window. There are four columns in the Auto Distribution window and you can select one of the following option:
	
	Business Process
	
	    List comes from the Cost-type business processes available in your company.
	
	From Data Element
	
	    Select the date you want the distribution to start.
	
	To Data Element
	
	    Select the date you want the distribution to end.
	
	Default Profile
	
	    If desired, select a pre-defined profile.

In this Field:	Do this:

Cash Flow Granularity
 	
By line items from Schedule of Values
	Use with:
	
	Manual entry of values per cash flow period option under Distribution Method.
	
	Manual entry with auto distribution of unassigned amount option under Distribution Method.
	
	Auto distribution option under Distribution Method.
	
	Manual dates and manual profile selection option, only.
	
	    Selecting the Manual entry of values per cash flow period option under Distribution Method enables you to select record line items. In User Mode you can:
	        See each selected line item in the cash flow Details window; the columns come from the business process.
	        Select a profile on the detail window for each line.
	        Select the distribution profile manually.
	Selecting the Manual entry with auto distribution of unassigned amount option under Distribution Method enables you to auto-distribute the total cost.
	You must select a Default profile for new records. Initially the curve uses auto-distribution based on both the dates you entered in the Forecast details window and the default profile you selected for the distribution method. Once you modify data-period dates:
	        If the Unassigned amount is not equal to zero, you must manually enter dates and manually adjust the Unassigned amount.
	        If the Unassigned amount equals zero, the Cash flow by Commitment - Forecast curve uses a weighted average to redistribute the Unassigned amount.
	Selecting the Auto distribution option under Distribution Method automatically selects the Manual Dates and manual selection of profile option and enables you to manually enter dates and select a distribution profile. In the Cash Flow Details window, Unifier populates column values from the Business Process Schedule of Values (SOV).

Distribution Method	See Cash Flow Granularity in this table for details.
Commit Change Processes to be included	Add Commit Change business processes according to the status. **Note**: These line items are also seen in the Cash Flow Curve Details window.

In this Field:	Do this:
Forecast Options	Choose one of the following options:
	Begin calculations at end of curve
	Select this option if you want to automatically start the forecast at the end of a selected spends curve for each time period.
	Select Begin calculations at end of curve > Click the drop-down list and select your desired option. For example, you can select Actuals (or "spends") curve if this curve exists.
	Replace current period forecast with Actuals on cut off date
	If you select this option, and the period close settings have not been specified, then Unifier replaces the Forecast Curve with Actuals (or "spends") Curve on the end of the month curve.
	Note: The cumulative graph will not show the forecast connected to Actuals until Unifier overwrites the Forecast with Actuals.
	Allow edit of current period forecast until replacement by Actuals
	This option enables you to reconfigure the forecast until the date set to replace the forecasted values with Actuals (or "spends").
	Note: If the cutoff date is not specified, but the Replace current period forecast with Actuals on cut off date and Allow edit of current period forecast until replacement by Actuals checkboxes are marked, then Unifier does not allow edits to the Forecast Curve after the end of the month curve.
	The options under Distribute unassigned amounts from Spends are available only if you have chosen:
	Auto by default profile per CBS for Distribution
	Begin calculations at end of curve for Forecast Options
	The following options, under Distribute unassigned amounts from Spends enable you to automatically distribute any overestimated or underestimated Actuals (or "spends") amounts from the original forecast.
	using weighted average over all remaining periods: Enter the number of time periods.
	using weighted average over next _____ period(s): Enter the number of time periods, 1 or more, not to exceed the number of periods remaining.

Forecast Curve Behavior Test Cases

Cases	Condition	Time	Manual Distribution	Auto Distribution
Forecast Curve	NA	NA	Manual Schedule (Dates) Schedule Sheet	Auto Schedule (Dates) Schedule Sheet
Set in the past	Forecast with Actuals (no Actuals data)	Start Date	No change	Moves to current
Set in the past	Forecast with Actuals (no Actuals data)	End Date	No change	Future: No change Past: Moves to current
Set in the past	Forecast with Actuals (with Actuals data)	Start Date	Moves to current	Moves to current
Set in the past	Forecast with Actuals (with Actuals data)	End Date	Future: No change Past: Moves to current	Future: No change Past: Moves to current
Set in the future	Forecast with Actuals (no Actuals data)	Start Date	No change	No change
Set in the future	Forecast with Actuals (no Actuals data)	End Date	No change	No change
Set in the future	Forecast with Actuals (with Actuals data)	Start Date	Moves to current	Moves to current
Set in the future	Forecast with Actuals (with Actuals data)	End Date	No change	No change

Portfolio Budget Curve (Classic View)

Unifier Portfolio Manager allows you to pull the Baseline, or Forecast, data from more than one Project/Shell into the following three Portfolio Budget curves:

▸ Shared Budget curve
▸ Approved Budget curve
▸ Original Budget curve

For an explanation of these options see *About Portfolio Manager Budget Curves* (on page 168).

The General tab of the "Cash flow Portfolio Budget" window contains the following fields and sub-fields:

▶ **Name**
▶ **Type**
▶ **Cost**
  ▸ Distribute amount from
  ▸ Currency

The following explains how to enter data in the "Cash flow Portfolio Budget" window fields and sub-fields in details.

In the **Distribute amount from** field drop-down list (under Cost), you can select **Original, Shared,** or **Approved**, then click **OK**. The portfolio curve opens in the Properties window.

> **Note**: If the currency of data pulled from any of the three different Portfolio Budget curves (Unifier Portfolio Manager) is different from the Project/Shell currency, you can create a Derived curve (using the existing curves within a family) that converts data from existing curves to a different currency.

You can add a Portfolio Curve for each cash flow detail level after you create portfolio budget data sources. See the following instructions.

This section explains the following topics:

▶ To add a Portfolio Budget Curve for cash flow by Project/Shell
▶ To add a Portfolio Budget Curve for cash flow by CBS or Summary CBS
▶ To add a Portfolio Budget Curve for cash flow by Commitment
▶ To add a Portfolio Roll Up Curve for cash flow (by Program)
▶ To view Portfolio Budget Curve for cash flow

To add a Portfolio Budget Curve for cash flow by Project/Shell:

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane).

   The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

> **Note**: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Click to select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.
5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Project/Shell under Detail Level, and enter settings for Time Scale and Period Close Settings.
6) Click the **Curves** tab.
7) Click **Add** and choose a data source based on a portfolio budget type (Original Budget - Approved Budget - Shared Budget). The Cash flow by Project/Shell - Portfolio window opens.
8) Complete the fields in this window using the information in the following table and when finished click **OK** to save work and open the Cash Flow WorkSheet that you added.

> **Note**: If you need additional curves, repeat steps 6 to 8.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source. The names are: Original Budget - Approved Budget - Shared Budget
Type	No action. This field displays the curve type: Portfolio Budget
Cost	Select an option from the Distribute amount from field list. The choices are: Original - Shared - Approved
Currency	Select the currency of "Portfolio Budget" type curves within the Cash Flow family. See the topic "Currency" at the end of this section for more information.

To add a Portfolio Budget Curve for cash flow by CBS or Summary CBS:

You can add a Portfolio Curve for each cash flow detail level after you create portfolio budget data sources. See the following instructions.

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane).

The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

> **Note**: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Click to select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.

5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Summary CBS or CBS under Detail Level, and enter settings for Time Scale and Period Close Settings.

6) Click the **Curves** tab.

7) Click **Add** and choose a data source based on a portfolio budget type (Original Budget - Approved Budget - Shared Budget). The Cash flow by Summary CBS - Portfolio Budget or Cash flow by CBS - Portfolio Budget window opens.

8) Complete the fields in this window using the information in the following table and when finished click **OK** to save work and open the Cash Flow WorkSheet that you added.

> **Note**: If you need additional curves, repeat steps 6 to 8.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source.
	The names are: Original Budget - Approved Budget - Shared Budget
Type	No action. This field displays the curve type: Portfolio Budget
Cost	Select an option from the Distribute amount from field list.
	The choices are: Original - Shared - Approved
Currency	Select the currency of "Portfolio Budget" type curves within the Cash Flow family. See the topic "Currency" at the end of this section for more information.

To add a Portfolio Budget Curve for cash flow by Commitment:

You can add a Portfolio Curve for each cash flow detail level after you create portfolio budget data sources. See the following instructions.

1) Open **Unifier**.

2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).

3) From the Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane).

The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

> **Note**: If you have a cash flow template that you want to use, click the
> **New** drop-down list (the down arrow) and select **From Template** to open
> the Template Log (Cash Flow Templates) window.

4) Click to select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.

5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Commitment under Detail Level, and enter settings for Time Scale and Period Close Settings.

6) Click the **Curves** tab.

7) Click **Add** and choose a data source based on a portfolio budget type (Original Budget - Approved Budget - Shared Budget). The Cash flow by Commitment - Portfolio Budget window opens.

8) Complete the fields in this window using the information in the following table and when finished click **OK** to save work and open the Cash Flow WorkSheet that you added.

> **Note**: If you need additional curves, repeat steps 6 to 8.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source. The names are: Original Budget - Approved Budget - Shared Budget
Type	No action. This field displays the curve type: Portfolio Budget
Cost	Select an option from the Distribute amount from field list. The choices are: Original - Shared - Approved
Currency	Select the currency of "Portfolio Budget" type curves within the Cash Flow family. See the topic "Currency" at the end of this section for more information.

To add a Portfolio Roll Up Curve for cash flow (by Program):

You can add a Portfolio Curve for each cash flow detail level after you create portfolio budget data sources. See the following instructions.

1) Open **Unifier**.

2) Click **Company Workspace** tab.

3) From the Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane)

4) The Cash Flow log is the starting place for cash flow operations.

   The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

5) To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Roll Up Curves**. The Properties window opens and displays the General tab as default.

6) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Active for Status.

7) In the Data Sources box, select as many data source items as you want.

8) In the Time Scale box, enter the settings that you want and when finished click **OK** to save work and open the Cash Flow WorkSheet that you added.

To view Portfolio Budget Curve for cash flow:

You can view the curves and data source based on a portfolio budget type (Original Budget - Approved Budget - Shared Budget).

1) Open **Unifier**.

2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).

3) From the Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane).

   The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

   > **Note**: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Click to select a cash flow from the Cash Flow log window and click Properties to open the cash flow Properties window.

5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Commitment under Detail Level, and enter settings for Time Scale and Period Close Settings.

6) Click the **Curves** tab.

7) Click **Add** and choose a data source based on a portfolio budget type (Original Budget - Approved Budget - Shared Budget). The Cash flow by Project/Shell - Portfolio Budget window opens.

8) Complete the fields in this window using the information in the following table and when finished click OK to save work and open the Cash Flow WorkSheet that you added.

   > **Note**: If you need additional curves, repeat steps 6 to 8.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source. The names are: Original Budget - Approved Budget - Shared Budget
Type	No action. This field displays the curve type: Portfolio Budget

In this Field:	Do this:
Cost	Select an option from the Distribute amount from field list. The choices are: Original - Shared - Approved
Currency	Select the currency of "Portfolio Budget" type curves within the Cash Flow family. See the topic "Currency" at the end of this section for more information.

Currency

When you define a Portfolio Budget curve within any curve family type (CBS, Summary CBS, Commitment, and Project/Shell), you have the option to select the currency (Currency field under Cost) of the Portfolio Budget data source from the Portfolio Manager.

The Currency field is a required field (default value: Project Currency) if you have Portfolio Budget curves. You can change the value of the Currency field to another value by opening the curve configuration window.

> **Note**: When you run a report, the value of Currency, in the report, is Project Currency unless you have selected another value.

The Currency field lists all Active and future currencies from Exchange Rates (**Company Workspace** > **Admin mode** > **Standards & Libraries** > **Exchange Rates**). The Show Currency List window lists the available currencies that you can select.

Derived Curve (Classic View)

The Cash Flow Data Sources of type = *Derived* is available to create Cash Flow curves within any family (CBS, Summary CBS, Commitment, and Project/Shell).

When creating a new Cash Flow curve within any Cash Flow family:

▶ Data Sources of type = Derived must be enabled only when there is at least one non-Derived (i.e., Baseline, Spends, Forecast, Portfolio Budget, or Custom) type curve exists in the family.

▶ If there is no non-Derived type curve exists in the family, all Data Sources of type = Derived are grayed out.

When the "Derived" type data sources are enabled, and the user clicks at such a data source, then a window is displayed that enables the user to enter the details for creating the new curve. The following explains the fields in the "Derived" type cash flow curve configuration window:

Option	Description	Behavior
Name	Captures the name of the cash flow curve as defined in cash flow data sources in Company Workspace -> Admin Mode	Same behavior as in existing cash flow curves-
Type	Captures the type of cash flow curve viz., Baseline, Custom, Forecast, Spends, Portfolio	Same behavior as in existing cash flow curves-

Option	Description	Behavior
	Budget, Derived.	
Base Currency	Captures the base currency for user to see and make exchange rate decisions.	Behavior: Read-Only Displays the Base Currency as a read-only value
Source Curve	To select an existing curve which should be used as the basis of the 'Derived' curve.	Behavior – Drop-down List all the non-Derived existing curves within the family in which the 'Derived' curve is being configured. Values are: <Curve Name> (<Type>), example: Shared (Portfolio Budget). **Note**: Derived curve cannot be a source curve to create another Derived curve. Required? (Not Null) – Required option. The user must select a value for this drop-down to complete the curve configuration.
Derived Curve Currency	To select the currency that must be used to convert the 'Source Curve'	Behavior – Currency Selector User has the ability to select any currency from Company Workspace -> Standard & Libraries -> Exchange Rates (active and future) Required? (Not Null) – Required option. The user must select a value for this selector to complete the curve configuration.
Exchange Rate	To define how the exchange rates must be used so that those can be applied to the source curve data. That is to say, should the exchange rate be picked up from as defined in Company Workspace -> Standards & Libraries, or should the rate be 'Pegged' to a value as chosen by user.	Behavior: Radio button, two options: Float, Peg Default Value = Float When user selects the option 'Float', another drop-down option appears: 'Use Rate as' (see below) .
Use Rate as	To choose how to make use of exchange rate data from Company Workspace -> Standards & Libraries, especially if more than one rate is found for a given period (month / year)	Behavior –Radio button Values: - At the beginning of the period - At the end of the period - A weighted average for the period Required? (Not Null) – Required option if 'Exchange rate' = 'Float'.

Option	Description	Behavior
		If the user clicks 'OK' on the window without selecting this option, the following message appears: Invalid data entered in the following field(s): Input Required: Use rate as.

If you choose the option 'Exchange Rate' = 'Peg', then Unifier provides another block titled 'Peg Rate as':

▸ If Base Currency = Project Currency, then Peg Rate options should be available for conversion Base Currency -> Derived Curve Currency

▸ If Base Currency ≠ (not equal) Project Currency and Project Properties list the conversion Base Currency -> Project Currency as 'Peg' option, then also behavior should be same as above, i.e., list options only for Base Currency -> Derived Curve Currency

▸ If Base Currency ≠ (not equal) Project Currency but Project Properties list the conversion Base Currency -> Project Currency as 'Float' option, then peg rate options are available for both:

  ▸ Base Currency -> Derived Curve currency
  ▸ Base currency -> Project Currency

The following explains the Derived' curve 'Peg' Rate options:

Option:

Peg Rate options

Description:

To define the value by which the exchange rate must be pegged. The user will have to enter a value manually, or point to an attribute on shell attribute form / single record BPs within the shell, or choose if they wish to use the pegged rate from shell properties. In latter case, Unifier will look into the value of the data element each time when rendering the curve.

Behavior:

Behavior   - Radio button

Base Currency -> Derived Curve Currency:

There should be helpful text informing user that conversion is for 1.0 Base Currency -> Derived Currency (text: 1.0 Base Currency =) This is be followed by three options:

▸ Constant
▸ Dynamic
▸ Use Project Rate

Default Radio Option: Constant

If the user selects 'Constant', Unifier opens a field (DD = Decimal Amount). The decimal places appear when user types a digit after decimal point, only; otherwise, an integer value will appear. The field enables the user to enter an Integer or Decimal value.

Default Radio Option: Dynamic

If the user selects 'Dynamic', Unifier enables two drop-downs which will capture the Data Source for the multiplication factor:

Drop-down 1:

The shell attribute form of the current shell within which curve is being created.

The shell attribute forms of all parent/grandparent shells of current shell in which curve is being created (i.e., attribute forms of all shells in hierarchy of current shell, up to the root)

All single record BPs within the shell in which curve is being created.

The above should be prefixed by identifiers 'Shell Attribute Form / <Shell name>', or 'Single Record BPs / <BP name>. For example:

Shell Attribute Form / All Properties

Shell Attribute Form / Buildings

Shell Attribute Form / Sites

Single Record BPs / Project Information

Single Record BPs / Important Contacts

…

Drop-down 2:

Lists all linked and custom Data Elements from the selected source form whose Data Definition = Integer / Decimal Amount / Currency Amount. (No standard elements)

Note: The user can change the location / hierarchy of a shell. So the above two drop-down values must be refreshed each time the curve is refreshed.

Note: If the user chooses the options 'Constant' / 'Dynamic', then the user must define a value (Constant integer/decimal or Dynamic data source). If not selected, the user will see a standard prompt after clicking 'OK':

'Invalid data entered in the following field(s): Input Required: 'Constant' or 'Data Source'

The user can choose to use the third option: 'Use Project Rate' Selecting this option does not open up any additional field, but Unifier picks up the exchange rate as defined in project properties (described in Peg rate as 'Use Project Rate' section below). The user receive appropriate error message in either of following scenarios:

▸ The user selects a 'Derived Curve Currency' which does not exist in Project Properties (Message: Selected currency is not defined in project.), or

▸ The user selects a 'Derived Curve Currency' which is listed in Project Properties, but its conversion rate is set to 'Float' (Message: Selected currency does not have pegged rate within project.).

Error should be presented when user clicks 'OK' on curve configuration window.

Base Currency -> Project Currency

The radio options are for user to select how to use the rate from Company Workspace -> Standards and Libraries (label: Use Rate as).

The radio options are visible only if Base Currency ≠ Project Currency AND rate Base Currency -> Project Currency is set as 'Float' in project properties.

Options same as when user chooses to 'Float' rate:

User can choose to use the rate as:

- At the beginning of the Period
- At the end of the period
- A weighted average for the period

Default value: At the beginning of the period.

Note: This block 'Peg Rate options' is displayed only if 'Exchange Rate' is selected as 'Peg'.

The following provides some scenarios.

User selects the Peg Rate option for Base Currency -> Derived Curve Currency as = 'Use Project Rate', and the curve configuration is successful (i.e., 'Derived Curve Currency' is listed in Project Rate with a pegged conversion rate).

The user then goes to Project Properties and changes the exchange rate for Base Currency -> Derived Curve Currency as 'Float', and reopens the cash flow.

Since the curve has not been refreshed, the Cash Flow worksheet continues to show data as per previous value.

If user opens the 'Derived' curve configuration window, the message, "Selected currency does not have pegged rate within project" appears.

If user refreshes the curve, then cash flow worksheet shows all values as zero as the curve configuration is not longer valid.

If user opens the 'Derived' curve configuration window, the message, "Selected currency does not have pegged rate within project" appears.

In case Base currency ≠ Project Currency

User selects the Peg Rate option for Base Currency -> Derived Curve Currency as either of the three possible options,

Base Currency -> Project Currency is set as 'Peg' in project properties. So there are no additional options to choose from, the curve configuration is successful

Then user goes to Project Properties and changes the exchange rate for Base Currency -> Project Currency as 'Float'

Then reopens the cash flow

Since the curve has not been refreshed, the Cash Flow worksheet continues to show data as per previous value.

If user opens the 'Derived' curve configuration window, the options for Base Currency -> Project currency appears, and the default value is selected as 'At the beginning of the period'.

If user refreshes the curve, then cash flow worksheet values are refreshed as per the options for Base Currency -> Project Currency.

When user selects a currency to derive the curve, Unifier uses the data from source curve per period and convert it into the selected currency as per the float or peg exchange rate option as selected by user within curve definition:

If user chooses the 'Float' option, Unifier uses the exchange rates as defined in Company Workspace -> Standards and Libraries -> Exchange Rates

If the user chooses 'Peg' option, exchange rate values should be as per user selection in the block 'Peg Rate as'

See following sections on how the derived curve should calculate its data per period…

Note: The user can select the currency to be same as source curve currency. In that case, the derived curve would be same as source curve, exchange rates would not apply.

Exchange Rate = Float (Rate at beginning of the period)

The user can select the Derived curve definition such that the exchange rate for currency conversion from source to destination is picked up from Company Workspace -> Standards and Libraries in such a way that the Rate from the beginning of the period is used.

In other words, when doing the currency conversion, of all the available rates for a given period, Unifier selects the Rate closest to the beginning of the period.

Note: If more than one rate is defined for the same day, Unifier picks the latest rate on that day. If no exchange rate is available for a past date, Unifier uses zero.

Exchange Rate = Float (Rate at the end of the period)

The user can select the Derived curve definition such that if multiple exchange rates are available for a given period (month / year), Unifier uses the rate 'At the end of the period'.

In other words, when doing the currency conversion, of all the available rates for a given period, Unifier selects the Rate closest to the end of the period.

Exchange Rate = Float (A weighted average for the period)

If the user chooses to apply the exchange rate as a weighted of all values for a given period (Exchange Rate = 'Use a weighted average for the period'), then the value will be based on the number of days in a given month. That is to say, the total of all "Rate * No. of days it is applicable during the period" divided by "Total number of days within the period~" (~Month / Year).

When the Exchange Rate = 'Float', Oracle recommends that the user set a 'Refresh' frequency (Cost Manager > Cash Flow > Refresh drop-down > Set Frequency...), for the Derived curves, to cover the following scenarios:

Scenario 1

Future Exchange Rates from 'Company Workspace -> Standards & Libraries' can get changed with time. If 'Derived' cash flow curve is not set to automatic refresh, it will continue to hold values as per older exchange rate values (unless manually opened & refreshed)

Scenario 2

The 'Source Curve' might undergo a change in its configuration / values. If 'Derived' cash flow curve is not set to automatic refresh, it will continue to hold values as per older source curve data (unless manually opened & refreshed).

Exchange Rate = Peg

This option means that the user does not want to use exchange rate as captured within Company Workspace -> Standards and Libraries -> Exchange Rates, but the user prefers to define the rate as one of the following:

▶ Constant
▶ Dynamic
▶ Use Project Rate

If Constant:

To do the currency conversion (1.0 Base Currency = <constant value> Derived Curve currency), Unifier uses the constant value entered by the user.

The source curve defaults to be in Project currency. If Base Currency ≠ Project Currency, Unifier picks the   exchange rate for Base Currency -> Project Currency from Project Properties and makes appropriate conversion to calculate the Derived curve in Derived Currency as selected by user.

If Base Currency -> Project Currency in Project properties is set as 'Float', then unifier uses the option as selected by user for 'Base Currency -> Project currency' conversion.

Unifier picks rates from Company workspace -> Standards and Libraries -> Exchange Rates by using one of the following options selected by user:

▶ At the beginning of the period
▶ At the end of the period
▶ A weighted average for the period

If Dynamic:

When rendering the curve, Unifier accesses the Data Element (DE) selected by the user and uses the value as the exchange rate to do conversion (1.0 Base Currency = <Selected DE value> Derived Curve currency).

If the DE value is blank/null (in source shell attribute form/single record BP), then Unifier applies zero as the exchange rate.

If Base Currency ≠ Project Currency, then Unifier does one of the following:

▶ Unifier picks the exchange rate for Base Currency -> Project Currency from Project Properties
▶ Unifier calculates the Derived curve (in Derived Currency) as selected by user.

If Use Project Rate:

The exchange rate is pegged as specified in the shell properties.

If Base Currency ≠ Project Currency, then Unifier does one of the following:

▶ Unifier picks exchange rate for Base Currency -> Project Currency from Project Properties
▶ Unifier calculates the Derived curve (in Derived Currency) as selected by user.

Note: For Commitment type curves, user can flip the view between Project and Transaction currencies. Unifier calculates for Source Curve data -> Derived Curve data by taking the source data in Project currency.

When the Exchange Rate = 'Peg', Oracle recommends that the user set a 'Refresh' frequency (Cost Manager > Cash Flow > Refresh drop-down > Set Frequency...), for the Derived curves, to cover the following scenarios:

Scenario 1

Peg rates as defined in project properties might undergo a change. If 'Derived' cash flow curve is not set to automatic refresh, it will continue to hold values as per older pegged exchange rate values (unless manually opened & refreshed).

Scenario 2

The 'Source Curve' might undergo a change in its configuration / values. If 'Derived' cash flow curve is not set to automatic refresh, it will continue to hold values as per older source curve data (unless manually opened & refreshed).

For all types of Cash flow families, the 'Derived' curve values are always displayed in its currency, as selected by user in curve configuration window.

For Commitment type cash flow families, the user can choose to view the family curves in 'Project' / 'Transaction' currency.

In either case, the 'Derived' curve renders in the currency, as selected by user for the 'Derived' curve configuration window--irrespective of whether the rate is 'Float' or 'Pegged'.

The following explains special scenarios related to the exchange rate.

Special Scenario 1

The user selects a 'Source Curve' while configuring the 'Derived' curve

Completes 'Derived' curve configuration and clicks 'OK'

Removes the 'Source Curve' itself from the cash flow family definition.

In this scenario:

When the user opens the curve worksheet, the derived curve will render all values as zero--irrespective of whether the cash flow family has been refreshed or not.

When the user opens the curve configuration window, the 'Source Curve' drop-down continues to show original value. When the user clicks 'OK', the message, "Invalid curve configuration" is displayed.

Special Scenario 2

The user selects the 'Exchange Rate' as 'Peg' > Peg as 'Dynamic', and then chooses a data source DE from grandparent shell attributes.

The user completes 'Derived' curve configuration and clicks 'OK'.

The user changes the location of shell in which the curve was defined.

In this scenario:

If the new parent is the same type of shell (or another shell having the data Source DE on its attribute form), then this is not an error scenario. The curve renders by using the Rate value from new location.

If, however, the new parent does not have the Data Source DE on its attribute form, then the curve configuration is invalid:

When the user opens the curve worksheet, the Derived curve renders all values as zero.

When the user opens the curve configuration window, the Data Source continues to show original value. When the user clicks 'OK', the message, "Invalid curve configuration" is displayed.

Special Scenario 3

The user selects a 'Source Curve' while configuring the 'Derived' curve,

The user completes 'Derived' curve configuration and clicks 'OK'.

The user removes the 'Source Curve' Datasource from company Workspace Cash Flow Datasources definitions.

In this scenario:

When the user opens the curve worksheet, the Derived curve (as well as the source curve) renders all values as zero--irrespective of whether the cash flow family has been refreshed or not.

When the user opens the Derived curve configuration window, the 'Source Curve' drop-down shows original value, and when the user clicks 'OK', the message, "Invalid curve configuration" is displayed.

Monthly actuals for Derived Forecast Curve

If the checkbox is checked in the configuration then in the Portfolio Manager, then the user will be able to the see the monthly breakdown for actuals and the values seen would be read-only for months prior to the current month for the current year. The behavior and validation, which exist in support for monthly actuals for Forecast curve, is available for Derived forecast curve as well.

Actuals for Derived Actuals Curve

If Derived Actuals curve is defined, then Unifier uses the Derived Actuals curve data, and the derived forecast data will be pushed from Cashflow to PPM. The derived actuals data links to the source actuals. In case of multiple derived curve for the same project with inconsistent settings (either different currency or settings such as float versus peg), a cumulative data value is displayed in the project currency, which is used by PPM, and the red triangle is displayed against that cell to depict the inconsistency. When the user hovers over, this warning message is displayed: {ppmname} Portfolio Manager received data from multiple actuals curves that have inconsistent settings. The correct value will be seen once the settings are corrected.

Custom Curve (Classic View)

You can create a Custom Curve when you want to create and compare curves in a Cash Flow WorkSheet, but you do not want to associate them with data sources of the other curve types (Baseline, Forecast, Actuals (or "spends"), Portfolio).

Custom Curve setup is essentially the same as setting up Baseline Curves.

The following instructions assume that you have created your data sources:

▶ Go to: Company Workspace > Administration Mode > Standards & Libraries > Cash Flow > Data Sources

▶ Click Data Sources > Click Open to open the Cash Flow Data Sources (Cashflow Datasources) window > Click Add to add new cash flow data source

▶ Follow the prompts and click OK when finished

This section explains the following topics:

▶ To add a Custom Curve for cash flow by Project/Shell

▶ To add a Custom Curve for cash flow by Summary CBS or CBS

▶ To add a Custom Curve for cash flow by Commitment

To add a Custom Curve for cash flow by Project/Shell

1) Open Unifier
2) Click All Projects tab (or your project tab or the tab whose cash flow you want to work with).
3) From the Navigator pane, click Cost Manager to expand and click Cash Flow to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users. To create a new cash flow, click the New drop-down list (the down arrow) and select Detail Curves. The Properties window opens and displays the General tab as default.

   Note: If you have a cash flow template that you want to use, click the New drop-down list (the down arrow) and select From Template to open the Template Log (Cash Flow Templates) window.
4) Click to select a cash flow from the Cash Flow log window and click Properties to open the cash flow Properties window.
5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Project/Shell under Detail Level.
6) Click the Curves tab.
7) Click Add and select the data source of type Custom. The Cash Flow by Project/Shell - Baseline window opens.
8) Complete the fields in this window using the information in the following table and when finished click OK to save work and open the Cash Flow WorkSheet that you added.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source: Custom
Type	No action. This field displays the curve type: Custom

In this Field:	Do this:
Distribution	Distribution spreads the amount value between cash flow time periods. Choose one: Manual: You enter values into each field manually. Auto by default profile: You can choose one of the available Distribution Profiles, that were defined in Standards & Libraries > Cash Flow > Distribution Profiles, or from those that were defined directly in the Project/Shell cash flow log (Edit > Distribution Profiles). This will be used as the default profile; however, at runtime, you can change which profile to use. Click the Select button. The Select Distribution Profiles window opens. Select a distribution profile to use as the default profile for the curve. The default profile is used for the initial display and calculations in the Cash Flow WorkSheet. You can change the distribution profile from the worksheet. If you do this, the default profile will automatically update to reflect the current selection.
Cost	You can choose the cost column when creating a curve in a Project/Shell but not in templates. Choose one of the following options: Manually enter amounts for each period (available if you chose Manual above): You can enter cost information in the Total field on the worksheet. Auto distribute total amount across all periods (available if you chose Auto by default profile above): This will automatically distribute the amount in the Total field using the selected default profile. Distribute amount from cost sheet column: This option will take the amount in the selected Cost Sheet column, and either allows you to distribute it manually (if you chose Manual distribution), or use the default distribution profile (if you chose Auto by default profile). An example column would be a budget. Note: Cost column can be chosen when creating a curve in a project or shell, but not in templates.

In this Field:	Do this:
Schedule From Date To Date	Define the range of dates to use to plot the cash flow data. If you choose to take dates from the schedule sheet elements, the Master schedule sheet for the Project/Shell is used. Determine what dates to start the curve and end the curve. Choose one of the following options for each date: Manual: User enters the date directly in the Cash Flow WorkSheet. Data element from schedule sheet: Choose a schedule sheet data element from the list. The date will be populated automatically from the Master schedule sheet when the cash flow curve is refreshed. If these dates are changed on the Master schedule sheet, then the changes will be reflected on cash flow after the next refresh of the curves.

To add a Custom Curve for cash flow by Summary CBS or CBS

1) Open Unifier
2) Click All Projects tab (or your project tab or the tab whose cash flow you want to work with).
3) From the Navigator pane, click Cost Manager to expand and click Cash Flow to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users. To create a new cash flow, click the New drop-down list (the down arrow) and select Detail Curves. The Properties window opens and displays the General tab as default.

   Note: If you have a cash flow template that you want to use, click the New drop-down list (the down arrow) and select From Template to open the Template Log (Cash Flow Templates) window.
4) Click to select a cash flow from the Cash Flow log window and click Properties to open the cash flow Properties window.
5) In the General tab, enter Name, enter Description (optional), select Active for Rollup Status, and select Summary CBS or CBS under Detail Level.
6) Click the Curves tab.
7) Click Add and select the data source of type Custom. The Cash Flow by Summary CBS - Custom or Cash Flow by CBS - Custom window opens.
8) Complete the fields in this window using the information in the following table and when finished click OK to save work and open the Cash Flow WorkSheet that you added.

In this Field:	Do this:
Name	No action. This field is filled in automatically with the name of the data source: Custom
Type	No action. This field displays the curve type: Custom

In this Field:	Do this:
Distribution	Distribution spreads the amount value between cash flow time periods. Choose one: Manual: You enter values into each field manually. Auto by default profile per CBS (for CBS Detail Level curves) or Auto by default profile summary CBS (for Summary CBS Detail Level curves) You can specify a default profile per CBS code (or Summary CBS code) one CBS at a time or by selecting multiple CBS codes. See the following instructions for details. The initial distribution profile is default. You can change the distribution profile at runtime. Follow these instructions for CBS Detail Level curves: Note: You can use the same instructions for Summary CBS Detail Level curves To set default distribution profile for one CBS: Click Auto by default profile per CBS > Details to open the Edit Distribution Profiles (CBS Details) window. Click to select a CBS > double-click the cell under the Default Profile column for that CBS > Click the desired distribution profile from the list. Note: You can use Find to search for a specific CBS code. To set default distribution profile for multiple CBSs: Click Auto by default profile per CBS > Details to open the Edit Distribution Profiles (CBS Details) window. Click to select a CBS > Hold down the Ctrl or Shift key on your keyboard and then click each CBS that you want to select > Click Bulk Edit to open the Select Distribution Profiles (Distribution Profiles) window > Click the desired distribution profile from the list > Click Select. Note: You can use Find to search for specific CBS codes. When the Edit Distribution Profiles (CBS Details) window appears, ensure that the correct profiles have been selected and when finished, click Save.

In this Field:	Do this:
Distribution (continued)	Use dates from Schedule Sheet: This option enables you to choose a schedule sheet and view the cost distribution information by CBS. Note: The Cash Flow by Summary CBS – Baseline does not have this option. To use dates from schedule sheet, follow these instructions: Select Use dates from Schedule Sheet > Click Select to open the Schedule Sheets window > Select the desired schedule sheet > Click Open. The selected schedule sheet appears in the Use dates from Schedule Sheet field. Note: If a schedule sheet is not selected, the distribution profile displays zeros along the bottom of a Cash Flow Curve graph. When you click OK in the details window, the filter will be applied against the CBS codes coming from the schedule sheet.
Cost	You can choose the cost column when creating a curve in a Project/Shell but not in templates. Choose one of the following options: Manually enter amounts for each period (available if you chose Manual above): You can enter cost information in the Total field on the worksheet. Auto distribute total amount across all periods (available if you chose Auto by default profile above): This option automatically distributes the amount in the Total field using the selected default profile. Distribute amount from cost sheet column: This option takes the amount in the selected Cost Sheet column, and either enables you to distribute it manually (if you chose Manual distribution), or it enables you to use the default distribution profile (if you chose Auto by default profile). An example column would be a budget.
Schedule From Date To Date	Here you define the range of dates to use to plot the cash flow data. If you choose to take dates from the schedule sheet elements, the Master schedule sheet for the project/shell is used.

To add a Custom Curve for cash flow by Commitment

Custom curves are not available for cash flow by commitment.

Cash Flow Properties Settings: Filter tab (Classic View)

The Filter tab of the cash flow Properties window enables you to select one or more CBS codes (or, if the Project/Shell cost sheet uses a tree structure, Summary CBS codes) to include in the cash flow data. This allows you to limit the cash flow data to a subset of the CBS Codes or Summary CBS Codes that are on the cost sheet. If you do not select any codes on this tab, then the cash flow curves will default to all CBS codes present on the Project/Shell cost sheet.

Note: Filtering is not available on company-level curves, or for curves of detail level Commitment. To choose codes, the cost sheet must be defined in the Project/Shell or Project/Shell template.

To filter curve data by CBS or Summary CBS codes:

1) Open Unifier
2) Click All Projects tab (or your project tab or the tab whose cash flow you want to work with).
3) From the Navigator pane, click Cost Manager to expand and click Cash Flow to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users. To create a new cash flow, click the New drop-down list (the down arrow) and select Detail Curves. The Properties window opens and displays the General tab as default.

   Note: If you have a cash flow template that you want to use, click the New drop-down list (the down arrow) and select From Template to open the Template Log (Cash Flow Templates) window.
4) Click to select a cash flow from the Cash Flow log window and click Properties to open the cash flow Properties window.
5) In the Filter tab and select one of the available options:
   ▸ All CBS codes from cost sheet: This is the default filter, and the cash flow data reflects all CBS codes. The Add and Remove buttons, at the bottom of the window, are disabled.
   ▸ Select Summary CBS codes: This filter allows you to select specific summary CBS codes to include in the cash flow data. This option is available if the cost sheet has a tree structure, and the curve Detail Level is Project/Shell or Summary CBS (on the General tab).
   ▸ Select CBS codes: This filter allows you to select which CBS codes to include in the cash flow data.
6) Select a filter option:
7) If you Select Summary CBS codes and click Add, the Select summary CBS codes window opens.
8) If you Select CBS codes and click Add, the Cost Code Picker window opens.
9) Click the desired code (or codes), click Select to include the selected CBS codes in the filter. You can use Remove to delete codes from the list, if necessary.
10) Click OK, when finished, to open the Cash Flow WorkSheet window.

Cash Flow Properties Settings: Options tab (Classic View)

The Options tab of the Cash flow Properties window enables you to define the format to use for the numbers displayed on the Cash Flow WorkSheet.

The following Number Format choices are available.

▸ Decimal Places: Choose from 0-8; default is 2.
▸ Use 1000 Separator (,): Example: 1,000; default is deselected.
▸ Negative Number Format: Choose from the list; default is -1234.

Cash Flow Properties Settings: Schedule tab (Classic View)

The Schedule tab of the cash flow Properties window enables you to set up the refresh frequency of a selected cash flow curve.

To enable cash flow refresh:

1) Open the cash flow Properties window.
2) Click the Schedule tab.
3) Select the Enable Refresh checkbox.
   Notes:
   ▸ If you select this checkbox, then you can set up scheduled refresh of the cash flow curve.
   ▸ The cash flow sheet will refresh automatically to reflect the most recent cost data or any changes that may have been made to the distribution profile or other properties.
   ▸ If you do not select this checkbox, the curve can still be manually refreshed at runtime.
4) For Frequency, choose when you want the refresh to run. The options are:
   ▸ Daily: At the end of every day.
   ▸ Weekly: The refresh runs at the end of the day that you select.
   ▸ Monthly: You can choose a specific date in the month (For example, the 31st), or you can choose a particular day (e.g., first Monday of the month). If you choose the 31st, the system runs the refresh on the last day of the month for those having less than 31 days.
   ▸ Quarterly: Refresh runs on the day into the quarter that you specify. For example, Day 1 of the quarter. (Refers to a standard calendar quarter.)
5) For Range of recurrence, you can define when the refresh schedule begins and ends.
6) In the Start On field, using the calendar, choose a date to start the refresh schedule.
   ▸ Select, or deselect No end date based on your preference. If you select No end date, the refresh runs at the scheduled intervals until the refresh is turned off, or the Project/Shell is inactive or set as view-only.
   ▸ Select or deselect End by based on your preference. If you select End by and determine a date, using the calendar, the automatic refresh stops on the day that you selected for this field.
7) When finished setting up Refresh Cash Flow, click OK to save and close the Cash Flow WorkSheet window.

Cash Flow Properties Settings Highlights (Classic View)

The cash flow Properties window contains six tabs:

▶ **General**

Specify timescale, detail level, and period close settings that will apply to all curves you create on the Curves tab.

▶ **Curves**

Create the family of curves (Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves) to be added to the Detail Curve Cash Flow WorkSheet. You can add multiple curves to the worksheet. Each curve must be associated with a data source, which is defined by an administrator. Curves are color-coded based on data source.

▶ **Filter**

Specify CBS codes or Summary CBS codes (for hierarchical CBS structures only) that are included in the cash flow data. If no codes are specified, cash flow curves will reflect all CBS codes present on the project cost sheet.

▶ **Options**

Specify format for numbers displayed on the Cash Flow WorkSheet.

▶ **Schedule**

Enable automatic refresh of the cash flow curve or specify a refresh schedule.

▶ **Summary**

Displays the default summary tab within the tab.

The Properties descriptions below apply to Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves. The descriptions were written to familiarize you with available cash flow capabilities.

For Cash Flow by Project/Shell Detail Level

▶ **Curves** tab

Distribute amount from cost sheet column field and From/To Dates. This is where you add the curves based on available data sources.

▶ **Baseline**, **Forecast**, **Portfolio Budget**, **Derived**, and **Custom** curves

If you want to automatically distribute a Cost amount from a cost column, the column must be selected in the Project/Shell. You can choose a curve for a Project/Shell template as long as you are creating a new Project/Shell from the template and are copying both the curve and the cost sheet.

▶ **Actuals (or Spends)** curve

Because you must select a cost sheet column associated with Spends data in the Project/Shell, a Spends curve can only be created in a Project/Shell (or similar to the above, in a project/shell template). You will not be able to add a Spends curve in a company-level template.

▶ **Forecast** curve

If you define Forecast to start a the end of the Spends curve, the Forecast options use data from the Spends curve. Forecast options can only be set if a Spends curve is present.

▶ **Portfolio Budget** curve

The Portfolio Budget curve shows current project-row plan data from a Portfolio Sheet. When plan data changes, it becomes visible in the cash flow graph as a parallel curve so project managers can clearly see the variance between their projections and portfolio planner-initiated changes.

▶ **From Date and To Date**

These fields can be set up to pull start and finish dates from the master schedule sheet in the project or shell. These can be selected in a project or shell template. At runtime, be sure the master schedule sheet is set up and has dates in the date element fields chosen for the curves.

> **Note**: In manual mode, Unifier pegs cost data distribution to the From Date. If there are date changes, Unifier shifts the curve on the timeline based on From Date modifications. Each time period (month or year) on the curve retains the value of the original distribution as long as the duration remains the same. If date changes make the cash flow curve duration longer or shorter, Unifier will not re-balance or redistribute cost data to match the modified curve length (the data will change.)

For Cash Flow by CBS Detail Level

Curves tab

Use dates from Schedule Sheet field - Effective for the baseline curve only, you can view cost distribution information by CBS code in a schedule sheet.

The properties window for each curve type displays these settings:

▶ Distribute amount from cost sheet column field and From/To Date fields. This is similar to Cash Flow by Project/Shell Detail Level above.

▶ Auto by default profile by CBS field.

For Baseline, Forecast and Custom curves, you cannot select "Auto by default profile by CBS" in a company template, but you can in the project/shell, since this setting relies on the CBS codes used in the project or shell. You can choose it for a project/shell template as long as you are creating a new project or shell from the template and are copying both the curve and the cost sheet.

> **Note**: You won't be able to double-click the CBS Summary to view the CBS details.

For Cash Flow by Summary CBS Detail Level

Curves tab

Distribute amount from cost sheet column field and From/To Date fields. This is similar to Cash Flow by CBS Detail Level above.

Curves tab

Auto by default profile by Summary CBS field. Similar to CBS detail level, for Baseline, Forecast and Custom curves, you cannot select "Auto by default profile by Summary CBS" in a company template, but you can in the Project/Shell, and a Project/Shell template as long as you are creating a new project or shell from the template and are copying both the curve and the cost sheet.

For Cash Flow by Commitment Detail Level

General tab

▶ Business Process and Base Commit Record fields.

▶ For a Commitment detail level, you must select the base commit type business process to use. Be sure that you selected business processes that are being used in the Project/Shell.

▶ In the Base Commit Record field, you must select the record at runtime. This is not selectable in the template, since records do not exist in templates. The list displays all records you have permission to view. If a detail curve already exists for that record, you will not be able to choose the same record again.

▶ Curves tab, Include Change Commits and Spends Business Process.

If you chose these options, ensure that you have selected Change Commits that are being used in the Project/Shell, and are associated with the selected Base Commit.

> **Note**: If the cash flow is attached to a Portfolio Manager scenario, the planner-modified baseline curve appears adjacent to the original baseline in the Cash Flow WorkSheet. This lets the project Manager easily spot the difference between the initial projection and the planned suggestion.

Cash Flow Properties Settings: Summary tab (Classic View)

A Summary Cash Flow Curve displays selected cash flows from your project. For example, you can collect and view:

▶ Forecast data across all commitment curves in a project.

▶ Data from contracts and schedule sheets.

▶ Baseline, Forecast, Actuals (or "spends"), and Derived information from contracts and commitments.

In Summary curves, Unifier aggregates cost data according to Cash Flow Data Sources (set in the Cashflow Datasources window).

Example
  ▶ Baseline
  ▶ Forecast
  ▶ Actuals (or "spends")
  ▶ Portfolio Budget
  ▶ Derived

See *Cash Flow Properties Settings: Curves tab (Classic View)* for more information.

Unifier displays summarized cost data in a Cash Flow WorkSheet. The main window charts summary data, and the curves window lists each cost data source. You can open a data source and see the source cash flow curves.
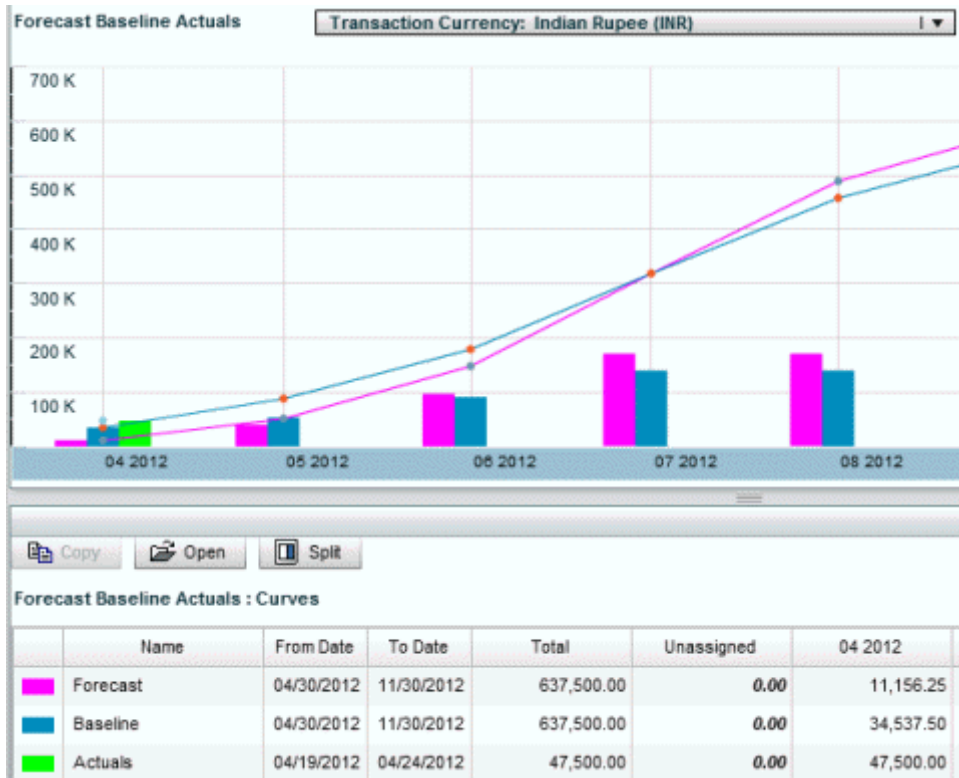
Once you define at least one Summary Curve in your project, Unifier lists the Summary curve as a selection on the curve properties Summary tab.
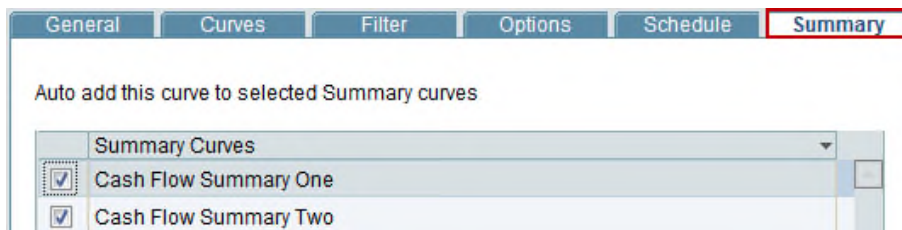
Showing Detailed CBS Codes in Summary Curves

For Summary curves with all child curves at the CBS detail level, when creating a summary cash flow curve, if CBS details are available for all of the curves, summarized data is displayed at individual CBS levels in the details.

However, if there is a curve in the selection that does not have CBS level details (for example, Project/Shell or Commitment levels), then summary details will display individual curve names.

Data will always be in project currency. If child curves have the same transaction currency, then you have the option to show data in transaction currency, as well.

Cash Flow Summary Curves

You must have at least one cash flow summary curve defined in order to see Summary Curves listed on the **Summary Curves** tab.

You can create cash flow summary curves in the project Cash Flow log or by using ***Manage Summary Curves*** (on page 240).

The following topics are explained in this section:

▶ About Summary Curves
▶ Summary Curve Cash Flow WorkSheet
▶ Filter for Summary Curves
▶ Filter for Detail Curve
▶ Showing Detailed CBS Codes in Summary Curves and Curve Combinations
▶ Creating Cash Flow Summary Curves
▶ Opening an existing Summary Curves Cash Flow Window

About Summary Curves

Each Project/Shell cash flow has a system defined Project/Shell Summary Curve. The Summary menu item displays the system defined Project/Shell summary curves with a separator lines between Manage Summary Curves and each Project/Shell Summary Curve. This feature applies to existing Detail Curves as well as all new curves that a user created.

A user can access the list of available individual Project/Shell Summary Curve by clicking the Summary drop-down list (the down arrow).

Notes:

▶ Similar to users with permission to access Custom Summary Curves, users with access to Cash Flow module have access to each Project/Shell Summary Curve, automatically.
▶ The Manage Summary Curves menu item is not available to users who do not have Edit permission for cash flows.
▶ If users do not have Edit permission and no Custom Curves are created, the Summary menu option shows system defined Project/Shell Summary Curve, only.

Summary Curve Cash Flow WorkSheet

The Summary Curve WorkSheet, automatically, includes all Cash Flow records for the Project/Shell when a user accesses the Project/Shell Summary Curve.

When the Summary Curve WorkSheet is open, Unifier uses the current Summary Curves default settings:

▶ All Curves Types are selected
▶ No Saved Filter options are enabled by default (based on new Filter functionality).
▶ Entire Date range of all Curves are available in the Timeline (Graph, Timeline, and Table)
▶ Information is rolled up if Roll Up Status is set to Active on a record

Once the system defined Project/Shell Summary Curve is open, the same functionality for a Summary Curve is available to the user, which includes the enhanced Filter functionality as described in the following sections.

Filter for Summary Curves

When viewing Cash Flow WorkSheet Filter for Summary Curves, the Filter option provides additional filtering options. The following settings are available when filtering for Summary Curves:

▶ Date Range
▶ CBS Code Filter
▶ Save and Manage Filters
▶ Apply Filter settings to entire Worksheet (includes the Graph, Timeline, and Table)

The Filter menu option of the Summary Curves enables you to open the Filter window and select the Curve Types, set the Timescale, add and determine the Detail Level for both the Graph and the Table sections. The Filter window also enables you to save the filter through the Save As field. The saved filters are available in a global collection and can be accessed by users.

The Cash Flow WorkSheet Filter for Summary Curves is accessible through Project/Shell, only.

When a Summary Curve Cash Flow WorkSheet is open, you can access the Filter menu options through:

▶ Filter icon
▶ View > Filter
▶ Edit > Manage Filters

The Filter icon and the View > Filter options are available for both Detail Curve and Summary Curves. These options are not available (disabled) if the Cash Flow WorkSheet does not contain any Curve Types.

Note: At least one curve type must be selected.

The Saved Filter dropdown field enables you to access previously saved filters.

To reload records after updates, do the following:

1) Close Summary Curve Cash Flow WorkSheet
2) Open Summary Curve Cash Flow WorkSheet
3) Click Reset and switch to a different saved filter or a blank filter.

On the Summary Curve Table section, the following options are available:

▶ Zoom: To set the zoom level for the Graph
▶ Reset: To reset the zoom level and all applied filters (enable all curve types)
▶ Y (icon): To view the Summary Curve by year (Y)
▶ Print: To print the Summary Curve.

The Filter menu option of the Summary Curves enables you to open the Filter window and select the Curve Types, set the Timescale, and determine the Detail Level.

Curve Types

This section lists all the curve types that are available for the Summary Curve WorkSheet.

Selecting a curve from the Curve Types box in the Filter window enables you to filter both the Graph and the Table.

The Filter menu option for Summary Curve is accessible through Project/Shell, only.

When opening a previously saved filter, only previously saved Curve Types appear and checked. If a curve type is disabled (not available in the current Summary Curve), the curve type remains checked but disabled. Users cannot uncheck a disabled Curve Type. If a curve type is disabled, the current Summary Curve WorkSheet does not have that particular curve type as a data source.

For Summary Curves, all curve types are selected and enabled. Curve types can be deselected or selected individually. Only the curve types that are available in summary curve are shown in the filter window.

Note: At least one curve type must be selected.

Timescale

The From Date and To Date fields are read only. Users can enable the dates through date picker.

Once a date is selected the proper date format appears in the field, based on user date format preferences.

The Summary Curve date range consists of the available date range based on included Curve data. When a user adds a Timescale or timeline to a Filter, then the Timescale or timeline for the Curve Graph and Table begins and ends with the From Date and To Date in the filter.

Users can also adjust the Timescale or timeline using the sliders (left or right) within the Graph.

The default value for Timescale is the entire unfiltered timeline.

The following conditions apply to The Summary Curve date range:

▸ Users cannot move forward or backward in time beyond the filter Timeline definition.
▸ If the Timescale or timeline is not defined, then the timeline cannot be moved forward or backward beyond the available curve schedule.
▸ When the Timescale or timeline filter is applied, both the Graph and Table reflect the new timeline and Graph and Table columns only displays the date range that has been configured in the Filter.

From Date

The date for the From Date must be equal to or earlier than the date for the To Date. If this condition is not present, Unifier displays an alert and reverts the value to a date selected during the previous entry, or displays a blank field.

If the Cash Flow Timescale supports Month increments, then the selected Month in the From Date is the starting Month.

If the Cash Flow Timescale supports Year increments, then the selected Year in the From Date is the starting Year.

Note: The selected Day is never used.

If users do not enter a date in the From Date field, then the worksheet starts the date based on the curve date.

If users enter a date earlier than the curve date, then Unifier updates this error and starts the From Date based the curve date.

To Date

> The date for the To Date must be equal to or later than the date for the From Date. If this condition is not present, Unifier displays an alert and reverts the incorrect date to a date selected during the previous entry, or displays a blank field.

> If the Cash Flow Timescale supports Month increments, then the selected Month in the To Date is the ending Month.

> If the Cash Flow Timescale supports Year increments, then the selected Year in the To Date is the ending Year.

> **Note**: The selected Day is never used.

> If users do not enter a date in the To Date field, then the worksheet starts the date based on the curve date.

> If users enter a date later than the curve date, then Unifier updates this error and ends the To Date based the curve date.

Detail Level

There are two options available: Summary CBS and CBS. When applicable, the CBS option is selected as default. You can only select one option.

Your project Cost Sheet determines which of the two options are enabled in this window.

Note: Since the Cost Sheet at the Company and Program levels does not display CBS information:

- ▶ If the cost sheet structure is Flat, then only CBS option is enabled.
- ▶ If the Summary CBS and CBS are both enabled, then the condition is Tree.
- ▶ If values have been added to the list of CBS codes in the Detail Level section, switching from one option to another will remove the existing values automatically.
- ▶ If one of the options is checked and disabled, you cannot select that option.

The Add button in the Detail Level section enables users to:

- ▶ Filter worksheet data by adding information related to Summary CBS or CBS.
- ▶ Open an existing Summary CBS or CBS code picker window and to the Detail Level list. You can open and add more than one saved curve.

Note: The Program and Company level Filter window contains the "Curve Types" section (similar to the Detail Curve), but the Program and Company level Filter window does not have the Timescale, Detail Level, and Save" options.

Users can only add Summary CBS or CBS codes that are available on the Project Cost Sheet. Also:

- ▶ At least one value must be added the list to enable Detail Level filtering.
- ▶ Curves that may be filtered by the appropriate Detail Level can be filtered, only. See the following "Showing Detailed CBS Codes in Summary Curves and Curve Combinations" section for a list of possible combination of curves that support Summary CBS or CBS curves.
- ▶ Values that match the Filter criteria appear in the worksheet (Graph and Table), only.
- ▶ Only Summary CBS or CBS codes that are included in the Detail Level filter appear in Curve Type detail window.

The Remove button in the Detail Level section enables users to remove an existing Summary CBS or CBS code that was added.

Note: The Program and Company level Filter window contains the "Curve Types" section (similar to the Detail Curve), but the Program and Company level Filter window does not have the Timescale, Detail Level, and Save" options.

Save As

The Filter window enables users to save the filter through the Save As field. The saved filters are available in a global collection and can be accessed by users at anytime.

Notes:

▸ The Save button remains disabled until you enter a name.
▸ If a name has already been used for a filter, using the same name for a new filter generates an alert notifying the user that the name already exists. You cannot override an existing Filter unless you modify the existing Filter, without changing the name.
▸ Click OK or Save to apply the filter and close the window. Saved filters appear in the Filter drop-down list.

To manage and access saved filters click Edit from the menu and select Manage Filters. The Manage Filters window opens and enables you to:

▸ Open or remove saved filters.
▸ Change name and description of a filter.

OK and Cancel

▸ OK: Use this option to confirm changes.
▸ Cancel: Use this option to cancel changes in the form and exit the Filter window.

Filter for Detail Curve

The Detail Curve Cash Flow WorSheet contains the Graph and the Table sections.

On the Detail Curve Table section, the following options are available:

▸ Zoom: To set the zoom level for the Graph
▸ Reset: To reset the zoom level and all applied filters (enable all curve types)
▸ Y (icon): To view the Summary Curve by year (Y).
▸ Print: To print the Summary Curve.

When a Detail Curve Cash Flow WorkSheet is open, users can access the Filter menu options through:

▸ Filter icon
▸ View > Filter
▸ Edit > Manage Filters

The Filter icon and the View > Filter options are available for both Detail Curve and Summary Curves. These options are not available (disabled) if the Cash Flow WorkSheet does not contain any Curve Types.

The Filter menu option of the Detail Curves enables users to open the Filter window and select the Curve Types, set the Timescale, and determine the Detail Level. The saved filters are available in a global collection (within the project) and can be accessed by users.

Curve Types

This section lists all the curve types that are available for the Detail Curve WorkSheet.

Selecting a curve from the Curve Types box in the Filter window enables users to filter both the Graph and the Table.

The Filter menu option for Detail Curve is accessible through Project/Shell, Company, and Program.

For Detail Curves, all curve types are selected and enabled. Curve types can be deselected or selected individually.

Note: At least one curve type must be selected.

OK and Cancel

▶ OK: Use this option to confirm changes.
▶ Cancel: Use this option to cancel changes in the form and exit the Filter window.

Showing Detailed CBS Codes in Summary Curves and Curve Combinations

For Summary curves with all child curves at the CBS detail level, when creating a summary cash flow curve, if CBS details are available for all of the curves, summarized data is displayed at individual CBS levels in the details. However, if there is a curve in the selection that does not have CBS level details (for example, Project/Shell or Commitment levels), then summary details will display individual curve names.

Data will always be in project currency. If child curves have the same transaction currency, then you have the option to show data in transaction currency, as well.

Curve Combinations

This section describes what Detail level is shown when multiple Curves are summarized. The Detail level displays in Summary CBS or CBS when multiple Cash Flow Curves are of matching type. For Commitment Detail Type curves, the Detail type is defined at the individual curve level.

		All Data Source			Commitment Cash Flow Granularity per Data Source		
	Curves On	Project/Shell	Summary CBS	CBS	Single Distribution	Individual Records	By Line Items of SOV
All Data Source	Project/Shell	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve
	Summary CBS	One Line per Detail Curve	By Summary CBS	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve

	CBS	One Line per Detail Curve	One Line per Detail Curve	By CBS	One Line per Detail Curve	One Line per Detail Curve	By CBS
Commitment Cash Flow Granularity per Data Source	Single Distribution	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve
	Individual Records	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve
	By Line Items of SOV	One Line per Detail Curve	One Line per Detail Curve	By CBS	One Line per Detail Curve	One Line per Detail Curve	One Line per Detail Curve

Creating Cash Flow Summary Curves

You have two options for creating a Summary Curve:

▸ Option one: Creating a Summary Curve using the Cash Flow log
▸ Option two: Creating a Summary Curve using the Manage Summary Curves

Note: By default, summary curves in the Summary tab are displayed in bold, checked, and cannot be unchecked.

Option one: Creating a Summary Curve using the Cash Flow log

1) Open the project for which you want to create a Summary Curve.
2) Click Cost Manager > Cash Flow to open the Cash Flow log window.
3) From the Cash Flow log window select the cash flow curves that you want to include in the Summary Curve.
4) Click Summary to open the Cash Flow WorkSheet window and see both the Graph and Table views. The View option in the Table pane enables you to toggle between incremental and cumulative Table views.

Incremental curve: An incremental curve displays the cash flow for a certain period.

Cumulative curve: A Cumulative curve displays the net of all cash flows over a period of time.

Option two: Creating a Summary Curve using the Manage Summary Curves

You can create cash flow summary curves in the project Cash Flow log using Manage Summary Curves (see *Manage Summary Curves* (on page 240)).

1) Open the project for which you want to create a Summary Curve.
2) Click Cost Manager > Cash Flow to open the Cash Flow log window.
3) Click the Summary drop-down list (the down arrow) and select Manage Summary Curve to open the Manage Summary Curves window.
4) Form the Detail Curves pane, select as many detail curves as you need and click New to open the Manage Summary Curves pane.
5) Enter a name for your new Summary Curve in the field and click Add. The Detail Curves window opens.

6) From the Detail Curves window, click to select the cash flow curves that you want to include in the Summary Curve, and click Select.

7) In Manage Summary Curves window, click Save and close the window.

The cash flow summary curves display in the Summary Curves tab.

There are no additional permissions for summary curves; if you can see a cash flow curve, you can add it to a Summary Curve.

After you save a Summary Curve, the users with View permission can see your summary curve.
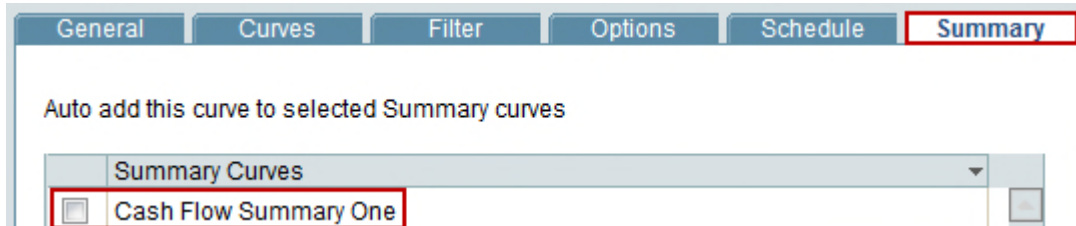
Opening an existing Summary Curves Cash Flow Window

To open an existing Summary Curves Cash Flow window:

1) Open the project or shell where the summary curve exists.

2) Click Cost Manager > Cash Flow. The Cash Flow log opens.

3) On the Cash Flow log toolbar, click the Summary button drop-down arrow, and select any previously created summary curves listed below Manage Summary Curves.

   ▸ Clicking a listed summary curve opens the Cash Flow WorkSheet for that summary.

   ▸ In the Cash Flow WorkSheet, in the Curves detail window you can open a data source to see its source cash flows.

   ▸ Data in this mode is read-only; however, you can edit the data in the source cash flow Details window.

4) Click the Close Window button when ready.

Manage Summary Curves

Note: The Manage Summary Curves menu item is not available to users who do not have Edit permission for cash flows.

To create summary curve using the manage summary curves:

1) Open the project for which you want to create a Summary Curve.

2) Click Cost Manager > Cash Flow to open the Cash Flow log window.

3) Click the Summary drop-down list (the down arrow) and select Manage Summary Curve to open the Manage Summary Curves window.

4) Form the Detail Curves pane, select as many detail curves as you need and click New to open the Manage Summary Curves pane.

5) Enter a name for your new Summary Curve in the field and click Add. The Detail Curves window opens.

6) From the Detail Curves window, click to select the cash flow curves that you want to include in the Summary Curve, and click Select.

7) In Manage Summary Curves window, click Save and close the window.

To manage summary curve content:

1) Open the project or shell where you want to manage summary curve content.
2) Click **Cost Manager** > **Cash Flow**. The Cash Flow log opens.
3) On the Cash Flow log toolbar, click the **Summary** button drop-down arrow, and select **Manage Summary Curves.**
4) In the **Name** column, select a summary curve. In the **Detail Curves** log you can see all source detail curves included in the summary. Add or remove data sources for a summary curve as needed.
5) Click **Save** to retain changes to summary curves, and click **Close Window** when finished.

To rename a summary curve:

1) Open the project or shell where you want to rename a summary curve.
2) Click **Cost Manager>Cash Flow**. The Cash Flow log opens.
3) On the Cash Flow log toolbar, click the **Summary** button drop-down arrow, and select **Manage Summary Curves**.
4) Double-click the name of the curve to activate editing, and enter the new name.
5) Click the **Save** button to save changes, and click the **Close Window** button when ready.

To copy a summary curve:

1) Open the project or shell where you want to rename a summary curve.
2) Click **Cost Manager** > **Cash Flow**.. The Cash Flow log opens.
3) On the Cash Flow log toolbar, click the **Summary** button drop-down arrow, and select **Manage Summary Curves**.
4) Select a summary curve from the list and click the **Copy** button.
5) Enter a name for the copied curve.
6) Click the **Save** button to save changes, and click the **Close Window** button when ready.

To delete a summary curve:

1) Open the project or shell where you want to delete a summary curve.
2) Click **Cost Manager** > **Cash Flow**.. The Cash Flow log opens.
3) On the Cash Flow log toolbar, click the **Summary** button drop-down arrow, and select **Manage Summary Curves**.
4) Select a summary curve from the list and click the **Delete** button.
5) Click the **Save** button to save changes, and click the **Close Window** button when read.

Creating Cash Flow Curves (Standard View)

You can create cash flow curves either manually or automatically. You can also use existing cash flow curve templates to facilitate the creation of cash flow curves.

Cash flow curves require a data source, which your administrator can create in Standards & Libraries. For details refer to the *Unifier Administration Guide*.

There are multiple ways to create a cash flow curve (new, from a template, or copy). The following describes the basics of how to create a cash flow curve in Unifier.

> **Note:** You must have permission to access and configure cash flows.

To create a cash flow detail curve:

1) Open **Unifier** and go to your project or shell tab.
2) Ensure that you are in **User Mode**.
3) From the left Navigator click **Cost Manager** > **Cash Flow**.
4) From the Cash Flow log select your project or shell.
5) From the Cash Flow log toolbar click **Create** to open the New Cash Flow Worksheet.

> ▪ **Note:** At this point, you can also select a cash flow template, if one is made available by your administrator. To select a template, click the down-arrow next to New and select a template.

6) In the Name field, enter a name for the new cash flow curve.
7) In the Description field, enter a brief description about the new cash flow curve.
8) In the Detail Level field, select the desired detail level from the dropdown menu.

▸ When Project / Shell is selected as the detail level, you can choose between two filtering options to determine the cash flow data displayed by the curves:

1. Filter CBS codes (selected by default)

2. Filter Summary CBS codes

▸ A dropdown menu will appear based on your selections.

▸ When Summary CBS is selected as the detail level, a Summary CBS Codes Filter dropdown menu will appear. CBS codes will be filtered based on your selections.

▸ When CBS is selected as the detail level, a CBS Codes Filter dropdown menu will appear. CBS codes will be filtered based on your selections.

▸ When a Commitment type Business Process is selected as the detail level, a Select Base Commit Record dropdown menu will appear.

9. Under Rollup cashflow data to company/program, select Yes or No.

10. Under Time Scale, select the desired Period Type from the Period Type dropdown menu.

▸ When Standard Planning Period is selected, you will see two dropdown menus:

1. By: Select Month or Year

2. Format: Select the desired date format

▸ When Financial Periods is selected, you will see a read only text box with the project financial period name.

11. In the **Curves** pane, select the desired data source for the new cash flow detail curve from the Add Curve dropdown menu. Each curve that you add is based on a data source that your administrator has defined as is available in this list.

> ▪ **Note:** Each data source can only be used once in a Cash Flow Work

Sheet.

12. Based on your selected data source, a curve setup window opens.

13. Review the information in the curve setup window. The Name and the Curve Type fields are auto-populated and cannot be changed.

14. Click **OK** to go back to the New Cash Flow Worksheet. Notice that the curve is now listed in the Curves pane.

You can select another curve from the Add Curve dropdown menu to create a curve based on a different data source.

When finished, click **Save & Close**.

Cash Flow Properties Worksheet Highlights (Standard View)

The New Cash Flow Worksheet contains two panes:

▶ **General**

Specify name, description, detail level, and timescale that will apply to all curves you create in the Curves pane.

Specify Filter CBS codes or Filter Summary CBS codes (for hierarchical CBS structures only) that are included in the cash flow data. If no codes are specified, cash flow curves will reflect all CBS codes present on the project cost sheet.

Select **More Options** to specify period close settings, add curves to summary curves, and specify decimal options.

▶ **Curves**

Create the family of curves (Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves) to be added to the Detail Curve Cash Flow WorkSheet. You can add multiple curves to the worksheet. Each curve must be associated with a data source, which is defined by an administrator. Curves are color-coded based on data source.

The Properties descriptions below apply to Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves. The descriptions were written to familiarize you with available cash flow capabilities.

For Cash Flow by Project/Shell Detail Level

▶ **Curves** pane

Distribute amount from cost sheet column field and From/To Dates. This is where you add the curves based on available data sources.

▶ **Baseline**, **Forecast**, **Portfolio Budget**, **Derived**, and **Custom** curves

If you want to automatically distribute a Cost amount from a cost column, the column must be selected in the Project/Shell. You can choose a curve for a Project/Shell template as long as you are creating a new Project/Shell from the template and are copying both the curve and the cost sheet.

▶ **Actuals (or Spends)** curve

Because you must select a cost sheet column associated with Spends data in the Project/Shell, a Spends curve can only be created in a Project/Shell (or similar to the above, in a project/shell template). You will not be able to add a Spends curve in a company-level template.

▶ **Forecast** curve

If you define Forecast to start a the end of the Spends curve, the Forecast options use data from the Spends curve. Forecast options can only be set if a Spends curve is present.

▶ **Portfolio Budget** curve

The Portfolio Budget curve shows current project-row plan data from a Portfolio Sheet. When plan data changes, it becomes visible in the cash flow graph as a parallel curve so project managers can clearly see the variance between their projections and portfolio planner-initiated changes.

▶ **From Date and To Date**

These fields can be set up to pull start and finish dates from the master schedule sheet in the project or shell. These can be selected in a project or shell template. At runtime, be sure the master schedule sheet is set up and has dates in the date element fields chosen for the curves.

> **Note**: In manual mode, Unifier pegs cost data distribution to the From Date. If there are date changes, Unifier shifts the curve on the timeline based on From Date modifications. Each time period (month or year) on the curve retains the value of the original distribution as long as the duration remains the same. If date changes make the cash flow curve duration longer or shorter, Unifier will not re-balance or redistribute cost data to match the modified curve length (the data will change.)

For Cash Flow by CBS Detail Level

Curves pane

Use dates from Schedule Sheet field - Effective for the baseline curve only, you can view cost distribution information by CBS code in a schedule sheet.

The properties window for each curve type displays these settings:

▶ Distribute amount from cost sheet column field and From/To Date fields. This is similar to Cash Flow by Project/Shell Detail Level above.
▶ Auto by default profile by CBS field.

For Baseline, Forecast and Custom curves, you cannot select "Auto by default profile by CBS" in a company template, but you can in the project/shell, since this setting relies on the CBS codes used in the project or shell. You can choose it for a project/shell template as long as you are creating a new project or shell from the template and are copying both the curve and the cost sheet.

> **Note**: You won't be able to double-click the CBS Summary to view the CBS details.

For Cash Flow by Summary CBS Detail Level

Curves pane

Distribute amount from cost sheet column field and From/To Date fields. This is similar to Cash Flow by CBS Detail Level above.

Curves pane

Auto by default profile by Summary CBS field. Similar to CBS detail level, for Baseline, Forecast and Custom curves, you cannot select "Auto by default profile by Summary CBS" in a company template, but you can in the Project/Shell, and a Project/Shell template as long as you are creating a new project or shell from the template and are copying both the curve and the cost sheet.

For Cash Flow by Commitment Detail Level

General pane

▶ Business Process and Base Commit Record fields.
▶ For a Commitment detail level, you must select the base commit type business process to use. Be sure that you selected business processes that are being used in the Project/Shell.
▶ In the Base Commit Record field, you must select the record at runtime. This is not selectable in the template, since records do not exist in templates. The list displays all records you have permission to view. If a detail curve already exists for that record, you will not be able to choose the same record again.
▶ Curves tab, Include Change Commits and Spends Business Process.

If you chose these options, ensure that you have selected Change Commits that are being used in the Project/Shell, and are associated with the selected Base Commit.

> **Note**: If the cash flow is attached to a Portfolio Manager scenario, the planner-modified baseline curve appears adjacent to the original baseline in the Cash Flow WorkSheet. This lets the project Manager easily spot the difference between the initial projection and the planned suggestion.

Distribution Profiles (Standard View)

When working with templates versus detail curves in Project /Shell, distribution profiles can be:

▶ Created in Administration Mode (in Standards & Libraries).
▶ Used when selecting auto distribution for curves.

At runtime, you can create additional distribution profiles within the project's cash flow module. When working with curves, you can apply the profiles created in Administration Mode, or in the project or shell.

> **Note:** If you are creating a new Project /Shell from a Project /Shell template, and are copying the cash flow module, then template properties and permissions will be copied into the new project or shell.

Cash Flow Properties Worksheet General Pane (Standard View)

The **General** pane of the cash flow Properties window is where you define shared characteristics for this family of curves. For example, all of the curves added here will share the same Time Scale, Detail Level, and Period close settings.

To create a cash flow details curve and complete the Properties **General** pane:

1) Open Unifier.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the **Cash Flow** log window. The **Cash Flow** log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users. To create a new cash flow, click the **Create** drop-down list and select **Manual**. The **New Cash Flow Worksheet** window opens.

> **Note**: If you have a cash flow template that you want to use, click the Create drop-down list and select **From Template** to open the **Template Log (Cash Flow Templates)** window.

4) Click to select a cash flow from the **Cash Flow** log window and click **Properties** to open the cash flow **Properties** worksheet.
5) Complete the fields in the **General** pane using the information in the following table and when finished click **Save & Close**.

After the **General** pane is complete, you can save as is, or continue by adding the curves that will make up the detail curve. See Cash Flow Properties Worksheet: Curves pane (Standard View).

In this Field:	Do this:
Name	Enter a unique name for the curve in the Name field.
Description	(Optional) Enter a brief description in the Description field.
Detail Level	Select a detail level option from the Detail Level box. The selected option determines the level-of-data the cash flow curves will display. Choose one:
	Project/Shell: Choose this to track cash flow for the entire project or shell. For example, Baseline and Actuals curves might chart the budget and cash outlay across the entire project.
	Summary CBS: Choose this option to track cash flow by summary CBS

In this Field:	Do this:
	codes.
	Note: In order to select this option, the cost sheet used in the Project/Shell must be a tree structure.
	CBS: Choose this to track cash flow within a Project/Shell at the CBS code level. This allows you to track cash flow across the project for specific CBS codes, or for all CBS codes.
	Commitment: Choose this option to track cash flow associated with a particular commitment record and its line items. This includes, for example, a base contract and optionally their referenced change commits. This selection activates the following fields:
	Business Process: Click the drop down menu and choose a business process. Listed are the Project/Shell level business processes of type "Base Commit." When creating a template, choose the one that is likely to be used in the projects/shells the template will be used in. When creating the curve in a Project/Shell from the template, you may need to verify that the business process chosen here is active in the project or shell, or pick another from the list.
	Reference Elements: The worksheet will display the reference elements. By default, the Record Number will display as the number. You can click the drop down menu and choose an element to display as the Name (Record Number, Status or Title).
	Base Commit Record: This is selectable in a project or shell, but not in a template. Click the Select button. Choose the commitment record from the list of available records in the project or shell. Each commitment record can be selected only once.
	Note: You can set up the automatic creation of a cash flow curve when a base commit record is created and completed or reaches a particular step. This is done in the BP Setup for the business process.
Filter CBS Codes	Select Filter CBS Codes or Filter Summary CBS codes or neither
Rollup cashflow data to company/program?	Yes: The curve will roll up to Program or Company cash flow the next time the curves are refreshed.
	No: The curve will not roll up to Program or Company cash flow the next time the curves are refreshed.
Time Scale	Select the Time Scale. The time scale determines the scale and format in which the data is shown on the Cash Flow WorkSheet.
	By Month or Year. The default is Month.
	Format: Choose the format that you want the month and year displayed on the graphs. The default is M YYYY.

Select **More Options** to specify period close settings, add curves to summary curves, and specify decimal options. Complete the fields in the **More Options** window using the information in the following table and when finished click **Save**.

In this Field:	Do this:
Period Close Settings	Define the Period Close Settings. The options allow you to choose some automatic settings that will happen at the end of each period (month or year, as chosen in the Time Scale field).
	When selected, the Enable auto snapshot option determines when an automatic snapshot will be taken of the data.
	If you selected Month for Time Scale: You can choose a specific date each month to automatically take a snapshot, or specify a particular day (such as the first Monday of the month).
	If you selected Year for Time Scale: You can specify the exact date to take the snapshot each year (or a particular day such as the first Monday of January).
	Note: After an auto-snapshot is taken, the curve will be refreshed immediately. Actuals (or "spends") will resume after the auto-snapshot is completed.
	Examples of using Enable auto snapshot on, Cutoff spends, and Resume Spends
	Company A wants to take an auto snapshot of its cash flow data every time period. Company A would choose a particular date (such as the 3rd of the month for Month, or January 3 for Year). Unifier would take the snapshot and refresh the cash flow curve. They do not select the Cut off spends option.
	Company B regularly reviews and revises forecast projections during fixed days every time period. Because it does not want new Spends records to hit the Cash Flow WorkSheet during this period, they choose the Cut off spends option. This option requires that Enable auto snapshot be selected first. The company sets this option so that an auto snapshot is taken of their changes just before spends are resumed. Snapshots can then be used for comparison of previous forecasts with the current month. Any spends records that came in during the forecast period are not lost; the Resume Spends option determines whether those spends records will be included in the previous month's cash flow, or pushed to the next time period.
	Cutoff spends
	This option is applicable for Actuals (or "spends") type curves.
	Selecting this option will temporarily stop spends business processes (for example, Invoices) from hitting the Cash Flow WorkSheet during analysis periods.
	Notes:
	▸ The **Enable auto snapshot** option must be selected first. Actuals (or

In this Field:	Do this:
	"spends") will resume after the auto-snapshot is completed. ▸ If no value is specified, then the last date of the current month is presumed. ▸ Unifier marks the time of the Cutoff spends date at the beginning of the day. For example, on June 30, the data can become locked at the beginning of the day and not at the end of the day, therefore, preventing the user from making any last minute changes before the start of the next month.
Period Close Settings (Continued)	**Apply Spends to** The selections under this period close settings option allow you to apply spends to an effective date or before/after a Cutoff spends date. By default, Cutoff spends will resume immediately after an auto-snapshot is taken. **Note**: If there is a gap between the Cutoff spends date and the Enable auto snapshot date, any spends that came during that period are not lost. For example, if a Cutoff spends date is October 26 and the Enable auto snapshot on date is November 2, (and the Time Scale is monthly) that defines the freeze period. Any spends that come in on October 27, 28, 29, 30, 31, and November 1 will not hit the cash flow sheet during the freeze period. After the Enable auto snapshot on date is reached, spends will be included back in October for spends (Oct 27-31) or November for spends (Nov 1-2), and the effective date will be honored. The same month/year as the effective date **Note**: The text of the options under Apply Spends to change based on the selection that you made for the Time Scale (By: Month or By: Year). If this option is chosen, once the freeze period is lifted, spends data is included back in the current period. The final output is similar to the case where no period close settings are applied since the effective date is honored. Spends for Oct 26-31 will be included in October and Nov. 1-2 spends will be included for November. For example, if the cutoff date is the 26th of October and the snapshot date is the 2nd November, the freeze period is Oct 26 – Nov 2nd. Any spends that come in on Oct 27, 28, 29, 30, 31 and Nov. 1, and 2 will not show on the cash flow sheet during the freeze period. After the auto snapshot date is reached, these spends will be included back in either Oct for spends (Oct 27-31) or Nov for spends (Nov 1- 2) and the effective date will be honored. The next month/year if after the cutoff date Once the freeze period is lifted, spends data from the cutoff date to the end of the month will be included in the next month/year. Spends for Oct 26-31 will be included in November and Nov. 1-2 spends will be included for November.

In this Field:	Do this:
	The previous month/year if on or before the cutoff date
	Once the freeze period is lifted, spends data from the start of the month up to the cutoff date will be included in the previous month/year. Spends for Oct 26-31 will be included in September and Nov. 1-2 spends will be included for November.
	Note: During the Cutoff spends period, even if automatic refresh of the curve occurs as set in the Schedule tab, spends data will not hit the cash flow sheet until spends are resumed again.
Summary	Add curves to selected summary curves.
Decimal Options	Select the desired number of decimal places from the drop-down menu.

Cash Flow Properties Worksheet Curves Pane (Standard View)

In the Curves pane of the Cash Flow Properties worksheet, you can add the curves you would like to include in the Cash Flow WorkSheet.

Based on the data sources that you have defined in **Company Workspace** > **Administration Mode** > **Standards & Libraries** > **Cash Flow** > **Data Sources**, you can create:

▸ Baseline curve
▸ Custom curve
▸ Derived curve
▸ Forecast curve
▸ Portfolio Budget curve
▸ Actual (Spends) curve

Depending on the type, the curve setup options will differ. You can define one curve for every data source.

> **Note**: The Portfolio Budget curve is linked to scenarios in the Portfolio Manager. The project manager must create this curve. Once created, the curve shows the initial budget projections.

When you open a curve, you can view the data in the transaction currency, if the transaction currency is different than the project currency.

Baseline Curve (Standard View)

You can construct cash flow curves by Project/Shell, Summary CBS codes, by CBS, or by a specific Commitment business process and record. The Baseline curve options reflect the detail level selections you made in the General pane.

This section explains the following topics:

▸ To add a Baseline curve for cash flow by Project/Shell
▸ To add a Baseline curve for cash flow by Summary CBS or CBS
▸ To add a Baseline curve for cash flow by Commitment

To add a Baseline curve for cash flow by Project/Shell:

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the left Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **Create** drop-down list (the down arrow) and select **Manual**. The New Cash Flow Worksheet opens.

   Note: If you have a cash flow template that you want to use, click the **Create** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.
4) Select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties worksheet.
5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Project/Shell under Detail Level.
6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of type Baseline. The Cash Flow by Project/Shell - Baseline window opens.
7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

In this Field:	Do this:
Cost	You can choose the cost column when creating a curve in a Project/Shell but not in templates. Choose one of the following options:
	Manually enter amounts for each period (available if you choose Manual in the Distribution drop-down list)
	You can enter cost information in the Total field on the worksheet.
	Distribute amount from cost sheet column
	This option will take the amount in the selected Cost Sheet column, and either allows you to distribute it manually (if you choose Manual distribution in the Distribution drop-down list), or use the default distribution profile (if you choose Auto by default profile in the Distribution drop-down list). An example column would be a budget.

In this Field:	Do this:

Schedule	Define the range of dates to use to plot the cash flow data.
	
	If you choose to take dates from the schedule sheet elements, the Master schedule sheet for the Project/Shell is used.
	
	Determine what dates to start the curve and end the curve. Choose one of the following options for each date:
	
	Manual
	
	    User enters the date directly in the Cash Flow WorkSheet.
	
	Data element from schedule sheet
	
	    Choose a schedule sheet data element from the list. The date will be populated automatically from the schedule sheet name (picker) when the cash flow curve is refreshed.
	
	    If these dates are changed on the selected schedule sheet, then the changes will be reflected on cash flow after the next refresh of the curves.

Distribution	Distribution spreads the amount value between cash flow time periods. Choose one:
	
	Manual
	
	    You enter values into each field manually.
	
	Auto by default profile
	
	    You can choose one of the available Distribution Profiles, that were defined in Standards & Libraries > Cash Flow > Distribution Profiles, or from those that were defined directly in the Project/Shell cash flow log (Edit > Distribution Profiles). This will be used as the default profile; however, at runtime, you can change which profile to use.
	
	    Click Select to open the Select Distribution Profiles window. Select a distribution profile to use as the default profile for the curve.
	
	    The default profile is used for the initial display and calculations in the Cash Flow WorkSheet. You can change the distribution profile from the worksheet. If you do this, the default profile will automatically update to reflect the current selection.

Variance	Choose Inflow or Outflow or neither.

To add a Baseline curve for cash flow by Summary CBS or CBS:

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the left Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.

5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Summary CBS (for summary CBS codes) or CBS (for cash flow by individual CBS codes) under Detail Level.

6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of type Baseline. The Cash Flow by Summary CBS - Baseline or Cash Flow by CBS - Baseline window opens..

7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

In this Field:	Do this:
Bring Baseline Data From	*General* *Schedule Sheet* This option enables you to choose a schedule sheet and view the cost distribution information by CBS. **Note**: The Cash Flow by Summary CBS – Baseline does not have this option. To use data from schedule sheet, follow these instructions: Select Use data from Schedule Sheet > Click Select to open the Schedule Sheets window > Select the desired schedule sheet > Click Open. The selected schedule sheet appears in the Use dates from Schedule Sheet field. *P6 Summary Sheet* **Note**: The Cash Flow by Summary CBS – Baseline does not have this option. The data picker lists all the P6 Data sources under the Standards & Libraries node (User mode > Company Workspace > P6 Data Sources. **Note**: This option is unavailable (grayed out) when Shell Schedule Type = Duration Based. If you select this option, Cost and Dates information data come from P6 Summary Sheet (spread) based on P6 Data Sources. A secondary drop-down list, **Data Type**, contains the data types available: At Completion and Planned. If you select **At Completion**, the system draws the Baseline curve using the At Completion Cost spread. If you select **Planned**, the system draws the Baseline curve using the Planned Cost spread. *Activity Sheet*

In this Field:	Do this:

Cost	You can choose the cost column when creating a curve in a Project/Shell but not in templates. Choose one of the following options:
	
	Manually enter amounts for each period (available if you chose Manual above)
	
	    You can enter cost information in the Total field on the worksheet.
	
	Auto distribute total amount across all periods (available if you chose Auto by default profile above)
	
	    This option automatically distributes the amount in the Total field using the selected default profile.
	
	Distribute amount from cost sheet column
	
	    This option takes the amount in the selected Cost Sheet column, and either enables you to distribute it manually (if you chose Manual distribution), or it enables you to use the default distribution profile (if you chose Auto by default profile).
	
	    An example column would be a budget.

Schedule	Here you define the range of dates to use to plot the cash flow data. Your options are:
	
	Use dates from Schedule Sheet
	
	    To take dates from the schedule sheet elements, the Master schedule sheet for the project/shell is used.
	
	Use dates from P6 Summary Sheet
	
	    The data picker lists all sheets from the 'P6 Summary Sheets' node under the Schedule Manager node.
	
	    Note: This option is unavailable (greyed out) when shell Schedule Type = Resource Loaded or Cost Loaded.
	
	    If you select this option, the dates information data come from P6 Summary Sheet (spread).
	
	    Note: This option is available when the Distribution option is Manual, or Auto by default profile per CBS.
	
	    A secondary drop-down list, **Dates Type**, contains the date types available: Planned and At Completion, with Planned as default selection. Using the Start and Finish dates of the selected dates type, the system draws the cash flow curve.
	
	        If you select **Planned**, the system draws the Baseline curve using the Planned Start and Planned Finish dates of the selected Summary Sheet.
	
	        If you select **At Completion**, the system draws the Baseline curve using the At Completion Start and At Completion Finish dates of the selected Summary Sheet.

In this Field:	Do this:
Distribution	Distribution spreads the amount value between cash flow time periods. Choose one: *Manual* 　You enter values into each field manually. *Auto by default profile per CBS* (for CBS Detail Level curves) or *Auto by default profile summary CBS* (for Summary CBS Detail Level curves) 　You can specify a default profile per CBS code (or Summary CBS code) one CBS at a time or by selecting multiple CBS codes. See the following instructions for details. 　The initial distribution profile is default. You can change the distribution profile at runtime. 　Follow these instructions for CBS Detail Level curves: **Note**: You can use the same instructions for Summary CBS Detail Level curves 　To set default distribution profile for one CBS: 　　- Click Auto by default profile per CBS > Details to open the Edit Distribution Profiles (CBS Details) window. 　　- Click to select a CBS > double-click the cell under the Default Profile column for that CBS > Click the desired distribution profile from the list. **Note**: You can use Find to search for a specific CBS code. 　　To set default distribution profile for multiple CBSs: 　　- Click Auto by default profile per CBS > Details to open the Edit Distribution Profiles (CBS Details) window. 　　- Click to select a CBS > Hold down the Ctrl or Shift key on your keyboard and then click each CBS that you want to select > Click Bulk Edit to open the Select Distribution Profiles (Distribution Profiles) window > Click the desired distribution profile from the list > Click Select. **Note**: You can use Find to search for specific CBS codes. When the Edit Distribution Profiles (CBS Details) window appears, ensure that the correct profiles have been selected and when finished, click Save.
Variance	Choose Inflow or Outflow or neither.

To add a Baseline curve for cash flow by Commitment

You can build one Baseline curve per Commitment record. When you build a Baseline curve for individual line items, the Schedule of Value (SOV) type influences distribution options.

▸ If the SOV lists individual line items by CBS you can distribute cost for each line item individually.

▶ If the SOV groups line items, you cannot distribute cost for each line item individually.

For costs distributed in the transaction currency, Unifier calculates and stores the distribution in project currency using the exchange rate table.

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the left Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane).

   The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

   Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.
5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Commitment under Detail Level.
6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of type Baseline. The Cash Flow Commitment - Baseline window opens.
7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

In this Field:	Do this:
Cash Flow Granularity	**Note**: The Cash Flow Granularity option that you select determines the Distribution Method options that are available. The Cash flow granularity options determine the level of record detail available in the cash flow curve. You can roll up base and change commits and see individual records separately, or you can drill to individual line items in a Commitment record.
Single distribution of sum of base commit and all changes	**Note**: Selecting this option limits the Distribution Method to Manual entry of values per cash flow period, only. In User Mode, you must open the Cash Flow Details window to complete time scale fields and distribute the rolled up values of the base commit record and any change commit records.

In this Field:	Do this:
By individual record (base commit and all changes separately)	Selecting this option enables you to select the following options from the Distribution Method: Manual entry of values per cash flow period Use this option to manually enter the time scale and to distribute costs. Auto distribution Use this option to utilize a pre-defined distribution curve. In User Mode, the curve data is read-only, but you can change the distribution profile. This selection requires a sub-selection. Manual Dates and manual profile selection Use this option to manually enter the time scale and select a distribution curve. Business process dates and default profile selection Use this option to select the time scale from fields on the business process. Click Details to open the selection window. There are four columns in the Auto Distribution window. Business Process: List comes from the Cost-type business processes available in your company From Data Element: Select the date you want the distribution to start **Note**: You can only select a Date element from the Upper Forms and not from the Business Process Detail forms. To Data Element: Select the date you want the distribution to end Default Profile: If desired, select a pre-defined profile.
By line items within each individual record	Selecting this option enables you to select the following options from the Distribution Method: Manual entry of values per cash flow period Use this option to select record line items. In User Mode you can: See each selected line item in the Cash Flow Details window; the columns come from the business process. Select a profile on the detail window for each line. Select the distribution profile manually. Auto distribution Use this option to manually enter dates and select a distribution profile.

In this Field:	Do this:

Distribution Method	**Note**: The Cash Flow Granularity that you selected determines the Distribution Method options that are available.
	
	Read the following sections in this table for details:
	
	    Single distribution of sum of base commit and all changes
	
	    By individual record (base commit and all changes separately)
	
	    By line items within each individual record
	
	Note: By default, Unifier displays Commitment curve cost data in the record transaction currency, which is stored in project currency (using the active currency exchange rate table). If the transaction currency is different from the project currency, you can change the currency view between transaction and project currencies, but you can only edit data in the transaction currency. If there is a more recent value in the exchange rate table, refreshing the curve will refresh the cost data.

Commit Change Processes to be included	Add Commit Change business processes according to the status. **Note**: These line items are also seen in the Cash Flow Curve Details window.

Actuals (Spends) Curve (Standard View)

The Actuals (or "spends") Curve tracks actual invoice transactions. It pulls the data from a column of the cost sheet. Choose a column associated with the data source for the Spends-type business process and status that you want to track.

This section explains the following topics:

▸ To add Actuals (or "spends") curve for cash flow by Project/Shell
▸ To add Actuals (or "spends") curve for cash flow by Summary CBS or CBS
▸ To add Actuals (or "spends") curve for cash flow by Commitment
▸ About Actuals (Spends) Curve and Forecast Curve

> **Note**:   For Base Commits, Change Commits, and Payment Application BPs of Summary Payment Application SOV type (the Cash Flow family curves for Actuals (or "spends") curve for cash flow by Commitment):
>
> - If the Effective Date (uuu_effective_date) field has been defined in the Detail Form design, then this date is used as the effective date for the Costed Line Items.
> - In the absence of the Effective Date (uuu_effective_date) field, the Workflow end date will be used for Cash Flow.
> - You can see the Costed Amount for the Cash Flow curves of Actual (Spends) type level CBS and Summary CBS.
> - You can see the Line Item amount for the Cash Flow curves of Actual (Spends) type level Project/Shell.

To add Actuals (or "spends") curve for cash flow by Project/Shell

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the left Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **Create** drop-down list (the down arrow) and select **Manual**. The New Cash Flow Worksheet opens.

   Note: If you have a cash flow template that you want to use, click the **Create** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.
4) Select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.
5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Project/Shell under Detail Level.
6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of data source of type Actuals. The Cash Flow by Project/Shell - Actuals window opens.
7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

In this Field:	Do this:

Cost	*Select from cost sheet column*
	
	    Choose a cost sheet column associated with the Spends-type business process and status.
	
	    The Cost sheet column selection is only available when creating curves in a Project/Shell, not a template (since there is no cost sheet to reference).
	
	    If you are creating a detail curve template, you will not be able to add a Spends curve.

Variance	Choose *Inflow* or *Outflow* or neither.

To add Actuals (or "spends") curve for cash flow by Summary CBS or CBS

1) Open **Unifier**.

2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).

3) From the left   Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

   Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Select a cash flow from the Cash Flow log window and click Properties to open the cash flow Properties window.

5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Summary CBS or CBS under Detail Level.

6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of data source of type Actuals. The Cash Flow by Summary CBS - Spends or Cash Flow by CBS - Spends window opens.

7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

In this Field:	Do this:

Bring Actuals Data From	*General*
	  TBD
	P6 Summary Sheet
	  Note: The Cash Flow by Summary CBS – Actuals does not have this option.
	  The data picker lists all the P6 Data sources under the Standards & Libraries node (User mode > Company Workspace > P6 Data Sources.
	  Note: This option is unavailable (greyed out) when shell Schedule Type = Duration Based.
	  If you select this option, the system draws the Spends curve using the Actual Cost spread from the selected P6 Data source.
	Activity Sheet
	  TBD

Cost	*Select from cost sheet column*
	  Choose a cost sheet column associated with the Spends-type business process and status.
	  The Cost sheet column selection is only available when creating curves in a Project/Shell, not a template (since there is no cost sheet to reference).
	  If you are creating a detail curve template, you will not be able to add a Spends curve.

Variance	Choose *Inflow* or *Outflow* or neither.

To add Actuals (or "spends") curve for cash flow by Commitment

> **Note**: When you open this curve, you can view the data in two different currencies by switching between project and transaction currencies.

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the left Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Click to select a cash flow from the Cash Flow log window and click Properties to open the cash flow Properties window.

5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Commitment under Detail Level.

6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of data source of type Actuals. The Cash Flow by Commitment - Spends window opens.

7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

In this Field:	Do this:
Granularity	Select By line items from Schedule of Values if you want to get cash flow individual line items from the Actuals (or "spends") record.
Cost	*Select Spends Business Process* Click **Add** to choose the Spends Business Processes that you want to use. The Spends-type business processes and the related status that are associated with the Base Commit open in a window. Choose the business processes and statuses that you want to include in the curve and click **Save**.
Variance	Choose *Inflow* or *Outflow* or neither.

About Actuals (Spends) Curve and Forecast Curve

Unifier complies with the initial profile. If Actuals (or "spends") are received for a portion of the curve, and the Forecast curve is connected to Actuals (or "spends"), Unifier takes the already-consumed-profile portion out of the equation and redistributes the unconsumed pending profile portion.

Examples

‣ The Forecast curve starts from Jan 2012- Dec 2014, stretching Unifier's default 20 point distribution profile over 36 periods.

‣ Actuals were received January 2012 February 2012, and March 2012.

‣ These three periods of Forecast curve already consumed 1.67 points of period distribution.

‣ The Forecast end date is now changed to December 2015.

‣ The Forecast curve is now March 31 2012 to December 2015.

‣ Unifier then distributes the remaining 18.33 points of profile over 45 periods.

If there are some CBS codes that have received Actuals (or "spends") and some CBS codes that did not, then the CBS codes that did not receive Actuals (or "spends") will be replaced by 0 at the end of the month, or on the cutoff date (depending on the UI settings).

If there are some CBS codes that have received future Actuals (or "spends") and some CBS codes that did not, then the Forecast Curve will not reflect future Actuals (or "spends") until they become current.

The following section explains the Forecast Curve.

Forecast Curve (Standard View)

▶ This section explains the following topics:General Information about Forecast Curve

▶ To add a Forecast Curve for cash flow by Project/Shell

▶ To add a Forecast Curve for cash flow by Summary CBS or CBS

▶ To add a Forecast Curve for cash flow by Commitment

▶ Forecast Curve Behavior Test Cases

To add a Forecast Curve for cash flow by Project/Shell

1) Open **Unifier**.

2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).

3) From the left Navigator pane, click **Cost Manager** to expand and click Cash Flow to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations.

   The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

   Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.

5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Project/Shell under Detail Level.

6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of data source of type   **Forecast**. The Cash Flow by Project/Shell - Forecast window opens.

7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

In this Field:	Do this:

Cost	**Note**: The distribution method that you select determines the Cost options that are available.
	
	Choose one of the following options:
	
	Manually enter amounts for each period (available if you chose Manual distribution)
	
	    You can enter cost information in the Total field on the worksheet.
	
	Auto distribute total amount across all periods (available if you chose Auto by default profile distribution)
	
	    This option distributes the amount in the Total field automatically, using the selected default profile.
	
	Distribute amount from cost sheet column
	
	    This option takes the amount in the selected Cost Sheet column and enables you to either:
	
	        Distribute it manually (if you chose Manual distribution)
	        or
	        Use the default distribution profile (if you chose Auto by default profile distribution)
	        For a forecast column, an example of a column choice would be a Spends-type business process and status.

Schedule From Date To Date	Select, or define, the range of dates to use to plot the cash flow data. If you choose to take dates from the schedule sheet elements, the Master schedule sheet for the Project/Shell is used.

In this Field:	Do this:
Distribution	Distribution spreads the amount value between cash flow time periods. Choose one of the following options: *Manual* To enter values in each field manually. **Note**: Selecting the Manual distribution option enables you to select the following two Cost options, only: Manually enter amounts for each period Distribute amount from cost sheet column *Auto by default profile* To select one of the available profiles from the Distribution Profiles. You can choose one of the available Distribution Profiles, that were defined in Standards & Libraries > Cash Flow > Distribution Profiles, or from those that were defined directly in the Project/Shell cash flow log (Edit > Distribution Profiles). The selected profile will be used as the default profile; however, at runtime, you can change which profile to use. Select Auto by default profile > Click Select. The Select Distribution Profiles (Distribution Profiles) window opens. Select a profile to use for the curve, as default profile, and click Select. **Note**: If the initial Forecast uses a distribution profile, and has a configuration start at the end of Actuals (or "spends"), the profile does not impact Forecast distribution when you receive Actuals (or "spends").
Variance	Choose Inflow or Outflow or neither.

In this Field:	Do this:
Forecast Options	Choose one of the following options:
	Begin calculations at end of curve
	Select this option if you want to automatically start the forecast at the end of a selected spends curve for each time period.
	Select Begin calculations at end of curve > Click the drop-down list and select your desired option. For example, you can select Actuals (or "spends") curve if this curve exists.
	Replace current period forecast with Actuals on cut off date
	If you select this option, and the period close settings have not been specified, then Unifier replaces the Forecast Curve with Actuals (or "spends") Curve on the end of the month curve.
	Note: The cumulative graph will not show the forecast connected to Actuals until Unifier overwrites the Forecast with Actuals.
	Allow edit of current period forecast until replacement by Actuals
	This option enables you to reconfigure the forecast until the date set to replace the forecasted values with Actuals (or "spends").
	Note: If the cutoff date is not specified, but the Replace current period forecast with Actuals on cut off date and Allow edit of current period forecast until replacement by Actuals checkboxes are marked, then Unifier does not allow edits to the Forecast Curve after the end of the month curve.
	The options under Distribute unassigned amounts from Spends are available only if you have chosen:
	Auto by default profile for Distribution
	Begin calculations at end of curve for Forecast Options
	The following options, under Distribute unassigned amounts from Spends enable you to automatically distribute any overestimated or underestimated Actuals (or "spends") amounts from the original forecast.
	using weighted average over all remaining periods
	Enter the number of time periods.
	using weighted average over next _____ period(s)
	Enter the number of time periods, 1 or more, not to exceed the number of periods remaining.

To add a Forecast Curve for cash flow by Summary CBS or CBS

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).

3) From the left Navigator pane, click Cost Manager to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations.

The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.

5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Summary CBS or CBS under Detail Level.

6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of data source of type   **Forecast**. The Cash Flow by Summary CBS - Forecast or Cash Flow by CBS - Forecast window opens.

7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

In this Field:	Do this:

In this Field:	Do this:
Bring Forecast Data From	*Use data from Schedule Sheet* This option enables you to choose a schedule sheet and view the cost distribution information by CBS. **Note**: The Cash Flow by Summary CBS – Forecast does not have this option. To use data from schedule sheet, follow these instructions: Select Use data from Schedule Sheet > Click Select to open the Schedule Sheets window > Select the desired schedule sheet > Click Open. The selected schedule sheet appears in the Use dates from Schedule Sheet field. *Use Data from P6 Source* **Note**: The Cash Flow by Summary CBS – Forecast does not have this option. The data picker lists all the P6 Data sources under the Standards & Libraries node (User mode > Company Workspace > P6 Data Sources. **Note**: This option is unavailable (greyed out) when Shell Schedule Type = Duration Based. If you select this option, Cost and Dates information data come from P6 Summary Sheet (spread) based on P6 Data Sources. A secondary drop-down list, **Data Type**, contains the data types available: At Completion and Remaining. If you select **At Completion**, the system draws the Forecast curve using the At Completion Cost spread. If you select **Remaining**, the system draws the Forecast curve using the Remaining Cost spread.

In this Field:	Do this:

Cost	You can choose the cost column when creating a curve in a Project/Shell but not in templates. Choose one of the following options:
	
	Manually enter amounts for each period (available if you chose Manual above)
	
	    You can enter cost information in the Total field on the worksheet.
	
	Auto distribute total amount across all periods (available if you chose Auto by default profile above)
	
	    This option automatically distributes the amount in the Total field using the selected default profile.
	
	Distribute amount from cost sheet column
	
	    This option takes the amount in the selected Cost Sheet column, and either enables you to distribute it manually (if you chose Manual distribution), or it enables you to use the default distribution profile (if you chose Auto by default profile).
	
	    An example column would be a budget.

Schedule
From Date
To Date
	Select, or define, the range of dates to use to plot the cash flow data.
	
	If you choose to take dates from the schedule sheet elements, the schedule sheet name (picker) for the Forecast is used.
	
	Use dates from P6 Source
	
	Note: This option is available for CBS, only.
	
	    The data picker lists all the P6 Data sources under the Standards & Libraries node (User mode > Company Workspace > P6 Data Sources.
	
	    Note: This option is unavailable (greyed out) when Shell Schedule Type = Cost or Resource Based
	
	    If you select this option, the Dates information data come from P6 Summary Sheet (spread) based on P6 Data Sources.
	
	    A secondary drop-down list, Data Type, contains the data types available: At Completion and Remaining.
	
	    If you select **At Completion**, the system draws the schedule from At Completion Start and At Completion Finish.
	
	    If you select **Remaining**, the system draws the schedule from Remaining Start and Remaining Finish.

In this Field:	Do this:
Distribution	Distribution spreads the amount value between cash flow time periods. Choose one of the following options: *Manual* To enter values in each field manually. **Note**: Selecting the Manual distribution option enables you to select the following two Cost options, only: Manually enter amounts for each period Distribute amount from cost sheet column *Auto by default profile per CBS* To select one of the available profiles from the Distribution Profiles. Follow these instructions for CBS Detail Level curves: **Note**: You can use the same instructions for Summary CBS Detail Level curves To set default distribution profile for one CBS: Click Auto by default profile per CBS > Details to open the Edit Distribution Profiles (CBS Details) window. Click to select a CBS > double-click the cell under the Default Profile column for that CBS > Click the desired distribution profile from the list. **Note**: You can use Find to search for a specific CBS code. To set default distribution profile for multiple CBSs: Click Auto by default profile per CBS > Details to open the Edit Distribution Profiles (CBS Details) window. Click to select a CBS > Hold down the Ctrl or Shift key on your keyboard and then click each CBS that you want to select > Click Bulk Edit to open the Select Distribution Profiles (Distribution Profiles) window > Click the desired distribution profile from the list > Click Select. **Note**: You can use Find to search for specific CBS codes. When the Edit Distribution Profiles (CBS Details) window appears, ensure that the correct profiles have been selected and when finished, click Save.
Variance	Choose Inflow or Outflow or neither.

In this Field:	Do this:
Forecast Options	Choose one of the following options:
	Begin calculations at end of curve
	Select this option if you want to automatically start the forecast at the end of a selected spends curve for each time period.
	Select Begin calculations at end of curve > Click the drop-down list and select your desired option. For example, you can select Actuals (or "spends") curve if this curve exists.
	Replace current period forecast with Actuals on cut off date
	If you select this option, and the period close settings have not been specified, then Unifier replaces the Forecast Curve with Actuals (or "spends") Curve on the end of the month curve.
	Note: The cumulative graph will not show the forecast connected to Actuals until Unifier overwrites the Forecast with Actuals.
	Allow edit of current period forecast until replacement by Actuals
	This option enables you to reconfigure the forecast until the date set to replace the forecasted values with Actuals (or "spends").
	Note: If the cutoff date is not specified, but the Replace current period forecast with Actuals on cut off date and Allow edit of current period forecast until replacement by Actuals checkboxes are marked, then Unifier does not allow edits to the Forecast Curve after the end of the month curve.
	The options under Distribute unassigned amounts from Spends are available only if you have chosen:
	Auto by default profile per CBS for Distribution
	Begin calculations at end of curve for Forecast Options
	The following options, under Distribute unassigned amounts from Spends enable you to automatically distribute any overestimated or underestimated Actuals (or "spends") amounts from the original forecast.
	using weighted average over all remaining periods
	Enter the number of time periods.
	Using weighted average over next _____ period(s)
	Enter the number of time periods, 1 or more, not to exceed the number of periods remaining.

In this Field:	Do this:
Forecast Options (continued)	*Use dates from P6 Summary Sheet* The data picker lists all sheets from the 'P6 Summary Sheets' node under the Schedule Manager node. **Note**: This option is unavailable (greyed out) when shell Schedule Type = Resource Loaded or Cost Loaded. If you select this option, the dates information data come from P6 Summary Sheet (spread). **Note**: This option is available when the Distribution option is Manual, or Auto by default profile per CBS. A secondary drop-down list, **Dates Type**, contains the date types available: At Completion and Remaining. Using the Start and Finish dates of the selected dates type, the system draws the cash flow curve. If you select **At Completion**, the system draws the Forecast curve using the At Completion Start and At Completion Finish dates of the selected Summary Sheet (spread). If you select **Remaining**, the system draws the Forecast curve using the Remaining Early Start and Remaining Early Finish dates of the selected Summary Sheet (spread).

To add a Forecast Curve for cash flow by Commitment

1) Open **Unifier**.

2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).

3) From the left Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

   Note: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Click to select a cash flow from the Cash Flow log window and click Properties to open the cash flow Properties window.

5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Commitment under Detail Level.

6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of data source of type   **Forecast**. The Cash Flow by Commitment - Forecast window opens.

7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

In this Field:	Do this:
Cash Flow Granularity Single distribution of sum of base commit and all changes	Manual entry of values per cash flow period. **Note**: This is the only available option. If you select this option, you can only select the Manual entry of values per cash flow period option for Distribution Method. In User Mode, you must open the Cash Flow Details window to complete time scale fields and distribute the rolled up values of the base commit record and any change commit records.

Cash Flow Granularity
 	
By individual record (base commit and all changes separately)
	Use with:
	
	Manual entry of values per cash flow period option under Distribution Method
	
	Auto distribution option under Distribution Method
	
	    Either with the Manual dates and manual profile selection option, or the Business process dates and default profile selection option.
	
	    Selecting the Manual entry of values per cash flow period option under Distribution Method enables you to manually enter the time scale and to distribute costs.
	
	    Selecting the Auto distribution option under Distribution Method enables you to utilize a pre-defined distribution curve. In User Mode curve data is read-only, but you can change the distribution profile.
	
	    Selecting the Auto distribution option under Distribution Method requires selecting one the following sub-selection:
	
	        Manual Dates and manual selection of profile: Use this option to manually enter the time scale and select a distribution curve.
	
	        Business process dates and default profile selection: Use this option to select the time scale from fields on the business process. Click Details to open the selection window. There are four columns in the Auto Distribution window and you can select one of the following option:
	
	Business Process
	
	    List comes from the Cost-type business processes available in your company.
	
	From Data Element
	
	    Select the date you want the distribution to start.
	
	To Data Element
	
	    Select the date you want the distribution to end.
	
	Default Profile
	
	    If desired, select a pre-defined profile.

In this Field:	Do this:

Cash Flow Granularity
 	
By line items from Schedule of Values
	Use with:
	
	Manual entry of values per cash flow period option under Distribution Method.
	
	Manual entry with auto distribution of unassigned amount option under Distribution Method.
	
	Auto distribution option under Distribution Method.
	
	Manual dates and manual profile selection option, only.
	
	    Selecting the Manual entry of values per cash flow period option under Distribution Method enables you to select record line items. In User Mode you can:
	        See each selected line item in the cash flow Details window; the columns come from the business process.
	        Select a profile on the detail window for each line.
	        Select the distribution profile manually.
	    Selecting the Manual entry with auto distribution of unassigned amount option under Distribution Method enables you to auto-distribute the total cost.
	
	You must select a Default profile for new records. Initially the curve uses auto-distribution based on both the dates you entered in the Forecast details window and the default profile you selected for the distribution method. Once you modify data-period dates:
	    If the Unassigned amount is not equal to zero, you must manually enter dates and manually adjust the Unassigned amount.
	    If the Unassigned amount equals zero, the Cash flow by Commitment - Forecast curve uses a weighted average to redistribute the Unassigned amount.
	
	Selecting the Auto distribution option under Distribution Method automatically selects the Manual Dates and manual selection of profile option and enables you to manually enter dates and select a distribution profile. In the Cash Flow Details window, Unifier populates column values from the Business Process Schedule of Values (SOV).

Distribution Method	See Cash Flow Granularity in this table for details.
Commit Change Processes to be included	Add Commit Change business processes according to the status. **Note**: These line items are also seen in the Cash Flow Curve Details window.
Variance	Choose Inflow or Outflow or neither.

In this Field:	Do this:
Forecast Options	Choose one of the following options: Begin calculations at end of curve Select this option if you want to automatically start the forecast at the end of a selected spends curve for each time period. Select Begin calculations at end of curve > Click the drop-down list and select your desired option. For example, you can select Actuals (or "spends") curve if this curve exists. Replace current period forecast with Actuals on cut off date If you select this option, and the period close settings have not been specified, then Unifier replaces the Forecast Curve with Actuals (or "spends") Curve on the end of the month curve. **Note**: The cumulative graph will not show the forecast connected to Actuals until Unifier overwrites the Forecast with Actuals. Allow edit of current period forecast until replacement by Actuals This option enables you to reconfigure the forecast until the date set to replace the forecasted values with Actuals (or "spends"). **Note**: If the cutoff date is not specified, but the Replace current period forecast with Actuals on cut off date and Allow edit of current period forecast until replacement by Actuals checkboxes are marked, then Unifier does not allow edits to the Forecast Curve after the end of the month curve. The options under Distribute unassigned amounts from Spends are available only if you have chosen: Auto by default profile per CBS for Distribution Begin calculations at end of curve for Forecast Options The following options, under Distribute unassigned amounts from Spends enable you to automatically distribute any overestimated or underestimated Actuals (or "spends") amounts from the original forecast. using weighted average over all remaining periods: Enter the number of time periods. using weighted average over next _____ period(s): Enter the number of time periods, 1 or more, not to exceed the number of periods remaining.

Forecast Curve Behavior Test Cases

Cases	Condition	Time	Manual Distribution	Auto Distribution
Forecast Curve	NA	NA	Manual Schedule (Dates) Schedule Sheet	Auto Schedule (Dates) Schedule Sheet
Set in the past	Forecast with Actuals (no Actuals data)	Start Date	No change	Moves to current
Set in the past	Forecast with Actuals (no Actuals data)	End Date	No change	Future: No change Past: Moves to current
Set in the past	Forecast with Actuals (with Actuals data)	Start Date	Moves to current	Moves to current
Set in the past	Forecast with Actuals (with Actuals data)	End Date	Future: No change Past: Moves to current	Future: No change Past: Moves to current
Set in the future	Forecast with Actuals (no Actuals data)	Start Date	No change	No change
Set in the future	Forecast with Actuals (no Actuals data)	End Date	No change	No change
Set in the future	Forecast with Actuals (with Actuals data)	Start Date	Moves to current	Moves to current
Set in the future	Forecast with Actuals (with Actuals data)	End Date	No change	No change

Portfolio Budget Curve (Standard View)

Unifier Portfolio Manager allows you to pull the Baseline, or Forecast, data from more than one Project/Shell into the following three Portfolio Budget curves:

▶ Shared Budget curve
▶ Approved Budget curve

▶ Original Budget curve

For an explanation of these options see About Portfolio Manager Budget Curves.

The General tab of the "Cash flow Portfolio Budget" window contains the following fields and sub-fields:

▶ **Name**
▶ **Type**
▶ **Cost**
  ▸ Distribute amount from
  ▸ Currency

The following explains how to enter data in the "Cash flow Portfolio Budget" window fields and sub-fields in details.

In the **Distribute amount from** field drop-down list (under Cost), you can select **Original, Shared,** or **Approved**, then click **OK**. The portfolio curve opens in the Properties window.

> **Note**: If the currency of data pulled from any of the three different Portfolio Budget curves (Unifier Portfolio Manager) is different from the Project/Shell currency, you can create a Derived curve (using the existing curves within a family) that converts data from existing curves to a different currency.

You can add a Portfolio Curve for each cash flow detail level after you create portfolio budget data sources. See the following instructions.

This section explains the following topics:

▶ To add a Portfolio Budget Curve for cash flow by Project/Shell
▶ To add a Portfolio Budget Curve for cash flow by CBS or Summary CBS
▶ To add a Portfolio Budget Curve for cash flow by Commitment
▶ To add a Portfolio Roll Up Curve for cash flow (by Program)
▶ To view Portfolio Budget Curve for cash flow

To add a Portfolio Budget Curve for cash flow by Project/Shell:

1) Open **Unifier**.
2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).
3) From the Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane).

   The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

> **Note**: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Click to select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.

5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Project/Shell under Detail Level, and enter settings for Time Scale and Period Close Settings.

6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of data source of portfolio budget type (Original Budget - Approved Budget - Shared Budget).. The Cash flow by Project/Shell - Portfolio window opens

7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

> **Note**: If you need additional curves, repeat steps 6 to 7.

In this Field:	Do this:
Cost	Select an option from the Distribute amount from field list. The choices are: Original - Shared - Approved
Currency	Select the currency of "Portfolio Budget" type curves within the Cash Flow family. See the topic "Currency" at the end of this section for more information.
Variance	Choose Inflow or Outflow or neither.

To add a Portfolio Budget Curve for cash flow by CBS or Summary CBS:

You can add a Portfolio Curve for each cash flow detail level after you create portfolio budget data sources. See the following instructions.

1) Open **Unifier**.

2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).

3) From the Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane).

The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

> **Note**: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Click to select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.

5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Summary CBS or CBS under Detail Level, and enter settings for Time Scale and Period Close Settings.

6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of data source of portfolio budget type (Original Budget - Approved Budget - Shared Budget). The Cash flow by Summary CBS - Portfolio Budget or Cash flow by CBS - Portfolio Budget window opens.

7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

> **Note**: If you need additional curves, repeat steps 6 to 7.

In this Field:	Do this:
Cost	Select an option from the Distribute amount from field list. The choices are: Original - Shared - Approved
Currency	Select the currency of "Portfolio Budget" type curves within the Cash Flow family. See the topic "Currency" at the end of this section for more information.
Variance	Choose Inflow or Outflow or neither.

To add a Portfolio Budget Curve for cash flow by Commitment:

You can add a Portfolio Curve for each cash flow detail level after you create portfolio budget data sources. See the following instructions.

1) Open **Unifier**.

2) Click **All Projects** tab (or your project tab or the tab whose cash flow you want to work with).

3) From the Navigator pane, click **Cost Manager** to expand and click **Cash Flow** to open the Cash Flow log window (right-hand pane).

   The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

   To create a new cash flow, click the **New** drop-down list (the down arrow) and select **Detail Curves**. The Properties window opens and displays the General tab as default.

> **Note**: If you have a cash flow template that you want to use, click the **New** drop-down list (the down arrow) and select **From Template** to open the Template Log (Cash Flow Templates) window.

4) Click to select a cash flow from the Cash Flow log window and click **Properties** to open the cash flow Properties window.

5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Commitment under Detail Level, and enter settings for Time Scale and Period Close Settings.

6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of data source of portfolio budget type (Original Budget - Approved Budget - Shared Budget).The Cash flow by Commitment - Portfolio Budget window opens.

7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

> **Note**: If you need additional curves, repeat steps 6 to7.

In this Field:	Do this:
Cost	Select an option from the Distribute amount from field list. The choices are: Original - Shared - Approved
Currency	Select the currency of "Portfolio Budget" type curves within the Cash Flow family. See the topic "Currency" at the end of this section for more information.
Variance	Choose Inflow or Outflow or neither.

Currency

When you define a Portfolio Budget curve within any curve family type (CBS, Summary CBS, Commitment, and Project/Shell), you have the option to select the currency (Currency field under Cost) of the Portfolio Budget data source from the Portfolio Manager.

The Currency field is a required field (default value: Project Currency) if you have Portfolio Budget curves. You can change the value of the Currency field to another value by opening the curve configuration window.

> **Note**: When you run a report, the value of Currency, in the report, is Project Currency unless you have selected another value.

The Currency field lists all Active and future currencies from Exchange Rates (**Company Workspace** > **Admin mode** > **Standards & Libraries** > **Exchange Rates**). The Show Currency List window lists the available currencies that you can select.

Derived Curve (Standard View)

The Cash Flow Data Sources of type = *Derived* is available to create Cash Flow curves within any family (CBS, Summary CBS, Commitment, and Project/Shell).

When creating a new Cash Flow curve within any Cash Flow family:

▶ Data Sources of type = Derived must be enabled only when there is at least one non-Derived (i.e., Baseline, Spends, Forecast, Portfolio Budget, or Custom) type curve exists in the family.

▶ If there is no non-Derived type curve exists in the family, all Data Sources of type = Derived are grayed out.

When the "Derived" type data sources are enabled, and the user clicks at such a data source, then a window is displayed that enables the user to enter the details for creating the new curve. The following explains the fields in the "Derived" type cash flow curve configuration window:

Option	Description	Behavior
Name	Captures the name of the cash flow curve as defined in cash flow data sources in Company Workspace -> Admin Mode	Same behavior as in existing cash flow curves-
Type	Captures the type of cash flow curve viz., Baseline, Custom, Forecast, Spends, Portfolio Budget, Derived.	Same behavior as in existing cash flow curves-
Base Currency	Captures the base currency for user to see and make exchange rate decisions.	Behavior: Read-Only Displays the Base Currency as a read-only value
Source Curve	To select an existing curve which should be used as the basis of the 'Derived' curve.	Behavior – Drop-down List all the non-Derived existing curves within the family in which the 'Derived' curve is being configured. Values are: <Curve Name> (<Type>), example: Shared (Portfolio Budget). **Note**: Derived curve cannot be a source curve to create another Derived curve. Required? (Not Null) – Required option. The user must select a value for this drop-down to complete the curve configuration.
Derived Curve Currency	To select the currency that must be used to convert the 'Source Curve'	Behavior – Currency Selector User has the ability to select any currency from Company Workspace -> Standard & Libraries -> Exchange Rates (active and future) Required? (Not Null) – Required option. The

Option	Description	Behavior
		user must select a value for this selector to complete the curve configuration.
Exchange Rate	To define how the exchange rates must be used so that those can be applied to the source curve data. That is to say, should the exchange rate be picked up from as defined in Company Workspace -> Standards & Libraries, or should the rate be 'Pegged' to a value as chosen by user.	Behavior: Radio button, two options: Float, Peg Default Value = Float When user selects the option 'Float', another drop-down option appears: 'Use Rate as' (see below) .
Use Rate as	To choose how to make use of exchange rate data from Company Workspace -> Standards & Libraries, especially if more than one rate is found for a given period (month / year)	Behavior –Radio button Values: - At the beginning of the period - At the end of the period - A weighted average for the period Required? (Not Null) – Required option if 'Exchange rate' = 'Float'. If the user clicks 'OK' on the window without selecting this option, the following message appears: Invalid data entered in the following field(s): Input Required: Use rate as.

If you choose the option 'Exchange Rate' = 'Peg', then Unifier provides another block titled 'Peg Rate as':

▶ If Base Currency = Project Currency, then Peg Rate options should be available for conversion Base Currency -> Derived Curve Currency

▶ If Base Currency ≠ (not equal) Project Currency and Project Properties list the conversion Base Currency -> Project Currency as 'Peg' option, then also behavior should be same as above, i.e., list options only for Base Currency -> Derived Curve Currency

▶ If Base Currency ≠ (not equal) Project Currency but Project Properties list the conversion Base Currency -> Project Currency as 'Float' option, then peg rate options are available for both:
  ▶ Base Currency -> Derived Curve currency
  ▶ Base currency -> Project Currency

The following explains the Derived' curve 'Peg' Rate options:

Option:

Peg Rate options

Description:

To define the value by which the exchange rate must be pegged. The user will have to enter a value manually, or point to an attribute on shell attribute form / single record BPs within the shell, or choose if they wish to use the pegged rate from shell properties. In latter case, Unifier will look into the value of the data element each time when rendering the curve.

Behavior:

Behavior   - Radio button

Base Currency -> Derived Curve Currency:

There should be helpful text informing user that conversion is for 1.0 Base Currency -> Derived Currency (text: 1.0 Base Currency =) This is be followed by three options:

- ▸ Constant
- ▸ Dynamic
- ▸ Use Project Rate

Default Radio Option: Constant

If the user selects 'Constant', Unifier opens a field (DD = Decimal Amount). The decimal places appear when user types a digit after decimal point, only; otherwise, an integer value will appear. The field enables the user to enter an Integer or Decimal value.

Default Radio Option: Dynamic

If the user selects 'Dynamic', Unifier enables two drop-downs which will capture the Data Source for the multiplication factor:

Drop-down 1:

> The shell attribute form of the current shell within which curve is being created.
>
> The shell attribute forms of all parent/grandparent shells of current shell in which curve is being created (i.e., attribute forms of all shells in hierarchy of current shell, up to the root)
>
> All single record BPs within the shell in which curve is being created.
>
> The above should be prefixed by identifiers 'Shell Attribute Form / <Shell name>', or 'Single Record BPs / <BP name>. For example:
>
>> Shell Attribute Form / All Properties
>>
>> Shell Attribute Form / Buildings
>>
>> Shell Attribute Form / Sites
>>
>> Single Record BPs / Project Information
>>
>> Single Record BPs / Important Contacts
>>
>> …

Drop-down 2:

> Lists all linked and custom Data Elements from the selected source form whose Data Definition = Integer / Decimal Amount / Currency Amount. (No standard elements)
>
> **Note**: The user can change the location / hierarchy of a shell. So the above two drop-down values must be refreshed each time the curve is refreshed.

Note: If the user chooses the options 'Constant' / 'Dynamic', then the user must define a value (Constant integer/decimal or Dynamic data source). If not selected, the user will see a standard prompt after clicking 'OK':

'Invalid data entered in the following field(s): Input Required: 'Constant' or 'Data Source'

The user can choose to use the third option: 'Use Project Rate' Selecting this option does not open up any additional field, but Unifier picks up the exchange rate as defined in project properties (described in Peg rate as 'Use Project Rate' section below). The user receive appropriate error message in either of following scenarios:

▶ The user selects a 'Derived Curve Currency' which does not exist in Project Properties (Message: Selected currency is not defined in project.), or
▶ The user selects a 'Derived Curve Currency' which is listed in Project Properties, but its conversion rate is set to 'Float' (Message: Selected currency does not have pegged rate within project.).

> Error should be presented when user clicks 'OK' on curve configuration window.

Base Currency -> Project Currency

The radio options are for user to select how to use the rate from Company Workspace -> Standards and Libraries (label: Use Rate as).

The radio options are visible only if Base Currency ≠ Project Currency AND rate Base Currency -> Project Currency is set as 'Float' in project properties.

Options same as when user chooses to 'Float' rate:

User can choose to use the rate as:

▶ At the beginning of the Period
▶ At the end of the period
▶ A weighted average for the period

Default value: At the beginning of the period.

Note: This block 'Peg Rate options' is displayed only if 'Exchange Rate' is selected as 'Peg'.

The following provides some scenarios.

User selects the Peg Rate option for Base Currency -> Derived Curve Currency as = 'Use Project Rate', and the curve configuration is successful (i.e., 'Derived Curve Currency' is listed in Project Rate with a pegged conversion rate).

The user then goes to Project Properties and changes the exchange rate for Base Currency -> Derived Curve Currency as 'Float', and reopens the cash flow.

Since the curve has not been refreshed, the Cash Flow worksheet continues to show data as per previous value.

If user opens the 'Derived' curve configuration window, the message, "Selected currency does not have pegged rate within project" appears.

If user refreshes the curve, then cash flow worksheet shows all values as zero as the curve configuration is not longer valid.

If user opens the 'Derived' curve configuration window, the message, "Selected currency does not have pegged rate within project" appears.

In case Base currency ≠ Project Currency

User selects the Peg Rate option for Base Currency -> Derived Curve Currency as either of the three possible options,

Base Currency -> Project Currency is set as 'Peg' in project properties. So there are no additional options to choose from, the curve configuration is successful

Then user goes to Project Properties and changes the exchange rate for Base Currency -> Project Currency as 'Float'

Then reopens the cash flow

Since the curve has not been refreshed, the Cash Flow worksheet continues to show data as per previous value.

If user opens the 'Derived' curve configuration window, the options for Base Currency -> Project currency appears, and the default value is selected as 'At the beginning of the period'.

If user refreshes the curve, then cash flow worksheet values are refreshed as per the options for Base Currency -> Project Currency.

When user selects a currency to derive the curve, Unifier uses the data from source curve per period and convert it into the selected currency as per the float or peg exchange rate option as selected by user within curve definition:

If user chooses the 'Float' option, Unifier uses the exchange rates as defined in Company Workspace -> Standards and Libraries -> Exchange Rates

If the user chooses 'Peg' option, exchange rate values should be as per user selection in the block 'Peg Rate as'

See following sections on how the derived curve should calculate its data per period…

Note: The user can select the currency to be same as source curve currency. In that case, the derived curve would be same as source curve, exchange rates would not apply.

Exchange Rate = Float (Rate at beginning of the period)

The user can select the Derived curve definition such that the exchange rate for currency conversion from source to destination is picked up from Company Workspace -> Standards and Libraries in such a way that the Rate from the beginning of the period is used.

In other words, when doing the currency conversion, of all the available rates for a given period, Unifier selects the Rate closest to the beginning of the period.

Note: If more than one rate is defined for the same day, Unifier picks the latest rate on that day. If no exchange rate is available for a past date, Unifier uses zero.

Exchange Rate = Float (Rate at the end of the period)

The user can select the Derived curve definition such that if multiple exchange rates are available for a given period (month / year), Unifier uses the rate 'At the end of the period'.

In other words, when doing the currency conversion, of all the available rates for a given period, Unifier selects the Rate closest to the end of the period.

Exchange Rate = Float (A weighted average for the period)

If the user chooses to apply the exchange rate as a weighted of all values for a given period (Exchange Rate = 'Use a weighted average for the period'), then the value will be based on the number of days in a given month. That is to say, the total of all "Rate * No. of days it is applicable during the period" divided by "Total number of days within the period~" (~Month / Year).

When the Exchange Rate = 'Float', Oracle recommends that the user set a 'Refresh' frequency (Cost Manager > Cash Flow > Refresh drop-down > Set Frequency...), for the Derived curves, to cover the following scenarios:

Scenario 1

Future Exchange Rates from 'Company Workspace -> Standards & Libraries' can get changed with time. If 'Derived' cash flow curve is not set to automatic refresh, it will continue to hold values as per older exchange rate values (unless manually opened & refreshed)

Scenario 2

The 'Source Curve' might undergo a change in its configuration / values. If 'Derived' cash flow curve is not set to automatic refresh, it will continue to hold values as per older source curve data (unless manually opened & refreshed).

Exchange Rate = Peg

This option means that the user does not want to use exchange rate as captured within Company Workspace -> Standards and Libraries -> Exchange Rates, but the user prefers to define the rate as one of the following:

▸ Constant
▸ Dynamic
▸ Use Project Rate

If Constant:

To do the currency conversion (1.0 Base Currency = <constant value> Derived Curve currency), Unifier uses the constant value entered by the user.

The source curve defaults to be in Project currency. If Base Currency ≠ Project Currency, Unifier picks the   exchange rate for Base Currency -> Project Currency from Project Properties and makes appropriate conversion to calculate the Derived curve in Derived Currency as selected by user.

If Base Currency -> Project Currency in Project properties is set as 'Float', then unifier uses the option as selected by user for 'Base Currency -> Project currency' conversion.

Unifier picks rates from Company workspace -> Standards and Libraries -> Exchange Rates by using one of the following options selected by user:

▸ At the beginning of the period
▸ At the end of the period
▸ A weighted average for the period

If Dynamic:

When rendering the curve, Unifier accesses the Data Element (DE) selected by the user and uses the value as the exchange rate to do conversion (1.0 Base Currency = <Selected DE value> Derived Curve currency).

If the DE value is blank/null (in source shell attribute form/single record BP), then Unifier applies zero as the exchange rate.

If Base Currency ≠ Project Currency, then Unifier does one of the following:

‣ Unifier picks the exchange rate for Base Currency -> Project Currency from Project Properties

‣ Unifier calculates the Derived curve (in Derived Currency) as selected by user.

If Use Project Rate:

The exchange rate is pegged as specified in the shell properties.

If Base Currency ≠ Project Currency, then Unifier does one of the following:

‣ Unifier picks exchange rate for Base Currency -> Project Currency from Project Properties

‣ Unifier calculates the Derived curve (in Derived Currency) as selected by user.

Note: For Commitment type curves, user can flip the view between Project and Transaction currencies. Unifier calculates for Source Curve data -> Derived Curve data by taking the source data in Project currency.

When the Exchange Rate = 'Peg', Oracle recommends that the user set a 'Refresh' frequency (Cost Manager > Cash Flow > Refresh drop-down > Set Frequency...), for the Derived curves, to cover the following scenarios:

Scenario 1

Peg rates as defined in project properties might undergo a change. If 'Derived' cash flow curve is not set to automatic refresh, it will continue to hold values as per older pegged exchange rate values (unless manually opened & refreshed).

Scenario 2

The 'Source Curve' might undergo a change in its configuration / values. If 'Derived' cash flow curve is not set to automatic refresh, it will continue to hold values as per older source curve data (unless manually opened & refreshed).

For all types of Cash flow families, the 'Derived' curve values are always displayed in its currency, as selected by user in curve configuration window.

For Commitment type cash flow families, the user can choose to view the family curves in 'Project' / 'Transaction' currency.

In either case, the 'Derived' curve renders in the currency, as selected by user for the 'Derived' curve configuration window--irrespective of whether the rate is 'Float' or 'Pegged'.

The following explains special scenarios related to the exchange rate.

Special Scenario 1

The user selects a 'Source Curve' while configuring the 'Derived' curve

Completes 'Derived' curve configuration and clicks 'OK'

Removes the 'Source Curve' itself from the cash flow family definition.

In this scenario:

When the user opens the curve worksheet, the derived curve will render all values as zero--irrespective of whether the cash flow family has been refreshed or not.

When the user opens the curve configuration window, the 'Source Curve' drop-down continues to show original value. When the user clicks 'OK', the message, "Invalid curve configuration" is displayed.

Special Scenario 2

The user selects the 'Exchange Rate' as 'Peg' > Peg as 'Dynamic', and then chooses a data source DE from grandparent shell attributes.

The user completes 'Derived' curve configuration and clicks 'OK'.

The user changes the location of shell in which the curve was defined.

In this scenario:

If the new parent is the same type of shell (or another shell having the data Source DE on its attribute form), then this is not an error scenario. The curve renders by using the Rate value from new location.

If, however, the new parent does not have the Data Source DE on its attribute form, then the curve configuration is invalid:

When the user opens the curve worksheet, the Derived curve renders all values as zero.

When the user opens the curve configuration window, the Data Source continues to show original value. When the user clicks 'OK', the message, "Invalid curve configuration" is displayed.

Special Scenario 3

The user selects a 'Source Curve' while configuring the 'Derived' curve,

The user completes 'Derived' curve configuration and clicks 'OK'.

The user removes the 'Source Curve' Datasource from company Workspace Cash Flow Datasources definitions.

In this scenario:

When the user opens the curve worksheet, the Derived curve (as well as the source curve) renders all values as zero--irrespective of whether the cash flow family has been refreshed or not.

When the user opens the Derived curve configuration window, the 'Source Curve' drop-down shows original value, and when the user clicks 'OK', the message, "Invalid curve configuration" is displayed.

Monthly actuals for Derived Forecast Curve

If the checkbox is checked in the configuration then in the Portfolio Manager, then the user will be able to the see the monthly breakdown for actuals and the values seen would be read-only for months prior to the current month for the current year. The behavior and validation, which exist in support for monthly actuals for Forecast curve, is available for Derived forecast curve as well.

Actuals for Derived Actuals Curve

If Derived Actuals curve is defined, then Unifier uses the Derived Actuals curve data, and the derived forecast data will be pushed from Cashflow to PPM. The derived actuals data links to the source actuals. In case of multiple derived curve for the same project with inconsistent settings (either different currency or settings such as float versus peg), a cumulative data value is displayed in the project currency, which is used by PPM, and the red triangle is displayed against that cell to depict the inconsistency. When the user hovers over, this warning message is displayed: {ppmname} Portfolio Manager received data from multiple actuals curves that have inconsistent settings. The correct value will be seen once the settings are corrected.

Custom Curve (Standard View)

You can create a Custom Curve when you want to create and compare curves in a Cash Flow WorkSheet, but you do not want to associate them with data sources of the other curve types (Baseline, Forecast, Actuals (or "spends"), Portfolio).

Custom Curve setup is essentially the same as setting up Baseline Curves.

The following instructions assume that you have created your data sources:

- Go to: Company Workspace > Administration Mode > Standards & Libraries > Cash Flow > Data Sources
- Click Data Sources > Click Open to open the Cash Flow Data Sources (Cashflow Datasources) window > Click Add to add new cash flow data source
- Follow the prompts and click OK when finished

This section explains the following topics:

- To add a Custom Curve for cash flow by Project/Shell
- To add a Custom Curve for cash flow by Summary CBS or CBS
- To add a Custom Curve for cash flow by Commitment

To add a Custom Curve for cash flow by Project/Shell

1) Open Unifier
2) Click All Projects tab (or your project tab or the tab whose cash flow you want to work with).
3) From the Navigator pane, click Cost Manager to expand and click Cash Flow to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users. To create a new cash flow, click the New drop-down list (the down arrow) and select Detail Curves. The Properties window opens and displays the General tab as default.

   Note: If you have a cash flow template that you want to use, click the New drop-down list (the down arrow) and select From Template to open the Template Log (Cash Flow Templates) window.
4) Click to select a cash flow from the Cash Flow log window and click Properties to open the cash flow Properties window.

5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Project/Shell under Detail Level.

6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of data source of type **Custom**. The Cash Flow by Project/Shell - Custom window opens.

7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

In this Field:	Do this:
Cost	You can choose the cost column when creating a curve in a Project/Shell but not in templates. Choose one of the following options: Manually enter amounts for each period (available if you chose Manual above): You can enter cost information in the Total field on the worksheet. Auto distribute total amount across all periods (available if you chose Auto by default profile above): This will automatically distribute the amount in the Total field using the selected default profile. Distribute amount from cost sheet column: This option will take the amount in the selected Cost Sheet column, and either allows you to distribute it manually (if you chose Manual distribution), or use the default distribution profile (if you chose Auto by default profile). An example column would be a budget. Note: Cost column can be chosen when creating a curve in a project or shell, but not in templates.
Schedule From Date To Date	Define the range of dates to use to plot the cash flow data. If you choose to take dates from the schedule sheet elements, the Master schedule sheet for the Project/Shell is used. Determine what dates to start the curve and end the curve. Choose one of the following options for each date: Manual: User enters the date directly in the Cash Flow WorkSheet. Data element from schedule sheet: Choose a schedule sheet data element from the list. The date will be populated automatically from the Master schedule sheet when the cash flow curve is refreshed. If these dates are changed on the Master schedule sheet, then the changes will be reflected on cash flow after the next refresh of the curves.

In this Field:	Do this:
Distribution	Distribution spreads the amount value between cash flow time periods. Choose one: Manual: You enter values into each field manually. Auto by default profile: You can choose one of the available Distribution Profiles, that were defined in Standards & Libraries > Cash Flow > Distribution Profiles, or from those that were defined directly in the Project/Shell cash flow log (Edit > Distribution Profiles). This will be used as the default profile; however, at runtime, you can change which profile to use. Click the Select button. The Select Distribution Profiles window opens. Select a distribution profile to use as the default profile for the curve. The default profile is used for the initial display and calculations in the Cash Flow WorkSheet. You can change the distribution profile from the worksheet. If you do this, the default profile will automatically update to reflect the current selection.
Variance	Choose Inflow or Outflow or neither.

To add a Custom Curve for cash flow by Summary CBS or CBS

1) Open Unifier

2) Click All Projects tab (or your project tab or the tab whose cash flow you want to work with).

3) From the Navigator pane, click Cost Manager to expand and click Cash Flow to open the Cash Flow log window (right-hand pane). The Cash Flow log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users. To create a new cash flow, click the New drop-down list (the down arrow) and select Detail Curves. The Properties window opens and displays the General tab as default.

Note: If you have a cash flow template that you want to use, click the New drop-down list (the down arrow) and select From Template to open the Template Log (Cash Flow Templates) window.

4) Click to select a cash flow from the Cash Flow log window and click Properties to open the cash flow Properties window.

5) In the General pane, enter Name, enter Description (optional), select Active for Rollup Status, and select Summary CBS or CBS under Detail Level.

6) In the **Curves** pane, click the **Add Curve** drop-down list and select the data source of data source of type **Custom**. The Cash Flow by Summary CBS - Custom or Cash Flow by CBS - Custom window opens.

7) Complete the fields in this window using the information in the following table. When finished click **Save & Close** to save work and open the Cash Flow Worksheet that you added.

In this Field:	Do this:
Cost	You can choose the cost column when creating a curve in a Project/Shell but not in templates. Choose one of the following options: Manually enter amounts for each period (available if you chose Manual above): You can enter cost information in the Total field on the worksheet. Auto distribute total amount across all periods (available if you chose Auto by default profile above): This option automatically distributes the amount in the Total field using the selected default profile. Distribute amount from cost sheet column: This option takes the amount in the selected Cost Sheet column, and either enables you to distribute it manually (if you chose Manual distribution), or it enables you to use the default distribution profile (if you chose Auto by default profile). An example column would be a budget.
Schedule From Date To Date	Here you define the range of dates to use to plot the cash flow data. If you choose to take dates from the schedule sheet elements, the Master schedule sheet for the project/shell is used.

In this Field:	Do this:
Distribution	Distribution spreads the amount value between cash flow time periods. Choose one:
	Manual: You enter values into each field manually.
	Auto by default profile per CBS (for CBS Detail Level curves) or Auto by default profile summary CBS (for Summary CBS Detail Level curves)
	You can specify a default profile per CBS code (or Summary CBS code) one CBS at a time or by selecting multiple CBS codes. See the following instructions for details.
	The initial distribution profile is default. You can change the distribution profile at runtime.
	Follow these instructions for CBS Detail Level curves:
	Note: You can use the same instructions for Summary CBS Detail Level curves
	To set default distribution profile for one CBS:
	Click Auto by default profile per CBS > Details to open the Edit Distribution Profiles (CBS Details) window.
	Click to select a CBS > double-click the cell under the Default Profile column for that CBS > Click the desired distribution profile from the list.
	Note: You can use Find to search for a specific CBS code.
	To set default distribution profile for multiple CBSs:
	Click Auto by default profile per CBS > Details to open the Edit Distribution Profiles (CBS Details) window.
	Click to select a CBS > Hold down the Ctrl or Shift key on your keyboard and then click each CBS that you want to select > Click Bulk Edit to open the Select Distribution Profiles (Distribution Profiles) window > Click the desired distribution profile from the list > Click Select.
	Note: You can use Find to search for specific CBS codes.
	When the Edit Distribution Profiles (CBS Details) window appears, ensure that the correct profiles have been selected and when finished, click Save.

In this Field:	Do this:
Distribution (continued)	Use dates from Schedule Sheet: This option enables you to choose a schedule sheet and view the cost distribution information by CBS. Note: The Cash Flow by Summary CBS – Baseline does not have this option. To use dates from schedule sheet, follow these instructions: Select Use dates from Schedule Sheet > Click Select to open the Schedule Sheets window > Select the desired schedule sheet > Click Open. The selected schedule sheet appears in the Use dates from Schedule Sheet field. Note: If a schedule sheet is not selected, the distribution profile displays zeros along the bottom of a Cash Flow Curve graph. When you click OK in the details window, the filter will be applied against the CBS codes coming from the schedule sheet.
Variance	Choose Inflow or Outflow or neither.

To add a Custom Curve for cash flow by Commitment

Custom curves are not available for cash flow by commitment.

Auto-create a Cash Flow Curve from a Base Commit Record

As long as Cash Flow is set up in the project or shell you are working in, and you have permissions to both Cash Flow and to the commit business process record, you can create and view a commitment detail level cash flow worksheet directly from the business process record. There can only be one cash flow curve per record; that is, if you create the commitment curve through the record, the base commit cannot be referenced in a new cash flow curve.

Auto-creation of a commitment cash flow curve works this way:

▸ Auto-creation is enabled in the Business Process Workflow Setup for the project or shell. It is only available for base commit business processes and requires a Commitment detail level template.

▸ For a workflow business process, the administrator can specify the step on which to auto-create a commitment cash flow curve. The curve is created upon reaching that step when a user accepts the task.

▸ For a non-workflow business process, the administrator specifies the business process status that will trigger curve auto-creation from the commitment cash flow template specified in the business process setup.

▸ Given the proper permissions, you will see the **Cash Flow** button on the business process record regardless of whether the auto-create feature has been enabled in the business process setup. This means that you have the option to create a commitment cash flow curve manually if the curve has not yet been auto-created.

> ▸ Creating the curve manually (by completing the curve properties, or by copying a project/shell level template) means Unifier will ignore an auto-create trigger when the record reaches the specified step or status.

A few things to keep in mind:

> ▸ If a detail curve already exists for the record, clicking the **Cash Flow** button will open the cash flow worksheet, which is view-only when opened from here.
> ▸ If there are changes to the base commit record (such as additional or modified line item amounts), these changes will be reflected on the commitment cash flow curve the next time it is refreshed.
> ▸ If the base commit record is terminated after the cash flow curve has been created, the curve will not be deleted. However, the next time the curve is refreshed, any data will be removed.

To auto-create a Commitment detail level curve from a base commit business process record

1) Open the base commit business process record. If cash flow is set up and you have permissions set, a **Cash Flow** button is available.
2) Click the **Cash Flow** button on the business process toolbar.
   > ▸ If a cash flow **Commitment detail level** curve exists, the cash flow worksheet opens.
   >   - If at least one curve summary exists in your project, you can add this commitment curve to a summary curve listed on the Properties Summary tab.
   >   - From the View menu click
   > ▸ If the curve does not yet exist, you will be prompted to create a new curve. The Cash Flow by Commitment window opens. Choose one of the options:
   >   - **Manual**. This allows you to create a new curve manually.
   >   - **From Template**. This allows you to copy from a template. Click the **Select** button. The Templates log opens. Select a template to copy then click **Select**.
3) Click **OK** on the Cash Flow by Commit window. The Properties window opens.
4) Complete the Properties window and click **OK**. The cash flow worksheet will open to display the data. The curve will be saved in the Cash Flow log.

To open a cash flow worksheet from a base commit record

1) Open the base commit business process record. If cash flow is set up and you have permissions set, a **Cash Flow** button is available.
2) Click the **Cash Flow** button on the toolbar.
   > ▸ If a cash flow Commitment detail level curve exists, a view-only cash flow worksheet opens.
   > ▸ If the curve does not exist, you will be prompted to create a new curve manually or by copying a template.

Create a Cash Flow Curve from a Schedule Sheet

You can cost-load a schedule sheet by assigning roles and resources to project-related activities. When you associate a CBS code with an activity in the schedule sheet, Unifier can distribute its cost over a period of time based on activity dates and the calendar. You will be able to view this distributed cost along with other cash flow curves related to the project.

In the baseline curve you can view the cost distribution information by CBS code in a schedule sheet. When defining the cash flow curves, you select the schedule sheet so you can view the curve in the cash flow worksheet.

To set the cash flow curve for a schedule sheet

1) Open the project or shell and click **Cost Manager** > **Cash Flow** in the left Navigator. The Cash Flow log opens.
2) Click **New** > **Detail Curves**. The Properties window opens.
3) Enter your settings into the General tab. Detail Level selections can be Project/Shell, or CBS.
4) Click the **Curves** tab and Click **Add** to add a curve type. Example: Baseline
5) Determine the Distribution and Cost options.
6) Under Schedule option, click to select **Use dates from Schedule Sheet**, click **Select**, and select the appropriate schedule sheet.

> **Notes**:
>
> - Selecting "Use dates from Schedule Sheet" option allows you to access the individual Schedule Sheet.
> - The CBS (or Summary CBS) code shows the dates of the actual CBS (or Summary CBS) related activities.

7) Select values for the From Date and To Date fields.
8) Click **OK**. The cash flow worksheet displays the cash flow worksheet with the CBS codes from the Schedule sheet in the details level.

In the detail window, the following information for the cash flow baseline type of curve will be pulled from the schedule sheet:

Field	Definition
Number	CBS Codes taken from the Schedule Sheet
Name	Name of the CBS code
From Date	Taken from the "from" date of the activity that the CBS code is assigned to.
To Date	Taken from the "to" date of the activity that the CBS code is assigned to.
Profile	This field is blank as the distribution is coming from the schedule sheet.

> **Notes:**
>   - You can open the details sheet and view the distribution of the costs by individual CBS code. Data in the details sheet is read-only.
>   - It is possible for a user to create another baseline curve by selecting Cost Sheet as the source for cost or create a Forecast, Spends, and Custom curve. In all these cases, the list of CBS codes will be from the cost sheet and will not be filtered by the schedule sheet.
>   - Cash Flow will pull distribution data (Linear, S-Curve, On Start and Finish) from a schedule sheet.

Create a Cash Flow Curve from a Template

You can pre-set curve options, except, for example, actual business process records, and cost sheet columns, which are set at run time. There are two types of cash flow templates: **company-level templates**, which are created in Administration Mode, and **project or shell-level templates**, which are created in a project or shell.

When creating new curves from templates, only curve properties are copied; data and permissions are not copied. In addition, curve properties such as cost sheet column selections will not be copied, even if they have been chosen in a project or shell template, because you can choose a template from any project or shell template.

To create a cash flow details curve by copying a template

1) Open the Cash Flow log.
2) Click the **New** button and choose **From Template**. The Cash Flow Templates window opens.

   The Cash Flow Templates window displays information about the templates such as detail level, rollup status and more. These properties can be edited in the newly created curve. Also, note the **Project/Shell Level** column. A "Yes" in this column indicates that the template exists within a project or shell template.
3) Choose a template and click **Select**. The Properties window opens.
4) Give the detail curve a unique Name. Depending on the curve type and the options chosen in the Properties window, you may need to choose a specific business process record or cost sheet column when creating a new curve in a project or shell.

   You can make other changes as necessary to the tabs in the Properties window. If the selected schedule sheet exists under the destination project / shell (matched by name), then the curve will be linked to the schedule sheet under the destination project. If the schedule sheet in the template does not exist in the destination project/shell location, then the schedule sheet name on the curve properties will remain empty.
5) Click **OK** to save and close the Properties window. This also opens the Cash Flow Worksheet window.

Copy Cash flow curves and curve data

You can select a curve from the worksheet window and copy curve data (time and amount) to another curve with manual entry as distribution. Process data (time, amount and distribution) associated with CBS Codes (from schedule sheet) will be copied over to the destination curve.

You cannot copy data to a curve that pulls data from a business process record, cost sheet or schedule sheet. You can, however, copy data from an auto-distribution curve.

> ▸ For example, Spends curves pull actual spends transaction data from a cost sheet column (usually, cost sheet columns that show spends business process transactions). If you want to work with this data manually, you can create a custom curve in the Properties, be sure that all data entry is manual, then copy the spends curve data to the manual custom curve.

> ▸ For another example, you can make a copy of the original Baseline curve, make adjustments, and save the revised version.

When you copy data, any existing data in the destination curve will be overwritten with the data from the source curve.

To create a cash flow curve by copying another curve

1) Open the **Cash Flow** log.
2) Select a curve from the log and click **Copy**. The Properties window opens.
3) Enter a unique **Name** for the new curve. You can make other changes as necessary to the tabs in the Properties window.
4) Click **OK** to save and close the Properties window. This also opens the Cash Flow Worksheet window.

You can copy the data from one curve to another. The destination curve must be a manual curve -- that is, the distribution and From/To dates must be manual data entry. You cannot copy data to a curve that pulls data from a business process record, cost sheet or schedule sheet. You can, however, copy data from an auto-distribution curve.

For example, Spends curves pull actual spends transaction data from a cost sheet column (usually, cost sheet columns that show spends business process transactions). If you want to work with this data manually, you can create a custom curve in the Properties, be sure that all data entry is manual, then copy the spends curve data to the manual custom curve.

For another example, you can make a copy of the original Baseline curve, make adjustments, and save the revised version.

When you copy data, any existing data in the destination curve will be overwritten with the data from the source curve.

To copy a worksheet row

1) In the Cash Flow Worksheet, select a row to copy. This is the source curve.
2) Click the **Copy** button. The Copy To window opens.
3) Click the **Destination Curve** drop down menu. The drop down menu lists all manual entry curves.
4) Select a curve from the list and click **OK**.

5) At the confirmation window, click **Yes**.

6) The Details window opens. All values in the destination curve will be overwritten by the values from the source curve. The new values are displayed in the Details window.

7) You can make necessary changes to values in the Details window. To save the Details window with the new values, click **Save**.

> **Note**: Special note for Forecast curves: If the intended destination curve is a Forecast curve and the forecast is set up to start at the end of Spends record, this forecast curve is only available as a destination curve as long as no spends records have yet been received. If spends data has already hit the forecast curve, then the forecast curve will not be available in the Destination Curve drop-down list.

Cash Flow Curves in Cost Controls Base Product

Cash Flow Curves in Cost Controls Base Product

With the Cost Controls Base Product, you receive a cost control cash flow that shows Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves using an S-curve distribution profile.

Once your project is in operation, your manager sheets are set up, and the Business Processes are in use, Unifier will retrieve the curve data from the Project Cost Sheet to render the Cost Controls cash flow curves.

For Baseline and Forecast curves you can enter dates manually or set the Schedule Manager to automatically control the start and finish dates.

You can create as many Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves as you need in a Cash Flow WorkSheet.

Within a Project/Shell, each curve can be created in one of the following detail levels:

▶ Cash Flow Curve by Project/Shell
▶ Cash Flow Curve by CBS
▶ Cash Flow Curve by Summary CBS
▶ Cash Flow Curve by Commitment (one per base contract)

> **Note**: For company- and program-level cash flow, see *Program-Level and Company-Level Cash Flow* (on page 316).

The Cash Flow WorkSheet allows you to:

▶ View or enter data
▶ View and compare the curves that you added

There are several ways to create a cash flow curve, including:

▶ Manual creation
You define all curve properties from scratch. See *Cash Flow Properties Settings: General tab (Classic View)* (on page 174).

▶ Templates

You can pre-set curve options, except, for example, actual business process records, and cost sheet columns, which are set at run time. There are two types of cash flow templates:

▶ Company-level templates, which are created in Standards & Libraries (in Administration Mode).

▶ Project or shell-level templates, which are created within a Project /Shell template (in User Mode).

See *Create a Cash Flow Curve from a Template* (on page 298).

▶ Auto-creation

Auto-creation of a commitment curve from a base commit record. In the base commit business process workflow set up you can associate a cash flow template with any step except the Creation step. When the base commit record reaches that step, Unifier will automatically create a cash flow curve. See *Auto-creation of a commitment curve from a Base commit record* (see "*Auto-create a Cash Flow Curve from a Base Commit Record*" on page 295).

▶ Copy

You can copy existing curves from the Cash Flow log, or you can copy data from existing curves. See *Copy Cash flow curves and curve data* (on page 299).

About Cash Flow Worksheets

Cash Flow WorkSheets are used in conjunction with the Cash Flow log to define and manage cash flow detail and rollup curves. The Cash Flow WorkSheet opens automatically after you define properties for a new cash flow curve.

Unifier collects data from various managers, including cost, portfolio, resource and schedule, and displays it in cash flow curves. Curve options (for example, data sources, and distribution selections), determine the appearance of a curve in a Cash Flow WorkSheet. The Cash Flow WorkSheet window displays a graph on the top portion of the window, and a list of included curves on the bottom portion. Each curve listed has its own data set, which you can view in the Details window. Depending on the curve set up, the Details window is where you manage the curve data.

To open a Cash Flow WorkSheet for an existing curve

1) Navigate to the **Cost Manager** and select **Cash Flow** to open the Cash Flow log window.
2) Select a curve from the log and click **Open**, or double-click the curve to open the Cash Flow WorkSheet window.

The Cash Flow WorkSheet is divided into two parts:

▶ The *Graph* view simultaneously displays incremental and cumulative cash flow data. You can filter data in the graph sections. The Cash Flow WorkSheet for a new curve does not display graphs because no curve data has been entered or spends values (Actuals) generated. After graphs are displayed, the zoom level can be switched from monthly to yearly.

▶ The *Table* view displays the names of the individual curves that you defined in the Properties window as well as incremental data values (by default). You can split the table for easier viewing of the information.

Incremental curve: An incremental curve displays the cash flow for a certain period.

Cumulative curve: A Cumulative curve displays the net of all cash flows over a period of time.

The other parts of the Cash Flow WorkSheet are:

▶ The *View* option (on the menu bar) enables you to toggle between incremental (default) and cumulative table values.

▶ The *sliders* (located between the graph and the table views) enable you to limit the graph to specific time periods.

Each part of the Cash Flow WorkSheet can be individually maximized. Additional options enable you to filter the information on the Cash Flow WorkSheet to display selected curves and to print the worksheet, or both.

To set curves for viewing in the Cash Flow WorkSheet

1) Navigate to the **Cost Manager** and select **Cash Flow** to open the Cash Flow log window.

2) Select a log and click **Properties**.

3) On the **General** tab, check the data sources that have the curve types you want to view.

4) Click **OK**. The Properties window opens and the selected worksheet opens with a graphic of the curves.

Graph

The worksheet is divided into two parts: a graph view on top, and a table view below. Each part can be individually maximized.

There can be multiple curves displayed on the graph. You can add as many curves as you need to the worksheet. Each curve must be associated with a data source, which are created in Administration Mode. The curves are color coded; the color is determined in the data source.

In the graph, you have the option to filter out some curves and display a subset of the available curves; change the zoom level between monthly and yearly; or print the graph. You can switch between incremental view or a cumulative view.

The graph section in cash flow shows both the incremental and the cumulative views. The graphs for both incremental and cumulative views are plotted on separate Y-axes.

> **Note:** You can use the View Finder, below the chart, to zoom and display graphs in selected timeframes.

Split screen

Just as you would with a spreadsheet, you can use the split screen view to make your information much easier to read. In the Detail window, you can see two parts of a row by splitting the view so that you can see the beginning part of a row and the middle or end of the same row.

To get the split screen, click on the **Split** button and the bottom of the Detail window displays two columns. The same row is highlighted across both columns. You can drag the vertical column separator to suit, and use the horizontal scroll bars to view different parts of the row.

Zoom level

You can switch the display of the curve and worksheet data between a monthly view or yearly view by changing the zoom level. This will not affect the time scale itself, just the data and curve display. The Year zoom level is only applicable if you have data that spans over multiple years.

▶ The Zoom buttons are in the top right portion of the Cash Flow Worksheet.
  ▶ Month (M): This changes the time line focus of the curve and table to show months and year in the cash flow time period.
  ▶ Year (Y): The displays time period increments in years, and is useful for multi-year projects or contracts.

Changing the zoom setting will adjust the zoom for both the graph and the table.

Curve Columns

The table underneath the graph shows the data for the curves. Each row corresponds to one of the curves on the graph, and displays the curve data in columns. The view is incremental; you can click the drop-down on the right to change the view to cumulative, which is view-only. The columns are:

Color: The color of the graph displays in the first column

Name: This is the name of curve, taken from the Data Source

From Date: The starting point of the curve. This can be entered manually or taken from a date field on the project/shell master schedule sheet, as defined in the curve properties.

To Date: The ending point of the curve, also manually entered or pulled from the schedule sheet. This can be entered manually or taken from the schedule sheet.

Total: This amount is the cost portion of the curve. It can be pulled from a specified cost sheet column or business process. This total amount will then be distributed over the time period (From Date to To Date) to generate the cash flow curve. This is defined in the curve properties.

Unassigned: Any amount left over from the Total amount that has not yet been distributed.

Time Period Columns: These are the incremental time periods for the duration of the cash flow time period. That is, the From Date to the To Date, entered above. For monthly distribution, these will display each month and year from the From Date to the To Date. If shown Yearly, then each period is one year.

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Curve Data Distribution

The data in these columns show the distribution of cost -- the value in the Total field. If you are doing auto distribution using a distribution profile, these values will be calculated based on the distribution percentages. If you are doing manual distribution, you will enter values into each time period (distributing the amount in the Total column). The Unassigned column will display how much of the Total column is left to be distributed. Unifier displays cost data using the latest exchange rate table.

Commitment Curves Transaction and Project Currency Views

Unifier displays commitment costs in both the graph and the curve portions of the worksheet window. Use the **Currency** drop-down list to switch between the **Transaction** and **Project** currency, if they are different (otherwise, you will not see this menu). For more information, see *Transaction Currency in Cash Flow Curves* (on page 304).

Curve replication

You can select a curve from main window and copy the data (time and amount) to another curve, with manual entry as distribution. Additionally, process data (time, amount and distribution) associated with CBS Codes (from schedule sheet) will be copied over to destination curve. See *Copy Cash flow curves and curve data* (on page 299)

To view details for the curves

Select a row from the table and click Open (or double-click the row). The Details window opens.

‣ For cash flow by CBS or Summary CBS, all CBS or Summary CBS codes will display. If selected CBS or Summary CBS codes have been chosen in the Filter tab of the Properties window, then those codes display.

> **Note**: For cash flow by CBS in a baseline curve, the list of CBS codes displayed in the details window are from the schedule sheet and are read-only.

‣ For cash flow by commitment, all associated records (the base commit, any change orders, etc.) display.
‣ If the curve has been designed for manual entry rather than in auto-mode, you can enter values in the Details window.

Transaction Currency in Cash Flow Curves

General currency information

During company creation, the administrator set a base currency that became the default project currency for each project or shell. When you create a project or shell you can change the default project currency to any currency listed in the company-level exchange rate table. After creation you can add additional currencies to the project or shell as needed.

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Depending upon the commitment business process design, during record creation you can select a transaction currency from the list of available currencies in the project or shell. Unifier stores costs in the project currency and uses the active company-level exchange rate table for currency conversion.

Transaction currency in curves

In Project, CBS, and Summary-level cash flow curves, Unifier displays cash flow costs in the project currency. By default, Unifier displays commitment curve cost data in the record transaction currency, which is stored in project currency using the active currency exchange rate table.

▸ If the transaction currency is different from the project currency, you can change the currency view between transaction and project currencies, but you can only edit data in the transaction currency.

> **Note**: The Summary Curve displays 0 (zero), if:
> - The transaction currency is different from the project currency, and
> - No exchange rate has been defined

▸ If there is a more recent value in the exchange rate table, refreshing the curve will refresh the cost data.
▸ If the transaction currency is different from the project currency, then the system conducts the exchange rate conversion before rendering the Summary Cash Flow curves.
▸ If the base currency is the only currency used in the company, then the system does not conduct the exchange rate conversion, and the Summary Cash Flow curves show the Summary Cash Flow curves in project currency, which is the same as the base currency.

To switch between transaction and project currency in the cash flow worksheet

1) Open the project or shell, or go to the Company Workspace tab and click Cost Manager > Cash Flow in the left Navigator.
2) Select a cash flow worksheet from the log.
3) Open the cash flow worksheet. By default the worksheet opens in the transaction currency if different from project currency.
4) Use the drop-down currency menu located at the top-center of the worksheet to change currency views. If the transaction currency and the project currency are the same, you will not see the drop-down field. The numbers and curve refresh to display the new currency values.
5) In the cash flow window curves list, located on the bottom portion of the window, select a curve and open the curve details window. If you selected the project currency view before opening the curve details window, and the curve is in transaction currency, the data will be read only.
6) In the Details window use the currency menu to switch to the transaction currency. Depending upon the curve set up, you can manually enter data or change the automatically distribution profile.
7) When finished, click **Save**. The cash flow window will refresh with changes.

Cash Flow Details Window

When you open a cash flow worksheet, the data is view-only in both the chart and the curves list. You can double-click a curve to open the **Details** window for that curve, which is where you enter or edit cost data. If the details window is open and you click on another curve in the worksheet, the details window will refresh with the data of the new curve.

Below are considerations for Baseline, Spends, and CBS curves.

Baseline curves

▶ In commitment-based curves, Unifier shows cash flow in the transaction currency of record creation. Unifier stores the data in project currency. If the project currency is different from the transaction currency, both the main and detail windows contain a currency drop-down list, which you can use to show costs in the project currency; however, you can only edit data in the transaction currency mode. Currency conversion is based on the active company-level Exchange Rates table. Bulk edit is unavailable if the detail window is in project currency mode.

▶ In commitment-based curves the detail window shows columns from the Business Process. For example, Number, Name, Line No, CBS Code, Description (Short Description)

Actual (Spends) curves

These curves display actual spent amounts per time period, and are not editable or distributed.

CBS curves

CBS codes in the worksheet appear in the order as listed in the cost sheet. The following procedure describes how to enter data on worksheet fields that have been set up to be editable. Data can be entered by manual entry or by importing.

To manually enter or edit cash flow data on a worksheet

1) Open the project or shell and click **Cost Manager > Cash Flow** in the left Navigator.

2) Select a curve from the log and click **Open**, or double-click the curve.

3) Select the curve to edit from the list of curves in the lower portion of the worksheet. Double-click the row to open the Details window.

   Depending on curve options, the curve can be set up for manual or auto-distribution. Worksheet selections may vary according to distribution methods.

4) In the Details window you can:

   ▶ Click the **From Date** and/or **To Date** to select different start and end dates for the cash flow curve.

   Unifier pegs cost data distribution to the **From Date**. If there are date changes, Unifier shifts the curve on the timeline based on **From Date** modifications. Each time period (e.g., month or year) on the curve retains the value of the original distribution. If date changes make the cash flow curve longer or shorter, Unifier will not re-balance or redistribute cost data to match the modified curve length.

   ▶ Click the **Total** field and enter the cost value for which you want to generate the cash flow curve.

   ▶ Track undistributed cost in the read-only **Unassigned** field .

  ▸ Change the distribution profile if the curve was set up with auto-distribution. Click the **Profile** field. The **Select Distribution Profile** window opens. Select a new profile and click **Select**.

  ▸ Enter values in each of the time periods to equal the amount in the **Total** field. The **Unassigned** column will show you how much of the Total you have left to distribute.

5) Click **Save** to save and close the Details window.

Import Cash Flow Data

You can import cash flow data via CSV file. This includes curve setup data (From and To dates, Profile and Total columns), and curve distribution data (distribution values of the Total amount entered in the date period columns). It is important to observe the order of curve operations: import the setup values first, then import the distribution values.

  ▸ Manual entry generally allows data import, but depends upon the curve set up.

  ▸ Auto-distribution precludes data import.

  ▸ Fields that display data from other sources (schedule sheet, cost column, business process record), cannot be edited via CSV import.

You can change curve distribution settings; however, Unifier will replace your data with data collected by the new distribution method. For example, if you change a manual entry field to auto, all manually entered data will be lost and replaced with the auto-generated data.

To import curve setup data into the Cash Flow Worksheet by CSV import

1) Open the Cash Flow Worksheet. Select a row and click Open to open the Details window.

   If you are importing both setup and distribution data, then import the setup data first to establish the distribution time period.

2) Click **Export** to export the CSV template. The CSV opens in Microsoft Excel®. You can **Save** the CSV file to your desktop first, or **Open** it directly.

   > **Note**: Cash flow data exports the currency and the values to the CSV template.

3) Add the Curve Distribution data to the CSV file.

   ▸ **From Date, To Date**: use the date format.

   ▸ **Profile**: If using auto-profile, enter the name of the default profile you want to use. This is from the Distribution Profiles list maintained in Administration Mode.

   ▸ **Total**: Enter a value to use as the cost total.

   ▸ **Save** the CSV file.

4) Import the CSV file.

   ▸ In the Details sheet, click **Import > Curve Setup**. The File Upload window opens.

   ▸ Locate the CSV file and click **OK**. The data will populate edited fields on the Details sheet.

5) Save the Details window.

To import curve distribution data into the Cash Flow Worksheet by CSV import

1) Open the Cash Flow Worksheet. Select a row and click Open to open the Details window.

   If you are importing both setup and distribution data, then import the setup data first to establish the distribution time period.

2) Click **Export** to export the CSV template. You can Save the CSV file to your desktop first, or Open it directly.

3) Add the Curve Distribution data to the CSV file.

   ▸ Enter values in the time period distribution fields. Do not exceed the amount for Unassigned.

   ▸ The Currency field must have the currency listed.

   ▸ **Save** the CSV file.

4) Import the CSV file.

   ▸ In the Details sheet, click **Import > Curve Distribution**. The File Upload window opens.

   ▸ Locate the CSV file and click **OK**. The data will populate edited fields on the Details sheet.

5) **Save** the Details window.

> **Note**: You can import data into cash flow by commitment curves in either transaction or project currencies. If you try to import data in an incorrect currency, you will be notified. For example, if the transaction currency is in Yen and the project currency is in USD, and you try to import in Euro, you will get an error message in the CSV file. You will need to correct the errors in the CSV before re-importing.

Use Bulk Edit to Edit Cash Flow Data for Multiple Rows in Details Window

Bulk Edit is available on the Details window for the Cash Flow Worksheet. This is useful when there are multiple items to be edited that are associated with the curve data.

For example, if you are doing cash flow by CBS, the data in the Details window displays the CBS codes in use. You can enter curve data for one or multiple CBS codes using Bulk Edit.

If you are doing cash flow by commitment, and are including change orders in the curves (for cost information and auto distribution), then you will see all commitment records in the Details window -- the base commit and any change commits. You can enter curve data for one or multiple records using Bulk Edit.

> **Note:** If you are editing a Contract-type BP, the total in the Bulk Edit will be highlighted in the details screen of the cash flow by contract curve.

To enter cash flow data using Bulk Edit

1) Open the Cash Flow Worksheet. Select a row and click **Open**. The Details window opens.

2) Select one or more rows and click **Bulk Edit**. The Bulk Edit window opens.

3) The fields that are editable for the curve (based on the Properties window options) will display.

4) Enter values for the fields.

5) Select the **Update** checkbox for the fields you want to update.

> **Note**: You can use the Bulk Edit button to edit multiple items in the chosen currency. The total in the Bulk edit window will be interpreted in the currency selected in the details screen (lower part of the worksheet window.)

6) Click the **Update** button.

Filter the Curves to Display on the Cash Flow Worksheet

To show or hide curves on the cash flow worksheet

1) Go to your **Project/Shell** > **User** mode > **Cost Manager** > **Cash Flow**

2) Select and open the Cash Flow Worksheet (Summary or Detail).

3) Click **View** and select **Filter**.

> **Note**: Alternatively, you can open the Filter window by way of clicking the filter icon on the upper right-hand corner of the Cashflow Worksheet window.

4) Select which curves to display. Deselect any curves you do not want to display.

5) Click **OK**.

The graph will display only the curves that are selected. The data at the bottom of the worksheet will be unaffected. This display remains active as long as the window is open. The next time you open the worksheet window, all curves will again display by default.

To save the filter for both Summary level and Detail level Cash Flow Curves

1) Go to **Unifier** > your **Project/Shell** > **User** mode > **Cost Manager** > **Cash Flow**

2) Select and open the Cash Flow Worksheet (Summary or Detail).

3) Click **View** and select **Filter**.

> **Note**: Alternatively, you can open the Filter window by way of clicking the filter icon on the upper right-hand corner of the Cashflow Worksheet window.

4) Select which curves to display. Deselect any curves you do not want to display.

5) In the **Save As** field box enter a name for the filter.

6) Click **OK** to close the window.

The name of the filter that you have saved appears on the upper right-hand corner of the Cashflow Worksheet window. This window contains a list of saved filters that have been saved.

> **Note**: The Default View option allows you to select which particular filter

to display when you open a Cash Flow Worksheet.

You can click **Edit** > select **Manage Filters** to delete, set default view, change name, and change the description of your filter.

Create and Manage Distribution Profiles

Administrators can create a library of distribution profiles in Administration Mode, Standards & Libraries. In addition to these profiles, you may also want to create additional distribution profiles in a project or shell. At runtime, when you select a distribution profile, you will see the list of profiles created in Administration Mode, as well as the ones created in User Mode.

To add a distribution profile in User Mode

1) Open the project or shell and click **Cost Manager > Cash Flow** in the left Navigator. The Cash Flow log opens.
2) Click the **Edit** menu and choose **Distribution Profiles**. The Edit Distribution Profiles window opens.
3) Edit and manage distribution profiles in this window in the same way as the default distribution profiles created in Administration Mode.

View and Manage Cash Flow Properties

You can view or edit the curve properties from the Cash Flow log. You can open a view-only Properties window from the cash flow worksheet.

To edit cash flow curve properties

1) Open the project or shell and click **Cost Manager > Cash Flow** in the left Navigator. The Cash Flow log opens.
2) Select a curve from the log and click **Properties**. The Properties window opens.
3) When the Properties window is complete, click **OK** to save and close the window. When you save and exit the Properties window, the Cash Flow Worksheet opens for the curve you just edited.

To view cash flow curve properties from the worksheet window

1) Open the cash flow worksheet
   ‣ Open the project or shell and click **Cost Manager > Cash Flow** in the left Navigator. Select a curve from the log and click **Open**, or double-click the curve.
   ‣ In a base commit record, click the **Cash Flow** button. If a detail curve exists for the record, the cash flow worksheet opens in a view-only mode.
2) Click the **View** menu and choose **Properties**. The Properties window opens, but is not editable in this view.

Some notes on editing cash flow properties

- If you edit the time scale, the period close settings will be reset, and you will need to enter new ones for the new time scale.
- For curves in auto mode, you can switch to manual mode and adjust

the data.

- If you switch back to auto mode, the default profile will be used, and manual data will be overwritten.

Activate or Deactivate Rollup Status

You can change the rollup status of one or more curves. Active curves roll data up to program and company cash flow sheets; this status also affects scheduled refresh.

To activate or deactivate the rollup status

1) Open the project or shell that uses the curve you want to change.
2) In the left Navigate, click **Cost Manager** > **Cash Flow**. The Cash Flow log opens.
3) Select a curve from the log.
4) Click the **Rollup Status** button and select **Active** or **Inactive**.

Add Curves to the Detail Curve Cash Flow Worksheet

You can add as many curves as you need to the cash flow worksheet. Each curve is associated with a cash flow data source so that curve data can be rolled up and is reportable. Each data source can be used once per worksheet. (Data sources are created in Administration Mode in Standards & Libraries). Be sure that you have created enough data sources to add the curves you need to the worksheet.

When creating the curves, you can choose to make them editable so data can be entered and adjusted manually, or automated so that data is pulled from other sources, such as the project schedule sheet, cost sheet columns, and cost business process records. Distribution of cost data over time can also be done manually, or can be automatically distributed by creating and applying distribution profiles.

Curves are added to the cash flow detail curve Properties window.

To add curves to the cash flow detail worksheet

1) From the project/shell cash flow log or cash flow template log, select the detail curve in the log and click the **Properties** button. The Properties window opens.
2) Modify the Properties window and add curves as needed. See *Cash flow curves* (see "*Creating Cash Flow Curves (Classic View)*" on page 170)
3) Click **OK** when done. The cash flow worksheet opens and displays the added curve.

Delete Cash Flow Curves

You can delete a cash flow curve. If a detail curve is deleted, Program and Company level roll up curves will ignore the data from the detail curve the next time they are refreshed.

You can also delete an individual curve from the detail curve family.

To delete a cash flow detail curve

1) Open the project or shell and click **Cost Manager > Cash Flow** in the left Navigator. The Cash Flow log opens.
2) Select a curve from the log.
3) Click the **Edit** menu and choose **Delete**.
4) At the confirmation window, click **Yes**.

To delete a Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, or Custom curve

1) Open the project or shell and click **Cost Manager > Cash Flow** in the left Navigator. The Cash Flow log opens.
2) Open the Cash Flow Worksheet.
3) Select a row from the table.
4) Click the **Edit** menu and choose **Delete**.
5) Click **Yes** at the confirmation window.

View Summary Cash Flow Data

The summary view can be used to automatically summarize all of the active curves in the cash flow log.

Summary is done at the data source level - that is, it summarizes the data for each data source used in at least one curve.

If the active curves use different time scales (some use monthly and some yearly), then the Summary view will display the highest time scale, which would be yearly.

To summarize cash flow data

1) Open the project or shell and click **Cost Manager > Cash Flow** in the left Navigator. The Cash Flow log opens.
2) Click the **Summary** button. The Cash Flow Worksheet window opens. The curves that are included in the cash flow curve are shown in a summary view on the graph, by data source.

Printing Cash Flow Curves

You can print a copy of a cash flow worksheet. The print output will essentially be what you see on the screen, both the graphical display and the data.

To print a cash flow worksheet

1) In the top right portion of the Cash Flow Worksheet, click the **Print** button.
2) Follow the prompts and settings for your printer.

> **Note**: For improved print output, you can try a few things, such as: adjust the curve zoom level; print the worksheet in Landscape mode (choose this in your printer settings); adjust the worksheet window size (for example, drag the side or bottom of the window to expand the height or width to see more rows or columns); you can also maximize the window

(click the Maximize button in the upper right corner of the window).

Refresh Cash Flow Curves

You can enable or disable auto-refresh, and set the frequency. This setup is done in the *Cash Flow Properties Settings: Schedule tab (Classic View)* (on page 228) on the Properties window of the detail curve during setup, or set at runtime. You can also manually refresh a curve at any time.

You can see the refresh history of a curve at any time by clicking Refresh>History. This shows not only each manual or automatic refresh performed on the curve, but will also display any errors that were found during a refresh.

What refresh does

▶ Checks to see if there are any new spends records that are not part of the curve. Depending on Period Close settings, the spends record is added to the correct period, and therefore, changes in values will appear for Spends curves and for Forecast curves that consider spends records.
▶ Checks to see if a distribution profile definition has changed, either in Administration Mode, or in the project/shell. Any changes will be applied to the curve.
▶ If dates are based on master schedule sheet, checks to see if values have changed in the schedule sheet.
▶ For a curve in the auto mode, refresh distributes unassigned values automatically.
▶ Refresh checks for changes to CBS structure.
▶ Checks for errors, such as not selecting a valid business process record or cost column, or missing data such as a blank schedule sheet date column. The error alert will display in red font on the worksheet (below the curve section). Click the error to view the reason.

Unassigned field

If there is a value in the Unassigned field, hover over or click the field. The reasons for the value is displayed. For example,

▶ Excess or deficit because of Spends (invoice) records
▶ Incoming Change Orders
▶ For Forecast curves with option to start at the end of Actuals (Spends amount), the amount is put in the Unassigned field if the To Date of the forecast curve is less than effective date of a Spends value.

To refresh a cash flow curve manually

Do one of the following:

▶ You can refresh one or more curves from the cash flow log. Open the project or shell and click Cost Manager > Cash Flow in the left Navigator. The Cash Flow log opens. Select one or more curves from the log and click the Refresh button.
▶ You can also refresh a curve directly from the Cash Flow Worksheet window. Click the Refresh button.

To set the cash flow curve auto-refresh schedule

1) You can access the auto-refresh schedule options in two ways:

    ▸ To edit a single curve, you can select the curve from the cash flow log and click the Properties button. Click the **Schedule** tab.

    ▸ To edit the schedule information for multiple curves from the Cash Flow log, select one or more curves in the log. Click the **Refresh** button and choose **Set Frequency**. The Set Frequency window opens.

    In either window, you can enable (or disable) automatic refresh of the selected cash flow curve (or curves), and set the refresh schedule. If you are setting the frequency in multiple curves using Refresh> Set Frequency, these settings will be pushed to the Schedule tab of each curve's Properties window when the window is saved.

2) Complete the fields.

In this Field:	DO This:
Enable Refresh	If you select this checkbox, you can then define the refresh schedule. The cash flow sheet will refresh automatically to reflect the most recent cost or schedule data, or any changes that may have been made to the distribution profile or other properties. If you do not select this checkbox, the curve can still be manually refreshed at runtime.
Frequency	Choose when the refresh will be run. Daily. At the end of every day. Weekly. Select the day of the week to run the refresh. Monthly. Refresh will run on the last day of the month. Quarterly. Refresh will run on the last day of the calendar quarter.
Range of recurrence	You can define when the refresh schedule will begin and end. Start On. Enter a date to begin the refresh schedule. To define when the scheduled refresh ends, select either No end date (the refresh will run at the scheduled intervals until it is turned off or as long as the project/shell is active, or select End by and choose an end date to stop the automatic refresh.

To view a curve's refresh history

1) Open the project or shell and click **Cost Manager > Cash Flow** in the left Navigator. The Cash Flow log opens.

2) Select a cash flow curve from the log, click the **Refresh** button and choose **History**. The Refresh History window opens, displaying the refresh events for the selected curve. This window also displays the status of a curve that is currently being refreshed.

To cancel a curve refresh

1) Open the project or shell and click **Cost Manager > Cash Flow** in the left Navigator. The Cash Flow log opens.

2) Select the curve being refreshed and click **Refresh > History**. The Refresh History window opens.

3) If the refresh Status does not yet display Finished, click **Cancel Request**. If the cancellation is successful, the entry will display the Status as Canceled.

Search for Cash Flow Curves

You can search the Cash Flow log for a specific curve using the Find feature. Cash Flow uses a floating find window.

To search for a curve in the log

1) Open the project or shell and click **Cost Manager > Cash Flow** in the left Navigator. The Cash Flow log opens.

2) Click the **Find** button. The Find window opens. You can search on any of the fields that appear in the Cash Flow log.

Working with Snapshots

You can manually save a snapshot of cash flow curves at any time. You can also automatically take a snapshot of a detail level curve as part of the Period Close settings on the General tab of the Properties window.

A snapshot displays the graph, curves and curve data on the worksheet. You can open the Details window from the snapshot. Snapshots are not editable.

You can take a Snapshot and view it in both project and transaction currencies as well as reports.

To take a snapshot at any time

1) Open the Cash Flow worksheet.

2) Click **File** and choose **Create Snapshot**. The Create Snapshot window opens.

3) Enter a Snapshot Title and click **OK**.

To schedule automatic snapshots

You can schedule automatic snapshots as part of the Period Close settings on the General tab of the Detail Curve Properties window.

1) Click the option **Enable auto snapshot on**.

2) Click the **Select** button. The Details window opens.

3) Choose when you want Unifier to take the snapshot.

4) Click **OK**.

After taking an auto-snapshot Unifier refreshes the curve immediately. Spends will resume after the auto-snapshot.

To view a snapshot

1) Open the Cash Flow worksheet.

2) Click **View** and choose **Snapshot Log**. The Snapshots opens.

3) Choose a snapshot to view and click **Open**. The Cash Flow Worksheet opens. You can view the Details window, cumulative view, and most other interactive elements, but the snapshot data is not editable.

To search for a snapshot

1) Open the Cash Flow worksheet.
2) Click **View** and choose **Snapshot Log**. The Snapshots opens.
3) Click **Find**.
4) Enter search criteria and click **Search**.
5) To restore the entire list, click **Cancel Filter**.

To delete a snapshot

1) Open the Cash Flow worksheet.
2) Click **View** and choose **Snapshot Log**. The Snapshots opens.
3) Select the snapshot and click Delete. At the confirmation, click **Yes**. The snapshot is deleted.

Program-Level and Company-Level Cash Flow

Creating and managing roll-up curves in a Program and in the Company Workspace is similar to creating detail curves in projects and shells. Program roll-up curves can be created from a template. Runtime permission must be granted to each curve for other users to have access to it.

Data rolls up to the program and company level based on the data sources used to add the individual Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves that make up the Project/Shell detail curves.

> **Note**: Projects/Shells included in a Program can use different currencies.

Only project and shell-level cash flow curves with Roll-up Status equal to Active will roll up to program and company level cash flow.

To create a Roll-up Curve in a Program

1) Go to the Programs tab, switch to User mode, and click Programs. The Programs log opens.
2) Open a program from the Programs log.
3) Click **Cost Manager > Cash Flow** in the left Navigator. The Cash Flow log opens. (If you can't see the Cash Flow module, be sure your company administrator has granted permissions to the module.)
4) Click **New**; you have two options.

   Roll Up Curves: You can use this option to create a new curve. Complete the General tab and select the data sources you want to include from this project. Then click **OK**.

   From Template: Select a cash flow template from the list and click **OK**.

> **Note**: To use a template for the roll up curve, there must already be a cash flow curve roll up template created in Standards & Libraries.

To create a Roll-up Curve in the Company Workspace

1) Go to the **Company Workspace** tab and switch and to User mode.
2) Click **Cost Manager > Cash Flow** in the left Navigator. The Cash Flow log opens. (If you can't see the Cash Flow module, be sure your company administrator has granted permissions to the module.)
3) Click **New > Rollup Curves**. Complete the Properties window.

To view details of a roll-up curve

1) Go to the **Company Workspace** tab, and click **Cost Manage r> Cash Flow** in the left Navigator. The Cash Flow log opens.
2) Select the curve to view and click **Open**. The Cash Flow Worksheet opens.
3) Select a row (curve) from the list and click **Open**. The Details window opens. The Details window lists the project/shell curves that comprise the roll up curve.

What Else you can do with a Roll-up Curve

Like detail-level curves in projects and shells, the roll up curves can be printed, snapshots taken, zoom levels adjusted, data sources filtered from the view, and curves permission-controlled — you can do just about everything except work with the data itself, since the data on the roll up curve is generated in the projects and shells, and rolled up to the program and company level. The procedures for working with roll up curves are similar to project/shell detail curves.

Earned Value (EV)

Earned value analysis is an industry standard designed to help project managers quantify project performance through:

▸ Measuring project performance and progress
▸ Analyzing schedule and budget variances
▸ Forecasting schedule and cost overruns

In Unifier, the earned value sheet always represents data by CBS code. Earned value calculations depend on the Company Cash Flow, and can optionally include activities on the Schedule Sheet. Users can also view a graphical representation of Earned Value, Budget at Completion (BAC) and Actual Cost.

Available in Unifier standard projects and CBS-based shells, you can create any number of earned value sheets. Data collection source have different settings and prerequisites.

When the source is the schedule manager:

▸ The detail-level selection display schedule sheet activity progress.
▸ The summary-level selection compares rows from other earned value sheets.
▸ Unifier users progress dates to calculate BCWS, BCWP, ACWP, and EAC.

▶ Progress dates are calculated as of the current date. In a schedule imported from Primavera, Unifier honors the Current Data Date entry as the latest progress date. This date may be a future date that you might use in project modeling. Unifier will calculate curves up to the entered date.

Working with Earned Value Sheets

This section discusses working with the earned value sheets you have created.

View additional sheets and worksheets: When you create an earned value sheet, you can choose to display the data in additional sheet views, or to view worksheets that show the calculations for BCWS, BCWP and custom entry curves added to the sheet. Manual cost distribution can be done on custom curve worksheets, depending on the curve setup.

Display earned value data graphically: The information captured on the earned value sheet can be displayed on graphs.

Change display options: You can change the display to show information by cost data, by a chosen unit of measure (hours, linear feet, etc.), or for a particular period of time.

Add sheet columns: In addition to default columns, you can add your own formula columns to do earned value sheet calculations.

Save snapshots of data: This allows you to save snapshots of data at periodic interviews on the some sheet views.

Export earned value data: Some sheet views allow you to export the data on them to a CSV file.

Details about these procedures are found in the following sections.

About Earned Value Sheets

You can create multiple earned value sheets per project or CBS-based shell. Each sheet can have any schedule sheet in the Schedule Manager as the source for the calculations. Each sheet can include multiple curves, including those listed here.

▶ **BCWS** (Budgeted Cost of Work Scheduled)

This is the curve of the budget for the project. The budget can be based on cost or on unit of measure. In terms of cost, it is the total planned budget for the project. Contributors to this cost can be labor, material, equipment or any other cost. In terms of units of measure, it is the total units needed to complete the project. Units can be hours, linear feet, etc., depending upon the activity and the resources that are assigned to an activity.

Note: This option is unavailable (greyed out) when shell Schedule Type = Resource Loaded or Cost Loaded.

▶ **BCWP** (Budgeted Cost of Work Performed)

This is the means of assessing performance against the planned budget. It can help you determine whether you are behind, ahead of or on schedule. The budget is based on what you have planned for the schedule, so if the schedule slips, it affects the budget. BCWP calculations are based on the schedule sheet and captured from the progress log for activities and resources.

Note: This option is unavailable (greyed out) when shell Schedule Type = Resource Loaded or Cost Loaded.

▶ **ACWP** (Actual Cost of Work Performed)

These are actual costs incurred to perform project-related activities, such as payments to subcontractors or purchase of materials. If your actuals are higher than the budget, you may be over budget. If your actuals are under the budget, it is possible contractors are not submitting invoices.

▶ **EAC** (Estimate at Completion)

This refers to the final cost of any other key quantity (for example, hours, feet of material, or other quantity) associated with any work breakdown structure (CBS).

▶ **Custom curves**

Create custom curves to generate Forecast, ETC, and others.

Curve	Source = Cost Sheet	Source = Schedule Manager
BCWS	Derive budget data from a Cash Flow curve	Derive budget data from an active schedule
BCWP	Derive budget data from a Cash Flow curve	Calculate based on earned progress and earned amount information captured on schedule sheet activities
ACWP	Select Actual Costs from a Cash Flow curve or a Business Process Cost Sheet Column	Select Actual Costs from a cash flow curve or a BP cost sheet column
EAC	Not applicable.	Calculate forecast from actual completion information

Work package names appear on the sheet if the source is schedule manager, and one or more schedule sheets associated with EV curves are linked to a work package.

> **Note**: The Source = Cost Sheet option is available for Unifier Shells that are integrated with P6. The option Source = Cost Sheet is not available for other Shell instances.

Display options

You can select display options, to display the curves in terms of cost or unit of measure (such as hours, linear feet, etc., as defined in schedule activity properties). See *Change the sheet display options* (on page 322).

Views

You can also generate earned value data in different views, for example, grouped by work package. Access these views using the More Sheets option. You also view the worksheets used for the individual components and curves used in each earned value sheet (More Worksheets). See *Open additional sheet views* (on page 320) and *View and work with worksheets* (on page 321).

Access earned value sheets

Earned value sheets can be created for projects and shells, and are maintained in the Earned Value log, which is part of the Cost Manager.

To access earned value sheets

Open a project or shell and click **Cost Manager > Earned Value** in the left Navigator. The Earned Value log opens.

To open an earned value sheet

Double-click it from the log window, or select the sheet and click **Open**.

Open additional sheet views

From an earned value sheet, more sheet views may be available, depending on the data source for the sheet (Schedule Manager).

If the source is schedule manager, you can view additional sheets described below.

▸ **CBS Codes** is the default view when the EV sheet source is Schedule Manager. It displays EV data by CBS code in a flat list. It is applicable when Progress option on BCWP is "Activity % Complete."

▸ **CBS Codes - Group by Summary Codes**: The data in this view is grouped by summary CBS codes retrieved from the cost sheet. The summary codes show all levels that are defined in the cost sheet. It assumes that there are summary CBS codes. If the cost sheet is in flat mode, data is shown with leaf level CBS codes.

▸ **CBS Codes - Group by Work Package**: The data is grouped by work package, and then by summary CBS codes. This is applicable even if cost sheet is in flat mode. Summary rows show totals from leaf codes; work package summary rows show the totals per work package.

▸ **Earned Value Components**: In this view, data is grouped by earned value components. The rows are the components of the earned value sheet: BCWS, BCWP, ACWP, EAC. The columns are time periods based on the time scale for the sheet. Data is not totaled at the bottom of the sheet. Note the sliding scale in the upper portion of the sheet. This allows you to move the view of the sheet to display different time periods. Display Options allows you to change UOM (unit of measure) value only.

▸ **Schedule Sheet - Activities**: The activities displayed on this view are the activities defined in the schedule sheet. All activities are displayed regardless of whether progress entries have been made for them.

▸ **Schedule Sheet - Activities - Group by CBS Codes**: In this view, EV data is grouped by CBS code, and by activity associated with each CBS code.

For these additional sheets, you can create snapshots in the default CBS Codes view and the Schedule Sheet-Activities view. You can change the Display Options and export data from any view.

To view more sheets

1) Open the earned value sheet.
2) Click the **More Sheets** button. The More Sheets window opens. The window lists sheets that are generated along with the current sheet.
3) Select a sheet and click **OK**. The sheet opens.

View and work with worksheets

You can view worksheets for BCWS, BCWP, EAC as well as custom curves that have the "Manual entry intermediate points" option selected in curve properties. These worksheets display the BCWS, BCWP, EAC and custom curve calculations used in the earned value analysis.

BCWS, BCWP and EAC worksheets are read-only. Custom curve worksheets allow manual distribution of cost data in the Incremental view.

You can export data from worksheets. A graphical view is available for the BCWP worksheet. In addition, you can add notes to worksheets.

The More Worksheets option is available from the default CBS Codes view of the earned value sheet, and also the Schedule Sheet-Activities view available from the More Sheets option.

To open a worksheet

1) Open the earned value sheet.
2) Click the **View** button and choose **More Worksheets**. The More Worksheets window opens, listing BCWS, BCWP, EAC (if defined) and any custom curves.
3) Select a worksheet and click **OK**. The worksheet opens. The default view is incremental.

    In incremental view, the columns are time based. The range is determined by the Start and Finish dates in the Source Details. Manual entry of cost data, if applicable, can be done in this view.
4) To view the cumulative view of the data, click the **Cumulative** button. (A graphical view of the Cumulative curve is available; click the **Graph** button from the Cumulative view.)
5) For BCWP, to view the graphical view, click the **Graph** button, then choose All Rows or Selected Row. For more information about displaying graphs, see the example below.

To add or view notes on a worksheet

1) Open the BCWS, BCWP, EAC or custom curve worksheet.
2) Click the **Notes** button. The Notes window opens. Any notes that have previously been added will display in the **Notes** field.
3) You can enter a note in the **Notes** field and click **Ok**.

To enter or distribute cost data in a custom curve worksheet

1) Open the worksheet for the custom curve.
   ‣ If (in the custom curve properties) the Data option has been set to manual, then the values that you entered in the Cost field of the Source Details window for each CBS code display by default in the last column on the worksheet. This amount can be distributed among all time periods (columns) on the worksheet.
   ‣ If the Data option has been set to Cost Sheet column, then when the earned value sheet is refreshed, actuals data will roll up from the cost sheet column directly to the last period (column) on the worksheet. You can distribute this amount manually across other columns.
2) To distribute this cost data, scroll to the last column on the worksheet. The value in the column is the total amount that needs to be distributed.

You can click the **Find** button to search for a specific value in any column, including to search for a CBS code.

3) Double-click inside a cell to make it editable.

4) For each applicable CBS code, change the value in the last column to the correct distribution amount and press **Enter**. The rest of the original cost amount displays in the Undistributed Amount field at the top of the worksheet. If you distribute a total amount that exceeds the original total, the Undistributed Amount field displays a negative amount.

For example, if the original value is $12,000 in the last column (either added manually in the Source Details window or rolled up from a cost column), and the distribution should be $1,000 per month over a 12 month period, then enter $1000 in the last column. The remaining $11,000 will display in the Undistributed Amount field. As you enter $1000 in each of the other month columns, this Undistributed Amount will decrease.

After distribution, if the amount in the cost sheet column or the Cost field in the Source Details (depending on the source) either increases or decreases in amount, then when the earned value sheet is refreshed again, this difference will be reflected automatically in the last column of the worksheet. If there is a decrease that takes the last column to a value of zero, then the difference will be reflected in the next-to-last column.

5) Click **Save** to save the worksheet.
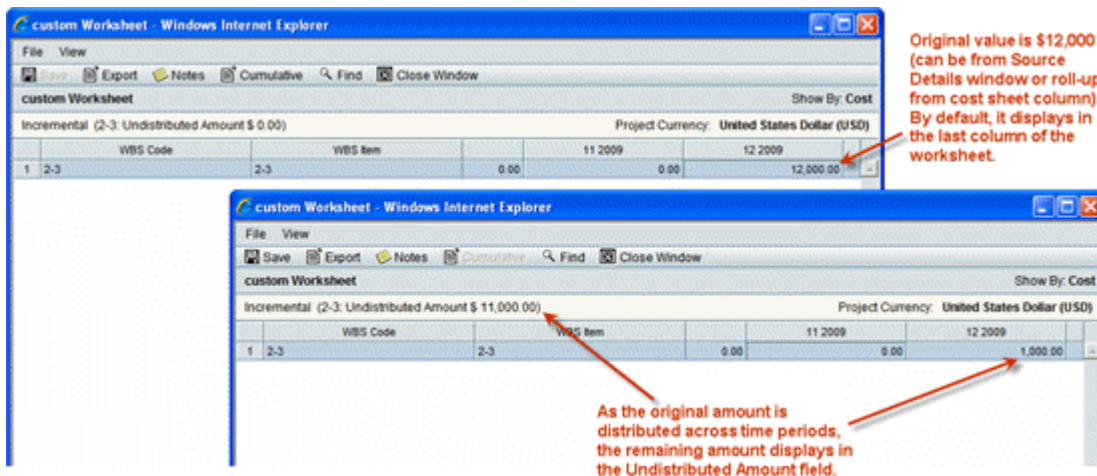
Change the sheet display options

The display options allow you to view earned value data in a variety of ways. You can view data:

▶ By cost data
▶ By a chosen unit of measure (such as hours, linear feet, etc.)
▶ For a particular period of time

Display options are available on the default CBS Codes view, as well as the other views available through More Sheets, with one exception: the Earned Value Component view cannot set a time period.

You can change the display options on any of the views available through the More Sheets option. If you set the display options on the default view, then open another sheet through More Sheets, the display option settings will be in effect when the second sheet is opened.

To change the display options

1) Open the earned value sheet.
2) On the toolbar, click the **Display Options** button. The Display Options window opens.
3) Choose a **Show By** option.
   ‣ **Cost**: this is the default display, showing the EV sheet using cost data
   ‣ **UOM**: this will display EV data by unit of measure, such as hours. This list is in the Unit of Measure data definition, such as hours, feet, etc.

   > **Note**: UOM is not available if EV sheet source is Schedule Manager sheet and the **BCWP Progress** is **Activity % Complete.**

4) In the **Display as of** field, click the data picker and choose a date. This setting is optional. If you choose a date, the system will use the date as a cut off date and will show earned value data as of that date. If you do not select a date, then the display will default to the **Last Update Date** of the EV sheet.

   Choose a date that is no later than today's date, as you cannot choose a date in the future, and no earlier than the earliest date for which data is available across the curves.

   > **Note**: This option is not available if EV sheet source is Schedule Manager sheet and the **BCWP Progress** is **Activity % Complete**, This option is also not available for the **Earned Value Component** view, as the columns of this sheet are time based.

5) Click the **Refresh** button. This will refresh the sheet to reflect the new display options.

Add a column to the earned value sheet

In addition to the system defined columns that are added to the earned value sheet automatically (BAC, BCWS, BCWP, ACWP, EAC), you can create columns for your own formulas.

You can define additional columns on a sheet the EV sheet source is Schedule Manager, and the display option is set to *Show By: Cost.*

To add a column to the earned value sheet

1) Open the earned value sheet.
2) Click the **Columns** button. The Column Log window opens.
3) Click **New**. The Column Properties window opens.
4) Complete the fields and click **OK**.

   > **Note**: You can create formulas based on any of the columns on the earned value sheet.

In this field	Do this
Name	Name the column.
Datasource	Select a data source. Available selections depend upon the level of

	the earned value sheet.
	Summary Level:
	Select components from the detail-level earned value sheets included in the summary sheet settings. Each selection will generate a column in the summary earned value sheet.
	Detail Level:
	Earned Value 1 to 25. Allows you to define your own formulas
	Custom curves, BAC, BCWS, BCWP, ACWP, EAC are default columns that cannot be edited or deleted.
Entry Method	The sheet accepts formulas only. Your options depend upon the level of the earned value sheet.
	Summary Level: The entry level is unavailable.
	Detail Level: Requires a formula. Click Create to create a formula.
Data Format	Choose **Currency** or **Percentage**. This defines how the value is displayed on the sheet.
Display Mode	Choose to **Show** or **Hide** the column on the sheet.
Total	Choose how to display the summary row, which is the last row for the column: **Blank** to leave the summary row blank; **Sum of All Rows** to add up all the rows; or **Use Formula Definition** to apply the columns formula to the last column (based on values in other summary rows).
Column Position After	Choose a column. The new column will be placed after the selection.

Example earned value formulas

Following are some examples of earned value definitions and formula columns that can be added to the earned value sheet. For the examples below, we will start the following values:

▸ BAC = $1,000
▸ BCWS = $600
▸ BCWP = $400
▸ ACWP = $750
▸ EAC = $1800

Cost Variance

Cost Variance (CV) is the difference between a task's estimated or budgeted cost and its actual cost. A negative variance indicates the project or shell is over budget.

CV = BCWP – ACWP

Example: $400 – $750 = –$350

Scheduled Variance

Scheduled Variance (SV) is the difference between the current progress and the scheduled progress of a task, in terms of cost. It is a comparison of the amount of work performed during a given period to what was scheduled to be performed. A negative variance means the project or shell is behind schedule.

SV = BCWP – BCWS

Example: $400 – $600 = –$200

Cost Performance Index

Cost Performance Index (CPI) is the ratio of budgeted costs of work performed to actual costs of work performed. A value of less than 1 (less than 100%) indicates that the project or shell is over budget, and you are getting less work per dollar than planned.

CPI = BCWP/ACWP

Example: 400/750 = 0.53 or 53%

Scheduled Performance Index (SPI)

Schedule Performance Index (SPI) is the ratio of budgeted costs of work performed to budgeted costs of work scheduled. A value of less than 1 (less than 100%) indicates that the project or shell is behind schedule.

SPI = BCWP/BCWS

Example: 400/600 = 0.67 or 67%.

Cost Schedule Index (CSI)

The Cost Schedule Index (CSI) reflects the relationship between CPI and SPI. The CSI value should be close to 1.0. The farther the value from 1.0, project or shell recovery becomes more difficult to achieve.

CSI = CPI x SPI

Example: 0.53 x 0.67 = 0.3551

To Complete Performance Index (TCPI)

The To Complete Performance Index (TCPI) is the ratio of the work remaining to be done to funds remaining to be spent as of the status date. A TCPI value greater than 1 indicates a need for increased performance; less than 1 indicates performance can decrease. This helps determine how much of an increase in performance is necessary on the remaining project or shell tasks to remain within budget.

TCPI = (BAC - BCWP) / (BAC - ACWP)

Example: ($1,000 – $400) / ($1,000 – $750) = 2.4

Variance at Completion (VAC)

VAC is the difference between the BAC) and the EAC.

VAC = BAC – EAC

Example: $1,000 – $1,800 = –$800

Filter Earned Value sheets by CBS code

Schedule sheets and earned value sheets share the CBS code associated with schedule sheet activities. (For more information about this, see the Schedule Manager setup instructions in the *Unifier Administration Guide.*) Because of this association, earned value sheets can display schedule sheet data, and you can filter this data by CBS codes. You can graph filtered data and view the results by currency or percentage.

If your administrator included an "Activity Earned Value Filter" field on the schedule sheet attribute form, you can further refine earned value filters by activity criteria, such as progress. If this field is on the form, you can include or exclude specific activities from the Master Schedule Sheet.

To create a filter

1) From the Edit menu, choose **Filters**. The Setup Filters window opens.
2) Click **Add**. The Add filter window opens.
3) Name the filter.
4) Select one or more segments of a CBS code to create the filter.
5) Click **OK** to save the filter.

To change a filter

1) From the Edit menu, choose **Filters.** The Setup Filters window opens.
2) Click **Edit**. The Modify Filter window opens. You can rename the filter, or change the CBS segments.

To remove a filter

1) From the Edit menu, choose **Filters**. The Setup Filters window opens.
2) In the Setup Filters window, highlight the filter and click Remove.
3) Click **Yes** in the confirmation window.
   This action cannot be undone.

To apply a filter to the EV sheet

1) Open the EV sheet in which you want to filter data.
2) From the Edit menu, choose **Filters**. The Setup Filters window opens.
3) Select the filter you want to apply and click **Apply Filter**.
   The EV sheet will display only those rows that meet the filter condition. You can graph the filter data and view it by currency or percentage.
4) To restore all the rows to the EV sheet, click **[Cancel Filter]**.

Filter Earned Value sheets by progress

If your administrator included an "Activity Earned Value Filter" field on the schedule sheet attribute form, you can further refine earned value filters by activity criteria, such as progress. If this field is on the form, you can include or exclude specific activities from the Master Schedule Sheet.

To create a progress filter for the EV sheet

1) Open the EV sheet that you want to filter by progress.
2) Click the **Filters** icon. The Setup Filters window opens.
3) Click **Add**. The Add Filter window opens.

4) Complete the Add Filter form.

The activity earned value filter uses an "and" condition. This means that it will display all activities associated with the CBS codes selected, but will display a BCWS value only for those activities with a text entry in the Activity Earned Value Filter column that matches the text entry in the filter.

5) Click **OK** to save and close the form.

To apply the progress filter to the EV sheet

1) Click the **Filters** icon. The Setup Filters window opens.
2) Select the filter you want to use and click **Apply Filter**.

The filtered EV sheet will display:

▸ All the CBS codes specified in the filter
▸ Only the values that are specified in the filter

3) To restore all the rows to the EV sheet, click **[Cancel Filter]**.

Save a snapshot of the earned value sheet

You can save a snapshot copy of the default CBS Codes view of the earned value sheet, as well as the Schedule Sheet-Activities view available through the More Sheets option.

To save a snapshot copy

1) Open the earned value sheet.
2) Click the **File** menu and choose **Create Snapshot**.
3) Enter a title for the snapshot and click **OK**.

To view a saved snapshot

1) Open the earned value sheet.
2) Click the **File** menu and choose **Open**. The Snapshot Log opens.

3) Select a snapshot and click **Open**.

Export earned value data

You can export a CSV file with the earned value sheet data of any view of the earned value sheet, and any worksheet.

To export the earned value sheet as a CSV file

1) Open the earned value sheet.
2) Click the **Export** button. Save the CSV file to your local drive and click **OK**.

Refresh earned value sheets

You can manually refresh earned value sheets so that they reflect the latest data, depending on their source: information from cash flow curves or information such as earned progress from schedule sheets. Earned value sheets are automatically refreshed if you make changes to the Properties window, Settings tab.

To refresh an earned value sheet

1) Select a sheet in the Earned Value log.
2) Click the **Refresh** button.

   As data is refreshed, the Last Update column in the log will display In Progress. This may take a few moments. When the update is complete, the current date will display in the column. You will not be able to access the sheet while the update is in progress.

Display Earned Value Data as a Graph

You can view a graphical representation of earned value by clicking the Graph button from the Earned Value log window or from an earned value sheet. This is available for the default earned value sheet and additional sheets available through the More Sheets option. Earned value data can be viewed either by currency over time, or by value percentage over time. The default view is currency.

You must have Adobe Flash Player installed on your system to view earned value graphs.

To display the earned value sheet as a graph

1) Open the earned value sheet.
2) Click the **Graph** button and select one of the following:
   ‣ **All Rows**: Shows graphical representation of the sum of all rows on the sheet.
   ‣ **Selected Row**: Shows graphical representation of the row that is currently selected on the sheet (summary or leaf row).

> **Note**: The graph displays the names of the curves as they appear as column names on the sheet. If you change the name of a custom curve, you must also change the column name in order for the name change to display on the graph. The graphical display will also automatically include any custom curves you have added, even if you have not added them as columns on the sheet. You can filter which curves to display.

To change the view

Click the **Project Currency** or **Percentage** button next to the View By field. Unifier will gray-out the current view.

To filter which graphs are displayed

1) Click the **Curves** button. The Filter Graphs window opens.
2) Select the graphs that you want to display and click **OK**.

To change the zoom level of the graph

Click **Zoom and** choose Week (W), Month (M), Quarter (Q), or Year (Y). This will change the plotting of the graph display (not the data calculations), and enable you to view data by time period. Graphs using the Week (W) and Month (M) zoom levels are displayed using the Date Format set in your User Preferences. Refer to *Unifier General User Guide* for details on setting the date format in User Preferences. Graphs using the Quarter (Q) or Year (Y) are displayed using the Time Scale Format set in the EV Properties General tab.

> **Note**: Some earned value calculations can lead to a negative number. These results are shown on the graphs.

The zoom level that you choose works with the time period by which data is captured. For example, if you are capturing data by the month, and select the zoom level Quarter (Q), the graph will display three months of data. If you select the zoom level Year (y), the graph will show 12 months of data.

For example:
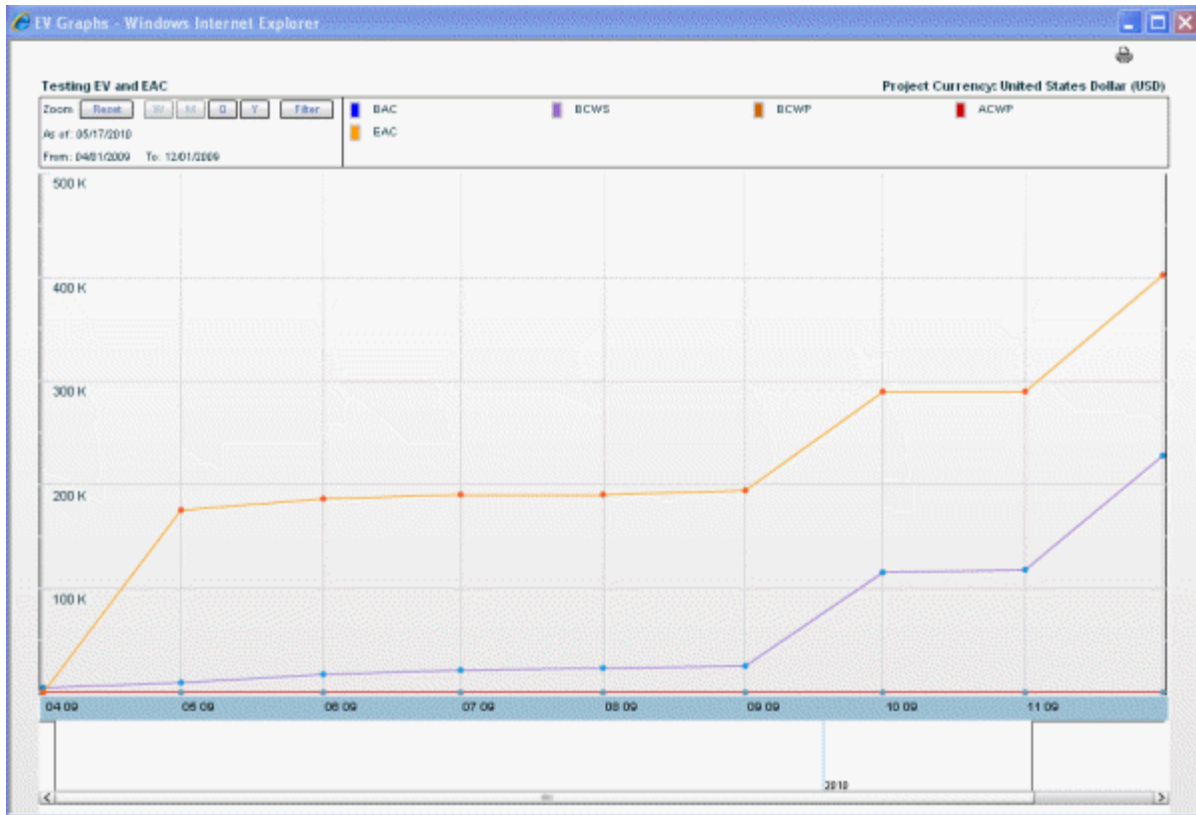
You can create your own time scale by using the scale slider bar at the bottom of the graph. Drag to the right or left to experiment with the time scale.

> **Note**: Custom unit of measure (UOM) - based curves are not shown on earned value graphs.

To reset the zoom level of the graph

Click **Reset** to return the graph to the default view.

To print the graph

Click the **Print** icon on the upper right corner of the sheet.

Creating and Managing Earned Value (EV) Sheets

This section describes the following procedures:

▶ *Creating an EV Sheet*
▶ *Defining EV Settings*
▶ *Creating Custom EV Curves*
▶ *Modifying EV Sheet Properties*
▶ *Setting Permissions on EV Sheet*

> **Note**: The Source = Cost Sheet option is available for Unifier Shells that are integrated with P6. The option Source = Cost Sheet is not available for other Shell instances.

Creating an EV Sheet

You can create an Earned Value (EV) sheet individually, or by copying an existing EV sheet, and as many as you need.

In a Project or Shell, the EV sheet can be based on a:

‣ Schedule Sheet

   or

‣ Cost Sheet

> **Note**: When an EV sheet is based on a schedule sheet, you can create a summary EV sheet to compare data (such as baselines) from multiple schedule sheets.

To create an earned value (EV) sheet:

1) Open a project or shell and click **Cost Manager** > **Earned Value** in the left Navigator.
2) Click the **New** button. The earned value Properties window opens.
3) Use the information in the table below to complete the General tab.
4) Click **Apply**. Once you click Apply, the Settings tab becomes available; however, the Source, Level, and Timescale fields on the General tab will no longer be editable.
5) Click the **Settings** tab. The Settings window opens.

   Depending on the level you have selected in the General tab, the Settings tab displays different options:

   ‣ If you selected **Detail** level, you can add the components (such as BCWP, BCWS, ACWP, Custom, and EAC curves) that will be used to calculate the earned value from a Schedule Sheet or a a Cost Sheet.

   ‣ If you selected **Summary** level, you can choose the schedule sheets for the EV sheet from a schedule sheet.

   Details about defining these settings are in *Defining EV Settings* (on page 332) .

6) Click **OK**.

In this field	Do this
Name	Name the earned value sheet.
Description	Enter an optional description. This description is searchable from the earned value sheet log.
Level	This option defines the level of the EV sheet as either "detail" or "summary."

	▸ Use Detail for individual schedule sheets ▸ Use Summary to compare values (such as baselines) from multiple earned value sheets
Source	This option determines the source of the data used to calculate earned value. The source of the calculations comes from schedule sheets. You can choose from any schedule sheet in the project or shell.
Time Scale	This setting determines the granularity of EV data that will be calculated based on source data. ▸ By: The choices are Year, Quarter, Month and Week. ▸ Format: Choose the format. The choices are determined by the By setting chosen.

Defining EV Settings

Depending on the level you have selected, the Settings tab displays different options:

▸ If you selected **Detail** level, you can add the components (such as BCWP, BCWS, ACWP, Custom, and EAC curves) that will be used to calculate earned value from a schedule sheet.

▸ If you selected **Summary** level, you can choose the schedule sheets for the EV sheet from a schedule sheet.

Adding Detail Schedule Sheet to Summary EV Sheet

To add a detail schedule sheet to the Summary EV sheet:

1) On the **Settings** tab, click **Add**. The Earned Value log opens and displays all the available detail-level EV sheets.
2) Highlight the sheet(s) you want to add to the summary sheet.
3) Click **Open**.
4) Click **OK.**

Adding Cost Curve to an EV Sheet

To add a cost curve to an EV sheet:

1) On the **Settings** tab, click **Add**. The Select a Type window opens.
2) Click the **Type** drop-down list, and select the curve to add.
   ▸ **BCWS**: Budgeted Cost of Work Scheduled.
      If you choose this option, you must specify where the budget comes from.
   ▸ **BCWP**: Budgeted Cost of Work Performed.
      If you choose this option, Unifier identifies the progress source (if you are using the Schedule Manager as a source).
   ▸ **ACWP**: Actual Cost of Work Performed.
      If you choose this option, you must specify the cost sheet column.
   ▸ **Custom**

If you choose this option, you will have to specify curve parameters in a Properties window. See the next section, *Creating Custom EV Curves* for details.

 ▸ **EAC**: Estimate at Completion. (Available when the source is the Schedule Manager)

   If you choose this option, you must include cost and start/finish information from the schedule manager.

3) Click **OK**. The entry will be added to the Settings tab of the earned value Properties window.

> **Note**: Adding settings updates the earned value (EV) sheet. This can take a few moments. The Last Update column on the earned value log displays an "In Progress" message while the sheet is being updated. The EV sheet will not be accessible until the update is complete.

BCWS: Source = Cost Sheet

If you choose BCWS as the Type, and your Source is Cost Sheet, then you will define BCWS based on a cash flow curve.

> **Note**: If you want to retain the data from previous curve, retain the values of Spread, Budge, and Apply Form.

In this field	Do this
Name	Name must be unique
Description	Enter an optional description
Type	Type is **BCWS**
Budget	*Shell Schedule Type = Duration Based* This drop-down list enables you to: ▸ Select a Cash Flow curve that must be used as basis to draw the BCWS curve. The system lists all of the family curves (Detail Level = CBS). ▸ Select a Cash Flow curve in the Cash Flow module. The curve is used as a basis for drawing the BCWS curve. All family curves (Detail Level = CBS), from the Project or Shell, appear in the list. You can select any Cash Flow curve that you prefer (Example: Earned Value curve family). The Cash Flow curve receives data from a P6 Summary Sheet. The choices are curves with the same Time Scale settings as the curves selected on the General tab of the EV sheet. *Shell Schedule Type = Resource Loaded or Cost Loaded* This drop-down list enables you to select the P6 Summary Sheet that contains the data needed to draw the BCWS curve, directly.

Curve	*Shell Schedule Type = Duration Based* The Curve drop-down list enables you to select one Cash Flow curve from Baseline or Custom type curves within the selected family. By default, this drop-down list is disabled (greyed out), but if you select a family Cash Flow curve from the Budget, then the Curve drop-down list is enabled and Required.
Spread	**Note**: The following applies when the Shell Schedule Type = Resource Loaded or Cost Loaded. Select the relevant cost spread from a P6 Summary Sheet.
Apply From	**Note**: The following applies when the Shell Schedule Type = Resource Loaded or Cost Loaded. Select the date that you want to pull the spread data from P6 Summary Sheet

BCWS: Source = Schedule Manager

If you choose BCWS (Budgeted Cost of Work Scheduled) as the Type, and your Source is Schedule Manager Sheet, then you define BCWS based on one or more schedule sheets.

In this field	Do this
Name	Name must be unique
Description	Enter an optional description
Type	Type is **BCWS**
Budget	You can add any number of active schedule sheets from the project or shell. To add schedule sheets, click **Add**. The Schedule Sheet picker opens. The list displays all active schedule sheets in the Schedule Manager for this project or shell. Select one or more schedule sheets and click **Open**. To remove a schedule sheet from the list: Select the schedule sheets that you want to delete from the Budget list and click **Remove**.

BCWP: Source = Cost Sheet

When the source is cost sheet, define BCWP based on a percent (%) column from the Project or Shell cost sheet.

In this field	Do this
Name	Name must be unique
Description	Enter an optional description

Type	Type is **BCWP**
Progress	**Note**: The following applies when the Shell Schedule Type = Duration Based.
	Click the Progress drop-down list to display the columns on the Project or Shell cost sheet that are percent (%) columns.
	In addition to the percent (%) columns, you can select P6 Schedule.
	If you select P6 Schedule from the drop-down list, then the system uses the following to calculate the Progress Spread that is used for drawing the BCWP curve:
	▸ % Complete is per CBS, from the master P6 Schedule Summary Sheet
	▸ BAC is per CBS, from the BCWS curve
	The Progress Spread is maintained in Unifier as data is integrated into Unifier from P6.
	Note: You must define a BCWS curve type before creating a BCWP curve.
	Unifier processes the data acquired from the master P6 Schedule Summary Sheet % Complete to calculate the Progress Amount for each Data Date.
	Note: Data Date is a property in each P6 Summary Sheet. The system updates the Date each time data is integrated into Unifier from P6. Unifier calculates the Progress Amount each time the master P6 Summary Sheet data is updated, via P6, and Unifier maintains a Progress Spread by data date.
	Note: The following applies when the Shell Schedule Type = Resource Loaded or Cost Loaded.
	In addition to % columns from Cost Sheet, the Spread drop-down lists all P6 Summary Sheets.
Spread	**Note**: The following applies when the Shell Schedule Type = Resource Loaded or Cost Loaded.
	Select the Cost (Cost Spread) that you want to use to draw the BCWP curve.
	Use the Spread drop-down list to select the Cost spread that must be used to draw the BCWP curve.
	By default, this drop-down list is disabled (greyed out), but if you select a P6 Summary Sheet from the Progress drop-down list, then the Spread drop-down list is enabled and Required. (Dataset: Actual Cost)

BCWP: Source = Schedule Manager

If you choose BCWP (Budgeted Cost of Work Performed) as the Type, and your Source is Schedule Manager Sheet, then you define BCWP based on progress (activity and resource) captured in a schedule sheet.

In this field	Do this
Name	Name must be unique
Description	Enter an optional description
Type	Type is **BCWP**

Progress	There is one option: **Activity and Resource Progress**.

ACWP: Source = Cost Sheet   or Schedule Manager

If you choose ACWP as the Type, the setup is the same when the Source is Cost Sheet or the Schedule Manager Sheet. You can define ACWP based on Cash Flow Curve or Cost Sheet Column.

The ACWP curve is drawn to scale per data from selected Cash Flow curve.

In this field	Do this
Name	Name must be unique
Description	Enter an optional description

Type	Type is **ACWP**
Source	Choose one of the following: *Cash Flow and Curve* The drop-down list displays all 'Actual' or 'Custom' type curves within the selected family, in the Project or Shell, that have the same granularity as defined for the current EV sheet. *Cost Sheet Column* The drop-down list displays cost sheet columns that have actual cost data derived from cost business processes, including formula columns that include business records in the formula. *Cut-off Date* You can also specify a cut-off date, which will be used to filter data retrieved from the column selected.

Custom

See the next section, **Creating Custom EV Curves** for details.

EAC: Source = Cost Sheet

EAC (Estimate at Completion) is available when the source is Cost Sheet.

When you import schedule activities from an external source, such as Primavera P6, Unifier needs to determine the spread for the EAC curve. By selecting Import Distribution data (from external source in the Default Budget and Progress Method Setup window, Activity Budget Distribution Profile block), Unifier will use a linear distribution profile to generate the EAC curve.

The EAC curve is drawn to scale per data from selected Cash Flow curve.

Note: You can use At Completion data from P6 Summary sheets to draw EAC curves.

In this field	Do this
Name	Determine the name of the curve. Name must be unique.
Description	Enter an optional description
Type	Type is **EAC**
EAC	*Schedule Type = Duration Based* Lists all Cash Flow family curves from the Shell where the EAC curve has been created. *Schedule Type = Resource Loaded or Cost Loaded* Select the source for the EAC curve. A list of all P6 Summary Sheets included in the Project or Shell is displayed.

In this field	Do this
Curve	Enabled once you select a Cash Flow family curve from the EAC drop-down list. The Dataset includes Forecast or Custom type curves from the select family curves.
Spread	Select the Cost (Cost Spread) that you want to use to draw the EAC curve, per timescale on the curve (month, year, quarter, and week).

EAC: Source = Schedule Manager

EAC (Estimate at Completion) is available when the source is Schedule Manager.

When you import schedule activities from an external source, such as Primavera P6, Unifier needs to determine the spread for the EAC curve. By selecting Import Distribution data (from external source in the Default Budget and Progress Method Setup window, Activity Budget Distribution Profile block), Unifier will use a linear distribution profile to generate the EAC curve.

If you choose EAC as the Type, and your Source is Schedule Manager Sheet, then you define EAC based on a start and end point..

The EAC curve is drawn to scale per data from selected Cash Flow curve.

Note: You can use At Completion data from P6 Summary sheets to draw EAC curves.

In this field	Do this
Name	Determine the name of the curve. Name must be unique.
Description	Enter an optional description
Type	Type is **EAC**

In this field	Do this
Start Point	Choose the following options from the schedule manager activity attribute form: Cost (Required): Choose a Schedule Manager data element that has been associated with the starting cost of the forecast. Schedule: Choose a Schedule Manager data element with the start date that is associated with your forecast information (e.g., Forecast Start Date). This date will be used in the calculation if the activity has not yet started. Once the activity starts, the calculation will default to the "progress as of date" if provided, or it will default to the actual start date..
End Point	Choose the following (from the schedule manager activity attribute form): Cost: Choose a Schedule Manager data element that can provide estimated completion cost value. Schedule: Choose a Schedule Manager data element with the finish date element from the schedule manager that is associated with your forecast information (e.g., Forecast Finish Date).

Creating Custom EV Curves

You can create custom curves to generate other earned value calculations such as forecast or EAC. You must create a BCWS (Budgeted Cost of Work Scheduled) entry before you can create a custom curve. This is applicable when the source is either Cost Sheet or Schedule Manager.

This following sections describe:

- Custom Curves (Source = Schedule Manager)
- Custom Curves: Source Details

Follow the procedure *Defining EV Settings* (on page 332) as the Type.

Custom Curves (Source = Cost Sheet or Schedule Manager)

Use the information in the following table to complete the fields for Custom Curves:

In this field	Do this
Name	**Name** must be unique
Description	Enter an optional description
Type	**Type** is Custom
Curve Properties	This determines the shape of the curve that will be generated. Choose one of following options: ▸ **S-Curve**: The system will generate the curve based on **Curve Shape (sigma)** and **Center Location (mu)**. The system will generate data points (intermediate points) for the curve. ▸ **Linear**: This generates a straight line curve. The system generates data points for the curve. ▸ **Manual entry intermediate points**: This generates a curve based on data you enter, distributed over the time period range of the curve.
Start Point	This determines the start point of the curve. You define the starting value (Data), and when the curve should start (Schedule). **Data**: Choose an option: ▸ **Zero**: curve starts at zero. ▸ **Begin calculations at end of actual cost of work performed** **Schedule:** Choose an option: ▸ **Manual Start Date**: You can choose a start date for the curve in the Source Details window ▸ **Schedule Manager Start Date**: Click the pull-down. This lists the date-type data elements that are on the Activity Attribute form. Choose which to use as the curve start date.
End Point	This determines of the end point of the curve. You define the end value (Data) and when the curve should end (Schedule). **Data**: Choose an option: ▸ **Manual**: Allows you to enter cost data in the Source Details window. ▸ **Cost Sheet Column**: Click the drop-down list. This lists all columns defined on the cost sheet. The values that are in that cost sheet column will display in Cost column on the Source Details window. **Schedule**: Choose an option: ▸ **Manual Finish Date**: You can choose a finish date for the

	curve in the Source Details window.
	▸ **Schedule Manager Finish Date**: Click the pull-down. This lists the date-type data elements that are on the Activity Attribute form. Choose which to use as the curve end date.
Source Details	This allows you to enter any manual information required to generate the curve.
	Click **Details**. The Source Details window opens. The Source Details window is based on the other options selected in the Properties window.
	See the following section for more information about the Source Details.

Custom Curves: Source Details

Data displayed on the window is based on several options chosen during setup of the sheet:

▸ The source chosen on the General tab (Cost Sheet or Schedule Sheet)

Cost Sheet: All CBS Codes on the Cost Sheet are listed.

Schedule Manager: Depending on which schedule sheets are selected for BCWS calculation, and whether any schedule sheet is linked to a work package, the CBS codes may be filtered by the CBS codes on the work package.

▸ The budget option selected for BCWS entry.

▸ Options selected on the custom entry.

Fields on this sheet may be editable depending on the options you chose in the Properties window.

> **Note**: When you click **Details**, on the Properties window, the system saves the curve even if you click **Cancel** to exit the Properties window.
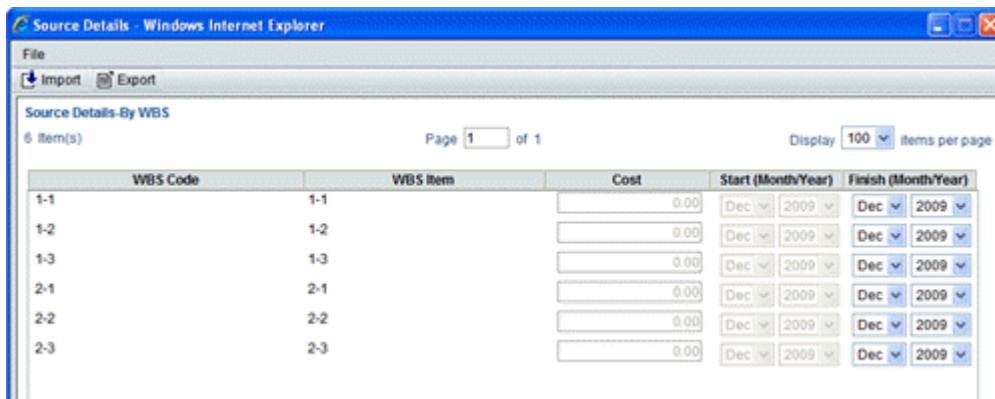
Column	Description
CBS Code	All CBS codes on the project/shell cost sheet are displayed, with one exception:
	If the schedule sheet(s) in the BCWS entry are associated with

	work packages, rather than the cost sheet, then only those CBS codes within those work packages will be displayed here.
	If at least one schedule sheet in the BCWS entry is associated with the cost sheet, then this window displays all cost sheet CBS codes.
CBS Item	The item, as defined on the cost sheet, displays for each code.
Cost	The details presented in this column depends on what you select in the Properties window for End Point, on the Custom Curves Details window: **Data** ▸ If you chose Manual, then you can enter cost data manually here. You can also import this cost data (see the following procedure). You can later distribute this amount across the Custom Curve worksheet. ▸ If you chose a Cost Sheet Column, then the data that is in the column for each CBS code will display here. **Cost Sheet** The data that is in the column for each CBS code displays here. **Schedule** Each activity on the schedule sheet can be associated with one or more CBS codes, and distributed based on % entered there.
Start	The details presented in this column depends on what you select in the Properties window for Start Point, on the Custom Curves Details window: ▸ If you chose Zero (Data), and Manual Start Date (Schedule), then you can enter date manually. ▸ If you chose Zero (Data), and selected a Schedule Manager start date (Schedule), then the column displays the earliest date across all activities for that CBS code. ▸ If you chose begin calculation at end of ACWP, then the date is automatically calculated based on ACWP end period.
Finish	The details presented in this column depends on what you select in the Properties window for the End Point Schedule, on the Custom Curves Details window: ▸ If you chose Manual finish date, then you can manually enter a finish date for the custom curve. ▸ If you chose Schedule Manager finish date, this date is taken from the schedule sheet finish date you chose in the Properties window.

To enter data in the Source Details window:

1) Open the custom curve Source Details window:

For the earned value sheet, open the EV Properties window, Settings tab. Select a custom curve and click **Modify**, or create a new custom curve. In the custom curve Properties window, click the **Details** button.

2) Depending on the options defined in the custom curve Properties window, the **Cost**, **Start** and/or **Finish Date** fields may be editable across the CBS codes. Add this information as needed.

   ‣ Start is the starting date of the curve.

   ‣ End is the end date of the curve.

   ‣ If you enter a value in the Cost column, the value automatically appears in the last column of the incremental view of the worksheet for the custom curve. You can then open the worksheet and distribute this cost amount across the other columns (and the other time periods) in the worksheet. (See *View and work with worksheets* (on page 321).)

To import cost data into the Source Details window:

1) Open the custom curve Source Details window:

   For the earned value sheet, open the Properties window, Settings tab. Select a custom curve and click **Modify**, or create a new custom curve. In the custom curve Properties window, click the **Details** button.

2) Click the **Export** button and download the CSV file. Save the file to your local drive or open the file directly.

3) Enter the cost or date information in editable **Start**, **End** and/or **Cost** fields as applicable, depending on the entry settings you specified in the custom curve Properties window.

4) Save the CSV file.

5) In the Source Details window, click **Import**, and import the CSV file.

Modifying EV Sheet Properties

You can modify most of the Properties information on existing EV sheets, including adding additional curves, entering source detail information, changing the sheet name, etc.

> **Note**: Source and Time Scale, as defined on the EV Properties window (General tab) cannot be modified on an EV sheet.

To modify EV sheet properties:

1) Open a project or shell and click **Cost Manager** > **Earned Value** in the left Navigator.

2) In the log, select a sheet and click **Properties** on the toolbar.

   ‣ Click **General** tab to change general properties information.

   ‣ Click **Settings** tab, then select a curve and click **Modify** to modify the settings for the curve.

> **Note**: If you rename a custom curve (in the Settings tab), the new name may not be reflected in the graphical display. The graph displays the curve names as they appear in the sheet as column names. If you

rename a custom curve, be sure to rename the corresponding column name on the sheet (you may need to add the curve as a column in order for the new name to be reflected on the graph).

Deleting EV Sheet

You can delete any earned value sheet.

To delete an earned value sheet

1) Open the project or shell and click **Cost Manager** > **Earned Value** in the left Navigator.
2) In the log, select a sheet and click **Delete** on the toolbar.
3) Click **Yes** to confirm.

Setting Permissions on EV Sheet

After creating an earned value sheet, you can determine which other project or shell team members can access it. These sheet level permissions can be assigned by the creator or a user with Full Access permission in the Earned Value module.

Sheet level permissions are setup on each earned value sheet in User Mode.

To assign permissions to an earned value sheet

1) Select a sheet in the Earned Value log.
2) Click **Permission**.
3) Add users or groups and assign permissions:
   ▸ **Modify Permissions**: Allows the user to modify the permissions of the earned value sheet. Selecting this permission will select all permissions below.
   ▸ **Edit Data**: Allows the user to edit earned value data, properties and columns.
   ▸ **View**: User can view earned value data and curves.
4) Click **OK**.

About Schedule of Values (SOV)

When a Base Commits Business Process (BP) is approved, it creates a Schedule of Values (SOV) sheet. The SOV sheet is the "working document" on which committed amount are entered. The committed monies shown on the SOV sheet are rolled up to the Company Cost Sheet.

> **Note**: The Change Commit BPs continue to change or add costs to the SOV during the life of the Project/Shell.

Unifier Schedule of Values (SOV) functionality provides a way to assemble information from contract, change order, and invoice/payment BPs into a SOV sheet, streamlining the process of invoicing for completed phases of a Project/Shell.

SOV functionality is available for Cost type BPs in which the "Allow creation of Schedule of Values" option is defined, or selected, in the design properties. The BPs can be designed to create an SOV sheet automatically upon reaching the designated step.

You may define one SOV sheet per Commit BP, for example, a Purchase Order or a Contract. Rows are automatically populated based on the CBS/Cost/Accounts codes defined in the Commit BP.

Similar to the Cost Sheet, you can create SOV sheet views for better view of data. From the SOV sheet log (User mode > **Cost Manager** > **Schedule of Values** > **General Spends)**, you can open:

▸ BP records
▸ Base Commits BP records

When you double-click the SOV Sheet of a Base Commits BP record, a window opens that enable you to see the SOV of the Base Commits BP record.

In the **Schedule of Values: General Spends** window, when you select a **SOV Base Record**, you can click the *gear menu* (⚙) and perform one of the following:

▸ Open a record (**Open**)

　 You can also open a record by clicking the record number link in the **Properties** tab (right-hand pane of the log window).

▸ Set permissions for a record (**Permissions**)
▸ Open a SOV Base Record in Standard View (**Open Base Record**)
▸ Open a record in Classic View (**Open Classic Interface**)

When you open an SOV Base Record, the **Lineitem Type** column includes an active data element link, which enables you to access the line item and edit the data.

When you open an SOV Base Record, the following tabs are displayed on the right-pane:

▸ **General**
▸ **Breakdown**
▸ **Attachments**

　 In classic view, you could add attachments, but in the standard view this option is not supported.

▸ **Notes**
▸ **Fund Assignment Order**

The contents of this tabs are read-only, and the View Transactions is similar to Cost Sheet.

Types of SOV Sheets

The following lists the types of Schedule of Values (SOV) sheets:

▸ General Spends
▸ Payment Applications
▸ Summary Payment Applications

General Spends

Use the General Spends SOV type for any Commit Business Process and associated Change Commits and Spends/Invoices.

Payment Applications

Use the Payment Applications SOV type:

▸ In association with Commit and Spends Business Processes that are designed for payment applications. This allows direct entry of values in an SOV sheet, which are automatically added to a payment application.

▸ For invoicing at the CBS or breakdown level. Payment Applications auto-populate data to and from the SOV to manage balance-forward formulas. The breakdown is similar to the General Spends SOV sheet.

> **Note**: The General Spends and Payment Applications SOV types can show CBS information either by grouping CBS codes (CBS mode) or as individual line items from commits (base commit and change commit together). The information that the SOV displays is dependent upon the design of the base commit.

Summary Payment Applications

The Summary Payment Applications SOV allows users to allocate cost to line items based on the line item type (Lump Sum or Unit Cost).

Use the Summary Payment Applications SOV type in association with Commit and Spends Business Processes (BPs) that are designed for Summary payment applications SOV type.

> **Note**: The Summary Payment Applications sub-node will be available under the Schedule of Values node only if a Base Commits, or Change Commits, of SOV type Summary Payment Applications is deployed in uDesigner.

Creating an SOV Structure

The SOV structure is defined at the Project level (User Mode). Any modifications applied to an SOV structure will be reflected on all SOV sheets using that structure, that is, all SOV sheets used in a Project. If an SOV structure does not exist when you auto-create an SOV sheet with a Cost type Business Process (BP), one will be created automatically with the default columns CBS Code, CBS Item, and Breakdown. You can edit this structure as needed. The default columns are not editable.

This section explains how to create, view, add columns to, and edit an SOV sheet structure.

Follow these steps to create an SOV sheet structure:

1) Open the Project/Shell, switch to **User** mode, and click **Cost Manager** > **Schedule of Values** in the left Navigator.

2) In the Navigator, click one of these options: **General Spends**, **Payment Applications**, or **Summary Payment Applications** to open the Schedule of Values log.

   If SOV sheets related to your options are already present, then a structure already exists and you can click **Update Structure** to update the existing structure.

3) Click the **Create Structure** button. The Select Template window opens.

4) Select an SOV template from the list and click **OK**.

5) Read the confirmation message and click **Yes** to confirm. The SOV sheets will be created using the structure defined by the template. You can use this structure as is or make edits as necessary.

Follow these steps to view, or to set up, the SOV structure:

1) From the Schedule of Values log, click the **Update Structure** button the toolbar to open the SOV Structure window and view the contents and information that is listed under each column.

2) Click the **Columns** button to begin the process of adding additional columns.

3) In the Columns log window, click **New** to open the Column Properties window.

4) Enter a name for the column in the **Name** field..

5) Select a data source from the **Datasource** drop-down list.

6) Select a Display Mode to determine whether the new column should appear on the SOV sheet or not.

7) Select a position for the new column from the **Column Position After** field.

8) Click **OK**.

> **Notes**:
>
> - While setting up the SOV structure, you may click the **Split** button to divide the window in half. This allows you to scroll through columns and rows on the right while maintaining a view of the activity column on the left. Clicking the **Split** button again restores the whole window. While the window is split, you may click the **Freeze** button to lock the left half of the window in place. Click **Freeze** again to unfreeze.
>
> - The structure may contain hidden columns. For example, one or more columns used in the formulas for other columns where the information in the hidden columns is not important to be viewed may have been hidden, leaving more room in the display for the formula column. Hidden columns otherwise behave normally.

Follow these steps to edit an existing SOV structure:

1) From the Schedule of Values log, click **Update Structure** to open the SOV Structure window.

2) Click the **File** menu and choose **Properties** to open the Properties window.

3) Make edits as needed in both General and Options tabs and when finished, click **OK**.

> **Note**: You cannot edit read-only (grayed-out) fields.

Creating General Spends SOV Sheet

Typically, Commit Business Processes (BPs) such as Contracts and Purchase Orders, will be designed in uDesigner to automatically create an SOV sheet upon reaching a specified status. Occasionally, the Business Process (BP) may allow manual sheet creation.

When you create and send a Cost-type BP in a Project, Unifier automatically creates a Schedule of Values (SOV) sheet for that BP record. The General Spends SOV sheet column structure must include required columns and correct formulas for validating summary commitments (by Cost code) and remaining commits balance. You need to define a formula for remaining commits balance, which reflects the amount of commits minus actual spends. This is to ensure that the Spends BP line items are not overdrawn from SOV breakdowns.

Once the SOV template structure is set up for a General Spends SOV sheet, the rest of the SOV sheets are created based on the same structure.

> **Note:** If you manually create an SOV sheet, you can only create one based on an approved commit BP record.

Follow these steps to create a General Spends SOV sheet manually:

1) In the **Schedule of Values** log, click the **New** button. The **Select Commit** window opens.
2) Select a commit BP (e.g., a purchase order) and click **OK**. The SOV sheet is added to the log.

> **Note**: If the commit BP has been set up in uDesigner to automatically create an SOV sheet upon the end step, the above procedure is not required.

To view cell details, click a link (e.g., **Amount** or **Ref**) to open the Cell Detail window. Double-clicking on a record from the list window shows the details of the record.

Creating Payment Applications SOV Sheet

You can define the structure of a Payment Applications SOV sheet based on a Payment Application Business Process (BP) in the Project/Shell.

The Payment Applications SOV type:

▶ Allows tracking of payment schedule against your commits similar to industry-standard forms.
▶ Allows you to create a breakdown for line items.

The Payment Applications SOV sheet column structure uses Data Elements (DEs) from the Detail form. Once the SOV template structure is set up for a Payment Applications SOV sheet, the rest of the SOV sheets are created based on the same structure.

Follow these steps to create a Payment Applications SOV sheet, manually:

1) Open the Project/Shell, switch to **User** mode, and click **Cost Manager** > **Schedule of Values** in the left Navigator.
2) Select **Payment Applications**.

3) Click the **New** button to open the Select Commit window.

4) Select a Commit BP such as a Purchase Order and click **OK**. The SOV sheet is added to the log.

> **Note**: If a BP has been set up in uDesigner to automatically create a Payment Applications SOV sheet upon the end step, the above procedure is not required.

From the right-hand pane, **Schedule of Values: Payment Applications** window, you have the option to click the record number and open the base record. The gear icon, for each SOV Base Record, enables you to:

▸ **Open**

   Open a record.

▸ **Permissions**

   Set permissions to a record.

▸ **Open Base Record**

   Open the base record.

▸ **Open Classic Interface**

   Open the base record in Classic View.

In the **Schedules of Values** window of a base record, the **Ref** column displays information when you select an SOV line item type as individual Commit Lines. The **Ref** column is not displayed when you select an SOV line item type as Group by Commit Codes.

The right-hand pane tabs of the CBS Code, when you click a CBS Code, are:

▸ **General** tab

▸ **Breakdown** tab

   You can add breakdown for each row in the right-hand pane, under the **Breakdown** tab.

▸ **Attachments** tab

   The added attachments will be shown in a grid similar to cost sheet. You cannot not add attachments in this tab.

▸ **Notes** tab

   The CBS notes added in the cost sheet will be displayed here. You cannot add notes in this tab.

In the **Schedules of Values** window of a base record, the **Schedule Value** lists a series of values, when you click on a value, the following tabs are displayed on the right-hand pane:

▸ **Line Items** tab

   The tab displays all of the transactions in the cell.

▸ **Cell Details** tab

▸ **Attachments** tab

▸ **Notes** tab

You can reorder rows by drag and drop in the sheet, similar to General Spends SOV.

Creating Summary Payment Applications SOV Sheet Structure

The Summary Payment Applications SOV is associated with the Base Commits, Change Commits, and Payment Applications Business Processes of Summary Application type.

You can access the Summary Payment Applications node based on your permission, which is set in Access Control.

The log window (Schedule of Values: Summary Payment Application for <BP name>) is similar to the Payment Applications log window, except the title. The log window displays multiple application type.

In the log, you can create or update the structure of a Summary Payment Applications SOV sheet, related to a Base Commits Business Process of SOV Type = Summary Payment Applications. You also add items to, or remove items from, the columns and modify the SOV structure.

The following is a list of default structure within a column

- Ref.
- Cost Code [CBS Code/bitemID]
- Code Name
- Cost Line item Type [uuu_cost_li_type (Label comes from DE label of uuu_cost_li_type]
- Description

> **Note**: Different Summary Payment Applications might have different columns, but the default structure will always be the same.

You can modify the following default column names:

- Ref.
- Cost Line Item Type
- Description

To modify the default column names, use the Options tab of the SOV Structure Properties window.

> **Note**: The Cost Code [CBS Code/bitemID] and Item labels will be based on the Cost Sheet and are disabled.

If you auto-populate the Payment Application with the Line Item fields from the Base Commits (done in Options tab of the Base Commits in uDesigner), then these fields are available to be added as columns in the SOV.

> **Note**: If there are any picker fields that refer to other sources, such fields cannot be added as a column. The drop-down list of the Auto-populate on Payment Application field includes the datasources.

Adding columns is similar to adding columns for Payment Applications SOV (including all Data elements from Payment Applications BP, and additional sources such as Scheduled Value, Commits Remaining Balance, etc.).

Additional system fields introduced in the Detail form of the Payment Application BP should be available to be added as columns.

> **Note**: Summary and Detail line items are displayed for the logical source that you have added to the SOV sheet, for example, Commits Remaining Balance.

From the right-hand pane, **Schedule of Values: Summary Payment Applications** for <BP NAME> window, you have the option to click the record number and open the base record. The gear icon, for each SOV Base Record, enables you to:

▶ **Open**

Open a record.

▶ **Permissions**

Set permissions to a record.

▶ **Open Base Record**

Open the base record.

▶ **Open Classic Interface**

Open the base record in Classic View.

When you open a record, in the **Schedules of Values: Summary Payment Application** window of a base record (, the following toolbar options are available:

▶ **Refresh**
▶ **Print**
▶ **Find on Page**
▶ Menu drop-down option (three-horizontal lines icon)

This option enables you to export or access the record properties.

Use Expand-Collapse option (the plus or minus icon) to adjust the list view.

When you open a record, in the **Schedules of Values: Summary Payment Application** window of a base record (Payment Application BPs of Summary Payment Application SOV type), the **Ref** column displays information when you select an SOV line item type as individual Commit Lines. The **Ref** column is not displayed when you select an SOV line item type as Group by Commit Codes.

The right-hand pane tabs of the CBS Code, when you click a CBS Code, are:

▶ **General** tab
▶ **Attachments** tab

The added attachments will be shown in a grid similar to cost sheet. You cannot not add attachments in this tab.

▶ **Notes** tab

The CBS notes added in the cost sheet will be displayed here. You cannot add notes in this tab.

In the **Schedules of Values** window of a base record, the **Schedule Value** lists a series of values, when you click on a value, the following tabs are displayed on the right-hand pane:

‣ **Line Items** tab

> The tab displays all of the transactions in the cell.

‣ **Cell Details** tab
‣ **Attachments** tab
‣ **Notes** tab

You can reorder rows by drag and drop in the sheet, similar to General Spends SOV.

Granting Permissions to Other Users

The creator of a Commit BP becomes the owner of the associated SOV sheet and can grant permission to other users to view or modify the SOV sheet.

Follow these steps to grant permissions to other users or groups:

1) Open the SOV sheet from the **Schedule of Values** log (**Cost Manager** > **User** mode > **Schedule of Values**).

   The SOV sheet displays a structure with fields that are populated by the values in the commit BP.

2) The Schedule of Values log (right-hand pane) displays the available records. From the toolbar, click to select a record and click **Permission**.

3) From User/Group Name block, select users or groups.

4) From Permissions block, select the permissions that you want to grant (**Modify Permission** or **Edit**, or both).

5) Click **Apply** and then click **OK**.

Granting Permissions to Other Users (Standard View)

The SOV sheets can be seen for project-level or shell-level Commit BPs, only. The following applies to the project-level or shell-level SOV sheets.

The creator of a Commit BP becomes the owner of the associated SOV sheet and can grant permission to other users to view or modify the SOV sheet.

Follow these steps to grant permissions to users or groups, other than the sheet owner:

1) Open the **Schedule of Values** log (**Cost Manager** > **User** mode > **Schedule of Values** > for example: **General Spends**).

2) In the **General Spends** log click the **Actions** toolbar option and click **Permissions**.

Project or Shell Level SOV Sheets (Standard View)

The following details apply to logs of all the following types of the SOV Sheets:

‣ General Spends
‣ Payment Applications
‣ Summary Payment Applications

When you open the SOV sheet from the **Schedule of Values** log (**Cost Manager** > **User** mode > **Schedule of Values** > for example: **General Spends**), you will see:

- ▶ Toolbar options
- ▶ Grid
- ▶ Right-hand pane

The following explains the toolbar options. The explanations for the grid and the right-hand pane will follow.

Create	
	Note: This option is available in toolbar of the General Spends type and the Payment Application type SOV logs, only. This option is not available for the Summary Payment Application type SOV log.
	Enables you to create an SOV. This option is available only if:
	▶ You have permission to create an SOV.
	▶ There are Commits BP records (without a created SOV) in Terminal step.
	When you click **Create**, the **Commits** window opens that lists all of the Commit BPs for which an Schedule of Value (SOV) has not been created, yet. Use the **Find on Page** option to search for a particular Commits BP record. The column headers are according to the Commits BP log column headers in uDesigner.
	Once you select a Commits BP record from the list, Unifier creates the SOV for the selected record.

Create Structure	You will see this option on the toolbar if: ▶ You have permission to edit the SOV structure. ▶ The SOV structure has not been created, yet. The **Create Structure** option in the *General Spends* type SOV sheets: ▶ When an SOV sheet has not been created, and there are no General Spends SOV templates defined at the company-level (**Company Workspace** > **Templates**), then when you click this option Unifier displays this message, "No General Spends SOV Template exists." ▶ When an SOV sheet has not been created, and there is one, or more, General Spends SOV templates defined at the company-level (**Company Workspace** > **Templates**), then when you click this option you will see a list of templates that have been defined at the company-level (**Company Workspace** > **Templates**). When you select a template from this list, Unifier displays this message, "You may create only one SOV structure per project. Do you want to continue?" If you select Yes, then Unifier creates a default SOV structure and displays this message, "Structure created successfully." The **Create Structure** option in the *Payment Applications* or *Summary Payment Applications* type SOV sheets: When you click **Create Structure**, the **SOV Structure** window opens. See "**Update Structure**" for the details on the **SOV Structure** window.

Update Structure	You will see this option on the toolbar if you have permission to edit the SOV structure when an SOV structure has been created. When you click this option, the **SOV Structure** window opens. The following elements are accessible in this window:
	
	▶ **Add Column** (the plus symbol icon): When you click this option, the **New Column** window opens which enables you to set the column properties. You can edit fields that are allowed, only.
	
	▶ **SOV Structure Properties** (the grid and plus symbol icon): When you click this option, an overlay window (**SOV Properties**) opens which contains the following blocks:
	
	  ▶ **General**: Displays the Name and Description fields.
	
	  ▶ **Labels**: displays all the fields in the Classic View of of the **Options** tab (**Update Structure** > **File** > **Properties** window).
	
	▶ **Find On Page**
	
	▶ **Name** column
	
	▶ **Data Source** column
	
	▶ **Data Format** column
	
	▶ **Visible** column
	
	For each SOV structure that is listed you have the following options:
	
	▶ Delete
	
	▶ Menu (the three horizontal bar icon): Enables you to open the **Permissions** window (similar to Non-Workflow BP or Cost Sheet log). You can use this window to grant or edit permissions to user or groups. All permission fields are read-only.

Actions	To access the **Permissions** window.
Refresh	To update the list on the screen.
Print	To print the items on the log.
Search	To search for a SOV structure.
Find on Page	To find an item on the page.

When you open the SOV sheet from the **Schedule of Values** log (**Cost Manager** > **User** mode > **Schedule of Values** > for example: **General Spends**), you will also see the grid and the right-hand pane.

The gird displays the columns shown in the *General Spends* SOV sheet log (Classic View).

The right-hand pane displays details related to a record and if there are no details, the following message, "You do not have any details for this view." is displayed on the screen.

Managing SOV Structure, Templates, and Sheets

The following topics apply to all SOV sheets. This section explains the following:

- ▶ Editing SOV sheet
- ▶ Editing SOV columns
- ▶ Deleting SOV sheet
- ▶ Searching for SOV sheet
- ▶ Managing SOV sheet data
- ▶ Exporting SOV data
- ▶ Viewing and editing SOV sheet properties

Editing SOV sheet

1) Open the SOV sheet from the **Schedule of Values** log (**Cost Manager** > **User** mode > **Schedule of Values**). The SOV sheet displays a structure with fields that are populated by the values in the commit BP.

2) Open the Project/Shell, switch to **User** mode, and click **Cost Manager** > **Schedule of Values** in the left Navigator.

3) In the Navigator, click one of these options: **General Spends**, **Payment Applications**, or **Summary Payment Applications** to open the Schedule of Values log.

> **Note**: If SOV sheets related to your options are already present, then a structure already exists and you can click Update Structure to update the existing structure.

4) Click to select a record from the Schedule of Values log and click **Properties** from the toolbar to open the Properties window for the SOV sheet record that you want to edit.

5) Click the **Options** tab and proceed to edit the fields.

> **Note**: You can enter a custom label for the **Ref**, **Breakdown**, and **Description** fields. These are the labels that will appear as column names on the SOV sheet. You cannot modify CBS Code and CBS Item. These labels can be modified only on the cost sheet.

6) Click Close to close the Properties window.

7) Click **Apply** and then click **OK**.

Editing SOV columns

1) Open the SOV sheet from the **Schedule of Values** log (**Cost Manager** > **User** mode > **Schedule of Values**). The SOV sheet displays a structure with fields that are populated by the values in the commit BP.

2) Open the Project/Shell, switch to **User** mode, and click **Cost Manager** > **Schedule of Values** in the left Navigator.

3) In the Navigator, click one of these options: **General Spends**, **Payment Applications**, or **Summary Payment Applications** to open the Schedule of Values log.

4) Click to select a record from the Schedule of Values log and click **Update Structure** from the toolbar to open the SOV Structure window for the SOV sheet record that you want to edit.

> **Note**: If SOV sheets related to your options are already present, then a structure already exists and you can click Update Structure to update the existing structure.

5) Click **Columns** and click to select a column from the Columns Log window.
6) Click **Open** to open the Column Properties window and proceed to edit the fields.

> ▪ **Notes**:
> ▪ Some fields may not be editable. It may be necessary to delete the column and create a new one.
> ▪ Although it is possible to change the entry method for a column (for example, from line item content to direct entry into a cell) use caution when doing so if you have already entered values in the column cells. For example, if you change from line item entry to direct cell entry, the amount value shown in the cell will display correctly. Since this field is an editable field, if you edit this field, the direct entry amount and detailed line item information will be lost.

To move a column, from the Columns log, select a column to move, and then click **Move Up (Left)** or **Move Down (Right)**. The order that the columns appear in the log window is the order (from left to right) that they appear on the sheet.

To delete SOV columns:

1) Select a column from the Columns log and click **Open** to open the Column Properties window.
2) Click **Delete**. The column will be deleted.

> **Note**: If the column is being used in a formula in another column, you must remove the column from the formula before you can delete it. If the column contains a cell with line item data, you must first remove each line item before it can be deleted.

Deleting SOV sheet

Select the sheet from the log window and click **Delete**. If you delete an automatically created SOV sheet, you will have to recreate it manually.

> **Note**: You cannot delete an SOV for Payment Applications.

Searching for SOV sheet

You can search for SOV sheets by the SOV Base Record or SOV Description.

1) In the Schedule of Values log window, click **Find**.
2) In the Search by drop-down list, select **SOV Base Record** or **SOV Description**.
3) In the Search for field, enter the search criteria. Click the **Search** button. The log will display the records meeting the search criteria.

Managing SOV sheet data

SOV data is rolled up from Cost-type BPs that have been set up for SOV sheets. As a result, the SOV sheets cannot be edited.

Exporting SOV data

You can export SOV data to a local file system in a CSV format.

1) Select an SOV Base Record and open.
2) In the Schedule of Values window, click **File** > **Export** (or click Export from the toolbar).
3) Open the file and review it before saving.
4) Click **Save** and specify the location in which to save the CSV file.

Viewing and editing SOV sheet properties

To open the SOV Properties window, from the SOV log, select an SOV sheet and click the **Properties** button. The Properties window opens. Click the tabs to view properties information.

To edit SOV sheet properties:

1) Click the **Update Structure** button on the toolbar.
2) Click **File > Properties**.
3) Click the **Options** tab to modify information.

   You can enter a custom label for the Ref, Breakdown, and Description fields. These are the labels that will appear as column names on the SOV sheet.

   > **Note**: You cannot modify the CBS Code and CBS Item labels here.
   > These labels can only be modified in the cost sheet.

Adding or Deleting CBS Breakdowns on an SOV Sheet

CBS breakdowns can be added to an SOV sheet. This enables each contract to have its own set of CBS breakdowns. These breakdowns can be added directly on the SOV sheet, or they can be imported from a CSV file. Breakdowns can be added to general spends or payment application SOVs.

   > **Note**: You cannot add a breakdown to an SOV if there is a pending
   > spends record against the row, or a pending change commit with a
   > negative line item (which may potentially reduce the Schedule Value
   > after routing).

To add a breakdown to an SOV line

1) Open the SOV sheet.
2) Click the **Rows** button. The Rows window opens.

3) Select an SOV line by clicking the checkbox. If you select an SOV line, the breakdown will be added to that line. If you select an existing breakdown, the new breakdown will be inserted directly below the existing breakdown.

4) Click the **Add Detail** button. The Details window opens.

5) Enter the **Breakdown**.

▸ This will appear on the SOV sheet in the **Breakdown** column.

▸ You can add an optional **Description**.

6) Click **OK**. The breakdown is added to the sheet.

7) Close the Rows window.

8) You may need to click the plus (+) by the checkbox on the Rows window and on the SOV sheet to expand rows and display the breakdowns.

To delete a breakdown row

1) Open the SOV sheet.

2) Click the **Rows** button. The Rows window opens.

3) Select one or more breakdown rows to delete.

4) Click the **Delete Detail** button. Click **Yes** to confirm.

Adding Breakdowns to SOV sheet by Importing

If you have multiple breakdowns to enter, you can do it in bulk through CSV file import. You can add as many breakdowns as you need to multiple CBS codes.

You can also optionally enter breakdown scheduled value amounts. In order to do this, there must be a column to the SOV sheet using the data source Scheduled Value. The amount you enter on the CSV file will appear in the Scheduled Value column.

> **Note**: By default, the Scheduled Value column will validate that the sum of all breakdowns added to an SOV line will not exceed the scheduled value for summary line. That is, if the scheduled value for a line is $1000 from the base commit record, and you add breakdowns, the amounts that you enter for the breakdown amounts for that line cannot add up to more than $1000. (It can, however, add up to less than $1000.)

To add breakdowns by importing a CSV sheet

1) Open the SOV sheet.

2) Click the **Rows** button. The Rows window opens.

3) Click the **Export** button and choose **Breakdowns**.

4) Save the CSV file. This provides the structure for the import file.

5) Add the breakdown rows to the CSV file.

   a. Open the CSV file.

   b. Insert a line under the CBS code to which you are adding the breakdown.

   c. Add the breakdown name in the **Breakdown** column. You can enter an amount in the **Scheduled Value** column. Do not add any additional information in the new row.

    d. Add additional breakdown rows as needed.

    e. Save the file.

6) On the SOV sheet, click the **Import** button.

7) Browse to the CSV file and click **OK**. The breakdowns and amounts will be added to the sheet. Any breakdowns in the CSV file that already exist on the sheet will be updated with the **Scheduled Value** amount on the CSV file.

If any errors occur, download and open the error file, and correct the CSV file before reimporting. Validations include:

▸ The sum of breakdown amounts cannot add up to more than the scheduled value amount of the summary CBS code line

▸ They cannot exceed Commits Remaining Balance, if used

▸ They cannot cause Commits Remaining Balance to fall below zero.

Working with a Generic Cost Manager

A "Generic Cost Manager" captures cost-related activities for a configurable shell. These include costs like:

▸ Rent

▸ Lease payments

▸ Landscape care

▸ Building maintenance and repair

▸ Remodel of building interiors

With this manager, you can capture and view cost transaction information based on a timescale, such as monthly, quarterly or yearly. Each configurable shell can have one Generic Cost Manager.

Most of the functionality for the Generic Cost Manager is the same as that for the standard Cost Manager. Rather than re-document all of the cost management sheet functionality that is common between the Generic Cost Manager and the standard Cost Manager, this section documents the differences between the managers, and tell you how to use that functionality in context of the task you will be performing.

> **Note**: The names of the Generic Cost Manager, the various shells and sub-shells, and the generic cost sheet you will work with are determined by the names defined in uDesigner. For documentation purposes, in these instructions, this manager is referred to as the Generic Cost Manager.

The Generic Cost Manager:

▸ Defines a code structure that can be used to capture cost-related activities for a configurable shell.

▸ Tracks and rolls up costs to upper management levels

▸ Enables interaction with cost data

    ▸ Operating budgets (monthly, quarterly, yearly)

▸ Projects with life cycles that span over extended time

▸ Costs covering the entire life cycle of the product/operation

▸ Transactions based on timescale

▸ Transactions in varying currencies

The following procedures discuss how to access and work with generic cost sheets. The generic cost sheet is created from a template. See ***Working with Configurable Manager Sheets (Standard View)*** (on page 48) for additional details.

Data Sources for Generic Cost Sheets

The Generic Cost Manager uses information in cost sheets that is manually entered, calculated, or comes from Generic Cost BPs. The difference between the Generic Cost Manager and the standard Cost Manager is that the data used in the Generic Cost Manager comes from shells and sub-shells, not from projects.

The Generic Cost Manager uses specific Cost BPs as a data source. These BPs have the type cost and the classification Line Items with Multiple Codes.

Opening Generic Cost Sheet

To open a generic cost sheet:

1) Go to your shell, User mode, and from the left Navigator click **Configurable Manager** node to expand.

2) Click **Generic Cost Manager** sub-node to open the **Generic Cost Manager** log. The log lists all of the generic cost sheets.

3) Click to select a generic cost sheet and click the *gear* (⚙) menu to open.

4) Click **Open** to open the generic cost sheet (**Generic Cost Manager** overlay window) log.

You can click **Open in Classic View** to see the details of the generic cost sheet in classic view. See the ***Opening Generic Cost Sheet (Classic View)*** (on page 364) for details.

You work with a generic cost sheet in the same way as a standard cost sheet, seen in standard projects and CBS shells. The difference is that the data in the generic cost sheet comes from generic shells and sub-shells. The first two columns are displayed by default. The view is fixed, and there is no split screen capability.

Opening Generic Cost Sheet (Classic View)

To open a generic cost sheet in classic view:

1) Go to your shell, User mode, and from the left Navigator click **Configurable Manager** node to expand.

2) Click **Generic Cost Manager** sub-node to open the **Generic Cost Manager** log. The log lists all of the generic cost sheets.

3) Click to select a generic cost sheet and click the *gear* (⚙) menu to open.

4) Click **Open in Classic View** to open the generic cost sheet (**Cost Manager** pop-up window) log in classic view. The pop-up window will display the generic cost sheet in *sub-shells*, only (when you click the **Open in Classic View** option).

You work with a generic cost sheet in the same way as a standard cost sheet, seen in standard projects and CBS shells. The difference is that the data in the generic cost sheet comes from generic shells and sub-shells. The first two columns are displayed by default. The view is fixed, and there is no split screen capability.

Opening Generic Cost Sheet (Structure)

To open a generic cost sheet structure:

1) Go to your shell, User mode, and from the left Navigator click **Configurable Manager** node to expand.

2) Click **Generic Cost Manager** sub-node to open the **Generic Cost Manager** log. The log lists all of the generic cost sheets.

3) Click to select a generic cost sheet and click the *gear* (⚙) menu to open.

4) Click **Open Structure** to open the generic cost sheet (**Cost Manager** pop-up window) log in classic view. The pop-up window will display the generic cost sheet *structure*, only (when you click the **Open Structure** option).

Viewing Data for Shells and Sub-shells in Generic Cost Sheet

The generic cost sheet displays transactional data by period and shell level. In the context of working with the generic cost sheet, you can filter the cost data you are viewing by shells or sub-shells. The generic cost sheet is accessed from the **Shell > Configurable Managers > Generic Cost Manager > Generic Cost Sheet** log. You can use the shell or sub-shell filter in combination with the timescale selector documented in the next section to create various views in your spreadsheet based on shell or sub-shell and time period.

See *Working with Configurable Manager Sheets (Standard View)* (on page 48) for additional details.

Viewing Data for Shells and Sub-shells in Generic Cost Sheet (Classic View)

The generic cost sheet displays transactional data by period and shell level. In the context of working with the generic cost sheet, you can filter the cost data you are viewing by shells or sub-shells. The generic cost sheet is accessed from the **Shell > Configurable Managers > Generic Cost Manager > Generic Cost Sheet** log. You can use the shell or sub-shell filter in combination with the timescale selector documented in the next section to create various views in your spreadsheet based on shell or sub-shell and time period.

To view generic cost sheet data by shell or sub-shell

1) Open the shell and click **Configurable Managers > Generic Cost Manager > Generic Cost Sheet** in the left Navigator. The Generic Cost Sheet log opens.
2) Open the Generic Cost Sheet you want to work with by double-clicking the cost sheet name or by selecting the cost sheet name in the log and then choosing **File > Open**.
3) In the View By selection list, choose one of the following:
    ▸ **Current Shell only:** Data from the current shell you have selected. Manual column data is editable in the Current Shell only view.
    ▸ **Current Shell and Subshells only:** Data from both the current shell and its sub-shells.
    ▸ **Subshells only:** Data from the sub-shells of the current shell.

In Generic Cost Sheet views, data is rolled up from the current shell and sub-shells. When data is rolled up from sub-shells, the generic cost sheet under a shell can roll up data from other shells that are created as sub-shells and their sub-shells. The Current Shell and sub-shells only and **Subshells only** views support this rollup. For example:

▸ North Region (shell)
    ▸ Property A (sub-shell)
        ▪ Building 101 (sub-shell)
        ▪ Building 102 (sub-shell)
    ▸ Property B
        ▪ Building 201
        ▪ Building 202

In this example, the North Region Generic Cost Sheet will have data from Property A, Property B, Building 101, Building 102, Building 201, and Building 202. Property A has data from Building 101 and Building 102. Property B has data from Building 201 and Building 202.

Also, data from a sub-shell to its parent shell can only roll up if the codes match. For example,

▸ North Region (Shell)
   ▸ Property A (1000–1001: $500)
      ▪ Building 101 (1000–1001: $500)
      ▪ Building 102 (1000–1002:$200)

In this example, Building 101 will roll up to Property A as the codes match (1000–1001). Building 102 will not roll up because the codes are different (1000–1002). Parent and child shell cost codes must match for roll up to occur. Timescale and column definition must also match across the shells and sub-shells.

Also, all sub-shells that will roll up must have the same currency as the parent shell. If all of the sub-shells and the current parent shell have the same currency, the data displays in that currency. If at least on sub-shell has a different currency, the data displays in the Base Currency. A confirmation message alerts you to this currency display.

While rolling up, only parent shell generic cost sheet codes should be considered. This is applicable under all views.

Change the timescale on a generic cost sheet

With the Generic Cost Manager, you can capture and view cost transaction information based on a timescale, such as quarterly or yearly. For example, you might be working with time-based transactions such as lease payments. In the context of working with the generic cost sheet, you can change the timescale on the cost data with which you are working. The generic cost sheet is accessed from the [*shell name*] > **Configurable Modules > Generic Cost Manager > Generic Cost Sheet log.** You can use the shell or sub-shell filter described in *Viewing Data for Shells and Sub-shells in Generic Cost Sheet (Classic View)* (on page 366) in combination with the timescale selector to create various views in your spreadsheet based on shell or sub-shell and time period.

To change the timescale on generic cost sheet data by shell or sub-shell

1) Open the shell and click **Configurable Managers > Generic Cost Manager > Generic Cost Sheet** in the left Navigator. The Generic Cost Sheet log opens.
2) Open the cost sheet you want to work with by double-clicking the cost sheet name, or by selecting the cost sheet name in the log and then choosing **File > Open**.
3) Click on the **Display Period** button. The Display Period window opens.
4) Select a date range (**Monthly**, **Quarterly**, or **Yearly**) and the time period to go with the range. The data for the timescale you select is displayed in the cost sheet. The default view is Monthly, and shows the current month. Data is always stored in months. Changing the timescale units updates the totals based on the period and the calendar year.

   Monthly view data is editable in the manual columns only, and in the Current Shell view only. Quarterly and Yearly views are read-only.

Modify shell and base exchange rates for manual data entry

Data entered manually (directly) on a generic cost sheet should have a rate associated with it. This is because any transaction that occurs under a shell will be calculated and stamped with two currency rates: the shell currency and Base Currency. The rate in this case will be the conversion rate between the shell currency and Base Currency (the Base Currency is the company currency).

When you modify the exchange rate the new rate takes effect for the currency month, and applies until you change it again. You can revert it to the rate stored in the shell properties. The modified exchange rate applies only to data you enter manually on the sheet. It does not affect data that is entered through business processes, which uses the exchange rate from shell properties.

To change the exchange rates on a Generic Cost Sheet for manual data entry

1) Open the shell and click **Configurable Managers > Generic Cost Manager > Generic Cost Sheet** in the left Navigator. The Generic Cost Sheet log opens.
2) Open the cost sheet you want to work with by double-clicking the cost sheet name, or by selecting the cost sheet name in the log and then choosing **File > Open**.
3) Choose **Edit > Exchange Rate**. The Exchange Rate for manual data entry window opens.
4) Choose the rate you want to change and enter the rate. Click **Refresh** to revert to the shell property exchange rate as needed. The original exchange rates were set up by the Company Administrator.
5) Click **OK**.

To view exchange rate history

1) Open the shell and click **Configurable Managers > Generic Cost Manager > Generic Cost Sheet** in the left Navigator.
2) From the **View** menu, **choose Exchange Rate History**.

To view the data in either the shell or Base Currency

1) Open the shell and click **Configurable Managers > Generic Cost Manager > Generic Cost Sheet** in the left Navigator.
2) Choose **View > Currency > Shell Currency** or the Base Currency to view the data in either of these currencies.

Export and import Generic Cost Sheet data

You can export the structure of a generic cost manager.

In the **Generic Cost Manager** log, click the sheet, click the gear icon menu, and select **Open Structure** to open the structure in a new window. From the toolbar options click **Export** and select **Cost Codes**. Browse to the CSV file to import, select it, and click **OK**.

You can export a generic cost sheet, only.

In the **Generic Cost Manager** log, click the sheet, click the gear icon menu, and select **Open** to open the **Generic Cost Manager** window that displays all of the columns. Click the **Menu Options** ☰ ▼ , click **Export**, and select one of the following options:

    a. **Summary Sheet**
    b. **Cost Codes**
    c. **Column Data**

Proceed with following the prompts.

> **Note**: If you open the CSV file, you will see that it contains notes regarding modifying the columns and data in the exported file for reimporting into a cost sheet. Follow the notes embedded in the CSV file for modifying columns and data in the exported file.

Import Generic Cost Sheet data

You can import the structure of a generic cost manager.

In the **Generic Cost Manager** log, click the sheet, click the gear icon menu, and select **Open Structure** to open the structure in a new window. From the toolbar options click **Import** and select **Cost Codes**. Browse to the CSV file to import, select it, and click **OK**.

Working with Generic Cost Business Processes

The Generic Cost Manager can use generic Cost BPs as data sources. These BPs are created in uDesigner. These generic Cost BPs work only with the Generic Cost Manager, and also only in the context of a shell. The possible Generic cost BP types are:

▶ **Generic**: Reference against company-level commit; enforce against company-level commit amount.
▶ **Transfer**: Transfer value from one code to another.
▶ **Base Commit**: Creates an entry in the Commitment Summary. Works in conjunction with change commit and general spends generic Cost BPs. Reference against company-level commit; enforce against company-level commit amount. Click the **Commitment Summary** button to access the Commitment Summary.
▶ **Change Commit**: Works in conjunction with base commit and general spends generic Cost BPs. Updates the Commitment Summary. Reference against company-level commit; enforce against company-level commit amount. Click the **Commitment Summary** button to access the Commitment Summary.
▶ **General Spends**: Works in conjunction with base commit and change commit generic Cost BPs. Updates the Commitment Summary. Click the **Commitment Summary** button to access the Commitment Summary.
▶ **Lease**: Works in a shell to manage lease payments and payment history.

View and edit the Commitment Summary

When a base commit record goes to Terminal status, it creates an entry in the Commitment Summary for the shell. When change commit and general spends records go to Terminal status, they update the associated base commit record in the Commitment Summary. If you have the appropriate permissions, you can view and edit the Commitment Summary.

To view and edit a Commitment Summary for a shell

1) Open the shell and click **Cost Manager > Commitment Summary** in the left Navigator.
2) In the Commitment Summary log, select the Commitment Summary and click **Open**.
3) Click **Create Structure** to add columns to the sheet.
4) To view or edit the sheet properties, choose **Edit > Properties**. In the General tab, enter a unique name and an optional description. In the Options tab, enter the following column names: **Ref**, **Cost Code**, **Code Name**, **Breakdown**, and **Description**.

   Depending on the design in uDesigner, some columns may not display in the Commitment Summary sheet.
5) Click **OK**.

Drill down from the Commitment Summary to related BPs

You can view BP information for the various entries in the Commitment Summary.

To drill down from the Commitment Summary to related BPs

1) Open the shell and click **Cost Manager** > **Commitment Summary** in the left Navigator.
2) In the Commitment Summary log, click the BP reference in the Commitment Summary. The Cell Detail window opens.
3) Click the **Close Window** button when you are done viewing the BP information.

P6, Cost Manager, and Cash Flow

You can copy the Cash Flow curve properties that exist in a Shell template to the Cash Flow curves that exist in instances if:

▶ The Shell template push is done
▶ The Shell template is used to create new instances

The system uses the P6 data source that was used in the Cash Flow template as the reference for attaining the Summary Sheet data information.

User mode > **Schedule Manager** > **P6 Summary Sheets**

For example, if the Type in your P6 Summary Sheets is Current Schedule, then in the Cash flow by CBS - Baseline window the Current Schedule was selected for the Use data from P6 Source field. That is to say, if you select data from P6 Source, along with the source and data type, then the Cash Flow template has the P6 data source as Current Schedule for your Shell template and a new Shell is created in Unifier. The system pushes the Shell template to the new Shell and the Cash Flow curves are generated.

When the P6 and Unifier are synced, the Shell has been integrated with P6 (i.e., the Type or P6 data source of the Summary Sheet is Current Schedule) and the Cash Flow data is calculated correctly. If the distribution option selected in the Cash Flow template is a valid option for Cost loaded Cash Flow curve, then the data in Cash Flow curve is calculated correctly.

If the properties in the Cash Flow curves are incorrect, then the curves display in red, in the Properties window. You must change the Distribution, or Schedule, option if the Cash Flow curve is opened based on the Schedule type.

If the Schedule type of the Shell is Cost- or Resource-based, then in:

▶ The Distribution section the "Use data from P6 Source" option is enabled.
▶ The Schedule section the "Use dates from P6 Source" option is disabled.

If the Schedule type of the Shell is Duration-based, then in:

▶ The Distribution section the "Use data from P6 Source" option is disabled.
▶ The Schedule section the "Use dates from P6 Source" option is enabled.

See the following sections (***Cash Flow Properties Settings: Curves tab (Classic View)*** (on page 179)) for additional information about P6 Data source:

▶ Baseline Curve
▶ Forecast Curve
▶ Actuals (Spends) Curve

Unifier Document Manager

The Document Manager provides a robust platform for maintaining a wide variety of files and documents, for example, drawings, spreadsheets, image files, specifications, and various Microsoft Office files. Files can be stored directly in the project or shell Documents node or organized into folders. You can also create shortcuts to commonly used files and folders. The system ensures that all members of your team are always working on the most current versions, and dramatically increases efficiencies by providing ready access to all documents from anywhere at any time.

The Document Manager is available at the project or shell level for project- or shell-specific documents, and at the company level for company-specific or cross-project or shell documents. At project/shell or company level, the Document Manager is integrated with business processes and the user-defined reports module. Files uploaded into the Document Manager are stored on the Unifier file server.

The Document Manager is integrated with business processes. This means that you can initiate a business process directly from the Document Manager and automatically attach files and folders to it. In addition, if designed to do so, any business process can automatically publish records, along with their comments and attachments, to the Document Manager. In effect, this produces a detailed audit trail of the business process. Depending on how your administrator set up the business process, it can be automatically published to the Document Manager at a specific step in a workflow, or whenever an email notification is sent regarding the status of the business process, or both.

At both the project or shell level and the company level, the Document Manager consists of two nodes:

▸ **Project or shell/Company Documents**: This is the root node where published documents (that is, documents that are ready to be used by team members) are stored and managed. (The node is labeled project or shell Documents at the project or shell level, and Company Documents at the company level.) You will typically work out of this node when working with your company or project or shell documents. All uploads, downloads, revisions, markups, etc., are performed within this node. Access to specific folders, documents, and shortcuts is independently controlled by permissions.

▸ **Unpublished Documents**: This is the temporary, automatic repository for files that have been uploaded from local machines and attached to business processes, but which have not yet been published in project or shell documents or company documents. Typically, access to this node is limited by permissions, and a designated document administrator will publish documents from this node into the project or shell or Company Documents nodes for use by team members.

> **Note**: By default, files attached to business processes are placed in the **Unpublished Documents** folder in the Document Manager. A Publish Path data element can be designed in business processes in uDesigner to specify the automatic publishing of documents to a specified path and override the default.

For information about language (internationalization) and CSV files refer to *Unifier General User Guide*.

In This Section

Before you Begin Working with Document Manager

Ensure that you have the following defined in your user preferences.

▸ **File Viewer option**: This option affects how files are opened and viewed within Unifier.
▸ **Additional software applications**: Use of the AutoVue viewer markup tool requires a license and Java installed. For translation-related information about Oracle Map, AutoVue Server, and Flex replacement (O charts). Refer to *Unifier General User Guide* for more information about internationalization.
▸ **Permission settings**: Like other modules within Unifier, access and use of the Document Manager is fully permission based, including for specific files and folders. Contact your project or shell or company administrator regarding general permission access to the Document Manager.

> **Note**: For security, the Company Administrators can specify the list and size of files that can be uploaded to the Company Properties page, by users and per company policy. Contact your Company Administrator for more information.

Downloading AutoVue Client Certificate

Before you can use AutoVue in Unifier, you must download the AutoVue Client certificate and place it in the browser certificate exception list. Follow these instructions for each user accessing Unifier AutoVue.

For more information refer to the "Setup for Java Web Start AutoVue Client in HTTPS Environments" page of the Oracle Support (**support.oracle.com** (***http://support.oracle.com/ \t _top***)), Knowledge tab.

Downloading on Windows

To download the localhost certificate:

1) In Unifier, select **Help** > **Download Plugins**.
2) From the **Download** page, select the download for the localhost certificate.
3) Double-click to open the **localhost.cer** file you just downloaded.
4) Click **Install Certificate...** to start the Certificate Import Wizard.
5) Select the store location (**Current User** or **Local Machine**) and click **Next**.
6) Select the option **Place all certificates in the following store** and click **Browse**.
7) Select the **Trusted Root Certification Authorities** store and click **OK**.
8) Click **Next** and click **Finish**. A dialog box opens warning you about the risk of installing this certificate.
9) Click **Yes** to accept installing this certificate.
10) After the install certificate has imported, click **OK**.

After installing the localhost certificate, you can use AutoVue client in Chrome. For Mozilla Firefox, perform these additional steps:

1) Open a new tab and type: **about:config**.
2) In the **Search** box,   type **security.enterprise_roots.enabled**.
3) Double click **security.enterprise_roots.enabled** to set the flag to **True**.

For more information on installing the certificate in Mozilla Firefox (and if your Firefox version is lower than version 49), refer to the mozilla wiki page (https://wiki.mozilla.org): Installing Certificates Into Firefox.

Downloading on Mac OS

To download the localhost certificate:

1) In Unifier, select **Help** > **Download Plugins**.
2) Double-click the downloaded **localhost.cer** file to add it to Keychain Access.
3) From the **Keychain Access** window, open the localhost certificate.

4) Expand the **Trust** node and set the value of the **Secure Dockets Layer (SSL)** field to **Always Trust**.

5) Close the Keychain Access window.

Launching AutoVue Web Start Client

Windows

▸ Using Mozilla Firefox

The AutoVue JNLP file is automatically downloaded and a confirmation message is displayed. Select the **Open with** radio button and click **OK**. To open AutoVue files automatically and bypass the confirmation message, select the **Do this automatically for files like this from now on** checkbox.

▸ Using Chrome

The AutoVue JNLP file is flagged as a dangerous file extension. Each time you open an AutoVue file, you must select the **Keep** option and open the downloaded file from the **Downloads** folder.

Mac OS

Modify Security Settings

1) Click the **Apple** menu and launch **System Preferences**.

2) Select **Security & Privacy**.

3) Click the **General** tab.

4) For the **Allow apps downloaded from** option, select **Anywhere**.

This option is available for Mac OS X El Capitan. For other Mac operating systems, refer to the pertinent installation guides.

5) Click **Allow From Anywhere** to confirm your selection.

Launching AutoVue Files

▸ Using Chrome

When an AutoVue file is opened a confirmation message is displayed. Select **Open** to open the file in AutoVue.

▸ Using Safari

Open **Preferences** and select the **Privacy** tab and check the **Always Allow** option under **Cookies and website data**. The AutoVue JNLP files are permanently saved on the disk, you can launch the file from the **Downloads** folder.

About Ownership and Permissions

Like other Unifier modules, access to the Document Manager features is based on permissions set at the module level in Administration mode. Each Document Manager node—project or shell Documents, Company Documents, and Unpublished Documents—have separate permissions. The **Unpublished Documents** node is controlled by module-level permissions in Administration Mode only.

In the project or shell and Company Documents nodes, access to specific folders, documents, and shortcuts is also independently controlled by permissions that can be set within the Document Manager.

> **Note**: Folder and document permissions are set at the folder level and can be changed independently or inherited by subfolders and documents. Unlike module-level permissions, permissions set at the folder level can differ from project or shell to project or shell.

The creator of a folder, document or shortcut is, by default, its owner, and has full access (privileges to view, manage, grant permissions, delete, transfer ownership, etc.). The owner must grant other users or groups permission to view and manage these documents, folders, or shortcuts. Otherwise, other users will not have access to them. (Exception: some administrators will have access permissions and will be able to view all items in the document manager.)

For this reason, it is also important to verify the permission settings for all files and folders that you upload, create, revise, check in, copy, or modify to make sure that it is accessible by the people who need them. For example, if one user creates folders, and then another user attempts to move documents among those folders, the move will not be permitted by the system unless that user attempting that move has specific permissions granted (in this case, Copy and Delete to achieve the document move).

For more information about permission settings, see *View, Add, or Modify Folder Permissions* (on page 404), *View or Modify Document Permissions* (on page 413), and Modify Shortcut permissions.

> **Note**: Document Manager email notifications as set in User Preferences are only sent if the user has at least view permission in the **Document Manager** node on the item triggering the email, and if the item owner enables email notification. If you make changes in the Document Manager root folder, to get email notifications regarding events in the root folder, you must have at least view permission because the root folder has no owner.

Using the Document Manager

In Primavera Unifier, the Document Manager maintains all the files and documents for a project. Each project includes its own Document Manager, and another Document Manager resides at the company level. The manager ensures that employees and project members are always using the most current versions of documents and makes accessing and distributing documents efficient. Documents are organized into a "folder" structure to categorize them and make them easily available, much like a filing cabinet.

The Document Manager is integrated with business processes. You can initiate a business process directly from the Document Manager and automatically attach files and folders to it.

The **Documents** node in the left Navigator is where all documents—such as drawings, spreadsheets, image files, Microsoft Office files—are stored and managed. Under this node, at the project level,   we have provided an extensive **Project Documents** node containing a folder structure to support an array of document types, such as Project Budgets and Schedules, Bids and Contracts, and Permits and Fees.   You can upload, download, revise, or mark up all documents from this node. The Documents node has check-in/check-out, document lock, and revision history features for version control.

The **Unpublished Documents** node is the temporary, automatic repository for files that have been uploaded from local machines and attached to business processes, but which have not yet been "published" to the Documents node. When you upload a file from a local machine and attach it to a business process, the document is automatically stored in the **Unpublished Documents** node with a link to the business process to which it belongs. The link to the business process allows the administrator to review where the document originated from. This way, the administrator can control the documents that are accessible in the Document Manager. For example, a subcontractor might submit a Request for Information (RFI) with attached documents requesting input from the architect. The attached documents can be traced to the original business process through the link, and the documents will become available in the unpublished node. The administrator can then review the documents, decide where to store them, and publish them to the **Documents** node; or the administrator can decide not to publish them at all.

Automatic Publishing of BP Records to the Document Manager

A business process can be designed to automatically publish its records, along with their comments and attachments, to the Document Manager in a folder the administrator specifies when the business process is set up. In effect, this produces a detailed audit trail of the record information through the business process (for both workflow and non-workflow processes). You can open these records and their information from the Document Manager.

Depending on how the administrator sets up the business process, the record information can be automatically published to the Document Manager when the business process reaches a specific step in a workflow, or whenever an email notification is sent regarding the status of the business process, or both. According to its setup, the business process will publish the record to a designated folder in the Document Manager. If you, as owner of the record, do not have permission for this folder, Unifier will send the record and its contents to the **Unpublished Documents** node in the manager. If the record already exists in the folder, Unifier will publish the record as a revision. If the folder's path in the business process record is invalid for any reason, the record will be sent to the **Unpublished Documents** node.

Note: On Creation Step of Workflow-type Business process, the record_no in `uuu_dm_record_info_path` is evaluated or replaced when it is used directly as part of formula.

> Example:
>
> Suppose 'uuu_dm_publish_path' and 'title' are defined as formula.
>
> => uuu_dm_publish_path = firstName + record_no + title
>
> => title = subject + record_no

uuu_dm_publish_path would be evaluated as 'firstName + record_no + subject' ('record_no' in data element 'title' is ignored)

Enabling Document Manager-Generated Email Notification

As with other modules within Unifier, there are events in Document Manager that can trigger email notifications to other team members. There are three conditions that must be met in order for a user to receive Document Manager emails:

▶ **Folder Properties, Options tab**:The owner or a user with modify properties permissions on a folder can select the **Send email notification to subscribed users** checkbox on the Options tab.

This option enables notifications to be generated in the first place for items in the folder. That is, select the checkbox to notify users whenever the folder properties are modified. If the checkbox is not selected, no emails will be generated for the folder (or subfolders either, unless the box is selected for subfolders).

Selecting or deselecting this checkbox will automatically apply to all subfolders automatically. This option will not override a user's email subscription selection in User Preferences.

▶ **Permission setting in Document Manager**: A user has to be explicitly assigned at least view permissions (at the folder or document level in the Document Manager) to the specific folder, document, or shortcut target in order to subscribe to email notifications.

For example, even if users have full access permission at the module level, they will not get email notifications unless they are on the permission list for the folder, document, or shortcut for which the e-mail notification would normally be generated.

▶ **Email Subscription Preference**: The user must subscribe to the Document Manager email notifications in User Preferences.

The events that can trigger email notifications are document upload, transfer ownership, move, delete, document revise, and folder rename.

Working with Project or Shell and Company Documents

The project or shell Documents node (in the project- or shell-level Document Manager) and the Company Documents node (in the company-level Document Manager) are the root nodes in which published documents (that is, documents that are ready to be used by team members) are stored and managed. You will typically work out of these nodes when working with your company or project or shell documents. All uploads, downloads, revisions, markups, etc., are performed here.

Permission-based access: Similar to a shared network storage drive, access to specific folders, files, and shortcuts is independently controlled by permissions. The user who creates a folder or shortcut, or uploads a file, is, by default, its owner, and has full access (privileges to view, upload, delete, download, etc.). The owner (could be the project or shell or company administrator) can set these permissions to allow or disallow access by other team members. For this reason, it is important to verify the permission settings for all files or folders of which you are the owner to make sure that they are accessible by the people who need them.

Editing and version control: The project or shell Documents and Company Documents nodes have check-in and check-out, document lock, and revision history capabilities enabling full version control.

Use with business processes: The Document Manager is integrated with business processes. You can initiate a BP from directly within the Document Manager and automatically attach selected files and folders.

Reporting: In addition, document and folder properties are associated with data elements, and are therefore fully reportable through user-defined reports.

> **Note**: The Document Manager does not support multibyte or Unicode characters in file names.

Accessing Project or Shell Documents and Company Documents

To access project or shell documents

1) Open a project or shell and click **Document Manager** in the left Navigator.
2) Click **Documents**.

To access company documents

1) Go to the Company Workspace tab and click **Document Manager** in the left Navigator.
2) Click **Company Documents**.

Navigating Project or Shell Documents and Company Documents (Classic View)

Document Manager navigation works the same way at the company level and the project or shell level.

There are two panes in the project or shell and Company Documents node:

Folder view (or folder tree): Displays the project or shell or company documents folders and subfolders, similar to a network or local drive. Click the plus sign (**+**) next to the folder name to expand it and reveal subfolders, or click the minus sign (**-**) to collapse the structure. The order of the folders in this view can be changed (see *Organize Folders* (on page 437)).

Project, shell, or company documents log (or document view): Displays the contents (subfolders, documents, empty documents, shortcuts) of the folder selected in the Folders view, in alphabetical order. The pane also displays the Recycle Bin, which contains files to be deleted from the system.

At the project or shell level, a Phase drop-down list at the top of the pane allows users to display documents and folders applicable to the current phase or all phases (referring to the project or shell phase as maintained by the project or shell administrator; your project or shell may or may not contain phase-specific documents).

Tip: You can expand the project or shell Documents or Company Documents log and workspace by contracting the Unifier Navigator.

Navigating Project or Shell Documents and Company Documents (Standard View)

Document Manager navigation works the same way at the company level and the project or shell level, user mode.

There are two panes in the project or shell **Documents** and **Company Documents** nodes:

▸ The main document log or document view: Displays the contents (subfolders, documents, empty documents, shortcuts) of the folder selected in the Folders view, in alphabetical order. Click the plus sign (**+**) next to the folder name to expand it and reveal subfolders, or click the minus sign (**-**) to collapse the structure.

   Tip: Hover over a folder to view the number of subfolders and documents under it.

▸ The right-pane view: The document summary (right-hand pane) displays tabs that contain information pertaining to the selected folder, subfolder, document, shortcut, or empty document. The following tabs are displayed based on the object selected:

   ▸ Properties
   ▸ References
   ▸ Linked Records

      Open the tab and click any of the linked record row, from the grid, to view the record details.

   ▸ Audit Log
   ▸ Permissions
   ▸ Options
   ▸ Revisions

      Note: If you are using a custom user mode navigator, you must add the Recycle Bin to the navigator.

Essentially, the **Document Manager** navigation works the same way at the project level, shell level, and company level, user mode.

Working with Document Logs (Classic View)

The project or shell Documents and Company Documents logs display attributes about the documents and folders listed in them.

The log can be designed in uDesigner if the folder and document properties have been designed. The following shows the default display of the project or shell Documents and Company Documents logs. The log used in your Document Manager may vary. You may need to use the horizontal scroll bar to view all of the columns.

Icon/Column Heading	Description
	The folder or Document-type or shortcut icon. The document icons shown in this example are for a bitmap, a formatted document, and a

	text file.
	Indicates that the file has comments.
	Indicates that the file is locked or unlocked.
Ref (check or X)	A checkmark indicates that reference files exist and are resolved; an X indicates that there are missing reference files.
BP	An icon indicates that the document is attached to one or more BP records.
Name	The file name of the document and its extension (file type).
Size	The size of the file.
Upload Date	The date the file was uploaded into project or shell Documents.
Owner	Owner of the document, folder, or shortcut.
Title	The identifier given to the document upon uploading, which may differ from the file name.
Rev. No.	An optional, manually entered revision number (or version number) of the document.
Issue Date	An optional date and time stamp that the user can define at the time of upload or checking in a file, to identify the issue or publication date outside of Unifier.
Pub. No.	This system-generated number identifies the number of times the document has been published in the Document Manager. Upon initial upload, the Pub. No. is 1; if it is checked out, revised, and checked back in, it becomes 2, etc.
% Complete	The percent complete of the folder or document. This is a calculated field derived from the overall percent complete as entered for the documents contained within the folder.
Publication Date	Automatic date and time stamp when the document was published in Unifier.
Location	Shows the full folder path of the item within the project or shell Document node.

Documents Log or Company Documents Log Menu Bar (Classic View)

The following describes the functions available from the project or shell Documents or Company Documents menu bar.

File

File Menu Option	Description
New	Create new folder, file, empty document, shortcut, or business process record.
Open	Open folders, documents, or shortcuts.
Upload	Add files and folders to the Document Manager from your local drive.
Download	Download copies of documents and folders to your local drive.
Export	Export a document or folder structure and property information in a CSV file.
Import	Import a folder structure template from within Unifier, or folders, empty documents and properties in a CSV file.
Recycle Bin	View, restore, or delete the contents of the Recycle Bin.
Index Report	Easily run or print a report showing the contents of a selected folder and phase and category information in HTML, PDF, or CSV format.

Edit

Edit Menu Option	Description
Transfer Ownership	Transfer the ownership of a folder or document to another user.
Move	Move documents, folders, and shortcuts.
Copy	Copy documents, folders, and shortcuts.
Rename	Rename folders and shortcuts.
Delete	Delete documents, folders, and shortcuts.
Properties	View or edit folder or document properties.
Permissions	View or define permissions for other users to access folders, documents, and shortcuts.
Revise	Upload a revised document from your local system and replace the current version of the document in the Document Manager. The older version is accessed in the View Revisions window.
Check In	Check in documents that you have previously checked out. If the document was revised and checked back in, the Pub. No. is updated.
Check Out	Check out a document to edit, or add markups or comments.
Cancel Check Out	Cancel checkout of a document without saving any edits or comments.

Lock	Lock documents to prevent editing by other users.
Unlock	Unlock locked records.
Organize Folders	Move folders within the folder structure.

View

View Menu Option	Description
Comments	Add or view comments on documents and file attachments on documents.
References	Refers to reference files associated with a base drawing file (DWG or DGN format). A checkmark in this column indicates that all the reference files are resolved; an X indicates there is at least one missing reference file.
Linked BP Records	Display list of business process records to which a selected document is linked.
Revisions	Access previous revisions of a selected document.
Audit Log	View the audit log (history of actions) for folders, documents, and shortcuts
Find	**Properties:** Search for documents, folders, or shortcuts by information that is part of their properties, e.g., name, owner, etc. Data that can be searched on can be customized by the project or shell Manager. **Content:** Search by content, or keywords, within documents.
Filter By	Filter how documents are displayed in the log. Affects a selected folder and its subfolders. **All:** Displays all contents of the selected folder. Subfolder contents are not displayed unless they are selected. **Locked:** Displays locked documents in the selected folder and subfolders. **Unlocked:** Displays contents of the selected folder, except for locked documents. **Published Today:** Displays documents that have been published today to the selected folder and subfolders. **Checkout Out By Me:** Displays documents in the selected folder and subfolders that are currently checked out by you.

Documents Log or Company Documents Log Toolbar (Classic View)

You can perform the following functions from the toolbar. Click the down arrow next to a button to view the options.

Button	Action
New	**Folder:** Creates new folder or subfolder in the selected folder.
	Document > File: Uploads the file to the selected folder.
	Document > Empty Document: Creates an empty document in the selected folder.
	Business Process: Creates a new BP record with the selected documents attached.
Open	Opens the selected folder or document (document opens in the native software application or AutoVue viewer, depending on the File Viewer option in your User Preferences).
Find	**Properties:** Search for documents, folders, or shortcuts by information that is part of their properties, e.g., name, owner, etc.
	Content: Search by content, or keywords, within documents.
Upload	Uploads files and folders from your local machine into the Document Manager.
Download	Downloads files and folders to the local machine.
Delete	Deletes the selected file or folder (moves it to Recycle Bin).
Check Out	Allows you to check out documents for editing or markup.
	Check In: Check in documents (with changes). This automatically updates the documents Pub. No.
	Cancel Check Out: Cancel the check-out status without saving changes.
Comments	Opens the File Comments window for the selected document. Add or view comments, markups, or attach another file to a document.
Permissions	Configure user permissions for the selected document, folder or shortcut.
Properties	View or add properties to the selected document, folder, or shortcut.

Searching for a Document, Folder, or Shortcut (Classic View)

There are two ways to find items in project or shell Documents or Company Documents:

▸ **Search by Properties**: This searches on specific properties (metadata) of the document, empty document, folder, or shortcut being searched for. The default search options are name, owner, title, revision number (documents), and upload by (user who uploaded the item).

> **Note**: This search option can be customized through uDesigner. If a designer has imported Document Managers attribute forms, the search criteria can also be customized. This means that the fields on which you can search may differ from the above list.

▸ **Search by Content**: This allows you to search for a document by specific content, or keywords, within the document. This option works on most file types other than drawing files. You can search by single word or exact phrase in quotes (for example, "training document").

The supported file types for content search are listed below:

doc, pdf, txt, xls, htm, rtf, html, csv, xml, xsd, java, c, cpp, vm, bat, bak, css, log, sql, ncs, sh, properties, vpp, wtx, xhtml, xslt, ppt, mpp, vsd

The Find function works on the latest revisions of documents only. It does not search on older revisions.

> **Note**: The search bar is not case-sensitive. Accented characters and wild card searches are not supported.

To search for documents, folders, or shortcuts by properties (Classic View)

1) In the folder view, select the folder in which to perform the search. The search will be performed on the selected folder and its subfolders. To search all folders, select the **project or shell Documents** node.
2) Click the **Find** button and choose **Search By Properties**, or click the **View** menu and choose **Find > Search By Properties**. The upper portion of the log expands to display the Find fields.
3) Enter search criteria in one or more of the Find fields, for example, the full or partial name of a file. You can use the wildcard % when searching for names.
4) Click the **Search** button. The log will display the search results.
5) To search the contents of another folder, select it in the folder view. The search results will automatically display the search results of the new selected folder.
6) To close the Search fields, click the **X** in the upper right corner.

To search for documents by content (Classic View)

1) Select the folder in which to perform the search. The search will be performed on the selected folder and its subfolders. To search all folders, select the **project or shell Documents** or **Company Documents** node.
2) Click the **Find** button and choose **Search By Content**, or click the **View** menu and choose **Find > Search By Content**.
3) Enter one or more keywords to search for within the documents.
4) Click the **Search** button. The log will display the search results on the folder selected and its subfolders in the folder tree.

5) To search the contents of another folder, select it in the folder tree. The search will automatically run again when you select any other folder in the folder tree.

6) To close the Search fields, click the **X** in the upper right corner.

> **Note**: Modifications to files, folders, or documents (such as uploading, renaming, moving, etc.) may not be reflected in the search results immediately as the index file associated with the content search is updated.

Tip: For best results, use only alpha-numeric characters in your search criteria. If you are not receiving the search results you are expecting, try placing your criteria in quotes.

Display Folders by Project or Shell Phase (Standard View)

This is applicable to the project or shell level Document Manager only, as phase is not applicable at the company level.

A project or shell documents folder can be associated with one or more project or shell phases, which will make it accessible only during specific phases of a project or shell. This helps insure that important, phase-specific documents are visible at the appropriate times during the life cycle of the project or shell. For example, if a folder or subfolder is associated with the construction phase of a project or shell, then it will appear in the project or shell Documents folder view and log for the project or shell only when the project or shell is in that phase.

If a phase has not been designated on a folder or subfolder, it will display for all project or shell phases.

The folder's phase is designated in the Phase selection box in the folder's Properties window. The project or shell phase is maintained in the project or shell Properties window by a project or shell administrator.

You have the option to view folders for the current project or shell phase, or you can choose to view all folders regardless of project or shell phase.

To display folders by current phase (Standard View)

1) Open the project or shell and open the Document Manager in the left Navigator.

2) From the **View** drop-down menu, select **Current Phase**. Folders and subfolders that have been associated with the current phase of your project or shell, as well as those with no specific phase designation, will be displayed. Those that have been associated with a different project or shell phase will not display. To display folders for all project or shell phases, from the **View** drop-down menu, select **All**. All folders, regardless of project or shell phase, will display.

Working with Document Manager in Company and Project or Shell (Standard View)

Navigating to **Document Manager** at the company:

1) Go to your company (**Company Workspace**)   and switch to the user mode.

2) Click the **Document Manager** module to expand.

Navigating to **Document Manager** at the project or shell levels:

1) Go to your project or shell and switch to the user mode.
2) Click the **Document Manager** module to expand.
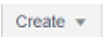
In general, the following nodes appear under the **Document Manager** module at the company, shell, or project levels:

▶ **Documents** (or **Company Documents**)
▶ **Recycle Bin**
▶ **Unpublished Documents**

The following explanation applies to company, shell, and project document manager.

Documents or Company Documents

The **Documents** or **Company Documents** page is divided into two left and right panes. The following explains each pane. The **Documents** or **Company Documents** page left pane has the following toolbars:

The home icon and link to the **Project Documents** page (current page) In case of working in the company, the home icon and link to the **Company Documents** page (current page)	A toggle key to display the child nodes, and the locator links (breadcrumbs). This portion displays the locator links (breadcrumbs) to the current location within the Document Manager folder hierarchy. By default, user is presented with the files or folders contained within the "Project Documents" folder.
Create Create ▾	Enables you to create: ▶ **Folder** ▶ **Empty Document** ▶ **Business Process records**

Actions
 	
Actions ▾
	Enables you to conduct the following actions on multiple files or folders:
	
	▸ **Add to Favorites**
	▸ **Move**
	▸ **Copy**
	▸ **Delete**
	▸ **Send for E-Signature**
	▸ **Recall E-sign Request**
	▸ **Transfer Ownership**
	▸ **Edit**
	   ▸ **Revise**
	   ▸ **Check In**
	   ▸ **Check Out**
	   ▸ **Cancel Check Out**
	   ▸ **Lock**
	   ▸ **Unlock**
	▸ **Export**
	   ▸ **Structure and Properties**
	▸ **Import**
	   ▸ **Folder Structure Template**
	   ▸ **Structure and Properties**
	▸ **Index Report**
	▸ **HTML Format**
	▸ **PDF Format**
	▸ **CSV Format**

Flat View	Enables you to see a flat list (default view) of all files and folders, located in the root (Project Documents) folder. To browse a folder, in this view, double-click the folder name. This opens the contents of that folder in the log. When you click a file or folder, the relevant tabs open on the right-hand pane which enable you to define the file or folder properties, permissions, etc. The locator links (breadcrumbs), on top, show the home page icon before the Project Documents folder. Click the icon to see the root (Project Documents) folder in the log below. You can set the root (Project Documents) folder properties, etc. by way of the tabs.
Tile View	To change the views between tile and list views.

Three View	To change the view of folders and documents. You can open any number of folders, in the hierarchy, and view their contents in the same view.
Download	To download documents or folders onto your local or network drive.
Upload	To upload files from your local system into project or shell or company level Document Manager.
View	To customize the **Documents** log to display files based your filter criteria. For details, see *Working with Views (Standard View)* (on page 395). ▶ **All** ▶ **Owned by me** ▶ **Checked out by me** ▶ **Locked** ▶ **Uploaded in last 7 days** ▶ **Uploaded in lat 30 days** ▶ **Create New View** ▶ **Manage Views**
Edit View	To change the log view (columns, filters, sort, etc.)
Refresh	To refresh the items on the log.
Favorites	To view the favorites list.
Initiate Bluebeam Studio Session	To initiate a Bluebeam Studio Session. For details about Bluebeam, refer to the *Unifier Bluebeam User Guide*.
Search	To open the search window and search for a specific document. For more information, see *Searching Content (Standard View)* (on page 396).
Find on Page	To find a item on the page or log. For more information, see *Finding on Page (Standard View)* (on page 397).

Next to each item on the log (next to a folder, subfolder, document, shortcut, or empty document), there is a gear menu (✿). The gear menu for each document are explained below:

Note: The following menu options change for empty documents.

Open	To open a file in File Viewer.
Open in Autovue	To open the file in AutoVue.
Download	To download a file.
Add to Favorites	To add the item to the list of favorites.
Create	To create a file based on a business process.
Actions	Enables you to perform the following on a file: ▸ **Revise** ▸ **Check Out** ▸ **Check In** ▸ **Cancel Check out** ▸ **Lock** ▸ **Unlock**
Transfer Ownership	To transfer the ownership of the file.
Move	To open the **Move** window and move the file to the destination folder.
Copy	To open the **Copy** window and copy the file to the destination folder and include comments.
Delete	To delete the row or item.

The *gear* ( ) menu for each folder are:

Create	To create a folder.
Upload	To upload folder.
Download	To download folder.
Add to Favorites	To add the folder to the favorites list.
Move	To open the **Move** window and move the folder.
Copy	To open the **Copy** window and copy the file to the destination folder and include comments.
Delete	To delete the row or item.

The *gear* (⚙) menu for each PDF are:

Self-sign	To sign the PDF.
Send for E-Signature	To send for E-signature.
Initiate Bluebeam Studio Session	To initiate a Bluebeam Studio Session. For details about Bluebeam, refer to the *Unifier Bluebeam User Guide*.

The **Documents** or **Company Documents** left pane has the following columns:

Name	The name of the document or folder.
Comments	Comments associated with a file.

Lock	Indicates whether the file is locked or not.
Bluebeam Session Status	Indicates the status of the document in the Bluebeam studio session.
References	Any references included in the file.
Linked Records (BP)	Any linked records included in the file.
Title	The file title.
Creation Date	Creation date.
Issue Date	Date that the file was issued.
Owner	The owner of the file.
Revision No.	If the file has been revised, the the revision number appears here.
Pub No.	Publication number.
% Complete	The status of a file.
Size	File sized.
Upload By	The name of the user who has uploaded the file.

Upload Date	The date that the file was uploaded.
Location	The location of the file.

The **Documents** or **Company Documents** right pane has the following tabs:

Properties	Displays detailed information about a selected item on the log (left pane).
Linked Records	This tab applies to Documents, only. Displays the information about records that are linked to the file.
Audit Log	Displays the actions that have been taken on an item, with details. You can print the audits or search for a particular audit.
Permissio ns	Displays the name of the users or groups that are permitted to work on the selected item, and the permission type.
Options	Displays the type of options available for each item selected.

Recycle Bin

Lists all files that have been deleted along with details about each deleted file. You can use the following toolbar options to restore deleted files, search among deleted files, or permanently delete the deleted files:

▶ **Restore**
▶ **Restore All**
▶ **Delete**
▶ **Empty Recycle Bin**
▶ **Find on Page**

Unpublished Documents

Lists all unpublished documents and provides details on each one. You have the option to

publish or download documents on the **Unpublished Documents** log. The *gear menu* (⚙) for each file enables you to conduct the following operations on a selected file.

▶ **Open**
▶ **Open in AutoVue**
▶ **Publish**

▶ **Download**

The **Unpublished Documents** node log is divided into two panes. The left pane provides a list of unpublished documents and the right pane provides details on each document in the following tabs:

▶ **Properties**
▶ **Linked Record**

Working with Views (Standard View)

Use the **View** drop-down list to customize the Document Manager log to display files based your filter criteria. You can use the following pre-defined views or create your own view:

▶ **All**
▶ **Owned by me**
▶ **Checked out by me**
▶ **Locked**
▶ **Uploaded in last 7 days**
▶ **Uploaded in lat 30 days**
▶ **Create New View**
▶ **Manage Views**

If the option **DM View** is available, it enables you to see the views defined in Log views, in Document configuration, at runtime. In such scenario, you can only see the active views at runtime, and you can see all active views pertaining to a the **Documents** log, if you who have permission to access to the DM log.

To create a new view:

1) Go to your **Documents** log.
2) Click the **View** drop-down list and select **Create New View** to open the **New View** page.
3) On the **New View** page, enter a name for your new view under the field   **Save View As**.
4) In the **Columns** tab, select columns that you want to display.
5) Select the columns that you want to remain static on the page from: **Lock after selected Column** drop-down list.

   In addition to arranging the columns, you can go to the **Filters**, **Group By**, and **Sort By** tabs to customize the new view by applying more refined selections.
6) Click **Save** to create your new view.

Your new view appears in **View** drop-down list.

To manage your views:

1) Go to your **Documents** log.
2) Click the **View** drop-down list and select **Manage Views** to open the **Manage Views** window.

   Use the **Manage Views** to create, delete, or hide views within any log. In addition, you can reorder views by dragging and dropping them in the **Manage Views** window.
3) When finished, click **Apply**.

Your arrangement appears in the View drop-down list.

To edit or delete an existing view:

1) Go to your **Documents** log.

2) Click the **Edit View** (⚒) icon .

> **Note**: If you modify the view and do not save the changes, the system keeps the existing name and adds the word "Modify" to the existing name.

3) You can edit the view of the following elements on your log:
   ▸ Columns
   ▸ Filters
   ▸ Group By
   ▸ Sort By

1) Click **Apply** when you have finished editing.

Using the DM Log Tile View (Standard View)

The Tile view allows you to view files and folders as thumbnails. All folders and files are grouped separately, you can expand and collapse each group. The Tile view only show the immediate children of the folder.

When a file is selected, the right hand pane displays all the information tabs. The **Gear** ⚙ menu allows you to take action on an individual file or folder. The folder and file names are hyperlinks, you can click the hyperlink to open a folder or file.

To use the tile view, from the Document Manager log, select ▦ **Tile View**. To switch to list view, select ☰ **List View**.

Searching Content (Standard View)

When a search is initiated by typing text in the search box, the system displays suggested areas to search in. Some of these suggested areas are system-defined (such as: Content or Linked Records) and others can be defined by the user in the Document Manager attribute form Log, in uDesigner. The user can configure to search on any attribute of a document including text, drop-down, numeric, or date type attributes.

> **Note**: The default elements and fields (log layout, view, search, etc.) that are defined in the Standard Log, in uDesigner, determine the Standard user interface elements and fields of all logs.

After selecting the areas you want to search in, Unifier displays a filtered list based on your search criteria. In addition, you can also use the quick filters to further refine your search criteria.

From within the search result screen, you can choose to open, download, create a business process record, or go to the folder by selecting the options under the ⚙ gear menu. The following menu and toolbar options are displayed on the Search pages.

Menu and Toolbar Options	Description
Create	Allows you to create a business process. Select a business process and workflow, and click **Create**.
Download	To download a file.
⊞ **Tile View** ≡ **List View**	To view the search results in Tile view or List view.
▭ **Find on Page**	Allows you to find a file on the page.
⚙	Select one of the following options: **Open**, **Open In AutoVue**, **Download**, **Create> Business Process**, and **Go to Folder.**

To search the document log:

1) Click the **Search** 🔍 icon.
2) Enter one or more keywords.
3) Select the areas you want to search in, for example Content, Linked Records, etc.
4) Click **Search**. The search results are displayed.
5) From the quick filters displayed on the left pane, select filters to further narrow your search.
6) To change the area you want to search in, or to include multiple search areas, click **Change**.
7) Click the ⊞ **Add** icon to add additional search areas. Use the 🗑 **Trash** icon to remove search areas.
8) Select if you want the search results to display only if it matches all or any of the search criteria by selecting the **Match All** or **Match Any** buttons.
9) Click the **Search** button. The search results are displayed.

> **Note**: The search bar is not case-sensitive. Accented characters and wild card searches are not supported.

Finding on Page (Standard View)

The **Find on Page** option enables you to find items on the displayed page.

1) Click the **Find on Page** ▭ icon. The system inserts a new row that enables you to enter your search parameters.
2) Enter your search parameters.

The system displays a list of files, folders, subfolders, or shortcuts that match the criteria you entered.

If you decide to cancel the find for one of cell, then you must remove the parameters that you have entered. If you decide to cancel the find for an entire row, then you must click ⊞ **Find on Page**.

Sorting Columns (Standard View)

You can sort columns in the ***Document Manager (DM) Log*** and the Search Results page. The **View** menu, is prefixed with the word *Modified* if the sort is applied to the columns.

To sort columns, click the up and down arrows next to the column name.

Creating and Managing Folders

If you have proper permissions, you can create any number of folders and subfolders to organize documents and shortcuts. Folders can be created in various ways:

- ▸ Manually create a folder.
- ▸ Upload folders from your local machine.
- ▸ Import folders from a CSV file.
- ▸ Create folders in a project or shell template (Administration Mode). When a new project or shell is created from the template, the folder structure will be copied.
- ▸ Import a folder structure from a folder structure template.

> **Note**: You must have permission to create or modify folders to perform the following procedures.

View Folder Contents (Standard View)

To view folder contents:

In the folders view, click a folder to select it. The contents of the folder appear in the project or shell or Company Documents log. If a folder has a plus sign (+), click it to reveal subfolders.

About Locked Folder Structures

The document administrator (the project or shell or company administrator or other designated user with full administrative permissions) has the ability to lock the first-level folder structure. First level refers to folders and documents directly under the root folder. It does not refer to the sub-folders within the first-level folders.

Locking the first level folder structure prevents other users from adding, modifying, or deleting folders and documents on the first level, or changing the document or folder properties. Users can modify permissions on first-level folders and documents.

This ability allows the administrator to establish and maintain a consistent main folder structure within and across project or shells.

Locked Folder Structure (Standard View)

To check if the first-level folder structure is locked (Standard View):

1) Open the Document Manager.
2) Click **Documents** or **Company Documents** in the left Navigator.
3) Select the first level folder in the Document Manager log.
4) From the right pane, select the **Options** tab. If the **Lock first level folder structure below Project Documents or shell Documents** checkbox is selected, the first-level folder structure is locked.

Create a Folder

When you create a folder, you become its owner by default and have full read, write, and edit privileges. In order for other users to access the folder and its contents, you must grant permission. It is recommended that you understand the permissions settings before creating folders.

You can also easily create multiple folders under the same parent folder and with similar properties.

> **Note:** It is possible for the first-level folders to be locked by a document administrator, which prevents folders directly under the project or shell or Company Documents node from being changed or added. This prevents the main folder structure from being altered. Subfolders can be added to existing folders.

Create a Folder in Project/Shell/Company Documents Node (Standard View)

To create a new folder in the project or shell or Company Documents node (Standard View):

1) Select the folder in which you want to create the new folder, or the project or shell or Company Documents root node.
2) Select **Create > Folder**. The **Create Folder** window opens. The Create Folder window opens. The Create Folder window is identical to the Folder Properties window, which can be viewed for existing folders.
3) In the **Properties** tab, enter values in the editable fields. The other fields are system-defined or optional.
4) Click **Options** tab and select the desired options.
5) Click **Save**. The new folder is created, and the **Create Folde**r window closes.
   If you want to create another folder, click **Save & Create New**.

To cancel creating a new folder, click **Cancel**.

Create Multiple Folders in the Same Parent Folder (Standard View)

To create multiple folders in the same parent folder (Standard View):

1) In the Create Folder window, click the **Create Multiple** button. This allows you to create multiple folders with similar properties.
2) Add the information in the **General** and **Options** tabs for the first folder.
3) When the General and Options tabs are complete for the first folder, click the **Create** button. The first folder will be created and the Create Folder window will remain open.
4) Give a new name to the second folder and verify the other information in the General and Options tabs. (By default, the same as the first folder, but can be modified.)
5) Click **Create** to create the second folder.
6) Continue to create folders as needed.
7) Close the Create Folder window when you are done creating folders.

Folder Properties Window (Standard View)

To open the **Folder Properties** window:

1) Go to your project (**User** mode).
2) Click **Document Manager** > **Documents**.
3) Click on a folder to select.

When you select a folder, the right-hand pane displays the following tabs:

▸ **Properties**
▸ **Audit Log**
▸ **Permissions**
▸ **Options**

If a data element in the right-hand pane contains a tooltip (a description of the field), then a question mark (?) symbol appears next to that field. When you hover over the question mark, the tooltip appears.

Folder Properties Window (Properties Tab)

The **Properties** tab has several fields that are categorized under the following blocks:

▸ **General**
▸ **Other**

General

In this field	Do this
Name	This always appears at the top and is mandatory. For the project or shell Documents or Company Documents root folder, this is not editable.
Location	The folder location within the project or shell Documents node. "/" indicates the project or shell Documents root folder.
Owner	The name of the folder creator or current owner. Click to view the user profile.

Creation Date	The date that the folder was created.
% Complete	This is a calculated field derived from the overall percent complete of all documents within the folder. The % Complete for documents is maintained manually in the Document Properties window.
Description	You can enter an optional description for the folder.

Other

Categories (applicable to project-level Document Manager only)	Project administrators can group folders into customized categories. You cannot use Find to search for Category designations, but you can include them in a report (user-defined reports). This field is not present at the company level.
Phases (applicable to project or shell level Document Manager only)	In the project or shell level Document Manager, a folder can be associated with one or more project or shell phases, making it accessible only during those phases of the project or shell. This helps insure that important, phase-specific documents are visible at the appropriate times during the life cycle of the project or shell. Click the **Select** button and select one or more phases.
	The Phase setting controls the visibility of folders. For example, if the project or shell administrator sets the project or shell phase to conceptual design, then only those folders tagged with the phase conceptual design, as well as those without a phase tag, will be visible during that phase. If you do not specify a phase, the folder will display during all project or shell phases.

Folder Properties Window (Permissions Tab)

The **Permissions** tab has several fields that are categorized under the following blocks:

▶ **Inherit permissions from the parent folder**

This option is not available for folders or files that do not have a parent folder (i.e., are located at the root).

This option has the following are the two blocks:

▸ **User Name or Group Name**

A selection section on the left. You can enter in the field (picker). Alternatively, you can click at an option to open a user or group picker, select one or more users or groups, and add your selections. When you select users or groups, an expanded list of selected users or groups appears.

If there are both users and groups, the first group is displayed as selected by default. The permissions are in the right section.

If there are no groups, but users only, the first user is displayed as selected by default. The permissions are in the right section.

You can delete any of the existing or saved permission (trash can icon).

The usernames shows the user's profile picture next to the username. Also, the user Title (from user's Unifier profile) is displayed below the username.

▸ **Document Permissions**

A definition section on the right. This section displays a list of all folder or file permissions. If the option "Inherit permissions from the parent folder" is selected, this section will become read-only. You can edit the contents of this section only when the option "Inherit permissions from the parent folder" does not exist (for root level files or folders), or if the option "Inherit permissions from the parent folder" is selected.

When you select multiple files (from the Document Manager > Documents log), the right pane displays the following tabs:

Revisions tab: The Revisions tab is not available if more than one file has been selected in the DM. This tab is displayed only if the document has revisions.

Permissions tab

Options tab: Revisions must have same file name

Audit Log tab: Print, Export To CSV, and Export to Excel.

▸ **Selected Users/Groups**
▸ **Folder Permissions**
▸ **Document Permissions**
▸ **Apply these permissions to documents and sub-folders**

Folder Properties Window (Audit LogTab)

The **Audit Log** tab has a tabular log that displays the following information:

▸ **Date**
▸ **Event**
▸ **Action**
▸ **Field Name**
▸ **Old Value**
▸ **New Value**
▸ **User Name**
▸ **Proxy User**

Folder Properties Window (Options Tab)

The **Options** tab has several fields that are categorized under the following blocks:

▸ **Folder Upload**
  ▸ **Upload files only**: Default selection; when a folder is selected for upload, only the files within it are uploaded, not the folder itself.
  ▸ **Upload folders and files**: Allows uploading of both files and folders.
  ▸ **Apply these options to all sub-folders**
▸ **Document Upload**
  ▸ **Do not include references**: Applies to drawing reference files. If this option is selected, reference files will not be uploaded automatically with their base files.
  ▸ **Include references**: Reference files will be uploaded automatically with their base files based on the option selected:

> **Upload References from My Computer**: Searches for reference files on the local machine based on the path defined in the base file header.
>
> **Auto-resolve from project or shell Documents as Dynamic Links**: Searches for reference files already present in project or shell documents and links dynamically. If the reference file is revised, the newer version is used.
>
> **Auto-resolve from project or shell Documents as Static Links**: Searches for reference files already present in project or shell Documents and links statically. If the reference file is revised, the newer version is ignored.
>
> ▸ **Apply these options to all sub-folders**

▸ **Folder Download**

> ▸ **Download files only**: Default selection; when a folder is selected for download, only the files within it are downloaded, not the folder itself.
>
> ▸ **Download folders and   files**: Allows downloading of both files and folders.
>
> ▸ **Apply these options to all sub-folders**

▸ **Document Download**

> ▸ **Do not include references**: Do not download drawing reference files automatically with base files.
>
> ▸ **Include references**: Reference files will be downloaded automatically with their base files based on the option selected:
>
> **Download references to same folder as Base file**
>
> **Download references to Logical Path specified in Base file:** As defined in the base file header information

▸ **Apply these options to all sub-folders**

For categories and phases (**Properties** tab). If you select this option for the current folder, then all new and existing subfolders and documents within the folder will be modified when the window is saved.

This is unchecked by default. If this option is selected, the upload or download options will apply to all new and existing subfolders (and documents if specified) when the options are saved.

▸ **Send email notification to subscribed users**

Select this box if you want the owner to receive an email notification whenever the folder properties are modified. If you select or deselect this box on a folder, the checkbox will update on all subfolders automatically. This option will not override users' email subscription selections in user preferences.

Users also have to have at least view permissions on the specific folder or document to get the notification.

Lock folder structure for the first level below project or shell Documents: This option appears only for the root project or shell Documents folder. It disallows the addition, modification, or deletion of any first-level folder: folders that are directly under the project or shell Documents node. Subfolders can still be added to the first-level folders. The administrator can unlock the structure to make changes to first-level folders if necessary.

View or Modify Folder Properties

You can view or modify (with proper permissions) the folder properties of existing folders. When you create or upload a folder, you become its owner, and have full access to the folder and its contents.

View or Modify Folder Properties (Standard View)

To view folder properties (Standard View):

1) From the project or shell or Company Document log, select any folder or subfolder, or the project or shell or Company Documents root folder.
2) From the right-pane, select the **Properties** tab. The folder properties are displayed in the right-pane.

To modify folder properties (Standard View):

1) From the project or shell or Company Document log, select any folder or subfolder, or the project or shell or Company Documents root folder.
2) From the right-pane, select the **Properties** tab.
3) Make your changes and select **OK**.

View or Modify Folder Options (Standard View)

To view folder options (Standard View):

1) From the project or shell or Company Document log, select any folder or subfolder, or the project or shell or Company Documents root folder.
2) From the right-pane, select the **Options** tab. The folder options are displayed in the right-pane.

To modify folder options (Standard View):

1) From the project or shell or Company Document log, select any folder or subfolder, or the project or shell or Company Documents root folder.
2) From the right pane, select the **Options** tab.
3) Make your changes and select **Save**.

View, Add, or Modify Folder Permissions

When you create or upload a folder, you become its owner and have full access to the folder and its contents.

Setting permissions at the folder level allows you to grant other users access not only to the selected folder, but also (optionally) its contents as well, such as subfolders, shortcuts, and documents. You also have the option of setting individual permission settings to specific shortcuts and documents within the folder, as discussed in the documents and shortcuts sections.

> **Notes**:
>
> - You many want to add yourself to the permissions list. Though not necessary as long as you remain the owner, if you decide later to

transfer ownership of the folder, you will no longer have owner permissions. However, you will retain the permissions, if any, that you specify in the permission window.

- The project or shell Documents root folder is selectable for modifying permissions.

View, Add, or Modify Folder Permissions (Standard View)

To view the folder permissions (Standard View):

1) Go to your project or shell (User mode) and click the **Document Manager** node to expand.
2) Click the **Documents** sub-node to open the **Documents** log (for **Project Documents**).
3) Click an item (folder) from the log to select.
4) On the right-hand pane, click the **Permissions** tab to view the folder permissions.

To add or modify the folder permissions (Standard View):

1) Go to your project or shell (User mode) and click the **Document Manager** node to expand.
2) Click the **Documents** sub-node to open the **Documents** log (for **Project Documents**).
3) Click an item (folder) from the log to select. You can select more than one item.
4) From the toolbar, click the **Actions** drop-down list and select **Permissions** to open the **Permissions** overlay page. Alternatively, if you are working with one item (folder) only, then you can click the *gear menu* (⚙), next to the item, and click **Permissions**.
5) On the **Permissions** overlay page, you can add or modify the folder permissions by using the following options:
    - **Inherit form parent folder <parent folder name>**

      If the **Inherit permissions from the parent folder** checkbox at the top of the window is selected, then the folder-level permissions will apply automatically and cannot be modified.
    - **Assign new permissions**
    - **Apply these permissions to documents and sub-folders**

      You can select this option to apply the selected permissions to all of the documents and folder contained within the selected items (folders). This selection erases the existing permissions assigned to the selected items (folders).
6) Click **Save** when done, or click **Cancel** to close the **Permissions** overlay page without any changes.

   When you are working with more than one item (folder), there is an additional option: **Save and Close**.

   When you are working with permission of one item (folder) only, there are additional options: **Previous** and **Next**. These additional options enable you to finish your work and navigate to permissions of the previous or the next item.

7) Do any of the following:
    - To add a new user, click **Add** and add users or groups to grant permission. Select the user from the list and grant or remove individual permissions (see below).
    - To remove a user's permissions, select the user from the list and click **Remove**.

▸ To modify a user's permissions, select the user from the list and grant or remove individual permissions.

Add or Modify Multiple Folder Permissions (Standard View)

To add permissions to multiple folders:

> **Note**: This option does not enable you to use the existing permissions for the selected folders. For example, if a user 'A' already has permission to one of the selected folders, and if the same user is selected again from the user group picker, then the user A's existing permissions will get overwritten with the new permissions.

1) Go to your project or shell (User mode) and click the **Document Manager** node to expand.
2) Click the **Documents** sub-node to open the **Documents** log (for **Project Documents**).
3) Select multiple folders.
4) From the toolbar, click the **Actions** drop-down list and select **Permissions** to open the **Permissions** overlay page.
5) On the **Permissions** overlay page, you can assign permissions to users or groups.

By default, permissions will be inherited from the common parent folder of all the chosen files. The inherited permissions will all be read-only. You have option to assign new permissions instead of choosing to inherit from parent folder.

The permissions of folder owners can never be removed. If you select multiple folders, add the folder owners from the users- or group-picker, and click **Remove**, Unifier removes the folder owners from the current permission window. Unifier does not remove permissions for the folder owner.

If you switch between the **Inherit form parent folder <parent folder name>** and **Assign new permissions** options, then all the inherited permissions are removed and the **Permissions** page toolbar and grid is updated as if you are proceeding to create new permissions from scratch.

If you have already inserted one or more rows in the grid (manually or by copying from parent), and you decide to switch between the **Assign new permissions** and **Inherit form parent folder <parent folder name>** options, then Unifier displays a message stating that the manually added permissions will be erased and replaced with the inherited permissions. You will have the option to proceed or cancel.

Copy a Folder

You can copy a folder from one location to another. When you copy a folder, you become the owner with ownership permissions of the copied folder and its contents. The owner of the original folder and other users with permissions to the original folder retain their permissions on the original and the copied folder. You can copy more than one folder at a time.

> **Note**: If a folder contains attachments, then you can copy the folder with

the attachments in the Standard View, only.

Copy a Folder (Standard View)

To copy a folder (Standard View)

1) Select a folder in the project or shell Documents log.

2) Select ⚙ **> Edit > Copy**.

3) Select the target location from the folders shown.

4) Select the **Include Comments** check box if you want to copy any comments or markups that may be on documents within the copied folder.

5) Click **Copy**. The folder and all contents (subfolders, documents, shortcuts) are copied to the target location.

> **Note**: To copy multiple folders, select the folders and click **Actions > Edit > Copy**.

Move a Folder

If you are the owner of the folder (or otherwise have proper permissions), you can move a folder to a new location. When you move a folder from one location to another, all subfolders, documents, and any comments or markups on the documents are moved to the new location. Original ownership and user permissions are maintained. To move a folder, you must have the following permissions: *Create Sub -Folder* permission in the destination folder and *Move* permission in the source folder. If a folder with the same name exists in the destination folder, you can choose to either cancel the move   or keep both the folders. When you select the option to keep both, the folder you are moving will be appended with a number to distinguish it from the folder that already exists. If you are moving multiple folders at the same time, you can select the **Apply for all conflicts** checkbox to apply the same action for subsequent conflicts.

Move a Folder (Standard View)

To move a folder (Standard View)

1) Select a folder in the project or shell Documents log.

2) Select ⚙ **> Edit > Move**.

3) Select the target location from the folders shown.

4) Click **Move**. The folder and its contents are moved to the target location.

> **Note**: To move multiple folders, select the folders and click **Actions > Edit > Move**.

Rename a Folder (Standard View)

To rename a folder (Standard View):

1) Select the folder in the project or shell Documents log.

2) Select ⚙ **> Edit > Properties**.

3) Enter the new folder name and click **OK**.

Delete a Folder

When you delete a folder, it is moved to the Recycle Bin. Items in the Recycle Bin can be restored back to their original location or permanently deleted. See *The Recycle Bin* (on page 447). You can delete more than one folder at a time.

> **Note**: Documents attached to business processes cannot be deleted. Therefore, in order to delete a folder that contains a document that cannot be deleted, you must first move that document to a different location.

Delete a Folder (Standard View)

To delete a folder (Standard View):

1) Select a folder in the project or shell Documents log.

2) Select ⚙ **> Edit > Delete**.

3) Click **Yes** to confirm. The folder is moved to the Recycle Bin.

> **Note**: To delete multiple folders, select the folders and click **Actions > Edit > Delete**.

Creating and Managing Documents

A document refers to a file that is uploaded into Unifier and stored in the Document Manager. A document in the Document Manager can be thought of as a container of the file that was uploaded.

View and Open Documents

Documents can be stored in folders or directly in the root project or shell documents or company documents node. The project or shell documents log displays the contents of the selected folder, including subfolders, documents, and shortcuts.

Documents can be opened in two ways from within Unifier:

▸ **Native:** Documents are opened in their native software applications; for example, Microsoft Word documents are opened in Microsoft Word. This option requires that users have the native software application installed on their machine in order to view the document.

▸ **Primavera Unifier viewer:** Documents are displayed in the either the Unifier default viewer or AutoVue viewer, which can display virtually any type of file. Documents are opened in a read-only view that supports adding graphical markups and text comments.

The **Viewer Options** is set in the **Preferences** window, **More** tab.

View and Open Documents (Standard View)

To view a document (Standard View):

1) From the **Documents l**og view, select a document.

2) Click ⚙ **> Open in AutoVue**, to open the document in AutoVue, or select ⚙ **> Open** to open a document in the default Unifier viewer.

   You will see the option to open in AutoVue only if your Unifier server is configured to use AutoVue.

Create an Empty Document

Empty documents are used as placeholders for documents that have yet to be uploaded into Document Manager. For example, a project or shell manager might create an empty document in a folder and then send an action item to a team member to upload the file into it.

You can also import empty documents. See Import and Export Folders, Properties, and Empty Documents.

Empty documents can be populated with files by revising them (replacing the empty document with the completed document. See *Revising Documents* (on page 417).

Create an Empty Document (Standard View)

To create an empty document (Standard View):

1) From the **Documents** log, click **Create** > **Empty Document**. The **Create Document** window opens.

2) In the **Properties** tab, under **File Properties**, enter the document name.

3) Complete the other fields and if necessary select **Apply this setting onto this folder, sub-folders and documents**.

4) Click the **Options** tab and ensure to select **Revisions must have same file name**, if necessary.

5) Click **Save**. The empty document is created.

> **Note**: To upload a file into the empty document, see *Uploading Files* (on page 443).

Document Properties Window (Standard View)

To open the **Documents Properties** window:

1) Go to your project (**User** mode).

2) Click **Document Manager** > **Documents**.

3) Click on a document to select.

When you select a document , the right-hand pane displays the following tabs:

▸ **Properties**

> ▶ **Linked Records**
> ▶ **Audit Log**
> ▶ **Permissions**
> ▶ **Options**

If a data element in the right-hand pane contains a tooltip (a description of the field), then a question mark (?) symbol appears next to that field. When you hover over the question mark, the tooltip appears.

Document Properties Window (Properties Tab)

The **Properties** tab has several fields that are categorized under the following blocks:

> ▶ **General**
> ▶ **Other**

General

In this field	Do this
Name	This always appears at the top and is mandatory. For the project or shell Documents or Company Documents root folder, this is not editable.
Location	The folder location within the project or shell Documents node. "/" indicates the project or shell Documents root folder.
Document URL	The URL for the selected document.
Owner	The name of the folder creator or current owner. Click to view the user profile.
Creation Date	The date that the folder was created.
% Complete	This is a calculated field derived from the overall percent complete of all documents within the folder. The % Complete for documents is maintained manually in the Document Properties window.
Description	You can enter an optional description for the folder.

Other

Categories (applicable to project-level Document Manager only)	Project administrators can group folders into customized categories. You cannot use Find to search for Category designations, but you can include them in a report (user-defined reports). This field is not present at the company level.

Phases (applicable to project or shell level Document	In the project or shell level Document Manager, a folder can be associated with one or more project or shell phases, making it accessible only during those phases of the project or shell. This helps insure that important, phase-specific documents are visible at

| Manager only) | the appropriate times during the life cycle of the project or shell. Click the **Select** button and select one or more phases. |
| | The Phase setting controls the visibility of folders. For example, if the project or shell administrator sets the project or shell phase to conceptual design, then only those folders tagged with the phase conceptual design, as well as those without a phase tag, will be visible during that phase. If you do not specify a phase, the folder will display during all project or shell phases. |

Document Properties Window (Linked Records Tab)

Click the **Expand** icon (⛶) to expand the **Linked Records** tab.

The **Linked Records** tab has a tabular log that displays the following information:

▶ **Record Number**
▶ **Name**
▶ **Title**
▶ **Status**
▶ **Upload Date**

The right-had pane of the **Linked Records** tab displays the **Record Details** tab. The **Record Details** tab has several fields that are categorized under the following blocks:

▶ **General**
▶ **Details**
▶ **Calculation**

Document Properties Window (Audit Log)

The **Audit Log** tab has a tabular log that displays the following information:

▶ **Date**
▶ **Event**
▶ **Action**
▶ **Field Name**
▶ **Old Value**
▶ **New Value**
▶ **User Name**
▶ **Proxy User**

Document Properties Window (Permissions Log)

The **Permissions** tab has several fields that are categorized under the following blocks:

▶ **Inherit permissions from the parent folder**
▶ **Selected Users/Groups**
▶ **Document Permissions**

Document Properties Window (Options Log)

The **Options** tab allows you to select the following option:

▶ **Revisions must have same file name**

Document Properties Window (E-Sign Log)

The **e-Sign Log** tab has a tabular log that displays the following information:

▶ **Signer**
▶ **Sign Status**
▶ **Initiated Date**
▶ **Completion Date**

View or Modify Document Properties

You can view or modify (with proper permissions) the **Document Properties** of uploaded files and empty documents. You can also import properties values. See Import and Export Folders, Properties, and Empty Documents.

View or Modify Document Properties (Standard View)

To view document properties (Standard View)

1) Select the document in the project or shell **Documents** log.
2) From the right-pane, select the **Properties** tab. The folder properties are displayed in the right-pane.

To view document options (Standard View)

1) Select the document in the project or shell Documents log.
2) From the right-pane, select the **Options** tab. The folder options are displayed in the right-pane.

To modify document properties (Standard View)

1) Select the document in the project or shell Documents log.
2) From the right pane, select the **Properties** tab.
3) Make your changes and select **OK**.

To modify document options (Standard View)

1) Select the document in the project or shell Documents log.
2) From the right pane, select the **Options** tab.
3) Make your changes and select **Save**.

> **Note**: The Administrator can specify values on the Document Attribute form (for Document Properties) that enable auto-sequencing (auto-numbering of documents). You can use document auto-numbering on documents across the Company level or the project/shell level. For

example, the Administrator can specify that a Document Name field uses auto-sequencing in order to give each document a unique number as it is created. The auto-numbering occurs when you click **Apply** or **OK** in the Document Properties window. Later, you can view the auto-numbering of the document by clicking the Properties button to view the Document Properties.

View or Modify Document Permissions

When you upload a document, or publish a document from the **Unpublished Documents** sub-node, you become its owner and have full access to it. You can grant other users access to it.

If you have granted folder-level permission to other users and allowed the permission to apply to the contents of the folder, those permissions will apply to the documents that you add to it automatically. They will appear as selected in the document permissions window. However, you can modify these permissions per document if needed.

View, Add, or Modify Document Permissions (Standard View)

To view the document permissions (Standard View):

1) Go to your project or shell (User mode) and click the **Document Manager** node to expand.
2) Click the **Documents** sub-node to open the **Documents** log (for **Project Documents**).
3) Click an item (document) from the log to select.
4) On the right-hand pane, click the **Permissions** tab to view the document permissions.

To add or modify the document permissions (Standard View):

1) Go to your project or shell (User mode) and click the **Document Manager** node to expand.
2) Click the **Documents** sub-node to open the **Documents** log (for **Project Documents**).
3) Click an item (document) from the log to select. You can select more than one item.
4) From the toolbar, click the **Actions** drop-down list and select **Permissions** to open the **Permissions** overlay page. Alternatively, if you are working with one item (document) only, then you can click the *gear menu* (⚙), next to the item, and click **Permissions**.
5) On the **Permissions** overlay page, you can add or modify the document permissions by using the following options:

   ‣ **Inherit form parent folder <parent folder name>**

   If the **Inherit permissions from the parent folder** checkbox at the top of the window is selected, the folder-level permissions will apply automatically and cannot be modified.

   ‣ **Assign new permissions**

1) Click **Save** when done, or click **Cancel** to close the **Permissions** overlay page without any changes.

   When you are working with more than one item (document), there is an additional option: **Save and Close**.

When you are working with permission of one item (document) only, there are additional options: **Previous** and **Next**. These additional options enable you to finish your work and navigate to permissions of the previous or the next item.

To modify the folder permissions, deselect **Inherit permissions from the parent folder**.

Do any of the following:

▸ To add a new user, click **Add** and add users or groups to grant permission. Select the user from the list and grant or remove individual permission.

▸ To remove a user's permissions, select the user from the list and click **Remove**.

▸ To modify a user's permissions, select the user from the list and grant or remove individual permissions.

Add or Modify Multiple Documents Permissions (Standard View)

To add permissions to multiple documents:

> **Note**: This option does not enable you to use the existing permissions for the selected documents. For example, if a user 'A' already has permission to one of the selected documents, and if the same user is selected again from the user group picker, then the user A's existing permissions will get overwritten with the new permissions.

1) Go to your project or shell (User mode) and click the **Document Manager** node to expand.
2) Click the **Documents** sub-node to open the **Documents** log (for **Project Documents**).
3) Select multiple documents.
4) From the toolbar, click the **Actions** drop-down list and select **Permissions** to open the **Permissions** overlay page.
5) On the **Permissions** overlay page, you can assign permissions to users or groups.

By default, permissions will be inherited from the common parent folder of all the chosen files. The inherited permissions will all be read-only. You have option to assign new permissions instead of choosing to inherit from parent folder.

The permissions of file owners can never be removed. If you select multiple files, add the file owners from the users- or group-picker, and click **Remove**, Unifier removes the file owners from the current permission window. Unifier does not remove permissions for the file owner.

If you switch between the **Inherit form parent folder <parent folder name>** and **Assign new permissions** options, then all the inherited permissions are removed and the **Permissions** page toolbar and grid is updated as if you are proceeding to create new permissions from scratch.

If you have already inserted one or more rows in the grid (manually or by copying from parent), and you decide to switch between the **Assign new permissions** and **Inherit form parent folder <parent folder name>** options, then Unifier displays a message stating that the manually added permissions will be erased and replaced with the inherited permissions. You will have the option to proceed or cancel.

Transferring Ownership (Standard View)

You can transfer ownership of a document, or multiple documents in a folder. The new owner will have all privileges of the original owner.

To transfer ownership (Standard View)

1) Select a folder, document, or multiple documents.
2) From the **Actions** menu, select **Transfer Ownership**.
3) Type the name of the user you would like to transfer the ownership to. As you type, the list of users are refined to show you the closest match.
4) Select a user from the list.
5) Click **Transfer**.
6) Click **Ok**.

Copy a Document (Standard View)

A document can be copied from one location to another, with the option to include any comments or markups associated with it. You can select and copy multiple documents or folders at once. If you copy a document owned by another user, you become the owner of the copy, and the original owner maintains original permissions on the original and copied versions.

> **Note**: You must select a destination folder that is different from the source folder. You cannot copy a document into the same location you are copying it from.

To copy a document (Standard View)

1) Select the document in the project or shell Documents log.
2) Select ⚙ **> Edit > Copy**.
3) Select the destination folder into which you want to place the document copy.
4) To copy with comments or markups attached to the document, select the **Include Comments/Markups** checkbox.
5) Click **Copy**.

> **Note**: To copy multiple document, select the documents and click **Actions > Edit > Copy**.

Move a Document (Standard View)

When a file is moved, comments or markups associated with the document are moved with it automatically. To move a document, you must have the following permissions: *Add Document* folder permission in the destination folder and *Move* document permission in the source folder. If a file with the same name exists in the destination folder, you can choose to either cancel the move, revise the file in the destination folder, or keep both the files. When you select the option to revise, the file in the destination folder is   revised and an entry is made in the Revisions tab. When you select the option to keep both files, the file you are moving will be appended with a number to distinguish it from the file that already exists. If you are moving multiple files at the same time, you can select the **Apply for all conflicts** checkbox to apply the same action for subsequent conflicts.

To move a document (Standard View)

1) Select the document in the project or shell Documents log.

2) Select ⚙ **> Edit > Move**.

3) Select the target folder into which you want to move the document.

4) Click **Move**.

> **Note**: To move multiple document, select the documents and click **Actions > Edit > Move**.

Rename a Document (Standard View)

You can rename a document, if your administrator has enabled the document name field as an editable and required field. When you rename a document, the change is reflected everywhere the document is referenced or linked. The name is also updated in formulas that use file name in its calculations. Each time a file is renamed, it is tracked and can be viewed from the Audit Log tab.

If you rename a file with a name that already exists in the same folder, an alert message is displayed. You can rename the file or choose to keep the same file name. If you choose to keep the same file name, it is appended with an integer. For example: Architecture Diagram.png will be renamed as Architecture Diagram(1).png.

> **Note**: You cannot change the extension of a file, you can only rename the file.

To rename a document (Standard View):

1) Select the document in the project or shell Documents log.

2) Select ⚙ **> Edit >   Properties**.

3) Enter a new file name and click **OK**.

Delete a Document (Standard View)

When you delete a document, it is moved to the Recycle Bin. Items in the Recycle Bin can be restored to their original location or permanently deleted. You can select and delete more than one document at once.

A document that is attached to a business process record is linked to it and cannot be deleted from the Document Manager. The document will show a linked records icon next to the document in the BP column of the document log. However, if the latest version of the document is not linked to a business process, the icon will not display in the log. You can select the document and click **View > Revisions** to check if an older revision has linked records. In addition, a document may also contain links to business processes that are still in draft, and which will not display as a link to the document until the BP record is sent.

> **Caution**: Use caution when deleting drawing base or reference files. Deleting a linked reference file will cause the file to be marked as missing on the corresponding base drawing file.

Tip: If you need to remove a document that cannot be deleted, move it from its original location into another folder with limited user access.

To delete a document (Standard View)

1) Select the document in the project or shell Documents log.

2) Select ⚙ **> Edit > Delete**.

3) Click **Yes** to confirm. The document is moved to the Recycle Bin.

> **Note**: To delete multiple document, select the documents and click **Actions > Edit > Delete**.

Revising Documents

To revise a document, you replace the current version with a new one that you upload from your local machine. The new file does not necessarily have to have the same file name as the original. This is also how you populate an empty document in Unifier with the completed document from your local machine.

The newest version of a document is available in the project or shell Documents log. Earlier versions can still be accessible in the View Revisions window. When a document is revised, the file itself is never changed. It remains untouched. Each version is maintained separately.

The procedures for uploading revisions are the same as for uploading files.

> **Note**: You can help control revisions by locking documents or checking them out prior to revising. If you have locked the file, you must unlock it before proceeding. If you have checked it out, you can revise it by checking it in, or cancel the check out before proceeding.

To revise a document using the revise function

1) Do one of the following:

> ▸ If you are revising a file with a new version with the same file name, proceed to the next step.
>
> ▸ If the revised file has a different name, select the document in the documents log, click the **Properties** button and select the **Options** tab. Be sure the **Revisions must have the same file name** checkbox is not selected.

2) Select the document in the documents log.

3) From the **Edit** menu, click **Revise**. The Revise File window opens.

4) Click **Upload** to upload the revised file into the Document Manager.

The publication number (Pub. No.) of the file increases by one for each revision uploaded. For example, the first time you upload a document, the publication number is 1. If you revise it, the publication number becomes 2, and so on.

To revise a document automatically upon uploading

1) Follow the procedure for uploading documents.

2) In the Upload window select the **Revise automatically if file with same name exists** option.

3) If you are uploading a file that has the same file name as a document that already exists in the Document Manager target folder, that document will automatically be revised to the newly uploaded version.

To learn more about comparing two versions of a document and file attachments refer to *Unifier Business Processes User Guide*.

Viewing Previous Revisions (Standard View)

You can view earlier versions of a revised document, including any comments or markups or linked BPs on previous versions.

To view earlier versions of a document (Standard View)

1) Open the project or shell and click **Document Manager** > **Documents** in the left Navigator.

2) Select a document in the log.

3) From the right-pane, select the **Revisions** tab. The current and any previous versions of the document are displayed on the right-pane.

4) You can select a file version and perform one the following actions:

> ▸ **Open** to view the file in the default viewer.
>
> ▸ **Open In AutoVue** to open the file using AutoVUe
>
> ▸ **Download** to download the selected version.
>
> ▸ **Restore this Revision** to make the selected file the current version of the file
>
> ▸ **Comments** to view any comments added to the selected version.
>
> ▸ **View References** to view any associated drawing reference files.
>
> ▸ **View Linked Records** to view the list of business process records to which the selected version may be linked.

Restoring to a Previous Revision

You can revert to a previous version of the file,   if you have the **Revise Document and Resolve References** permission. When you restore a file, all comments and references associated with it are also restored. It also gets tracked in the Audit log.

If the option **Revisions must have same file name** is checked, you cannot restore to a revision with a different name.

> **Note**: The following HTML special characters   **/ \ : * ? " < > |** cannot be used in the file name.

 The selected version becomes the current version.

1) Open the project or shell and click **Document Manager** > **Documents** in the left Navigator.
2) Select a document in the log.
3) From the right-pane, select the **Revisions** tab. The Revisions tab is displayed only if the file has revisions. The Revisions tab displays all previous versions of the document.
4) Select the version you want to revert to and select ⚙ **> Restore this Revision**. The selected file now becomes the current file. This change is tracked and can be viewed from the **Audit** tab. The **Restore this Revision** option is displayed only if you have the **Revise Document and Resolve References** permission.

Check-in and Check-Out Documents

The Document Manager's check-in and check-out capability helps you have greater control over document revisions. If you need to revise a file, you have the option of checking it out, which locks it and prevents others from modifying it. It is available to other users as view only. You can make changes to the document as necessary, then check in the new revision.

The procedure for checking out a document is similar to downloading a document. The procedure for checking in a document is similar to the procedure for revising a document.

When a document is checked out, the check-out icon appears next to the document name in the Document Manager log.

To check out a document
1) Select the document in the project or shell Documents log.
2) In **Classic View**: click the **Check Out** button or click **Edit > Check Out**. In **Standard View**: select ⚙ **> Actions > Check out**.
3) Download a copy of the file to your local system.

> **Notes**:
>
> - If you cancel the download procedure, the document will still be checked out to you.
> - To check out multiple documents, in Standard View, select multiple documents and select   **Actions > Edit > Check Out**.

The **Check Out** icon appears next to the document in the log. You can upload a new revision and check the document back in, or you can cancel the check out without revising the document.

To check in a new revision of a checked out document

1) Select the document in the project or shell Documents log. Checked-out documents have an icon in the lock column.
2) In **Classic View**: click the arrow next to the Check Out button and choose **Check In** or select **Edit > Check In**. In **Standard View**: select ⚙ **> Actions > Check in**.
3) Click **Upload** to upload and check in the revised file into the Document Manager.

   The publication number (Pub. No.) of the file increases by one for each revision uploaded.

> **Note**: To check in multiple documents, in Standard View, select multiple documents and select   **Actions > Edit > Check In**.

To restore a checked out document without checking in a new revision

1) Select the checked out document in the project or shell Documents log.
2) In **Classic View**: click the arrow next to the **Check Out** button and choose **Cancel Check Out** or select **Edit > Cancel Check Out**. In **Standard View**: select ⚙ **> Actions > Cancel check out**.

   The document will no longer be checked out.

> **Note**: To restore multiple checked out documents, in Standard View, select multiple documents and select   **Actions > Edit > Cancel Check Out**.

To ascertain which user has a document checked out

1) Select the checked out document in the project or shell Documents log.
2) In **Classic View**: click the **View** menu and choose **Audit Log**. In **Standard View**: from the right-pane, select the **Audit Log** tab. The Audit Log report displays the complete history of the document, including who last checked out or revised it.

Lock and Unlock Documents (Standard View)

If you are the owner of a document, you have the option of locking the document to prevent it from being revised or modified. Once a document is locked, only the document owner (or an administrator with proper permissions) can unlock it.

When a document is locked, users can:

- View the document, revision log, and audit log.
- Download or copy the document.
- Create a shortcut to the document.
- Modify document permissions.
- Move a document, or move the folder containing the document.

When a document is locked, users cannot:

- Delete, revise, edit properties, transfer ownership, or add comments or markups.

To lock or unlock a document (Standard View)

1) Select the document in the project or shell Documents log.

2) Select ⚙ **> Actions > Lock** or **Unlock**.

> **Notes**:
> - Only the document owner or an administrator with full access can lock or unlock a document.
> - To lock or unlock multiple documents, select **Actions > Edit > Lock** or **Unlock**.
> - Only the document owner or an administrator with full access can lock or unlock a document.

Adding and Viewing Graphic Markups and Comments

You can add text comments or graphical markups to a document in project or shell Documents. You can even add a file attachment directly to the comment, for example, supporting documentation.

Comments and markups can be added to the latest version of a document only. You can view but not add or modify comments or markups made to previous versions.

Text comments are like notes that accompany the document but do not become part of it.

Markups can be thought of as an invisible layer, like a sheet of acetate that can be laid over the document. If multiple users create markups, each markup is on a separate sheet and can be viewed together, one at a time, or not at all. Markups are always associated with a text comment.

Text comments and graphic markups can be copied between business process records and the Document Manager, including:

- Comments added to documents in the Document Manager
- General comments added to business process records
- Comments added to file attachments on non-Document-type BP records
- Comments added to file attachments (line item content) of Document-type BP records
- Markups on file attachments that have been added to comments

Opening a Document to View Comments (Standard View)

To open a document using the default Unifier Viewer (Standard View)

1) Select a document

2) Select ⚙ > Open to open a document in the default Unifier viewer. The document along with the associated comments are displayed in one window

To open a document using AutoVue (Standard View)

1) Select a document

2) Select ⚙ > Open in AutoVue to open a document in AutoVue. This option displays only if your Unifier server is configured to use AutoVue.

Adding Markups, Comments, and File Attachments (Standard View)

Note: All comments are displayed in both viewers regardless of which viewer the comments were added in. Markups are visible only in the viewer they were made in.

Using Unifier Default Viewer

1) Select a document

2) Select ⚙ **> Open** to open a document in the default Unifier viewer.
3) Click the **Comments** icon.
4) Click the **Annotation** icon to display the annotation toolbar.
5) Use the annotation toolbar to markup your document.
6) Enter your comments and click **Post**.
7) To add attachments to your comments, click the **Attachment** icon.

Using Autovue Viewer

This option displays only if your Unifier server is configured to use AutoVue.

1) Select a document

2) Select ⚙ **> Open in AutoVue** to open a document in AutoVue.
3) Ensure you have selected the latest revisions of the document.
4) Click the **Markup** icon in the **Comments and Revision** window.
5) Use the markup toolbar displayed in the **Document** window to markup up your document.
6) Enter your comments in the **Comments and Revisions** window and click **Post**.
7) To add attachments to your comments, click the **Attachment** icon.

Viewing and Adding New Markups in AutoVue

In addition to adding markups to a DM document, you can add and view old markups simultaneously. With this functionality, multiple members can add various markups across shared files throughout the life cycle of a design document.

When you select **Open in AutoVue** in the *gear menu* (⚙) of the document, a **View All Markups** option is available in the **File Viewer** of the **Comments and Revisions** window. If you select **View All Markups**, the document is displayed in View-Only mode.

You can also choose the markups that are displayed by selecting the checkbox next to each markup. After selecting **OK**, all the chosen markups are displayed.

Add a Comment to a Document in the Document Manager (Classic View)

To add comments to a document (Classic View)

1) Open the project or shell and click **Document Manager > Documents** in the left Navigator.
2) In the documents log, open the document.
3) Click the **Comments** button. The **File Comments** window opens.
4) Add a text comment in the **Text Comments** box. You can click the **Spelling** button to run the spell check on your comment.

> **Note**: You also have the option of adding graphic markups and attaching a file to the comment. You must add some text in order to save the **View Comment**s window, even if you are adding graphical markups or attaching a file.

5) Click **OK** to save your changes and exit the **File Comments** window.

> **Note**: Until you click **OK** in the File Comments window, the comments, including any attachments and markups, are still in **Draft** mode. At this time, you can add or edit comments or markups to any file attachments, or add or remove file attachments from the comment.

Add a graphic markup to a document in the Document Manager (Classic View)

Graphic markups are added through the comments function. These are stored with the document (e.g., a drawing) in the attached comment, but do not become part of the document itself.

To add a graphic markup to a Document Manager document

1) In the project or shell Documents log, select the document to markup.
2) Click the **Comments** button. The File Comments window opens.
3) Click the **Markup** button. You can also click the Graphic Markup link, which displays as Add if there are no markups on the document, or View if there are existing markups associated with this comment.

   The **AutoVue viewer** opens displaying the document content. The window opens initially in view mode, which allows you to view and print the document only.
4) In the viewer window, click the **New Markup** tool or **File > New Markup**.

   If there are existing markups, the Markup Files window opens. Each saved markup session is listed in the window. Select the checkbox by the markups to view and click **OK**.

The viewer switches to markup mode and the markup tools become available.

5) Add graphic markups to the document as necessary, using the tools on the horizontal toolbar.

> **Note**: Each markup is a separate entity. The navigation pane on the left shows the Bookmarks tab and Markup Tree tab. The Markup Tree tab shows the markups. Click an entity to select it and delete, modify, etc.

6) Click the **Save** button or **File > Save** to save your markups. Enter a name for the markup and click **OK**.

> **Note**: Markups are saved as a single layer and are no longer editable once you close the window. Each markup is listed by name in the Markup Tree tab (in the viewer window) as a separate layer. To add another markup layer, click the New button.

7) When you have completed your markups, close the viewer window to return to the File Comments window.

> **Note**: At this point, the comment is still in Draft mode. You can add additional markups or file attachments if desired. You must enter some text in the Text Comment box in order to save.

8) Click **OK** to save and exit the File Comments window.

Attach files to a comment (Classic View)

If you want to provide additional information regarding a comment or markup, you can attach a file to the comment. The file attachment is associated with a specific comment. If you attach a file, you must also enter text in the Text Comments window.

You can add graphical markups to files that you attach to a comment, as long as it is in Draft mode. This means that you can add the markups to the attachment as long as the comment has not yet been saved, and the file attachments are accessible from the Add New Comments portion of the View Comments window.

To attach files to a comment

1) Open a folder and select a document in the project or shell Documents log.
2) Click the **Comments** button. The View Comments window opens.
3) Add a comment.
4) Click the **Attach** button and choose one of the following:
   - **My Computer** to attach the file from your local system. The procedure is the same as for uploading files to the Document Manager.
   - **Primavera Unifier Folder** to attach documents from the Document Manager. The window opens, displaying the project or shell Documents files and folders. Select the files and folders to attach and click **OK**. Folders are not attached. The contents of selected folders are attached in a flat list. Documents with duplicate files names will not attach.
5) When you are done attaching files, click **OK** to save the comment with the attachment. Once you save the comment with file attachments and markups, it cannot be modified.

> **Note**: Until you click OK in the View Comments window, the comment, including any attachments and markups, are still in Draft mode. At this time, you can add or edit comments or markups to any file attachments, or add or remove file attachments from the comment. You must add text in the Text Comments area to save the View Comments window, even if you are adding markups or attaching a file.

To remove a file attached to a comment

1) In the **Add New Comments** portion of the View Comments window, click the link next to **Attachments**. The Attachments window opens.

2) Select the file to be removed and click **Remove**.

To mark up a file attached to a comment

1) In the **Add New Comments** portion of the View Comments window, click the link next to **Attachments**. The Attachments window opens (see below.)
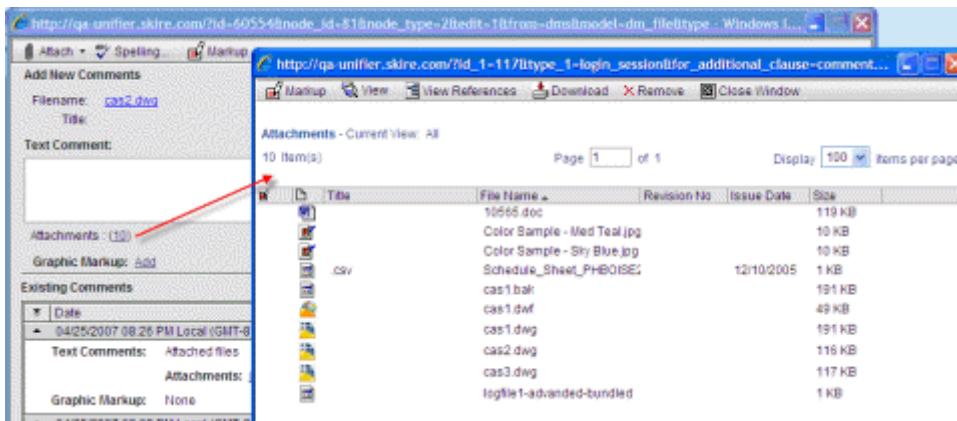
2) Select the file and click **Markup**. Follow the procedures for marking up a document.

View comments, markups, and file attachments on comments (Classic View)

Documents with comments or markups are displayed in the documents log with an icon in the Comments column.

To view text comments (Classic View)

1) Select the file with the **Comments** icon next to it.

2) Click the **Comments** button. The View Comments window opens.

   Any previously added comments, attachments, and graphical markups are listed in the Existing Comments (lower) portion of the View Comments window. As you add new comments, markups, or attachments, they are displayed in the Add New Comments (upper) portion of the window.

Text comments are displayed in their entirety.
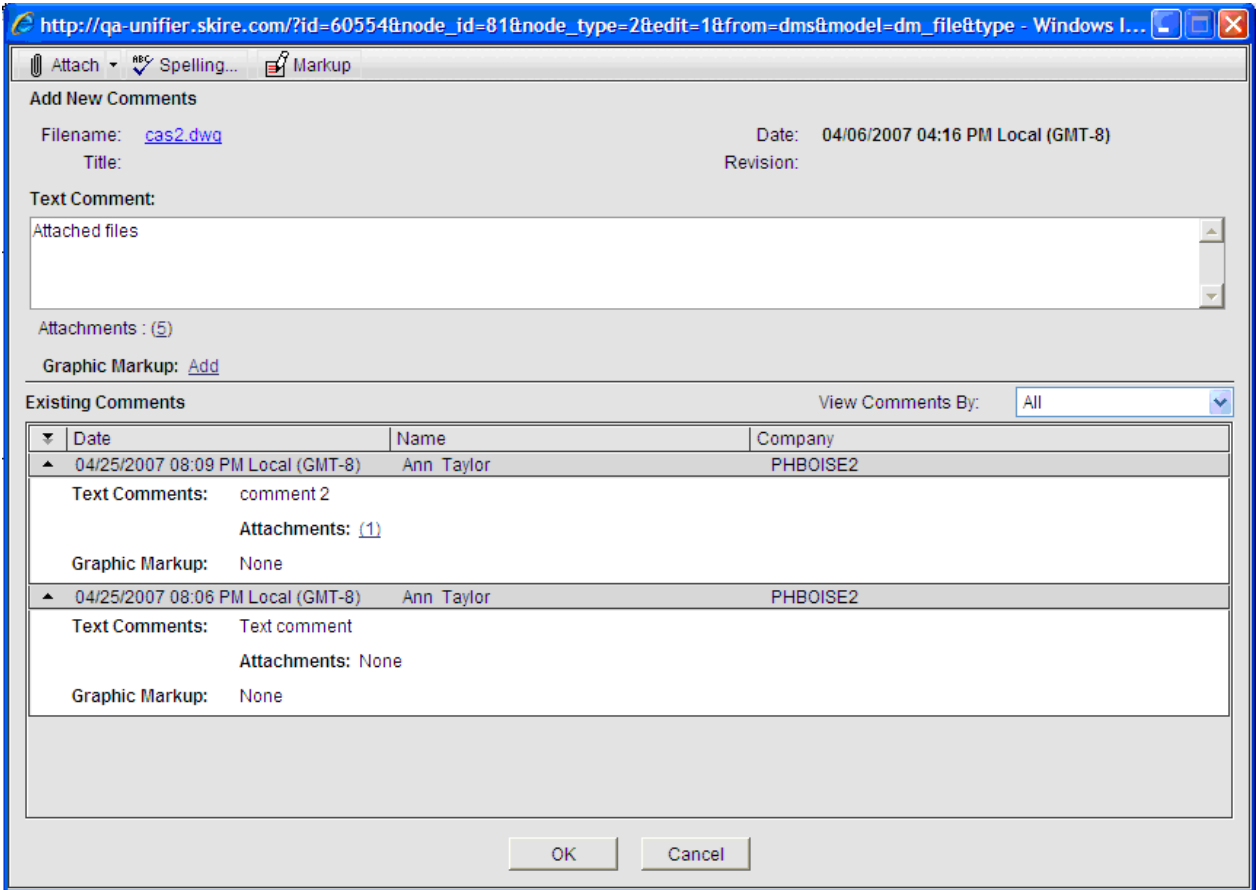
View comments

To view markups per comment (Classic View)

1) In the project or shell Documents log, select the document to view.

2) Click the **Comments** button. The File Comments window opens.

3) Click the **Markup** button. The AutoVue viewer opens displaying the document content. The window opens initially in view mode.
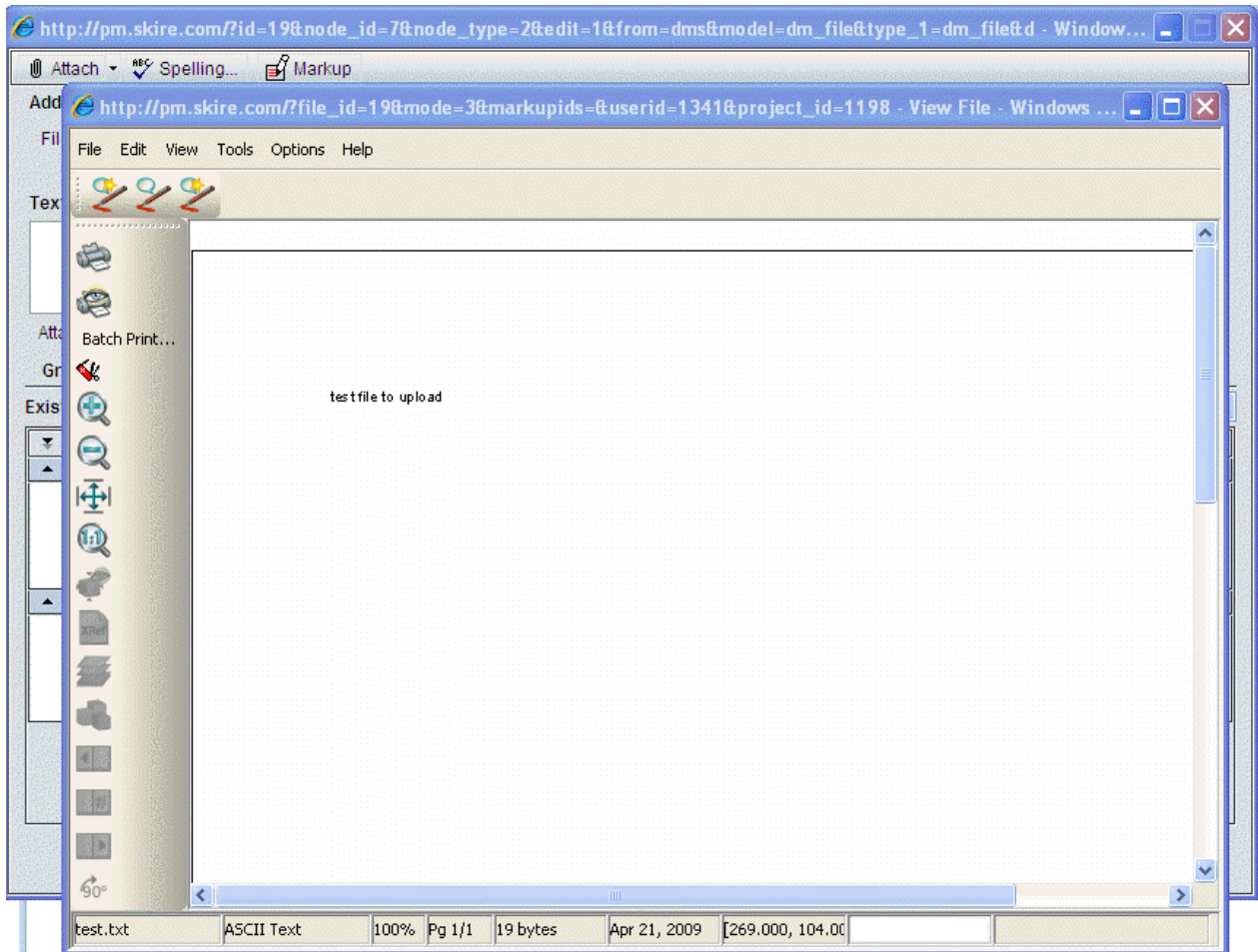
AutoVue viewer in view mode

4) Click the **New Markup** button or select **File > New Markup** to switch from view to markup mode, and choose which existing markups to view.
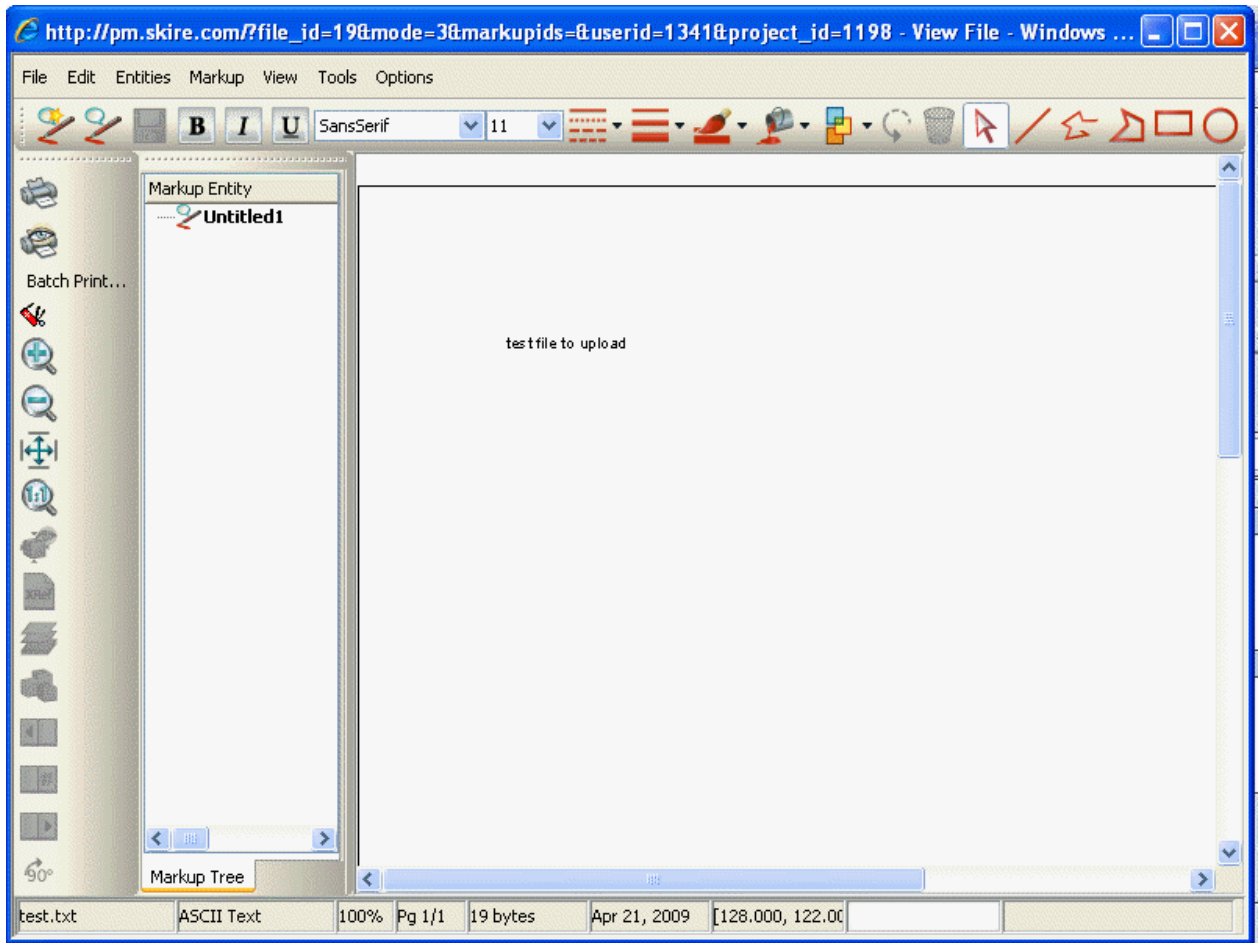
AutoVue viewer in markup mode

To view or download files attached to a comment (Classic View)

1) In the View Comments window, if there are file attachments to an existing comment, the number of file attachments will display as a link. Click the link next to **Attachments**. The Attachments window opens listing the attached files (see below.)
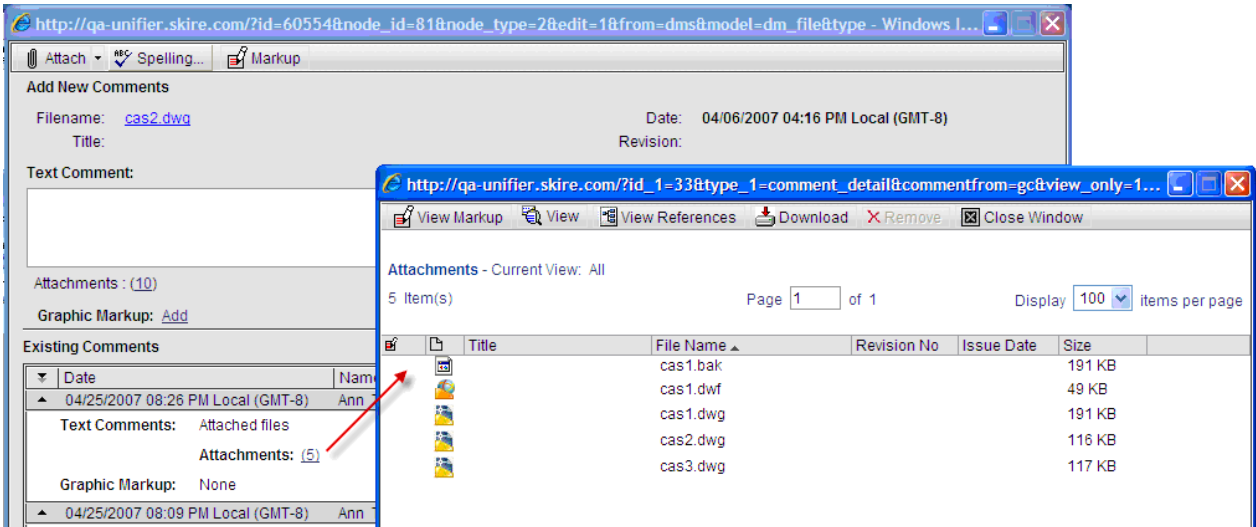
2) You can do the following:

‣ To view any graphical markups made on the attached file, select the file and click the **View Markup** button.

‣ To view the file attachment, select it and click the **View** button. The file will open in the native software application or the AutoVue viewer, depending on your File Viewer option in your user preferences.

‣ If any of the attached files is a drawing file, select it and click the **View References** button to view the associated reference files.

‣ To download a file attachment, select it and click the **Download** button. Follow the procedure for downloading files from the Document Manager.

3) Close the window.

Resolving Missing Reference Files (Reference Manager)

Base files store the reference file paths in the header. During the auto-resolve process, Primavera Unifier reads the path in the header and then looks for the reference files based on this path. If the reference file path cannot be read, or if the reference files cannot be found in the path specified by the header, the references are flagged as missing.

> **Note**: Nested reference files are not supported. For example, a base file references a reference file, which in turn references another reference file (that is, the first reference file is a base file for the second). Primavera Unifier does not try to resolve missing nested reference files.

You can resolve missing reference files during or after uploading into Primavera Unifier. You can resolve missing references within the Document Manager in several ways: manually upload a missing file from your computer; link to a reference file that is already in project or shell or company documents; or let Primavera Unifier attempt to auto-resolve it by searching for the missing reference.

> **Note**: The auto-resolve process will search for the missing attachment in the Primavera Unifier folder path as defined in the base file header and in the same folder as the base file.

View Missing and Attached Reference Files (Standard View)

To view missing and attached reference files (Standard View)

1) In the document log, select a drawing file that has reference files. The drawing file will have a checkmark or an X in the Ref column of the log if there are associated references.
2) From the right-pane, select the **References** tab. The following information is displayed:
   ‣ **Missing:** Reference files could not be found. They can be auto-resolved or resolved manually.
   ‣ **Private:** Reference files are bundled with the drawing file, not linked.
   ‣ **Static link:** Links to a particular version of an existing reference file within the Document Manager. Static links can only be created to the latest document version. If the reference file is then revised, the link will point to the original version. Once linked, files cannot be revised with a different file name.
   ‣ **Dynamic link:** Links to an existing reference file within the Document Manager. If the file is revised, the link is refreshed and points to the newer version. Once linked, files cannot be revised with a different file name.

Manually Resolve Reference Files

To resolve a missing reference file by uploading from your computer

1) In the Reference Manager tab, select the missing reference file.
2) Click the **Add from My Computer** button. The File Upload window opens.
3) Browse to the file and click **OK**.window

To resolve a missing reference file by linking to an existing file

1) In the Reference Manager tab, select the missing reference file.
2) Click **Link To Document**. The Link to Document window opens.
3) Browse to the reference file to link to.
4) Select one of the following options:

> ‣ **Static link:** Links to a particular version of an existing reference file within the Document Manager. Static links can only be created to the latest document version. If the reference file is then revised, the link will point to the original version. Once linked, files cannot be revised with a different file name.
>
> ‣ **Dynamic link:** Links to an existing reference file within the Document Manager. If the file is revised, the link is refreshed and points to the newer version. Once linked, files cannot be revised with a different file name.
>
> ‣ **Local copy of the Primavera Unifier document:** Makes a copy of the existing reference file into the current folder and is not linked directly to the original version.

5) Click **OK** to save and close the Link to Document window.

Auto-Resolve Missing Reference Files

To auto-resolve missing reference files:

1) In the Reference Manager tab, select the missing reference file.
2) Click the **Auto-resolve Missing References** button.
3) Select **Static Link** or **Dynamic Link**.

> ‣ **Static link:** Links to a particular version of an existing reference file within the Document Manager. Static links can only be created to the latest document version. If the reference file is then revised, the link will point to the original version. Once linked, files cannot be revised with a different file name.
>
> ‣ **Dynamic link:** Links to an existing reference file within the Document Manager. If the file is revised, the link is refreshed and points to the newer version. Once linked, files cannot be revised with a different file name.

4) Click **OK**. Unifier will search for the missing reference file based on information in the header of the base file. If the missing file is found, it is listed in the Auto-resolve window.

Copy or Move Reference Files (Classic View)

If you need to copy or move reference files, it is recommended that you do so through the Reference Manager in order to maintain proper links between drawing and reference files.

To copy a reference file (Classic View)

1) In the document log, select a drawing file that has reference files. The drawing file will have a checkmark or an X in the Ref column of the log if there are associated references.
2) Click the **View** menu and choose **References**. The Reference Manager window opens.
3) Select the reference to copy and click the **Copy** button. The Copy Reference window opens.
4) Browse to the target folder within project or shell Documents.
5) Click **OK**. A reference will be copied to the target folder.

To move a reference file (Classic View)

1) In the Reference Manager window, select the reference to move and click the **Move** button. The Move Reference window opens.
2) Browse to the target folder.
3) Choose one of the options in the lower portion of the window. The reference file will maintain a link to the drawing file based on the option you choose:

> ▸ **Create reference as dynamic link:** If the reference is revised, the link is refreshed and points to the newer version.
> ▸ **Create reference as static link:** If the reference is revised, the link points to the original version.

4) Click **OK**. The reference file is moved to the target folder.

Send for E-Signature (Standard View)

To send a document to an internal or external user for electronic signature:

1) Go to your project (**User** mode).
2) Click **Document Manager** node to expand.
3) Click **Documents**.
4) Select a document, click **Actions** drop-down menu, and click **Send for e-signature** to open the **Send for E-Signature** window.

   You can select more than one document.
5) Select either an internal or external user.

   The **Internal user** field enables you to either enter a user name or select from the **User Picker** window.

   The **External user** field enables you to either enter a user name.
6) Enter the subject. The **Subject** field is mandatory. The attached document appears under the Subject field. Click the drop-down menu to see your options.
7) Enter a message (fewer than 4000 characters) in the field (Optional).
8) Click **Send**.

Alternatively, you can click to select the document, click the *gear menu* (⚙), and use **Sign** or **Send for e-Signature**.

The *gear menu* (⚙) enables you to conduct the following operations on a document:

- ▸ **Open**
- ▸ **Open in AutoVue**
- ▸ **Download**
- ▸ **Add to Favorites**
- ▸ **Create**
  - ▸ **Business Process**
- ▸ **Actions**
  - ▸ **Revise**
  - ▸ **Check Out**
  - ▸ **Check In**
  - ▸ **Cancel**
  - ▸ **Lock**
  - ▸ **Unlock**
- ▸ **Transfer Ownership**

▶ **Properties**
▶ **Move**
▶ **Copy**
▶ **Delete**

E-sign Log tab

If you configure and activate the entity that provides electronic signature technology (DocuSign or AdobeSign) credentials in the **Company Properties** > **E-Signatures** tab and a document has been self-signed, or a document has been sent to internal or external user, when the recipient selects the document in the Document Manager log, in addition to the existing tabs on the right-hand side, the log displays the **E-sign Log** tab. The **E-sign Log** tab contains:

▶ The message that was sent when the sender clicked **Send** in the **Send for E-Signature** window.
▶ A list of all users who received the document for signature.
▶ A list of all users who self-signed the document.
▶ Print option.
▶ Download option.
▶ The columns for Signer, Sign Status, Initiated Date, and Completion Date.

E-Signature Status column

If you configure and activate the entity that provides electronic signature technology (DocuSign or AdobeSign) credentials in the **Company Properties** > **E-Signatures** tab, Unifier displays the **E-Signature Status** column in the Document Manager log (**View** > **All**). When creating a new view, you can include the **E-Signature Status** column in any order you select for the log. The following values are displayed in the **E-Signature Status** column:

▶ **In-Progress**

When at least one signer or assignee has to bring the signing task to a **Terminal** status (**Completed**, **Declined**, or **Reassigned**).
▶ **Completed**

When the status is marked **Completed** or **Reassigned**.
▶ **Declined**

When the status is marked **Declined** by at least one signer or assignee.

If there are more than one signer, then the **Declined** status overrides the status for other signers.

> **Note**: These values are represented by yellow, green, and red icons.

In the **E-Signature Status** column, the values are sorted by **Completed**, **In-Progress**, and **Declined** statuses.

You can use the following file types if you select **DocuSign**:

Docu ment	.doc, .docm, .docx, .dot, .dotm, .dotx, .htm, .html, .msg, .pdf, .rtf, .txt, .wpd, .xps

Image	.bmp, .gif, .jpg, .jpeg, .png, .tif, .tiff
	.dwg: If DocuSign does not support this type of file, then Unifier converts it to a .pdf prior to sending it for e-sign.
Presentation	.pot, .potx, .pps, .ppt, .pptm, .pptx
Spreadsheet	.csv, .xls, .xlsm, .xlsx

You can use the following file types if you select **AdobeSign**:

Document	.doc, .docx, .txt, .rtf, .odt
Image	.jpg, .png, .gif, .tif
	.dwg: If AdobeSign does not support this type of file, then Unifier converts it to a .pdf prior to sending it for e-sign.
Presentation	.ppt, .pptx
Spreadsheet	.xls, .xlsx

Some LiveCycle Designer forms for dynamic XFA PDFs created by LiveCycle are not supported.

About Actions options

If a document is already sent for E-Signature, and the signing process is not yet complete (the E-Signature status has not yet reached a terminal state), you cannot check-out, lock, or revise that document. If you try to check-out, lock, or revise the document, Unifier displays: This action cannot be performed on documents whose E-Signature process is not yet complete.

About email containing an E-Signature task

When you (a Unifier user) receive an E-Signature email notification to sign a document, click the **Login** option in the email, enter your sign-in credentials. Unifier opens the document in DocuSign or AdobeSign and you can sign.

> **Note**: To receive E-signature task notification emails, ensure that you have selected to receive emails with E-Signature task in your **Preferences**.

Exceptions:
- If the **E-signature** node is not deployed from the user mode navigator for the project or shell in which the task resides, then, when you sign in, Unifier takes you to the home tab of the **E-Signature Tasks** node, and the E-Sign task can be accessed from this log.

▸ If the **E-signature** node is not deployed for the **Home** tab as well, then, when you sign in, Unifier takes you to the project or shell landing page and displays the message: You do not have permission to view E-Signature tasks. Contact your Company Administrator.

The above conditions apply only if the status of E-Signature Task that is sent to you is "In Progress." If the status is not "In Progress," then the task window does not appear. Instead, you will be navigated to the E-Signature node in the respective project, shell, or home tab (or to the shell landing page, if the node is not deployed. In this case, you will be presented with the message: You do not have permission to view E-Signature tasks. Contact your Company Administrator.).

Document Manager (DM) and E-Signature

When the E-signature process for a document is incomplete (E-Signature Status = In Progress), the E-Signature request sender or the document owner can right click at the document or click the *gear menu* (⚙) and select **Recall E-Sign Request**.

> **Note**: This option is not available when the E-Sign process is already complete or when a document has not been sent for E-Sign.
> Alternatively, you can click the Actions option (toolbar) and select Recall E-Sign Request.

If you select multiple documents in the *Document Manager (DM) Log* and select **Recall E-Sign Request**, then:

▸ If all of the selected documents are such that their E-Signature Status = In Progress, then for each document:

  ▸ The E-Signature request sent out to each signee who has not yet completed the E-Signature request (E-Signature Status = In Progress) is recalled, and the E-Signature Status = Recalled.

  ▸ The E-Signature status column in the DM log is set to Recalled.

  > **Note**: There might be signees who have completed the E-Sign request. Irrespective, the E-Signature Status for the file in DM is set = Recalled.

  ▸ The E-Signature Status in the E-Signatures node for each signee who has not yet completed the E-Sign task is set = Recalled, in the E-sign log as well as in the E-Signatures log.

  ▸ When you proceed to open a task that has been recalled, Unifier displays the alert: This E-signature task has been recalled and cannot be acted upon.

  ▸ If an E-Sign request is recalled for an external user, then that user will not be able to act upon the E-Sign request by clicking at relevant links in the E-Sign email from AdobeSign or DocuSign.

▸ If any document in the user's selection has a completed E-Signature request, or it has not been sent for E-Signature at all, no change will take place, and Unifier ignores the recall request.

The Recall E-Sign Request option is available only to the:

▸ E-Signature request sender
▸ Document Owner

Other users will not be able to view or take action even if all other conditions are met.

When you select a file in DM Tile View and click the *gear menu* (⚙), the following options are available depending on the E-Signature Status of the selected document:

- Self-sign
- Send for E-Signature
- Recall E-Sign Request

Additionally, similar to the Flat View, the E-Signature related actions are available when you select one or more files in Tile View and click Actions.

Document Manager (DM) Filters

You can filter files (Document Manager > Documents > Edit View > Filters) in the DM log based on the E-Signature status. If all of the E-Signature features are enabled for the Company, Shell, and Project home landing pages, then the Edit View > Filters tab within the Document Manager log displays the E-Signature status as a field on the basis of which user can filter the records. You can filter on basis of multiple E-Signature statuses, and you can see the operators "equals" and "does not equal." The options are available at the end of all other fields, if configured, in uDesigner.

Document Manager (DM) Log

If your company, shell, or project is configured for E-Signatures (E-Signatures functionality is enabled), then:

- The "Search" window within the DM log displays the "E-Signature Status" as an option enabling you to search for files with particular E-Signature statuses within the DM. The search parameters are available at the very end of the list of all other parameters within the "Search" window, and you can conduct a search on the basis of E-Signature Status.
- Your search results log displays the "E-Signature Status" enabling you to filter the DM files based on the E-Signature status that you are searching for.
- The **View** > **All** option enables you to view all files and run the find option on the "E-Signature Status."

If your company, shell, or project is configured to display a value for the E-Signature type (AdobeSign or DocuSign), then:

- When you export, or import, the structure and properties of a file in the DM, the csv will contain an additional column: "E-Signature Status," before the "Categories" column. The value of the status cannot be modified because the value is system-populated based on the file status through the E-Signature process.
- An export file is populated with the E-Signature status value, but an import file will always ignore the values contained in the "E-Signature Status" column.

> **Note**: If you enter values in this column during import, Unifier will ignore your input and run the import for remaining columns that allow modification.

If there are pending e-signature tasks for an existing E-signature type and you change the E-Signature type at shell or project level, then Unifier will display an alert message allowing you to recall those pending e-signature tasks and change the E-Signature type. If you do not recall the pending tasks, then the E-Signature type at shell or project level will not change.

If you change the E-Signature type of a shell or project from "Default" to another value that matches the "Default" set at the company level, and there are pending E-Signature tasks for the "Default" E-Signature type, then Unifier displays a message that the newly chosen E-Signature Type value is the same as the company Default and allows you to decide whether you still want to change the E-Signature type, or not. The same behavior applies when you change the E-signature type to "Default," and the "Default' value is the same as the current E-Signature type value.

Linked Documents

If a DM file is attached to a BP record, Unifier allows you to sign or send it for E-Signature from within the DM.

If a linked file is sent out for E-signature, the BP record will remain linked to the original file. The E-signature status, E-Signature log, etc. from DM does not reflect back into the BP record. When the E-Signature process from DM is completed, then the BP continues to show as linked to the original file. The DM, however, displays the signed and revised file.

> **Note**: If you link a DM file to a BP record and send the DM file for E-Signature from the DM as well as the BP record, the result will be similar to as if you attached a checked-out file from DM to a BP record. In this case, Unifier revises the file on the BP record (the E-Signature request (DM or BP record) that is completed first revises the file in the DM first).

Organize Folders

If you have the permission settings, you can quickly move folders up and down the folder tree using the organize folders feature. This only reorganizes the folder order on the folder tree (left pane). The documents view (the right pane) always lists folders alphanumerically.

> **Note**: Unless you have module-level organize permission, you will not be able to move first-level folders if the first-level structure is locked.

Organize Folders (Classic View)

To organize folders (Classic View):

1) In project or shell Documents, click **Edit > Organize Folders**. The Organize Folders window opens, displaying the project or shell documents folder structure.

2) You can expand folders to display subfolders by clicking the **+** next to the folder name.

3) Select a folder and click **Move Up** or **Move Down** as needed. Any subfolders will move with the selected folder.

4) Click **OK**.

Rename a Folder (Classic View)

To rename a folder (Classic View):

1) Select the folder in the project or shell Documents log.

2) Click the **Edit** menu and choose **Rename**. The Rename Folder window opens.

3) Enter the new folder name in the **To** field and click **OK**.

Creating and Managing Shortcuts

You may create convenient shortcuts to frequently used documents or folders.

Document and folder permissions always take precedence. That is, you must have the proper permissions to view, open, or modify the document or folder to which the shortcut is pointing.

Use Shortcuts

Shortcuts are a convenient way to quickly navigate to important or frequently used documents and folders. They can be used to quickly access and view a document or folder. Shortcuts cannot be downloaded.

> **Note**: If a folder or document is moved, any shortcuts that have been created for it will point to the new location. However, if you rename or delete a document or folder, any associated shortcuts will not be automatically modified. Users who try to use a shortcut to a document or folder that has been renamed or deleted will see an error message.

To use a shortcut

Do one of the following:

▸ Select the shortcut in the project or shell Documents log and click **Open**.

▸ Double-click the shortcut.

If the shortcut is to a folder, the folder opens in the folders view, displaying the contents. If the shortcut is to a document, the document opens.

Create a Shortcut (Standard View)

You may create a shortcut to a document or a folder. Clicking a shortcut to a folder displays the folder contents. Clicking a shortcut to a document opens the document for viewing.

> **Tip**: For ease of use, create shortcuts to commonly used documents and

folders and store them in a central folder.

To create a shortcut (Standard View)

1) Select the folder in which you want the shortcut to reside.

2) Select ⚙ **> Create   Shortcut**. The New Shortcut window opens.

    In the **Name** field, enter a name for this shortcut. You can rename the shortcut

3) In the **Source** field, click the **Browse** button. The Select Files window opens.

4) Select to the document or folder for which you want to create the shortcut. You can select

    the 🗐 **Find on Page** icon to help you find a particular document or folder.

5) Click **Select**.. The shortcut is created in the selected folder.

View or Modify Shortcut Properties (Standard View)

The Shortcut Properties window consists of the name of the shortcut as it appears in the project or shell Documents log and the path of the document or folder to which it points. It is not customizable in uDesigner.

In this field	Do this
Name	The name of the shortcut, as displayed in the log.
Source	The path of the file or folder to which the shortcut points. You can click the **Browse** button to change the source.

To view shortcut properties (Standard View)

1) In the project or shell Documents log, select the shortcut.

2) From the right-pane, select the **Properties** tab. The folder properties are displayed in the right-pane.

To modify shortcut properties (Standard View)

1) In the project or shell Documents log, select the shortcut.

2) Select ⚙ **> Edit > Properties**.

3) Make your changes and select **OK**.

Modify Shortcut Permissions (Standard View)

When you create a shortcut, you become its owner and have full access to it. You can grant other users access to it. A shortcut will have limited permission settings related to the document or folder to which it points.

If you have granted folder-level permission to other users and allowed the permission to apply to the contents of the folder, those permissions will apply to the documents that you add to it automatically; however, you can modify these permissions per document if needed.

To view the shortcut permissions (Standard View):

1) Go to your project or shell (User mode) and click the **Document Manager** node to expand.

2) Click the **Documents** sub-node to open the **Documents** log (for **Project Documents**).

3) Click an item (shortcut) from the log to select.

4) On the right-hand pane, click the **Permissions** tab to view the folder permissions.

To add or modify the shortcut permissions (Standard View):

1) Go to your project or shell (User mode) and click the **Document Manager** node to expand.

2) Click the **Documents** sub-node to open the **Documents** log (for **Project Documents**).

3) Click an item (shortcut) from the log to select.

4) From the toolbar, click the **Actions** drop-down list and select **Permissions** to open the **Permissions** overlay page. Alternatively, you can click the *gear menu* (⚙), next to an item and click **Permissions**.

5) On the **Permissions** overlay page, you can add or modify the shortcut permissions by using the following options:

   ▸ **Inherit form parent folder <project name>**

If the **Inherit permissions from the parent folder** checkbox at the top of the window is selected, the folder-level permissions will apply automatically and cannot be modified.

   ▸ **Assign new permissions**
   ▸ **Inherit Permissions** (**View** drop-down list)
   ▸ **Apply these permissions to documents and sub-folders**

6. Click **Save** when done, or click **Cancel** to close the **Permissions** overlay page without any changes.

Copy a Shortcut (Standard View)

To copy a shortcut (Standard View)

1) Select the shortcut in the project or shell Documents log.

2) Select ⚙ **> Edit > Copy**.

3) Select the destination folder into which you want to copy the shortcut.

4) To copy with comments or markups attached to the document, select the **Include Comments/Markups** checkbox.

5) Click **Copy**.

Move a Shortcut (Standard View)

To move a shortcut (Standard View)

1) Select the shortcut in the project or shell Documents log.

2) Select ⚙ **> Edit > Move**.

3) Select the target folder into which you want to move the shortcut.

4) Click **Move**.

Rename a Shortcut (Standard View)

To rename a shortcut (Standard View)

1) Select the shortcut in the project or shell Documents log.

2) Select ⚙ **> Edit > Properties**.

3) Enter the new name and click **OK**.

Delete a Shortcut (Standard View)

When you delete a shortcut, it is moved to the Recycle Bin. Items in the Recycle Bin can be restored back to their original location or permanently deleted. Deleting a shortcut does not delete the folder or document to which it points.

To delete a shortcut(Standard View)

1) Select the shortcut in the project or shell Documents log.

2) Select ⚙ **> Edit > Delete**.

3) Click **Yes** to confirm. The document is moved to the Recycle Bin.

> **Note**: To delete multiple shortcuts, select the shortcuts and click **Actions > Edit > Delete**.

Change the Shortcut Source (Standard View)

You can change the file or folder to which the shortcut points by choosing a different source in the Shortcut Properties window.

To change a shortcut source (Standard View)

1) In the project or shell Documents log, select the shortcut.

2) Select ⚙ **> Edit Properties**.

3) If you want to rename the shortcut automatically with the name of the new source document or folder, delete the name in the **Name** field.

4) In the **Source** field, click the **Browse** button and browse to the new source document or folder.

5) Make your changes and select **OK**.

Favorites

Creating your Favorites List

Select and tag your frequently used files and folders within DM log, as favorites. This list is user specific and allows you to view, access, and delete frequently visited items in Document Manager.

To add files or folders to your favorites list:

1) From the DM log, select a file or folder.

2) Select ⚙ > **Add to Favorites**.

Managing your Favorites List

To view your Favorites list, from the Document Manager log, select ⭐ **Favorites**.   A pop-up window displays all your files and folders that you have marked as favorite.

Task	Action
Sort the order of your files and folders.	From the Favorites pop-up window, drop and drag files or folders to change the order.
Find files or folder	From the Favorites pop-up window, click the **Find on Page** icon and start typing the name of your file or folder.
Remove files or folders from your Favorites list.	From the Favorites pop-up window, select a file or folder and click ⚙ > **Delete**, or click the **Delete** icon.
View the path of your file or folder	From the Favorites pop-up window, hover over a file or folder to view its location.
View the folder and file in the DM log	From the Favorites pop-up window, select a file or folder and click ⚙ > **Go to Folder**.

Opening your Favorite File or Folder

To open your favorite file or folder:

1) From the Document Manager log, select **Favorites**. A pop-up window displays all your files and folders that you have marked as favorite.

2) To open a file:

   From the Favorites pop-up window, select a file and click ⚙ > **Open** to open the file using the default Unifier viewer. To open the file in AutoVue, select a file and and click ⚙ > **Open in AutoVue**.

3) To open a folder:

From the Favorites pop-up window, select a folder and click ⚙ **>** **Open** to open the folder in the Document Manager log.

Uploading Files

You can upload files or folder from your local system into Document Manager. If you are using Chrome or Firefox browser, you can navigate to other parts of the application while the upload continues in the background. Asynchronous upload of files or folders allows you to upload files while simultaneously using the application. The login session is kept active if there are pending uploads; uploads are canceled if you sign out of the application. If you are using IE or Edge browser, you can only perform synchronous uploads.

Asynchronous uploads are supported in both Classic and Standard views. You can view the status of your upload by clicking the **Upload Status** 🔵 icon on the top banner. The color of this icon changes from blue (in progress) to green (successful) or red (failed) to indicate the status of the uploads. The Upload Status window displays a list of all files or folders that were uploaded within the last 15 days. From this window, you can see the name of the uploaded file or folder, size of the file, the reason for the failed upload, and the number of files in the uploaded folder. You can click on the file name or folder name to open or save the file. From the Upload Status window, you can also cancel pending and in progress uploads, and clear the upload history.

The file size for the uploads must be more than 0 byte and less than the size limit that has been specified in the configurator. If the file size for the uploads is not specified in the configurator, then the actual file size for the uploads depends on the following:

▶ The network bandwidth, session time-out setting, and other pertinent parameters.
▶ Browser restrictions. For example, IE (9, 10, 11) allows uploading files up to 4GB in size, only.

> **Notes:**
>
> ▪ Drawing files are always uploaded synchronously, regardless of the browser you are using. When selecting multiple files all the files will be uploaded synchronously, if the upload contains one or more DWG files.
> ▪ On IE and Edge browsers, you can only perform synchronous uploads.
> ▪ You can drop and drag folders onto the Upload window only if you are using Chrome.
> ▪ You can view the parent folder of the uploaded file in the Update Status window only in Standard View.
> ▪ You can navigate to the uploaded folder from the Update Status window only in Standard View.
> ▪ On Chrome and Firefox, only drawing files (.dwg) are considered as reference files during asynchronous uploads.
> ▪ In Async upload only .dwg file is considered as reference file when

chrome/mozilla browser is used.

Using the Upload Status Window

From the top banner, select the **Upload Status** ⓞ icon to view the Upload Status window. From this window, you can do the following:

▶ View a count of pending uploads.
▶ View the status of uploads. Failed uploads are in red, you can click on the Info icon to view the reason for the failed upload.
▶ Cancel a pending or in-progress upload. Hover around the file or folder name and click on the **X** icon. To cancel all pending and in-progress uploads, click **Cancel All**.
▶ Open or save the uploaded file or folder. Click on the file or folder name.
▶ Open the parent folder of the uploaded file. Click on the folder icon next the uploaded file. This option is available on in Standard View.
▶ Clear the upload history. Click the Clear button. The history is saved for 15 days.

Uploading Files and Folders

1) Navigate to the project or shell or Company Documents node.
2) Select the destination (target) folder into which you want to upload the files.
3) In **Classic View**: click the **Upload** button or select **File > Upload**.
   In **Standard View**: click the **Upload** ⬆ icon. The Upload Files window opens.
4) Drop and drag files or folder, or click the **Browse** button and select the file or folder to upload, and select **Open**.
5) On the Upload Files window, you can include additional information, such as: document title, revision number, and issue date. This information is optional, and can be added or imported at a later time. To remove a file from the list, select the row and click ⚙ **> Delete**.
6) From the **Advanced Options** section, you can select the following additional options: Include reference files (applicable for drawing files only), Revise automatically if file with same name exists, Upload files only, and Upload folders and files.
7) Click **Upload**. The Progress Status indicator on the top banner displays the progress and status of the upload.
8) If you are   uploading drawing files and have selected the option to Include Reference Files, an upload window opens and you can select the reference files associated with the base fie.

> **Note**: If you have uploaded drawing and reference files marked as missing, see *Resolving Missing Reference Files (Reference Manager)* (on page 429)

Uploading Drawing and Reference Files

The following drawing file types are supported: **DWG** and **DGN**.

The following lists the ways to manage uploading drawing files with associated reference files:

▶ The base file can be dynamically linked to the reference files, meaning that the base file always links to the latest version of each reference file. If a reference file is revised, the revised version will be linked to the base file.

▶ The base file can be statically linked to the reference files (i.e., the base file always points to a particular version of the reference file) regardless of whether it is the latest version, or not.

Downloading Documents and Folders

You can download copies of documents from the Document Manager to your local or network drive.

The file size for the *downloading* must be more than 0 byte. The actual file size for the *downloading* depends on the following:

▶ The network bandwidth, session time-out setting, and other pertinent parameters.

▶ Browser restrictions. For example, IE (9, 10, 11) allows *downloading* files up to 4GB in size, only.

By default, the latest version of a document will be downloaded.

> **Notes**:
>
> ▪ Shortcuts cannot be downloaded.
>
> ▪ If the download window (Java console plug-in) is still open on your machine, you may not be able to delete, move, or modify the downloaded file as it will appear to be in use. If this is the case, close the plug-in window.

To download a document:

1) Select the document to be downloaded. You can choose only one document at a time.Shortcuts, folders, and empty documents cannot be downloaded.

2) In **Classic View**: click the **Download** button or select **File > Download**. In **Standard View**: click the **Download** button.

3) If the document is a drawing file with reference files, the Reference window opens, listing all drawing and reference files. Click the **Download** button next to one of the files to download. The File Download window opens.

4) Click the **Save** button. The Save As window opens.

5) Browse to the location where you want to download the file and click **Save**.

6) If you are downloading drawing and reference files, repeat for each file.

To download a file or folder:

1) Select one or more documents or folders in the documents log. Shortcuts and empty documents cannot be downloaded.

2) From the **File** menu, click **Download**, or click the **Download** button. The Download Files and Folders window opens.

3) Browse to the location where you want to download the files.

Importing and Exporting in Document Manager

The following topics describe how to import and export using the Document Manager.

Import a folder structure template (Standard View)

If a folder structure template has been created in the Administration Mode standards and libraries, you can import it into your project or shell document manager to quickly create a pre-designed structure of folders and subfolders. You can import the folder structure template into the root project or shell Documents or Company Documents node or into any subfolder.

To import a folder structure template (Standard View)

1) In the project or shell or Company Documents node, navigate to the target folder (or the project or shell Documents root node) into which you want to import the new folder structure.
2) Click the **Actions** menu and choose **Import > Folder Structure Template**. The Select Folder Template window opens.
3) Select a template from the drop-down list.
4) You can preview the template structure by clicking the **Preview** button.
5) When you are ready to import, click **Import**. The folders and subfolders defined in the template are created within the target folder you selected.

Import and Export Folders, Properties, and Empty Documents (Standard View)

You can import a folder structure and folder metadata (properties) from a CSV file. This procedure also allows the import of empty documents into the structure.

Step 1: Export structure and properties to a CSV file. Exporting the existing structure and properties creates the CSV structure (rows and columns). The CSV template will contain a list of documents and folders with their full paths and all attributes displayed on the General tab of folder and document properties (either default or uDesigner created).

Documents and folder rows are identified by the first column (type). The location of the folder or document is identified in the second column. The order in which the columns appear is the same as they appear in the folder and document properties forms.

Step 2: Modify the CSV file. Add new folders, folder, document properties, or empty documents to the CSV files, being careful not to change the structure. Only the columns that are modifiable in project or shell documents can be modified in the CSV file. Read-only fields cannot be modified by importing. Folder and document names are case sensitive.

> **Note**: As of the date of publication, there is a known issue with Microsoft Excel CSV files with 15 or more rows. See the procedure below for details.

Step 3: Import the modified CSV file. The imported file can include new folders and documents (empty documents), as well as modified or additional properties to existing folders and documents. You can upload files into empty documents later by using Revise.

To export structure and properties to a CSV file (Standard View)

1) Select specific folders or documents to export.
2) Click **Actions> Export > Structure and Properties**. Click **Yes** to confirm.
3) Save the CSV file to your local system.

To modify the import file

1) Open the CSV file in Microsoft Excel or a compatible software application.
2) You can add new folders or documents in rows (will be added as empty documents) as needed. You can also add property information to existing folders and documents.
3) Save the file.

> **Caution:** As of the date of publication, there is a known issue in the way that Microsoft Excel handles CSV files with 15 or more rows. In CSV files, columns are separated with commas. However, when the CSV template is opened with Excel, if one or more columns toward the end are empty, Excel will drop the additional commas from the 15th row onward, resulting in an error when you try to import the file. You can work around this in one of two ways:
>
> Add your data to the CSV file in Excel and save the file. Then reopen the file in a text editor such as Notepad, find the rows that have the missing commas, and add the additional commas to these rows.
>
> Use the text editor instead of Excel to modify column values in the CSV file.

To import a CSV file into the Document Manager (Standard View)

1) In project or shell Documents, select the folder into which to import the structure or properties.
2) Click the **Actions** menu and choose **Import > Structure and Properties**. The File Upload window opens.
3) Browse for the CSV file and click **OK**. Click **Yes** to confirm.
4) At the File Download window, click **Save**, browse to a destination folder and click **Save**.

The Recycle Bin

When you delete documents, folders, or shortcuts from project or shell Documents, they are stored temporarily in the Recycle Bin. These items can be restored back to their original location. Items in the Recycle Bin remain there until you permanently delete them.

> **Note:** If you are using a custom user mode navigator, you must add the Recycle Bin to the navigator.

Restore deleted items (Standard View)

Deleted documents, folders, and shortcuts that are still in the Recycle Bin can be restored back to their original locations.

> **Note**: If you restore a folder whose parent folder has been deleted, the folder structure will be recreated. However, the other contents of the parent folder will not automatically be restored.

To restore deleted items in the Recycle Bin (Standard View)

1) Select the   **Recycle Bin** node from left pane.
   - To restore a single item, select it and click the **Restore** button.
   - To restore all items in the Recycle Bin, click the **Restore All** button.
2) Click **Yes** to confirm.

Delete items from the Recycle Bin (Standard View)

Once documents, folders, or shortcuts are deleted from the Recycle Bin, they cannot be retrieved.

To permanently delete items from the Recycle Bin (Standard View)

1) Select the **Recycle Bin** node in left pane and do one of the following:
   - Select the item and click the **Delete** button.
   - Click the **Empty Recycle Bin** button to permanently delete all items in the Recycle Bin.
2) Click **Yes** to confirm.

Index Reports (Standard View)

The index report utilizes the Primavera Unifier user-defined report engine. It lists content (documents, subfolders, shortcuts) within a selected folder, properties, and phase (contents may be associated with more than one phase). The index report can be generated in HTML, PDF, or CSV format.

To view an index report (Standard View)

1) Select a folder in folders view of the project or shell Documents or Company Documents node.
2) From the **Actions** menu, click **Index Report** and choose the format to display:
   - **HTML:** Displays the report in a browser window.
   - **PDF:** Creates a PDF file of the report.
   - **CSV:** Creates a CSV file of the report.

View Document Manager Audit log (Standard View)

To view the Audit log (Standard View)

1) Select a folder or document in the project or shell Documents or Company Documents log (or a folder in the folders view).
2) From the right-pane, select the **Audit Log** tab. The audit details are displayed on the right-pane.

Project or Shell Documents or Company Documents Attached to a Business Process

A document that is attached to a business process record maintains a link with that record. You can view the business process records to which any document is linked (permissions to view BPs apply). Because of this link, documents that are attached to BP records cannot be deleted.

Launch a Business Process from the Document Manager

A business process record can be launched directly from documents (**Documents** sub-node) within the **Document Manager** node.

Refer to *Unifier Business Process User Guide* for creating a BP record in **Document Manager**.

View Linked Business Process Records (Standard View)

If a document in project or shell Documents or Company Documents has been attached to one or more business process records, an icon will appear in the BP column next to the document in the log. You can view the records to which the document is attached as long as you have view permissions for that BP.

To view business process records to which a document is linked (Standard View)

1) In the project or shell Documents or Company Documents log, select a document.

   Documents with the paper clip icon ( ) in the BP column are linked to BP records.
2) From the right-pane, select **Linked BP Records**.
3) To open the BP record form, click the hyperlink for the Record No. You must have permission to view the specific BP in order to open the record.

View and print the business process audit log

To view a business process Audit log (Classic View)

From the **View** menu of the BP record, click **Audit Log**. The Audit Log window opens, listing each event associated with the business process and workflow. The date and time stamp of each event reflect users' current time zone as set in their User Preferences.

To view business process audit details (Classic View)

From the Audit Log window, double-click a listed event to view the audit record detail, which details the action taken. The details also include the user's current time zone for reference.

To print a business process Audit log (Classic View)

1) On the Audit Log window, click the **Print** button. A PDF file is created.
2) Do one of the following:
   ▸ Click **Open** to open the file in Adobe Acrobat Reader. From the Reader window, you can view, save, or print the file.
   ▸ Click **Save**. In the Save As window, navigate to the location in which you want to save the PDF file. Open the file in Adobe Acrobat Reader and choose **File > Print** to print.

Unpublished Documents

To access the **Unpublished Documents** log in Project/Shell:

1) Go to one of the following:
   ▸ Company Workspace
   ▸ All standard Project instances
   ▸ All Shell instances
2) Click the **Document Manager** node to expand.
3) Click **Unpublished Documents** to open the **Unpublished Documents** log.

The **Unpublished Documents** sub-node is an automatic repository for files that have been attached to business processes and which have not yet been published in project or shell Documents or Company Documents. That is, when a user uploads a file from a local machine and attaches it to a business process, the document is automatically stored in the **Unpublished Documents** log as soon as the business process is sent. The link to the business process is also listed in the **Unpublished Documents** log.

The link to the BP allows the BP record to be reviewed, allowing the administrator to review where the document originated from. This provides a means to control the documents that are accessible in the Document Manager. For example, a subcontractor submits a Request for Information (RFI) with attached documents requesting input from the architect. These attached documents can be traced back to the original BP through the link, and the documents become available in the unpublished area of the Document Manager. The administrator can then review the documents and make the decision to publish them into the project or shell or Company Documents node and where to store them, or not to publish them at all.

Note the following:

▸ This process applies only to business processes that support form attachments.
▸ Text-type BPs, such as action items or RFIs, are excluded. This is because text-type BPs, by design, can have file attachments only in comments, not to the form itself.
▸ Files cannot be directly uploaded to or deleted from the **Unpublished Documents** folder.
▸ Permissions for unpublished documents are at the node-level only. You can either see all the documents or you cannot see any. There are no document-level permissions. Folder-level permissions are not applicable, as there are no folders in **Unpublished Documents**.

▶ Drawing files are handled with the base file listed and the associated reference files bundled with it, similar to a zip file.

Unpublished Documents Log (Standard View)

Unpublished Documents Log Standard View

The documents in the **Unpublished Documents** log has the following toolbars:

▶ **Publish** (Publish)

To publish a document. When you click this option the **Publish -Select Destination Folder** window opens. The function of Publish is similar to the Move option in Document Manager (DM). In the **Publish -Select Destination Folder** window you can:

  ▶ Select the document phase (**All Phases** or **Current Phase**) from the drop-down list field on top to load pertinent folders from Document Manager into the space below.

  ▶ Use the **Find on Page** link to open a row under the **Name** block and search for a particular folder from the Document Manager.

  ▶ Use the scroll-bar to parse through all folders from the selected phase so you can browse and select a destination folder for the document publication.

  ▶ Include comments by selecting the **Include Comments** option.

  ▶ Ensure that if a file with same name exists in the Document Manager, then it gets revised by the selected file in Unpublished Documents by selecting the **Revise automatically if file with same name exists** option.

  ▶ Discard your changes by clicking **Cancel**.

  ▶ Publish the selected file to the chosen folder in the **Documents** sub-node under **Document Manager** node, by clicking **Publish**. This option is available only after you have selected a destination folder from the available list. When you click **Publish**, the **Publish Status** window opens. This window displays a grid with the following columns:

      ▪ No
      ▪ File Name
      ▪ Title
      ▪ Status
      ▪ Message

If you select more than one file and click Publish, the **Publish -Select Destination Folder** window opens and the names of all of the selected files will be listed at top of the window.

▶ **Download** (⬇)

To download documents or folders onto your local or network drive. If you select more than one file to download, Unifier creates a zip file for all of the selected files and opens the download window.

▶ **Switch to Tile View** (▦)

To view documents and folders as tiles. When this option is selected, the icon changes to **Switch to List View** (≡).

▶ **Search** (🔍)

To search for unpublished documents in the log. For more information, see topic ***Searching Content (Standard View)*** (on page 396).

▶ **Find on Page** (📄)

To find files on the displayed page. For more information, see topic ***Finding on Page (Standard View)*** (on page 397)

The documents in the **Unpublished Documents** log has the following columns:

▶ File Name
▶ Record Number
▶ Comments
▶ Ref
▶ Size
▶ Title
▶ Rev. No.
▶ Publication Date
▶ Issue Date

For each record, the **Unpublished Documents** log screen displays the following tabs in the right-hand screen:

▶ Properties

Under General, this tab displays the following read-only information about the selected file:

  ▸ File Name

    To change the file name, access **Properties** from the gear menu (⚙).
  ▸ Title
  ▸ Size
  ▸ Issue Date
  ▸ Revision No.
  ▸ Publication No.
  ▸ Publication Date

▶ Linked Record

To see records linked from the same, or different, business process log. The Linked Record tab displays the Record Number, Name, Title, Status, and Upload Date of the linked records

▶ References

This tab appears only if the selected file has associated references.

You can use the **Expand** icon (⛶) to expand the right-hand screen.

Each record has a gear menu (⚙) that enables you to perform the following actions:

▶ **Open**

To open the selected document in viewer.

▶ **Open in AutoVue**

To open the selected document in AutoVue viewer.

▸ **Properties**

   To review the document properties and change the file name.

▸ **Publish**

▸ **Download**

Manually Add or Remove Projects To or From a Scenario

When you create a scenario, Unifier collects all the projects that have met the criteria for inclusion on the sheet. (These criteria were created in a query by your administrator when the Portfolio Manager was configured.) The query that extracts the projects from the database is a dynamic process that occurs whenever you open a scenario sheet. The projects that appear on the sheet will fluctuate, depending on whether they still meet the criteria for inclusion. For example, a project that was previously on the sheet may be dropped from the sheet if it no longer meets the query criteria. Another project may be added to the sheet because it now meets the query criteria.

   ▸ If the portfolio has been configured for automatic adding and removing projects, Unifier will populate the sheet with these projects.

   ▸ If the portfolio has been configured for manual adding and removing projects, Unifier will display these projects at the bottom of the scenario window in a "candidates list," a separate grid from which you can manually select and add projects to the scenario sheet.

Add a project to a scenario

At the bottom of the scenario window, Unifier displays a "candidates list" showing all the projects that have met the query criteria for inclusion on the scenario sheet. The candidate list shows only those projects that have not been added to any other portfolio for the same planning period. Also, it does not show any projects that have already been added to the scenario.

To add a project

1) Select the project in the candidate list at the bottom of the window.

   To select multiple projects, hold down the CTRL key on your keyboard and click on the projects. To select all the projects, highlight the first project, then hold down the SHIFT key and select the last project.

2) Click the Add arrow. Unifier adds the project(s) to the scenario and recalculates the numbers.

> ▸ If the scenario sheet has been sorted, the project(s) will be added to the scenario according to the sort specification.
>
> ▸ If the scenario sheet has been grouped, the project(s) will be added to the correct group on the scenario according to the grouping specification. Unifier will recalculate sub-totals and group counts.
>
> ▸ If the scenario sheet has been filtered and sorted, the project(s) will be inserted at the top of the list. Unifier will not re-filter or re-sort the data.

Remove a project from a scenario

When you remove a project from a scenario, Unifier moves the project back to the candidates list at the bottom of the window. If that project continues to match the query criteria for inclusion on the scenario, it will remain on the candidates list; otherwise, it will drop from the list.

To remove a project

1) Select the project in the scenario.

   To select multiple projects, hold down the CTRL key on your keyboard and click on the projects. To select all the projects, highlight the first project, then hold down the SHIFT key and select the last project.

2) Click the Remove arrow. Unifier removes the project(s) from the scenario and recalculates the numbers.

About Automatic Publishing of Documents

By default, files attached to business processes are placed in the Unpublished Documents folder in the Document Manager. A Publish Path data element can be designed in business processes in uDesigner to specify the automatic publishing of documents to a specified path and override the default. For Document-type business processes With Folder Structure, the designer can specify that a configured folder path be appended to the folder structure. This appended path is based on the path configured in the **uuu_dm_publish_path** data element on the business process form, and the selection of the Append Line Items Folder Structure to AutoPublish Path option, which is documented in the *Unifier uDesigner User Guide*.

The automatic document publication folder path is built based on the values of data elements specified in the path defined in the data element **uuu_dm_publish_path** (Publish Path) in uDesigner. To help you understand why automatic publishing does or does not occur and the results of automatic publication, these are the rules for the automatic publication of documents:

▸ The data element **uuu_dm_ publish _path** is used in business process design to specify the folder path into which the file should be published in the Document Manager. This applies to Company, project, or shell business processes. A formula is configured to define the value of the path to use when automatically publishing documents.

   Note: On Creation Step of Workflow-type Business process, `record_no` in `uuu_dm_publish_path` is evaluated/replaced when it is used directly as part of formula.

   Example:

   Suppose 'uuu_dm_publish_path' and 'title' are defined as formula.

   => uuu_dm_publish_path = firstName + record_no + title

   => title = subject + record_no

   uuu_dm_publish_path would be evaluated as 'firstName + record_no + subject' ('record_no' in data element 'title' is ignored)

▸ In order to use the automatic publishing feature, you must know (from your Administrator) which data elements comprise the publish path that will populate the Publish Path field. The values in this field are used to create and populate the folders in the Document Manager with the business process attachment.

▸ If you do not have permissions granted to upload documents to the Document Manager, then the file is placed in the Unpublished Documents folder.

▶ If there is no folder defined or the path is invalid then the file will be placed in the Unpublished Documents folder.

▶ If the folder specified in the defined path does not exist in the Document Manager as defined by the data element **uuu_dm_publish_path** (Publish Path) in uDesigner, then it should be created automatically and inherit rights from the parent folder, (if you have permission to create folders), otherwise the file will be placed in the Unpublished Documents folder.

▶ If file already exists in target file, then the file shall be published as a revision.

▶ The owner of the automatically published document is the owner of the business process that published it.

▶ The folders created and used for automatic publication are based on the values of the data elements specified in the **uuu_dm_publish_path** data element (Publish Path). For example, if the publication path contains the data elements State and City, and the values for those data elements are Iowa and Rapid City, the folder structure will be Documents/Iowa/Rapid City.

▶ The publication path displays in the Publish Path data element on the business process form. If the path is shown as /, the documents will publish to the Documents folder. Usually, when the / to shows in the Publish Path field, this indicates that you have no values in the fields for the data elements configured as the publication path. Be sure that you have values in the fields that are part of the publication path.

▶ If a business process has a publication path configured on the upper form, and another on a line item, and the path on the line item is invalid, the attachment will be published to the path designated on the upper form. If the paths on the line item and the upper form are both invalid, the attachment is published to the Unpublished Documents folder. The exception is that in a non-workflow business process, if the publication path configured on the line item is invalid, the attached document is not published in any folder.

▶ When a document is published from a business process (BP) record, the system compares the data elements (DEs) in the BP record with the DEs in the Document Attribute Form and where the DEs match, the system copies the values from one DE to the other DE.

▶ If the attachment is on the Upper Form, then the system matches the DEs on the Upper Form with the DEs on the Document Attribute Form and updates the values.

▶ If the attachment is on the Detail form, then the system compares the DEs on the Detail and the Upper Form. If a DE exists on both the Upper Form and the Detail form, then the system matches the value of the DE that is on the Detail form, only. This enables you to override the "default" value that exists on the Upper Form.

▶ Unifier allows you to selectively restrict attachments from getting published, as explained below:

   ▶ For Document-type BPs: Open the **Document Review** window and deselect the **Publish** checkbox for the attachments that you do not want published.

   ▶ For non-Document-type BPs: Open the **Document Review** window, or the respective attachment log (record or Line Item) and deselect the **Publish** checkbox for the attachments that you do not want published.

▶ On a Document-type BP, when a value is added to **uuu_revision_no** or **uuu_title or uuu_issue_date**, it will get respectively copied over to **uuu_file_revision_no** or **uuu_file_title** or **uuu_file_issue_date** when the document is published to **Document Manager**.

▸ Once a document that has been attached to a business process is published, it will not get published again even if you have the uuu_dm_publish_path defined in consecutive forms in your workflow.

▸ If you are attaching a document to your business process by selecting the document from Document Manager, the document will not get published again from your business process because it is already published in Document Manager.

Open an unpublished document (Classic View)

To open and view an unpublished document

Select a document in the Unpublished Documents log and click **Open**. The document will open in the viewer.

To view reference files

Select a drawing file in the Unpublished Documents log, click the **View** menu and select **References**. If references are associated with the document, they will be listed. Drawing and reference files are bundled.

Open a linked business process record (Classic View)

To open the BP record to which an unpublished document is linked:

1) Select the document in the Unpublished Documents log.
2) Click the **View** menu and select **Linked BP Record**. The BP record opens, assuming you have permission to view it.

View unpublished document properties (Classic View)

To view the properties of an unpublished document

Select a document in the Unpublished Documents log and click **Properties**. The Properties window opens.

View unpublished document comments (Classic View)

Comments and markups added to the document from the BP can be viewed.

To view comments or markups on an unpublished document

Select a document in the Unpublished Documents log and click **Comments**. The Comments window opens.

Download an unpublished document (Classic View)

To download an unpublished document

Select a document in the Unpublished Documents log and click **Download**. Follow the procedure for downloading a document in the project or shell Documents node.

Delete an unpublished document (Classic View)

A document cannot be deleted directly from the Unpublished Documents or the project or shell Documents folders if it is linked to a BP.

A document is stored in the Unpublished Documents node automatically when it is uploaded directly from a local machine or network and attached to a business process. If that document is then deleted from the BP during the workflow (or for a non-workflow BP, the document is deleted when the BP is in Draft mode), then it will be deleted automatically from the Unpublished Documents log.

The document cannot be deleted if the BP has already completed the workflow, or if the document has already been moved by an administrator to the Published Documents folder.

Tip: You can create a special folder in project or shell Documents for documents that you want to publish and limit access to, but the documents remain traceable.

Renaming an Unpublished Document (Classic View)

You can rename an unpublished document, if you administrator has enabled the document name field as an editable and required field. When you rename a document, the change is reflected everywhere the document is referenced or linked. The name is also updated in formulas that use file name in its calculations.

If you rename a file with a name that already exists in the same folder, an alert message is displayed. You can rename the file or choose to keep the same file name. If you choose to keep the same file name, it is appended with an integer.   For example: Architecture Diagram.png will be renamed as Architecture Diagram(1).png.

> **Note**: You cannot change the extension of a file, you can only rename the file.

To rename a document
1) From the Unpublished Document log, select a document.
2) Click the **Properties** button. The Document Properties window opens.
3) Enter a new file name and select **OK**.

Search for an unpublished document (Classic View)

There are two ways to find an Unpublished Document:

▶ **Search by Properties**: You can search by document title, file name, or record number (the linked BP record).

> **Note**: This search option can be customized through uDesigner. If a designer has imported Document Manager attribute forms, the search criteria can also be customized. This means that the fields on which you can search may differ from the above list.

▶ **Search by Content**: This allows you to search for a document by specific content or keywords within the document. This option works on most file types other than drawing files. You can search by single word or exact phrase in quotes ("training document").

The supported file types for content search are listed below:

doc, pdf, txt, xls, htm, rtf, html, csv, xml, xsd, java, c, cpp, vm, bat, bak, css, log, sql, ncs, sh, properties, vpp, wtx, xhtml, xslt, ppt, mpp, vsd

To search for documents by properties

1) In Unpublished Documents, click the **Find** button and choose **Search By Properties** (or click the **View** menu and choose **Find > Search By Properties**). The upper portion of the log expands to display the Find fields.
2) Enter search criteria in one or more of the **Find** fields, for example, the full or partial name of a file.
3) Click the **Search** button. The log will display the search results.
4) To close the Search fields, click the **X** in the upper right corner.

To search for documents by content

1) In Unpublished Documents, click the **Find** button and choose **Search By Content** (or click the **View** menu and choose **Find > Search By Content**).
2) Enter one or more keywords to search for within the documents.
3) Click the **Search** button. The log will display the search results.
4) To close the Search fields, click the **X** in the upper right corner.

Tip: For best results, use only alpha-numeric characters in your search criteria. If you are not receiving the search results you are expecting, try placing your criteria in quotes.

Publish a document to project or shell or Company Documents (Classic View)

Publishing a document from Unpublished Documents to the project or shell Documents or Company Documents node makes it available to team members, with the full functionality available in that node.

Only a document administrator (administrator or other user with full access to the Document Manager) can publish documents from the Unpublished Documents node into project or shell or Company Documents. Documents can be published one at a time.

To publish an unpublished document to the project or shell Documents node

1) In the Unpublished Documents node, select the document or documents to publish and click **Publish**. The Publish File window opens. If you select duplicate files (documents with the same name) to publish, you will be asked to remove the duplicates.

2) Select the destination folder.

3) Select the **Include Comments** checkbox if you want to include any attached comments with the document. To review the comments, select the document from the log and click the **Comments** button.

4) The **Revise automatically if the file already exists** checkbox is selected by default. Deselect if you do not want to automatically revise existing documents. If you deselect this checkbox, the new version of the document will not be copied into the Document Manager and are skipped.

5) Click **OK**. The Publish Files Status window opens, and displays the status of the documents as they are published. Click **OK** to close this window.

> **Note**: The user who publishes the document becomes the owner. In the project or shell Documents or Company Documents node, select the document and click Permissions to grant the proper permissions to the team members who need it. You may want to click Properties to review properties and update if necessary.

Unifier Portfolio Manager

The Portfolio Manager is where the budget forecast planners in your company can gather cost and schedule information on projects (both planned and in execution) and perform analyses on "what if" scenarios. These scenarios are used to propose an optimal mix of projects for a portfolio, based on available budget targets and the strategic goals of the company.

As a planner, you can create a portfolio for a specific "planning horizon" (for example, from 2014 through 2020) and then create multiple scenarios in that portfolio. Each scenario can use forecast numbers and actuals, as well as schedule dates, for both planned and active projects in a specific shell type across a hierarchy in the company.

You create these scenarios on sheets, one for each scenario. The scenario sheets can pull in the following data from any shell type in a hierarchy:

  ▸ Project information from the shell attribute form or single-record business process
  ▸ Project start and end dates from the shell attribute form or single-record business process
  ▸ Cash flow data (both forecasted and actual) from each project's Cost Manager

With this data, you can forecast costs over a specific time period (called a "period structure"). You can then manipulate scenarios by:

  ▸ Including or excluding projects
  ▸ Pushing start dates for planned projects into the future
  ▸ Modifying project end dates to change the project's duration
  ▸ Proposing different cash flow distribution numbers by manually editing the cash flow columns
  ▸ Negotiating proposed budgets with project managers

Once these scenario analyses have been completed, the best (or several best) scenario(s) can be sent to the executive decision makers for approval.

Once a scenario has been approved, Unifier:

  ▸ Marks the approved scenario "shared" so that project managers can see the approved dates and numbers. The scenario is set to read-only mode and can no longer be modified or deleted.
  ▸ Updates each projects' original budget numbers with the proposed numbers on the approved scenario.
  ▸ Updates each projects' monthly or yearly cash flow numbers with the proposed numbers on the approved scenario.
  ▸ Updates the project start date (if it was changed) for any planned projects that will begin during the portfolio's planning period.
  ▸ Locks the budget and cash flow numbers to prevent any further changes.

In This Section

About Portfolio Budget Curves

Portfolio budget curves are part of the Cost Manager function. You can view these budget curves from the Cash Flow node of the Cost Manager. Before you can view them, however, you must add these curves to your project/shell. For instructions on adding these curves, see *Add a Portfolio Curve* (see "***Portfolio Budget Curve (Classic View)***" on page 207)

There are three of them:

▶ A **Shared Budget** curve. This curve shows your proposed numbers for the project. The project manager will not have access to this curve until you share a scenario. The project manager can include this curve on the cost worksheet, along with the forecast budget, or any other budget curve, in order to see the difference between the project's numbers and your proposed budget numbers.

▶ An **Approved Budget** curve. When a scenario is approved in the Portfolio Manager, the budgets for each project in the scenario are marked "approved." They are then locked and stored in the Portfolio Manager. An Approved Budget curve shows the approved budget for the project for that planning period (usually a year).

▶ An **Original Budget** curve. This curve is for a project in execution. This budget is the last approved budget for the project before it moved into its execution phase. This approved budget becomes the project's original budget; and this original budget, plus any changes that occur to the numbers during the life of the project, becomes the project's approved budget.

For example, an **approved budget** for the year 2015 might include a planned project for road construction that is scheduled to begin in 2017 with a budget of $100,000. The approved budget for the year 2016 will continue to include the planned road construction budget, with an addition of $15,000 to the forecasted budget. In the year 2017, the road construction project goes into execution, and the approved budget is $115,000. This figure becomes the **original budget** for the road construction project. From then on, as budget forecasting continues, the approved budget for the road construction will be the original budget, plus any changes that occur to the numbers during the life of that project.
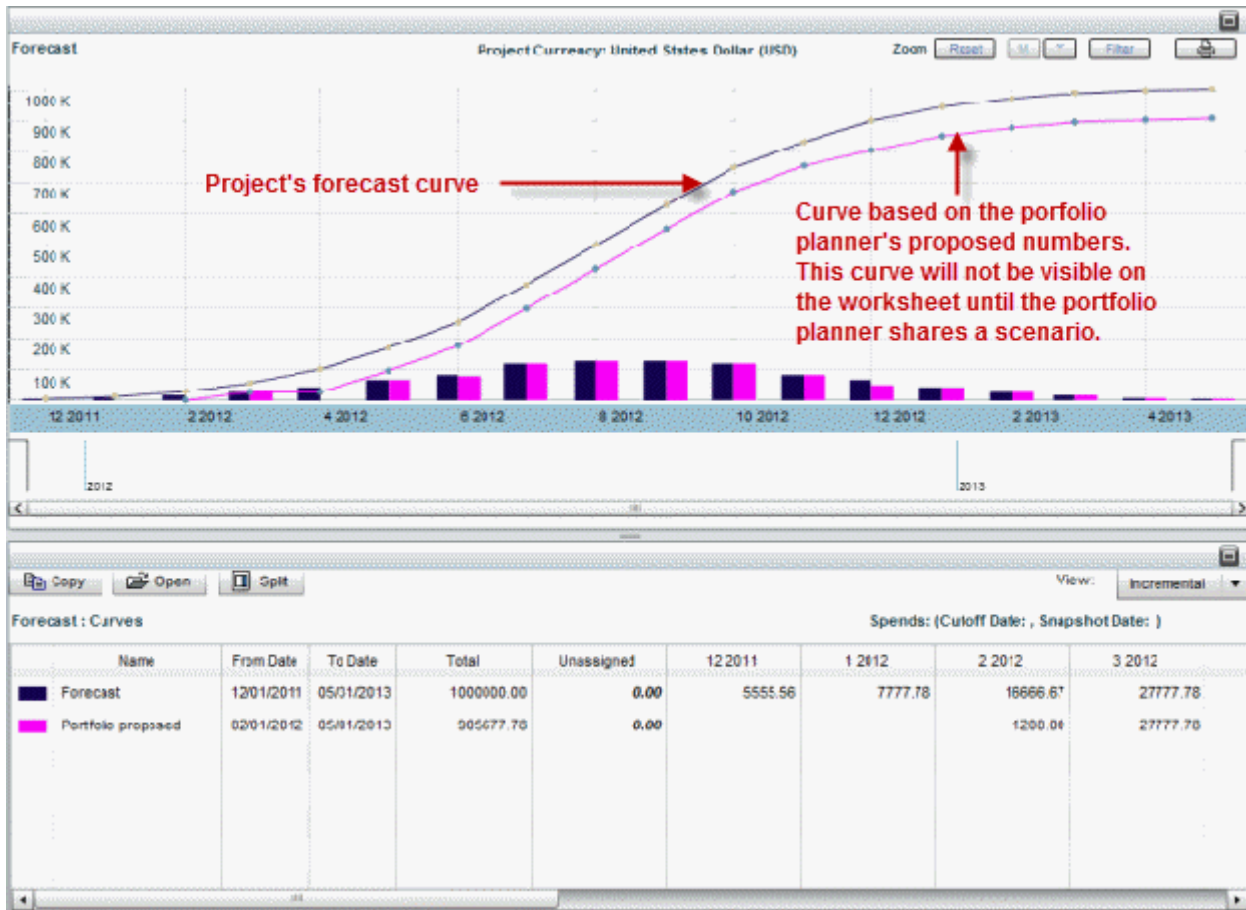
View and Open Portfolios

Portfolios are grouped by their portfolio type. Scenarios are grouped under each portfolio.

To view portfolios

1) In User mode, open the shell where the Portfolio Manager resides.

2) In the Navigator, click **Portfolio Manager**. Unifier expands the navigator to show the portfolio types currently loaded into Unifier.

3) In the Navigator, click the portfolio type that contains the portfolio you want to view. Unifier displays the portfolios for this type in the right pane.

    The portfolio type log window contains the following toolbar options:

‣ **Create**

To create a new portfolio manager sheet, or to create a new portfolio manager sheet for the next planning period.

When you select an existing portfolio and click **Create** > **Portfolio**, or click **Create** > **Plan for next period**, the **Add Portfolio** window opens which has two blocks; the general block and the options block. For each block, enter the values in the fields and click **Save**.

‣ **Delete**

To delete a selected portfolio in the portfolio type log window.

‣ **Refresh**

To refresh the list of portfolios in the portfolio type log window.

‣ **Print**

To print the list of portfolios in the portfolio type log window or export to CSV or Excel.

‣ **Search**

To open the **Search** block and search for a particular portfolio in the portfolio type log window. Use the following toolbars (the icons on the right-hand corner) to dock the **Search** block, clear values in the search fields, apply the search criteria, or close the **Search** block:

- **Dock Right**
- **Clear**
- **Apply**
- **Close**

‣ **Find on Page**

To open a row in the list of portfolios in the portfolio type log window and find items according to the column headings. See the portfolio type log window contains the following columns, below. To close the row, click the **Find on Page** option again.

‣ **View Help menu**

To access the portfolio type help (not available), or the portfolio type training (User Productivity Kit).

The portfolio type log window contains the following columns:

- **Attachments**
- **Portfolio Name**
- **Planning Period**
- **Creation Date**
- **Creator**

The portfolio type log window contains the **Properties** pane (the right-pane) that appears when you click to select a portfolio. The **Properties** pane, similar to the **Properties** window (accessed by the **Properties** toolbar option available in an opened portfolio), enables you to access the following information:

- **Portfolio Name**
- **Planning Period**
- **Creation Date**
- **Creator**

- **Planner Comments**
- **Decimal Places**

To open a portfolio

1) In User Mode, open the shell where the Portfolio Manager resides.
2) In the Navigator, click **Portfolio Manager**. Unifier expands the navigator to show the portfolio types currently loaded into Unifier.
3) In the Navigator, click the portfolio type that contains the portfolio you want to open. Unifier displays the portfolios for this type in the right pane.
4) In the portfolio type log window, click to select a portfolio and either double-click to open it, or click on the *gear menu* ( ) and click **Open** to open the portfolio details page or pop-up to either:
   ▸ The scenario that has been marked for sharing
   ▸ The most recently updated scenario

Use the toolbar options of the window to:

▸ Save changes
▸ include a link or unlink an existing link
▸ Access the properties window
▸ Export portfolio

At the bottom of the widow, you have the option (the plus symbol +) to add a new scenario in a tab and use the *gear menu* ( ) to:

▸ Duplicate a selected tab
▸ Delete a tab
▸ Share a tab
▸ Approve a tab

Create or Modify a Portfolio

You can create a portfolio "from scratch," or you can create one using a portfolio that has been approved for the current planning period.

To create a portfolio, you must have Create or Full Access permission.

To create a portfolio

1) In User mode, open the shell where the Portfolio Manager resides.
2) In the Navigator, click **Portfolio Manager**. Unifier expands the navigator to show the portfolio types currently loaded into Unifier.
3) In the Navigator, click the portfolio type that contains the portfolio you want to view. Unifier displays the portfolios for this type in the right pane.
4) In the portfolio type log window, click **Create** to create a new portfolio manager sheet, or to create a new portfolio manager sheet for the next planning period.

When you select an existing portfolio and click **Create** > **Portfolio**, or click **Create** > **Plan for next period**, the **Add Portfolio** window opens which has two blocks; the general block and the options block. For each block, enter the values in the fields and click **Save**.

After you create a new portfolio, Unifier displays the portfolio name in the right pane and automatically creates an initial scenario sheet called Scenario 1. On this sheet, Unifier displays the projects that:

> ▶ Are included in the scenario, if the projects are configured to be automatically added
> ▶ Can be included on the scenario, if the project are configured to be manually added.

The project records for the scenario sheet are extracted from the database using a query that your Administrator created when the portfolio was configured. Whenever you open a portfolio, Unifier re-runs the query and adds or removes projects from the scenario depending on whether or not the project matches the query criteria. For example, a project that was previously on the sheet may be dropped from the sheet if it no longer meets the query criteria. Another project may be added to the sheet because it now meets the query criteria.

In this field:	Do this:
Portfolio Name	Enter a name for the portfolio you are creating.
Period Picker	Select the year for which you want to analyze the data in this scenario.
Creation Date	This field shows the current date.

In this field:	Do this:
Decimal Places	Specify the number of decimal places the column data should display.
Use 1000 Separator (,)	If you want the data to be formatted with a separator (for example, 1,000, not 1000), select this check box.
Negative Number Format	Specify how negative values will be displayed on the sheet: with a negative sign, or in parentheses.

Create a portfolio from an approved or shared portfolio

Rather than create a completely new portfolio for your next planning period, you can save time and effort by "copying" a portfolio that has already been shared or approved for the current planning period.

To create a new portfolio from an approved one

1) Open the Portfolio Manager log and select the portfolio you want to copy for the new planning period.
2) From the **File** menu, choose **Plan** for next period. The Portfolio Properties window opens.

The General tab of the Properties window will show the name of the portfolio you selected as the new portfolio's name. In addition, the Planning Period field will display that portfolio's next planning period by default.

3) In the **Name** field, change the portfolio name.

4) If necessary, you can change the planning period by clicking the drop-down list beside the Planning Period field.

> **Note**: The combination of the portfolio name and the planning period must be unique.

5) If necessary, you can change the numeric format on the **Options** tab.

6) Click **OK**.

Unifier displays the portfolio name in the right pane and automatically creates an initial scenario sheet called Scenario 1. This scenario sheet will contain all the projects that were present in the portfolio you copied. These projects will show the data that was current for each project at the time the portfolio was copied, based on the matching monthly and yearly cash flow columns. For the new scenarios, Unifier will calculate the new totals and then calculate the variances to show the differences.

> **Note:** If the original portfolio contained monthly numbers, and the new portfolio contains only a year column, the monthly numbers will be consolidated for the year. Conversely, if a year column is being copied into a portfolio with monthly columns, the number will be divided into monthly columns.

Sort a Portfolio Log

You can sort the portfolio log by portfolio name into ascending or descending alphanumeric order. To do so, click the triangle icon on the right side of the Portfolio Name column.

Find, Sort, and Delete a Portfolio

Find a Portfolio

For information on searching for a portfolio refer to *Unifier General User Guide* for details.

Sort a Portfolio

You can sort the portfolio log by portfolio name into ascending or descending alphanumeric order. To do so, click the triangle icon on the right side of the Portfolio Name column.

Delete a Portfolio

1) Open the Portfolio Manager log.

2) Select the portfolio(s) you want to delete.

3) On the toolbar, click the **Delete** button.

About Scenario Sheets (Classic View)

As the budget forecast planner, you can create scenarios to plan an optimal portfolio of projects for the company, based on available budget targets and strategic goals.

Portfolio management entails collaboration and negotiation between you, as the budget forecaster, and the project managers in your company. At their respective project levels, project managers maintain project information and create cash flow budgets and projections in the Cost Manager.

In the Portfolio Manager, on the scenario sheets you create, Unifier collects the budget and projection numbers from the projects' Cost Managers, as well as project start and end dates from the project information.

During a scenario analysis, you can:

a) Apply regional budget targets

b) Group the projects in the scenario according to project characteristics

c) Sort and filter the rows of project data and analyze the summary totals

d) Accept the project managers' budget numbers or propose new numbers

e) Accept the schedule dates, or remove or postpone planned projects

f) Create additional scenarios to reflect other possible forecasts

> **Note**: The numbers you propose in a scenario will NOT affect a project's live data. Your proposed numbers are stored only in the Portfolio Manager and will not affect live project data until a scenario has been approved by your company management.

During this analysis, you will likely be in touch with project managers to negotiate these numbers and dates until you reach agreement.

Project managers will not see the changes you make on the scenario sheet. Instead, the project managers must create a "shared" type of portfolio budget curve. This curve shows your proposed numbers for the project. The project manager can include this curve on the cost worksheet, along with the forecast budget, or any other budget curve, in order to see the difference between the project's numbers and your proposed budget numbers.

In order for them to see the curve, you must share the scenario (see *Share a Scenario (Classic View)* (on page 485)).

For information about the portfolio budget curve, see Creating Cash Flow Detail Curves in Projects and Shells.

Once you have completed a budget forecast analysis using these scenarios, you can send the best (or several best) scenario(s) to the executive decision makers for approval by "sharing" the scenario.

Overview of a Scenario sheet

Following is an example of a scenario sheet, shown in sections:

These columns are fixed. They will always appear on the sheet.

An icon in the second column means the project is linked to the project data, and the data on the scenario sheet will be updated whenever you open the sheet.

		Project Name	Stage	Estimated Total	Contact Name	Prior Actuals	2011	2012	2013
1		Seattle Public Utilities – So	Execution	2,759,989	John Doe	2,759,989	2,759,989	2,759,989	2,759,9
2		Cooler Replacement	Planning	17,239,285	Bruce Boche	17,239,285	17,239,285	17,239,285	17,239,2
3		Foundation Repair	Execution	259,916	Bob Johnson	259,916	259,916	259,916	259,9
4		North Campus	Execution	7,238,491	Brian Nash	7,238,491	7,238,491	7,238,491	7,238,4
5		Pacific Region A	Execution	7,259,916	Barbara Nash	7,259,916	7,259,916	7,259,916	7,259,9
6		Seattle Public Utilities – No	Planning	5,429,916	Kevin James	5,429,916	5,429,916	5,429,916	5,429,9
7		EPMC Project	Planning	7,259,916	Mike Smith	7,259,916	7,259,916	7,259,916	7,259,9

These columns and their content will vary. They are configured by your administrator to appear on the sheet.

These year columns can extend up to 15 years. In addition, a certain number of years (0 to 5) may break down to show monthly columns, depending on how your administrator has designed the sheet.

		Project Name	Stage	Estimated Total	Contact Name	Prior Actuals	2011	2012	2013
1		Seattle Public Utilities – So	Execution	2,759,989	John Doe	2,759,989	2,759,989	2,759,989	2,759,9
2		Cooler Replacement	Planning	17,239,285	Bruce Boche	17,239,285	17,239,285	17,239,285	17,239,2
3		Foundation Repair	Execution	259,916	Bob Johnson	259,916	259,916	259,916	259,9
4		North Campus	Execution	7,238,491	Brian Nash	7,238,491	7,238,491	7,238,491	7,238,4
5		Pacific Region A	Execution	7,259,916	Barbara Nash	7,259,916	7,259,916	7,259,916	7,259,9
6		Seattle Public Utilities – No	Planning	5,429,916	Kevin James	5,429,916	5,429,916	5,429,916	5,429,9
7		EPMC Project	Planning	7,259,916	Mike Smith	7,259,916	7,259,916	7,259,916	7,259,9
		Totals		297,759,989		297,759,989	297,759,989	297,759,989	297,759,989
		Targets		1,923,09				4,653,092	
		Difference		-671,987				-3,901	

Current Project Data | Current project data is shown here when the selected project's data differs from the portfolio.

Default Scenario | 10% Budget Reduction | 10% Budget Overage

This bar indicates the left border of the scrolling feature. The columns on the left of this bar will always be visible when you scroll through the columns on the right.

Use this scroll bar to move through the columns on the sheet.

You can resize columns by dragging the column margins with the mouse.

Totals		297,759,989		297,759,989	297,759,989	297,759,989	297,759,989
Targets		1,923,09				4,653,092	
Difference		-671,987				-3,901	

Difference is calculated by Unifier and shows the difference between the target number and the total.

Targets are the target numbers the planner has designated for these totals. The planner enters the targets manually in this row.

Totals shows the sum of the amounts in each numeric column.

Total	$60,409.36	$2,783,508.77	$1,576,023.39	$112,631.58	$69,298.25
Target	$0.00	$2,000,000.00	$0.00	$0.00	$0.00
Difference	-$60,409.36	-$783,508.77	-$1,576,023.39	-$112,631.58	-$69,298.25
Current Project Data	$7,777.78	$994,444.44	$892,222.22	$7,777.78	$16,666.67

Scenario 1 ✚ ⚙

Click the tabs to move from one scenario sheet to another.

This section of the sheet will display the current project data for any project row that you select in the grid above.

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	Project Name	Pre-Actuals	Total	◀◀ 2012	Jan 2012	Feb 2012	Mar 2012
🔗	Target Store	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
🔗	TJMaxx	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
🔗	Parking Extension	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
🔗	Rapid Central Station	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
🔗	South Tower Expansion	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
🔗	Gates 3	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Mathida Parking Lot	$7,777.78	$1,046,666.67	$944,444.44	$60,000.00	$16,666.67	$27,777.78
🔗	Mathilda Shopping Complex	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
🔗	Rapid Transit Terminal 3	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total		$60,409.36	$2,783,508.77	$1,576,023.39	$112,631.58	$69,298.25	$80,409.36
Target		$0.00	$2,000,000.00	$0.00	$0.00	$0.00	$0.00
Difference		-$60,409.36	-$783,508.77	-$1,576,023.39	-$112,631.58	-$69,298.25	-$80,409.36
	Current Project Data	$7,777.78	$994,444.44	$892,222.22	$7,777.78	$16,666.67	$27,777.78

Italics indicate that there is a budget discrepancy between the actual project data and the data you entered on the sheet.

If you save the sheet after you make a change, Unifier will unlink the project from the sheet.

In addition to the italics, the actual project data that differs will show a dark bar at the top of the cell.

Open a Scenario Sheet (Classic View)

On the Portfolio Manager log, double-click the portfolio that contains the sheet you want to open.

Unifier displays one of these scenario sheets:

▶ The scenario sheet marked "shared"
▶ The scenario sheet that was last updated, if there is no shared scenario

You can resize the column that is available in the left of the split. The fields, in the left side of the split, will be editable along with the fields in the right side of the split.

In the Project Portfolio Manager (PPM) scenario sheet, regardless of their position (left or right splits), the following are considered special columns, and read-only:

▶ Project Name
▶ Project Number
▶ Project State

These fields are read-only because the option "Enable Column Editing" (in the Column Properties window) is not selected.

For the "Start Date" column, if the Project State is in execution, then the column will not be editable in the scenario sheet, whether placed in right or left side of the split.

For the "Start Date" column, if the Project state is not in execution, since the field is editable in the right side of the split, if the column is moved to left it can be edited in that scenario sheet.

The read-only fields will have font in italics and in color.

The read-only columns will have a background color.

The Editable fields will be in regular font.

Upon selecting a row, the editable fields will get a white background, and the read-only cells will remain as they were.

For a selected cell, the corresponding row, and column header, will be highlighted in color, with border.

In a current scenario sheet, a triangle around the number of a cell, and row, denotes change in that cell for a particular project. Also, the tool-tip enables you review the changes in row, and change on particular cell.

The current Project Data row and the selected row for the project will both have same background.

You can distinguish which is the selected scenario sheet as against the other scenario sheets. The selected tab will be highlighted to help you distinguish the selected scenario sheet, against the other scenario sheets.

Monthly Breakdown of Actuals Values in Scenario Sheet (Classic View)

For the projects that are in-progress, where Forecast Curve is used (not the Baseline Curve), if the Administration has selected to display the monthly breakdown of Actuals (Display monthly breakdown of Actuals option in the portfolio Configuration window), then:

▸ Within the Portfolio Manager for the current year, all months prior to the current month will display the corresponding value from the Actuals curve, and the fields will be read-only.
▸ The current month will display the value from the Forecast, or the value from Actuals curve. Once the Actuals value is displayed, then the cell becomes read only.

Similarly, the **Pre-Actuals** (in the Project Portfolio Manager) will contain the total, from the Actuals curve, for all previous years if the Actuals source is defined.

Example

For project City4, the user has defined Actuals source (in the Configuration window of the portfolio) for period 2017.

For period between 1/1/16 to 12/1/17, the total Actuals amount is $7200.

The Actuals total for period 1/1/16 to 12/16 is $5806.45.

When the user opens the Project Portfolio Manager for period 2017, the "Pre-Actuals" column will show the total amount from Actuals for previous year (1/1/16 to 12/1/16), and the Cash flow Curve displays a steady incline.

Considering it is May 2017:

When the Actuals source is defined (in project City4) for the columns from Jan 2017 to April 2017, then when the selected tab in the Portfolio Manager is not shared or is not approved, the screen displays the corresponding value (read-only) that is coming from the Actuals curve in the Cashflow.

For the month of May 2017, the corresponding values displayed for City4 will be editable, or read-only, based on the Period Close Settings fields, defined in the Cash flow properties ("Enable auto snapshot on").

For the current year and current month, in the Portfolio Manager, the same logic applies as for the Forecast Curve in the Cashflow.

Within the Portfolio Manager for the current year, for the current month, the logic will follow the same logic as for the forecast curve in the Cash flow (Cash flow by Forecast - CBS).

If the "Enable auto snapshot on" option is checked, then:

▸ If the current date is before the date defined then the value shown in Portfolio Manager (for the current month) will show the value from the Forecast Curve.

▸ If "Replace current period forecast with Actual on cut off date" (in the Forecast options) is checked, then the value shown in the Portfolio Manager (for the current month) will be the value from the Forecast curve.

▸ If the "Allow edit of current period forecast until replacement by Actuals" is checked, then the value shown in the Portfolio Manager (for the current month) will be editable; otherwise, it will be read-only.

▸ If "Replace current period forecast with Actual on cut off date" (in the Forecast options) is not checked, then the value shown in the Portfolio Manager (for the current month) will be the value from the Actuals curve.

▸ If the current date is on, or after, the date defined, then the value shown in the Portfolio Manager (for the current month) will show value from the Actuals curve and will be read-only.

If the "Enable auto snapshot on" option is not checked, then the value shown in the Portfolio Manager (for the current month) will be from the Actuals curve and will be read-only.

When the user shares the scenario in the Portfolio Manager, then only the "ALL values of Forecast" will be shared.

If the Project Portfolio Manager (PPM) is unlinked, then for those scenarios the Actuals will be read-only for the previous months.

For approved scenarios, the monthly Actuals are displayed as read-only only when the PPM is linked.

Unless the Cash flow is refreshed (even after the checkbox is checked), the Actuals will not be displayed.

Additional information

Approved/shared date will reflect actuals spread data only if the project is unlinked.

For the existing PPM Sheet, for prior years (e.g.,2014), the actual data is not displayed for yearly columns (e.g., 2015 or 2016).

As the cash flow is refreshed, the current month forecast data will become non-editable in PPM even if the project is not linked.

As the cash flow is refreshed, the current month and the previous month baseline data will become non-editable in PPM even if the project is not linked.

Multiple Forecast Curve

If there are multiple forecast curves defined within a project, with different option setting, then Unifier displays a warning message (through a red triangle) in the current month cell when you hover over. In this case:

▸ For the future months, the scenario sheet shows cumulative values on forecast.
▸ For the prior months, the scenario sheet shows cumulative values for actuals.
▸ For current month, the scenario sheet shows the cumulative actuals values which are linked to forecast as read-only, always.

For support for monthly actuals, in case of consistent settings in multiple forecast curves, the behavior for the current, prior, and future months will be determined according to the existing functionality.

Project Portfolio Manager (PPM)

Whether linked, or unlinked, in the scenario sheet, the approved and shared data actuals spread are displayed in the Cashflow.

For the current month forecast data, whether the PPM is linked or unlinked, Unifier honors the forecast settings in the Cashflow.

Yearly PPM

In an existing PPM scenario sheet, for prior years actuals, data is seen as read-only for yearly columns if the checkbox to show monthly actuals is checked in the PPM configuration.

The current and future years will be determined according to the existing functionality.

View a Scenario Sheet's Properties (Classic View)

To view a scenario sheet's properties, click the **Properties** button at the top of the sheet. The Properties will show you the following information:

▸ Portfolio name
▸ Planning period for the portfolio analysis
▸ Date the portfolio was created
▸ Any other fields of information that were added to the Portfolio Manager form

Unlink or Link Projects (Classic View)

When you create a scenario, Unifier populates the sheet with all the projects that have met the criteria for inclusion on the sheet. (These criteria were created in a query by your administrator when the Portfolio Manager was configured.) This is a dynamic process that occurs whenever you open a scenario sheet. The projects that appear on the sheet will fluctuate, depending on whether they still meet the criteria for inclusion. For example, a project that was previously on the sheet may be dropped from the sheet if it no longer meets the query criteria. Another project may be added to the sheet because it now meets the query criteria.

According to the configuration your administrator created for the Portfolio Manager, all the projects on the scenario sheet will be automatically either linked or unlinked when you first open the scenario sheet.

▸ If they are linked, the data on the scenario sheet is linked to the project data and is updated every time you open the sheet. Any new project that is added to the sheet will also be linked.

▸ If they are unlinked, the data on the scenario sheet is not linked to the project data, and will not be updated by changes in the project data. Any new project that is added to the sheet will also be unlinked.

You can link and unlink one or multiple projects.

To link a project on the scenario sheet to current project data

1) Select the project row(s) you want to link.

2) Click the **Link**/**Unlink** button. Unifier will display a warning that any numbers you changed on the sheet will be lost if the project is linked. When the project is linked, you will see a link icon in the second column beside the project(s) name(s).

3) Click the **Save** icon.

To unlink a project from the scenario sheet

1) Select the project row(s) you want to unlink.

▸ For a single project row, click the link icon in the second column, or click the **Link**/**Unlink** button.

▸ For multiple project rows, click the **Link**/**Unlink** button.

When the project is unlinked, Unifier will delete the link icon in the second column beside the project(s) name(s).

2) Click the **Save** icon.

You can also unlink a project by editing any cell in the row. Once you start editing, Unifier will automatically unlink the project from the project data.

If an unlinked project shows a discrepancy between the actual project data and the data you entered on the sheet, Unifier will display the numbers in italics and flag the actual cell data that differs with a dark bar.

Italics indicate that there is a budget discrepancy between the actual project data and the data you entered on the sheet.

In addition to the italics, the actual project data that differs will show a dark bar at the top of the cell.

If you save the sheet after you make a change, Unifier will unlink the project from the sheet.

Edit Numbers on a Sheet (Classic View)

A primary function of scenario sheets is to make it easy for you to modify numbers and see the resulting budget analysis quickly. You can edit the following numbers on the scenario sheet:

▸ Cash flow projections
▸ Targets for cash flows and numeric columns
▸ Start and end dates for planned projects

When you edit any of these numbers, Unifier dynamically updates totals and calculates the differences between target numbers and those totals; however, it does NOT change a project's live data. Your proposed numbers are stored only in the Portfolio Manager and will not affect live project data until a scenario has been approved by your company management.

> **Note**: When you edit numbers in any project row, Unifier automatically unlinks that project row from the project data.

To edit numbers on the sheet

1) Double-click the cell containing the number you want to change. The cell becomes editable.

> **Note**: If any yearly projections have been broken down into months, you must make your edits in the month cells, not the yearly total.

2) Enter the change.
3) Press the **Enter** key on your keyboard, or press the Tab key to move to the next editable cell in the row.

    Unifier updates the values in the Total and Difference rows for this column, and flags the cell to indicate that there is a discrepancy between the number you entered and the project data.

> **Note:** To leave a cell without saving your changes, press the ESC key on your keyboard. Unifier restores the original numbers to the cell.

4) Click the **Save All** button.

Drill Down to Project Data (Classic View)

During the planning cycle, you might need quick access to project data in order to view project characteristics, schedule activities, cost data, cash flow data, and other information. In addition, you might need to update some of this data as you are working on a scenario. For this purpose, the project names on a scenario sheet are hyperlinked to the project. If you have permissions, you can open the project's landing page from the scenario sheet and view or edit data directly in the project.

To drill down to project data

On the scenario sheet, click the hyperlinked project name. Unifier opens the project landing page in a new window. From this page, you can navigate to project data and view or edit it directly.

The scenario sheet remains open in a separate window so that you can easily work on both the project data and the scenario sheet at the same time.

Change Start Dates (Classic View)

You can change the start dates of planned projects, but not those in execution. When you change a start date, Unifier shifts the end date to preserve the project duration, and also shifts the cash flow numbers (excluding pre-actuals) left or right to preserve the cash flow distribution.

To change a start date

1) Double-click the date in the **Start Date** column. Unifier displays a calendar.
2) Choose the new date from the calendar and press the **Enter** key on your keyboard.

    Unifier shifts the end date and the cash flow numbers to reflect the change.

Before date change:

Start Date	End Date	Pre-Actuals	Total	►►	2012	►►	2013	2014	2015	2016
12/26/2011	05/31/2013	$7,777.78	$994,444.44		$892,222.22		$102,222.22	$0.00	$0.00	$0.00

After date change:

Start Date	End Date	Pre-Actuals	Total	►►	2012	►►	2013	2014	2015
04/26/2012	09/29/2013	$7,777.78	$994,444.44		$494,444.44		$500,000.00	$0.00	$0.00

How Unifier Distributes Cash Flow

Unifier stores all cash flow amounts by month in the database. The logic Unifier uses to distribute cash flow dollars is rendered in monthly allocations and presented as follows:

▶ If you move the start date backwards by (for example) three months, Unifier will move all the cash flow amounts (excluding the pre-actuals column) left by three months and display a zero dollar amount in the last three month columns for that year. Amounts from the following fiscal year will not move left.

▶ If you move a start date forward by three months, Unifier will move all the cash flow amounts (excluding the pre-actuals column) right by three months and display a zero dollar amount in the first three month columns. The cash flow amounts will continue to move forward in time, replacing the values of the next three months with the values of the past three months. If the cash flows through multiple years, the total for the next year will increase by the three months' amount, and the monthly cash flow for the last three months of the previous year will replace the new year's first three months. The rest of the new year's monthly values will move forward three columns.

Change Cash Flow Amounts (Classic View)

You can change the cash flow amounts of any project on the sheet, planned or in execution. When you change a number in the cash flow amounts, Unifier unlinks the project from the live project data.

To change a cash flow amount

1) Double-click the cell containing the amount you want to change.
2) Enter your change and press the **Enter** key on your keyboard.

   The project's **Total** amount and the year's total amount increases or decreases by the amount you entered. Unifier calculates the difference, indicates the edited column amounts in italics, and also places a dark bar at the top of the cell in the actual project data.

Before change:

	Project State	Total	◀ 2014	Jan 2014	Feb 2014	Mar 2014
	Execution	$0.00	$0.00	$0.00	$0.00	$0.00
	Planning	$0.00	$0.00	$0.00	$0.00	$0.00
	Planning	$65,000.00	$10,000.00	$0.00	$0.00	$0.00
	Planning	$0.00	$0.00	$0.00	$0.00	$0.00
	Planning	$0.00	$0.00	$0.00	$0.00	$0.00
Total		$599,684.21	$544,684.21	$53,631.58	$112,631.58	$52,631.58
Target		$0.00	$6,000.00	$0.00	$0.00	$0.00
Difference		-$599,684.21	-$538,684.21	-$53,631.58	-$112,631.58	-$52,631.58
	Planning	$0.00	$0.00	$0.00	$0.00	$0.00

After change:

		Project Number	Project State	Total	◀ 2014	Jan 2014	Feb 2014	Mar 2014
1		Proj-0005	Execution	$0.00	$0.00	$0.00	$0.00	$0.00
14		PRJ-09007	Planning	$0.00	$0.00	$0.00	$0.00	$0.00
15		PRJ-0101	Planning	$80,000.00	$25,000.00	$15,000.00	$0.00	$0.00
16		PRJ-0102	Planning	$0.00	$0.00	$0.00	$0.00	$0.00
20		Proj-0025	Planning	$0.00	$0.00	$0.00	$0.00	$0.00
Total				$614,684.21	$559,684.21	$68,631.58	$112,631.58	$52,631.58
Target				$0.00	$6,000.00	$0.00	$0.00	$0.00
Difference				-$614,684.21	-$553,684.21	-$68,631.58	-$112,631.58	-$52,631.58
		PRJ-0101	Planning	$0.00	$0.00	$0.00	$0.00	$0.00

$15,000 added to Jan 2014 column. Total column and 2014 year column increased by $15,000.

Dark bar added to cell in the actual project data that was changed by the edit.

Edit Project Information (Classic View)

Your scenario sheets will typically contain some project information. If this project information was configured to be editable, you can edit it. If you do so, these changes will NOT affect the project's live data. Your edits are stored only in the Portfolio Manager and will not affect live project data until a scenario has been approved by your company management. When the scenario is approved, specified edited shell information will be updated with the approved scenario data, and you will be notified by email of the updates.

You cannot edit:

- ▸ Project name
- ▸ Number
- ▸ Status
- ▸ Location

> **Note**: When you edit information in a project row, Unifier automatically unlinks that project row from the project data.

To edit project information

1) Double-click the cell containing the information you want to change. The cell becomes editable.
2) Enter the change.
3) Press the **Enter** key on your keyboard, or press the **Tab** key to move to the next editable cell in the row.

   Unifier updates the information in this column, and flags the cell to indicate that there is a discrepancy between the data you entered and the project's data.

   > **Note**: To leave a cell without saving your changes, press the ESC key on your keyboard. Unifier restores the original numbers to the cell.

4) Click the **Save All** button.

Hide or Show Columns (Classic View)

To make viewing information easier on either the scenario sheet or the project candidate list, you can hide any cash flow columns that might not contain data relevant to your current task.

To hide a column

1) Click the arrow beside the column name and choose **Columns**.
2) On the list that appears, select the check box beside the columns you want to hide. Unifier removes those columns from view.

To show a hidden column

1) Click the arrow beside the column name and choose **Columns**.
2) On the list that appears, de-select the check box beside the columns you want to show. Unifier opens those columns to view.

Filter the Scenario Sheet (Classic View)

To make viewing project information easier, you can use filters on both the scenario sheet and the project candidate list to narrow the focus of information to particular specifics, such as a date range, or a budget amount. For example, you might want to see only those projects in a specific date range, or only those projects with budgets greater than a specific amount, or projects of a specific type.

How you filter information depends on the column you choose to use as a filter.

To filter information using a text column

1) Click the arrow beside the column name and choose Filters.
2) In the text box that appears, enter the text you want to use as a filter, such as a project name or prefix.

   Unifier displays those projects that match the text you entered.

To filter information using a date column

Click the arrow beside the column name and choose **Filters**.

▸ Choose **Before** to specify a date period before a particular date. Click the date on the calendar that appears. Unifier displays all the projects with a date value that occurs before the date you specified on the calendar.

▸ Choose **After** to specify a date period after a particular date. Click the date on the calendar that appears. Unifier displays all the projects with a date value that occurs after the date you specified on the calendar.

▸ Choose **On** to specify a specific date. Click the date on the calendar that appears. Unifier displays all the projects with a date value that matches the date you specified on the calendar.
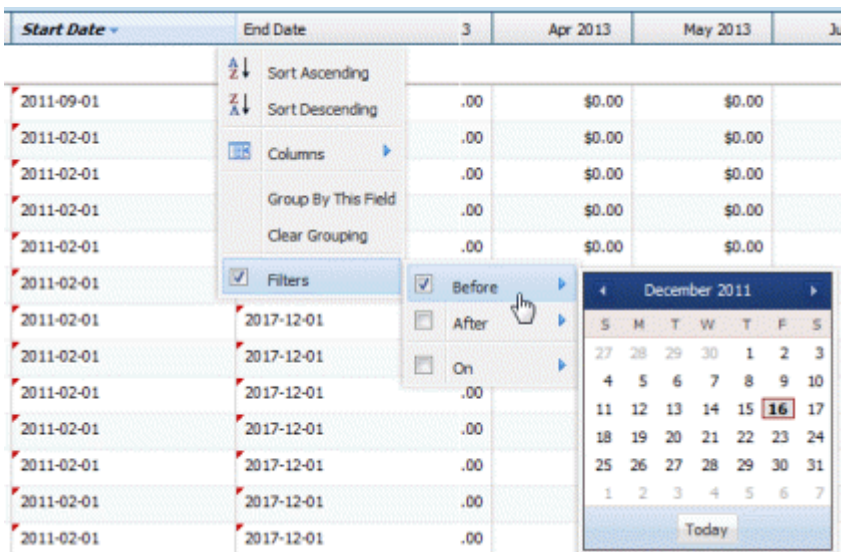
To filter information using a numeric column

Click the arrow beside the column name and choose Filters.

▸ Enter a number "**greater than**" a specific number to display all the projects with numbers in that column greater than the number you specified.

▸ Enter a number "**less than**" a specific number to display all the projects with numbers in that column less than the number you specified.

▸ Enter a number "**equal to**" a specific number to display all the projects with numbers in that column that match the number you specified.
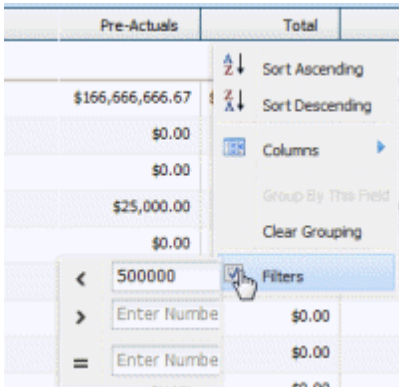
To return the sheet to an unfiltered state

To return the sheet to an unfiltered state, click the arrow beside the column name and deselect the Filters check box.

Group the Data on a Scenario Sheet (Classic View)

You can group the data on the sheet by column. Grouping data can make it easier to identify projects with similar characteristics, such as estimated cost or start date. You can group by any column except the **Pre-Actuals** and year columns. When you group data, Unifier displays a sub-total amount by group.

To group the data

1) Identify the column by which you want to group the data and click the down arrow beside the heading.
2) Select **Group By This Field**.

Unifier groups the data by the column value. Groupings are separated and identified by the column value you grouped on, such as **Project State** "In Execution" and "Planning."

You can expand and collapse a group by clicking the arrow here.

Once you have grouped the data, you can further refine the view by sorting and filtering the data within each group.

3) If you want to maintain the data in this grouping, click the **Save** icon. Whenever you open the sheet, it will display the data in this grouping.

To ungroup data

1) Click the down arrow beside the column heading.
2) Select **Clear Grouping**.

Sort the Data on a Scenario Sheet (Classic View)

To make data easier to locate alphanumerically on either the scenario sheet or the project candidate list, you can sort the information by column in ascending or descending order. To sort the sheet by column, click the arrow beside the column heading and choose **Sort Ascending** or **Sort Descending**.

You can also sort the data by multiple columns. To do so, hold down the Ctrl key on your keyboard and click the arrows beside the column headings you want to sort by.

Create a New Scenario (Classic View)

When you create a portfolio, Unifier automatically creates one initial scenario sheet. You can create additional scenario sheets.

To create a new scenario sheet

1) To add a new scenario sheet, click the plus sign at the bottom of the scenario sheet window.
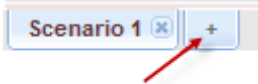
Unifier adds a "new scenario" tab to the bottom of the window.

2) Enter a name for the new scenario and press the Enter key on your keyboard.

   You can include up to 30 characters in the name. Letters, numbers, hyphens, spaces, underscores, and special characters are allowed.

3) Click **Save All**.

   The project records that will be included on the scenario sheet are extracted from the database using a query that your Administrator created when the portfolio was configured. Whenever you create or open a scenario sheet, Unifier re-runs the query and adds or removes projects from the scenario depending on whether or not the project matches the query criteria. For example, a project that was previously on the sheet may be dropped from the sheet if it no longer meets the query criteria. Another project may be added to the sheet because it now meets the query criteria.

Edit the Name of a Scenario Sheet (Classic View)

1) At the bottom of the scenario sheet window, double click on the tab showing the name you want to edit. The tab name becomes editable.

2) Change the name as necessary. You can include up to 30 characters in the name. Letters, numbers, hyphens, spaces, underscores, and special characters are allowed.

Copy a Scenario (Classic View)

1) At the bottom of the scenario sheet window, select the tab containing the scenario you want to copy.

2) Click the manage scenarios icon and choose **Duplicate Selected Tab**.

3) Click **Save**.

Unifier copies the scenario into a new tab, which you can rename. All the projects in the original scenario will be copied to the new scenario, including their linked or unlinked state, and current column widths, targets, sorting, etc. For the new scenario, Unifier will calculate the new totals and then calculate the variance to show the difference.
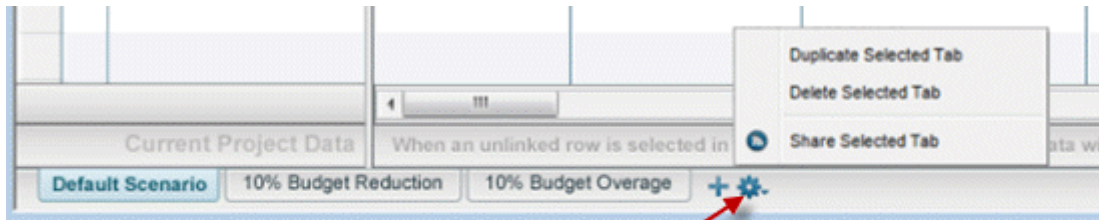
Click this icon.

Share a Scenario (Classic View)

Sharing a scenario makes the budget numbers you propose available to project managers for viewing. Project managers will not see the changes you make on the scenario sheet itself. Instead, the project managers will use a read-only portfolio budget curve in their Cost Manager Cash Flow node to view both their original budget curve and a parallel scenario curve that shows the differences between their initial forecast projections and your proposed numbers.

In order for project managers to see the portfolio budge curve, you must share the scenario. For information about the portfolio budget curve, see Creating Cash Flow Detail Curves in Projects and Shells.

You must have "full access" permission to share a scenario. You can share only one scenario at a time.

To share a scenario

1) At the bottom of the scenario sheet window, select the tab containing the scenario you want to share.
2) Click the manage scenarios icon and choose **Share Selected Tab**.
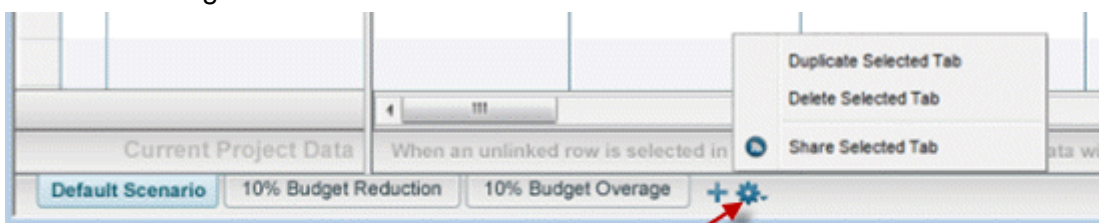
Click this icon.

3) Click **Save All**.

   Unifier visually marks the scenario tab with a "shared" icon and makes the scenario numbers visible on the portfolio budget cash flow curve for the project manager to see.

Stop sharing a scenario

1) At the bottom of the scenario sheet window, select the tab containing the scenario you want to stop sharing.

2) Click the manage scenarios icon and choose **Stop Sharing Selected Tab**.

3) Click **Save All**.

Delete a Scenario (Classic View)

1) At the bottom of the scenario sheet window, select the tab containing the scenario you want to delete.

2) Click the manage scenarios icon and choose **Delete Selected Tab**.

3) Click **Save All**.

Approve a Scenario (Classic View)

After management has approved a scenario for the portfolio, you can mark the scenario as "approved." You must have "full access" permission to approve a scenario.

Once you approve a scenario, Unifier:

▸ Marks the approved scenario "shared" so that project managers can see the approved dates and numbers. The scenario is set to read-only mode and can no longer be modified or deleted.

▸ Updates each projects' original budget numbers with the proposed numbers on the approved scenario.

▸ Updates each projects' monthly or yearly cash flow numbers with the proposed numbers on the approved scenario.

▸ Updates the project start date (if it was changed) for any planned projects that will begin during the portfolio's planning period.

▸ Updates the project/shell data with any project/shell information that was changed on the scenario sheet, and sends you an email notification of the updates

▸ Locks the budget and cash flow numbers to prevent any further changes.

To approve a scenario

1) At the bottom of the scenario sheet window, select the tab containing the scenario you want to approve.

2) Click the **Manage Scenarios** icon and choose **Approve Selected Tab**.

Click this icon.
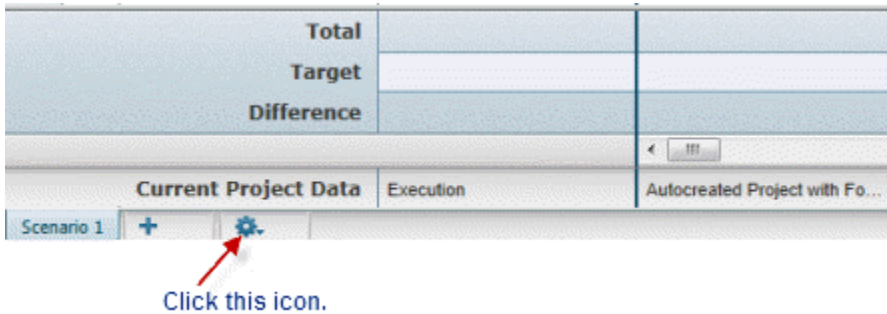
3) Click **Save All**.

When you approve a scenario, Unifier automatically shares the scenario and visually marks the scenario tab with an **Approved and Shared** icon to indicate to project managers that this is the approved scenario.

Scenario approved and shared.
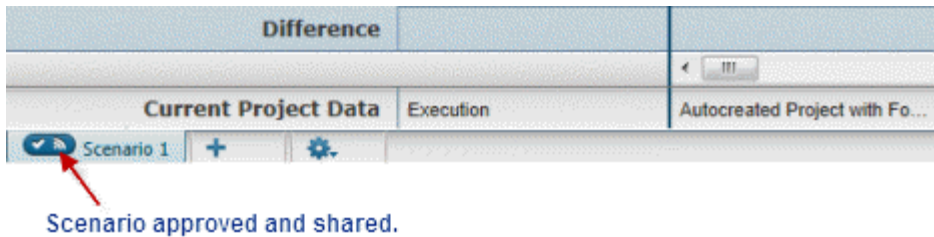
To "un-approve" a scenario

1) At the bottom of the scenario sheet window, select the tab containing the scenario you want to un-approve.

2) Click the manage scenarios icon and choose **Un-Approve Selected Tab**.

The Portfolio Manager deletes the approval icon from the tab, but does not delete the shared icon. If you want to stop sharing the scenario as well, you must click the manage scenarios icon and choose **Unshare Selected Tab**.

3) Click **Save All**.

> **Note**: If you "un-approve" a scenario, Unifier does NOT reset dates to their original values. Date fields will retain the approved values.

Export the Scenarios to Excel (Classic View)

To use scenario data for additional purposes, you can export your scenario sheets to Excel.

To export scenarios

Click the **Export** button at the top of the window. The Portfolio Manager will export all of your scenario sheets to Excel.

You will see a prompt at the bottom of the window, asking you to open or save the Excel sheets.

When you open the Excel sheet, it displays the data from each scenario sheet, arrayed in tabs and columns identical to the Portfolio Manager scenarios. The Excel sheet will include any formulas that were created in the Portfolio Manager for calculating values. The Excel sheet also honors the frozen columns, as well as the scrolling ability so that you can scroll through the cash flow columns.

About Scenario Sheets (Standard View)

As the budget forecast planner, you can create scenarios to plan an optimal portfolio of projects for the company, based on available budget targets and strategic goals.

Portfolio management entails collaboration and negotiation between you, as the budget forecaster, and the project managers in your company. At their respective project levels, project managers maintain project information and create cash flow budgets and projections in the Cost Manager.

In the Portfolio Manager, on the scenario sheets you create, Unifier collects the budget and projection numbers from the projects' Cost Managers, as well as project start and end dates from the project information.

During a scenario analysis, you can:

a) Apply regional budget targets
b) Group the projects in the scenario according to project characteristics
c) Sort and filter the rows of project data and analyze the summary totals
d) Accept the project managers' budget numbers or propose new numbers
e) Accept the schedule dates, or remove or postpone planned projects
f) Create additional scenarios to reflect other possible forecasts

> **Note**: The numbers you propose in a scenario will NOT affect a project's live data. Your proposed numbers are stored only in the Portfolio Manager and will not affect live project data until a scenario has been approved by your company management.

During this analysis, you will likely be in touch with project managers to negotiate these numbers and dates until you reach agreement.

Project managers will not see the changes you make on the scenario sheet. Instead, the project managers must create a "shared" type of portfolio budget curve. This curve shows your proposed numbers for the project. The project manager can include this curve on the cost worksheet, along with the forecast budget, or any other budget curve, in order to see the difference between the project's numbers and your proposed budget numbers.

In order for them to see the curve, you must share the scenario (see *Share a Scenario (Classic View)* (on page 485)).

For information about the portfolio budget curve, see Creating Cash Flow Detail Curves in Projects and Shells.

Once you have completed a budget forecast analysis using these scenarios, you can send the best (or several best) scenario(s) to the executive decision makers for approval by "sharing" the scenario.

Gannt View

Gannt view shows you how capital is used over time. It allows you to quickly adjust schedules to achieve a better combination of projects within schedule and target. You can access a Gannt view of any scenario in which one or more projects is selected for budget planning. Click Gannt in the tool bar to display a Gannt distribution of proposed total over time on the grid. You can open the dialogue of select projects and add projects to the Gannt view.

Make schedule adjustments by moving Gannt bars and adjusting the project schedule. You can view the target and difference rows simultaneously. You can also change start and end dates, and the Gannt view will update accordingly. Click **Save** or **Cancel** after making changes.

> **Note**: In the case of a standard planning period and if you have chosen some years as monthly, all Proposal Distribution columns will be displayed in months.

Portfolio Dashboard

The portfolio dashboard allows you to gather insights by looking at visual representations of Risk vs. Benefit, Investment vs. Return on Investment (ROI), and so forth. The dashboard displays all project data that has been selected in Budget Planning of the current scenario. Click **Dashboard** at the top of the scenario sheet to view the portfolio dashboard. A bubble chart displays alongside six fields with drop-down menus: Chart Type, X-Axis, Y-Axis, Bubble Size, Shape, and Color. Use the drop-down menus to select values for each field. A bubble color legend is displayed below the chart.

Click **Reset** to change all drop-down values to select.

Click **Apply** to configure the chart based on your selections.

Click **Update** to apply your configuration to the chart. The chart configuration saves upon clicking Update.

Open a Scenario Sheet (Standard View)

On the Portfolio Manager log, double-click the portfolio that contains the sheet you want to open.

Unifier displays one of these scenario sheets:

▸ The scenario sheet marked "shared"
▸ The scenario sheet that was last updated, if there is no shared scenario

You can resize the column that is available in the left of the split. The fields, in the left side of the split, will be editable along with the fields in the right side of the split.

In the Project Portfolio Manager (PPM) scenario sheet, regardless of their position (left or right splits), the following are considered special columns, and read-only:

- ▸ Project Name
- ▸ Project Number
- ▸ Project State

These fields are read-only because the option "Enable Column Editing" (in the Column Properties window) is not selected.

For the "Start Date" column, if the Project State is in execution, then the column will not be editable in the scenario sheet, whether placed in right or left side of the split.

For the "Start Date" column, if the Project state is not in execution, since the field is editable in the right side of the split, if the column is moved to left it can be edited in that scenario sheet.

The read-only columns will have a background color.

For a selected cell, the corresponding row, and column header, will be highlighted in color, with border.

Monthly Breakdown of Actuals Values in Scenario Sheet (Standard View)

For the projects that are in-progress, where Forecast Curve is used (not the Baseline Curve), if the Administration has selected to display the monthly breakdown of Actuals (Display monthly breakdown of Actuals option in the portfolio Configuration window), then:

- ▸ Within the Portfolio Manager for the current year, all months prior to the current month will display the corresponding value from the Actuals curve, and the fields will be read-only.
- ▸ The current month will display the value from the Forecast, or the value from Actuals curve. Once the Actuals value is displayed, then the cell becomes read only.

Similarly, the **Pre-Actuals** (in the Project Portfolio Manager) will contain the total, from the Actuals curve, for all previous years if the Actuals source is defined.

Example

For project City4, the user has defined Actuals source (in the Configuration window of the portfolio) for period 2017.

For period between 1/1/16 to 12/1/17, the total Actuals amount is $7200.

The Actuals total for period 1/1/16 to 12/16 is $5806.45.

When the user opens the Project Portfolio Manager for period 2017, the "Pre-Actuals" column will show the total amount from Actuals for previous year (1/1/16 to 12/1/16), and the Cash flow Curve displays a steady incline.

Considering it is May 2017:

When the Actuals source is defined (in project City4) for the columns from Jan 2017 to April 2017, then when the selected tab in the Portfolio Manager is not shared or is not approved, the screen displays the corresponding value (read-only) that is coming from the Actuals curve in the Cashflow.

For the month of May 2017, the corresponding values displayed for City4 will be editable, or read-only, based on the Period Close Settings fields, defined in the Cash flow properties ("Enable auto snapshot on").

For the current year and current month, in the Portfolio Manager, the same logic applies as for the Forecast Curve in the Cashflow.

Within the Portfolio Manager for the current year, for the current month, the logic will follow the same logic as for the forecast curve in the Cash flow (Cash flow by Forecast - CBS).

If the "Enable auto snapshot on" option is checked, then:

- If the current date is before the date defined then the value shown in Portfolio Manager (for the current month) will show the value from the Forecast Curve.

- If "Replace current period forecast with Actual on cut off date" (in the Forecast options) is checked, then the value shown in the Portfolio Manager (for the current month) will be the value from the Forecast curve.

- If the "Allow edit of current period forecast until replacement by Actuals" is checked, then the value shown in the Portfolio Manager (for the current month) will be editable; otherwise, it will be read-only.

- If "Replace current period forecast with Actual on cut off date" (in the Forecast options) is not checked, then the value shown in the Portfolio Manager (for the current month) will be the value from the Actuals curve.

- If the current date is on, or after, the date defined, then the value shown in the Portfolio Manager (for the current month) will show value from the Actuals curve and will be read-only.

If the "Enable auto snapshot on" option is not checked, then the value shown in the Portfolio Manager (for the current month) will be from the Actuals curve and will be read-only.

When the user shares the scenario in the Portfolio Manager, then only the "ALL values of Forecast" will be shared.

If the Project Portfolio Manager (PPM) is unlinked, then for those scenarios the Actuals will be read-only for the previous months.

For approved scenarios, the monthly Actuals are displayed as read-only only when the PPM is linked.

Unless the Cash flow is refreshed (even after the checkbox is checked), the Actuals will not be displayed.

Additional information

Approved/shared date will reflect actuals spread data only if the project is unlinked.

For the existing PPM Sheet, for prior years (e.g.,2014), the actual data is not displayed for yearly columns (e.g., 2015 or 2016).

As the cash flow is refreshed, the current month forecast data will become non-editable in PPM even if the project is not linked.

As the cash flow is refreshed, the current month and the previous month baseline data will become non-editable in PPM even if the project is not linked.

Multiple Forecast Curve

If there are multiple forecast curves defined within a project, with different option setting, then Unifier displays a warning message (through a red triangle) in the current month cell when you hover over. In this case:

- For the future months, the scenario sheet shows cumulative values on forecast.For the prior months, the scenario sheet shows cumulative values for actuals.
- For current month, the scenario sheet shows the cumulative actuals values which are linked to forecast as read-only, always.

For support for monthly actuals, in case of consistent settings in multiple forecast curves, the behavior for the current, prior, and future months will be determined according to the existing functionality.

Project Portfolio Manager (PPM)

Whether linked, or unlinked, in the scenario sheet, the approved and shared data actuals spread are displayed in the Cashflow.

For the current month forecast data, whether the PPM is linked or unlinked, Unifier honors the forecast settings in the Cashflow.

Yearly PPM

In an existing PPM scenario sheet, for prior years actuals, data is seen as read-only for yearly columns if the checkbox to show monthly actuals is checked in the PPM configuration.

The current and future years will be determined according to the existing functionality.

View a Scenario Sheet's Properties (Standard View)

To view a scenario sheet's properties, click the **Menu Options** button (icon with three horizontal lines) in the toolbar and select **Properties**. The Properties will show you the following information:

- Portfolio name
- Planning period for the portfolio analysis
- Date the portfolio was created
- Any other fields of information that were added to the Portfolio Manager form

Unlink or Link Projects (Standard View)

When you create a scenario, Unifier populates the sheet with all the projects that have met the criteria for inclusion on the sheet. (These criteria were created in a query by your administrator when the Portfolio Manager was configured.) This is a dynamic process that occurs whenever you open a scenario sheet. The projects that appear on the sheet will fluctuate, depending on whether they still meet the criteria for inclusion. For example, a project that was previously on the sheet may be dropped from the sheet if it no longer meets the query criteria. Another project may be added to the sheet because it now meets the query criteria.

According to the configuration your administrator created for the Portfolio Manager, all the projects on the scenario sheet will be automatically either linked or unlinked when you first open the scenario sheet.

> ▸ If they are linked, the data on the scenario sheet is linked to the project data and is updated every time you open the sheet. Any new project that is added to the sheet will also be linked.

> ▸ If they are unlinked, the data on the scenario sheet is not linked to the project data, and will not be updated by changes in the project data. Any new project that is added to the sheet will also be unlinked.

You can link and unlink one or multiple projects.

To link a project on the scenario sheet to current project data

1) Select the project row(s) you want to link.
2) Click the gear icon beside one of the selected rows and select **Link**, or click the cell in the **Linked** column of that row. Unifier will display a warning that any numbers you changed on the sheet will be lost if the project is linked. When the project is linked, you will see a link icon in the **Linked** column beside the project(s) name(s).
3) Click the **Save** icon.

To unlink a project from the scenario sheet

1) Select the project row(s) you want to unlink.
2) Click the gear icon beside one of the selected rows and select **Unlink**, or click the cell in the **Linked** column of that row. When the project is unlinked, Unifier will delete the link icon in the **Linked** column beside the project(s) name(s).
3) Click the **Save** icon.

   You can also unlink a project by editing any cell in the row. Once you start editing, Unifier will automatically unlink the project from the project data.

Edit Numbers on a Sheet (Standard View)

A primary function of scenario sheets is to make it easy for you to modify numbers and see the resulting budget analysis quickly. You can edit the following numbers on the scenario sheet:

> ▸ Cash flow projections
> ▸ Targets for cash flows and numeric columns
> ▸ Start and end dates for planned projects

When you edit any of these numbers, Unifier dynamically updates totals and calculates the differences between target numbers and those totals; however, it does NOT change a project's live data. Your proposed numbers are stored only in the Portfolio Manager and will not affect live project data until a scenario has been approved by your company management.

> **Note**: When you edit numbers in any project row, Unifier automatically unlinks that project row from the project data.

To edit numbers on the sheet

1) Double-click the cell containing the number you want to change. The cell becomes editable.

> **Note**: If any yearly projections have been broken down into months, you must make your edits in the month cells, not the yearly total.

2) Enter the change.

3) Press the **Enter** key on your keyboard, or press the Tab key to move to the next editable cell in the row.

   Unifier updates the values in the Total and Difference rows for this column, and flags the cell to indicate that there is a discrepancy between the number you entered and the project data.

   > **Note:** To leave a cell without saving your changes, press the ESC key on your keyboard. Unifier restores the original numbers to the cell.

Click the **Save All** button.

You cannot edit:

- ▸ Project name
- ▸ Number
- ▸ Status
- ▸ Location

Drill Down to Project Data (Standard View)

During the planning cycle, you might need quick access to project data in order to view project characteristics, schedule activities, cost data, cash flow data, and other information. In addition, you might need to update some of this data as you are working on a scenario. For this purpose, the project names on a scenario sheet are hyperlinked to the project. If you have permissions, you can open the project's landing page from the scenario sheet and view or edit data directly in the project.

To drill down to project data

On the scenario sheet, click the hyperlinked project name. Unifier opens the project landing page in a new window. From this page, you can navigate to project data and view or edit it directly.

The scenario sheet remains open in a separate window so that you can easily work on both the project data and the scenario sheet at the same time.

Change Start Dates (Standard View)

You can change the start dates of planned projects, but not those in execution. When you change a start date, Unifier shifts the end date to preserve the project duration, and also shifts the cash flow numbers (excluding pre-actuals) left or right to preserve the cash flow distribution.

To change a start date

1) Double-click the date in the **Start Date** column. Unifier displays a calendar.

2) Choose the new date from the calendar.

   Unifier shifts the end date and the cash flow numbers to reflect the change.

How Unifier Distributes Cash Flow

Unifier stores all cash flow amounts by month in the database. The logic Unifier uses to distribute cash flow dollars is rendered in monthly allocations and presented as follows:

▸ If you move the start date backwards by (for example) three months, Unifier will move all the cash flow amounts (excluding the pre-actuals column) left by three months and display a zero dollar amount in the last three month columns for that year. Amounts from the following fiscal year will not move left.

If you move a start date forward by three months, Unifier will move all the cash flow amounts (excluding the pre-actuals column) right by three months and display a zero dollar amount in the first three month columns. The cash flow amounts will continue to move forward in time, replacing the values of the next three months with the values of the past three months. If the cash flows through multiple years, the total for the next year will increase by the three months' amount, and the monthly cash flow for the last three months of the previous year will replace the new year's first three months. The rest of the new year's monthly values will move forward three columns.

Change Cash Flow Amounts (Standard View)

You can change the cash flow amounts of any project on the sheet, planned or in execution. When you change a number in the cash flow amounts, Unifier unlinks the project from the live project data.

To change a cash flow amount

1) Double-click the cell containing the amount you want to change.
2) Enter your change and press the **Enter** key on your keyboard.

   The project's **Total** amount and the year's total amount increases or decreases by the amount you entered. Unifier calculates the difference, indicates the edited column amounts in italics, and changes the color of the text in the cell.

Create and Manage Views on a Scenario Sheet (Standard View)

To make viewing information easier on either the scenario sheet or the project candidate list, you can create views that show relevant cash flow columns.

Create New View

1) In the View drop-down menu, select **Create New View**. The New View window opens.
2) In the Save View As field, enter a name for the view.
3) Complete the **Columns** tab to determine which columns will be visible in this view.
   a. In the **Columns** tab, choose columns from the Available Columns list, and click the **Move** arrow to add columns to the Selected Columns list, or select the **Move All** double arrow to move all available columns to the Selected Columns list.
   b. You can remove columns from the Selected Columns list by selecting columns and clicking the **Remove** arrow or clicking the **Remove All** double arrow.
4) Complete the **Filters** tab. See Filter the Scenario Sheet (Classic View).
5) Complete the **Group By** tab. See Group the Data on a Scenario Sheet (Standard View).

6) Complete the **Sort By** tab. See Sort the Data on a Scenario Sheet (Standard View).

7) When finished, click **Save**.

Manage Views

1) Click the View drop-down menu and select **Manage Views**. The Manage Views window opens.

   ▸ In the Manage Views window, you can check the box in the Visible column to Show View or uncheck it to Hide View.

   ▸ You can click the trash-can icon to Delete View.

   ▸ You can click and drag views to reorder the way they will appear in the View drop-down menu.

2) When finished, click **Save**.

Filter the Scenario Sheet (Standard View)

When creating a new view, you can make viewing project information easier by using filters on both the scenario sheet and the project candidate list to narrow the focus of information to particular specifics, such as a date range, or a budget amount. For example, you might want to see only those projects in a specific date range, or only those projects with budgets greater than a specific amount, or projects of a specific type.

How you filter information depends on the column you choose to use as a filter.

To filter information using a text column

1) In the View drop-down menu, select **Create New View**. The New View window opens.

2) Navigate to the **Filters** tab.

3) Click into the drop-down menu of the text column that you want to filter.

4) Select the appropriate qualifier from the drop-down menu, such as **contains**.

5) In the text box that appears, enter the text you want to use as a filter, such as a project name or prefix.

   Unifier displays those projects that match the text you entered.

To filter information using a date column

1) In the View drop-down menu, select **Create New View**. The New View window opens.

2) Navigate to the **Filters** tab.

3) Click into the drop-down menu of the date column that you want to filter.

   ▸ Choose a date "**greater than**" a specific date to display all the projects with dates in that column that occur after the date you specified.

   ▸ Choose a date that is "**greater than or equals**" a specific date to display all the projects with dates in that column that occur after or on the date you specified.

   ▸ Choose a date "**less than**" a specific date to display all the projects with dates in that column that occur before the date you specified.

   ▸ Choose a date that is "**less than or equals**" a specific date to display all the projects with dates in that column that occur before or on the date you specified.

▸ Choose a date that "**equals**" a specific date to display all the projects with dates in that column that match the date you specified.

▸ Choose a date that "**does not equal**" a specific date to display all the projects with dates in that column that do not match the date you specified.

▸ Choose a date that is "**between**" specific dates to display all the projects with dates in that column that are between the dates you specified.

▸ Choose a date that "**is empty**" to display all the projects without dates in the column that you specified.

▸ Choose a date that "**is not empty**" to display all the projects that have dates in the column that you specified.

To filter information using a numeric column

1) In the View drop-down menu, select **Create New View**. The New View window opens.

2) Navigate to the **Filters** tab.

3) Click into the drop-down menu of the numeric column that you want to filter.

▸ Enter a number "**greater than**" a specific number to display all the projects with numbers in that column greater than the number you specified.

▸ Enter a number that is "**greater than or equals**" a specific number to display all the projects with numbers in that column greater than or equal to the number you specified.

▸ Enter a number "**less than**" a specific number to display all the projects with numbers in that column less than the number you specified.

▸ Enter a number that is "**less than or equals**" a specific number to display all the projects with numbers in that column less than or equal to the number you specified.

▸ Enter a number that "**equals**" a specific number to display all the projects with numbers in that column that match the number you specified.

▸ Enter a number that "**does not equal**" a specific number to display all the projects with numbers in that column that do not match the number you specified.

▸ Enter a number that is "**between**" specific numbers to display all the projects with numbers in that column that are between the numbers you specified.

When finished, you can click **Clear** to remove the filters you have created or **Save** to save them.

Group the Data on a Scenario Sheet (Standard View)

When creating a new view, you can group the data on the sheet by column. Grouping data can make it easier to identify projects with similar characteristics, such as estimated cost or start date. You can group by any column except the **Pre-Actuals** and year columns. When you group data, Unifier displays a sub-total amount by group.

To group the data

1) In the View drop-down menu, select **Create New View**. The New View window opens.

2) Navigate to the **Group By** tab.

3) Select the column by which you want to group the data from the drop-down menu.

4) Next, select **Ascending** or **Descending** from the Order drop-down menu to determine the order in which the data will be displayed.

5) Add more groups by clicking on the gear menu and then clicking **Add Below**.

   ▸ When you create multiple groups, you can use the gear menu to **Add Above** or **Add Below**.

   ▸ When you create multiple groups, you can use the gear menu to **Move Up** or **Move Down**, to determine the order in which your groups will appear on the scenario sheet.

   ▸ You can use the gear menu to **Delete** groups that you have created.

6) When finished, click the **Save** icon. Whenever you open this view, it will display the data in this grouping

Sort the Data on a Scenario Sheet (Standard View)

To make data easier to locate alphanumerically on either the scenario sheet or the project candidate list, you can sort the information by column in ascending or descending order.

To sort the sheet by column:

Hover over the column heading. A set of arrows will appear. Click the arrows to sort the data.

▸ Click the arrow once to sort Ascending.
▸ Click the arrow second time to sort Descending.

To sort the sheet by column when creating a view:

1) In the View drop-down menu, select **Create New View**. The New View window opens.
2) Navigate to the **Sort By** tab.
3) Select the column in which you want to sort the data from the drop-down menu.
4) Next, select **Ascending** or **Descending** from the Order drop-down menu to determine the order in which the data will be displayed.
5) Sort more columns by clicking on the gear menu and then clicking **Add Below**.

   ▸ When you sort multiple columns, you can use the gear menu to **Add Above** or **Add Below**.

   ▸ You can use the gear menu to **Delete** sortings that you have created.

6) When finished, click the **Save** icon. Whenever you open this view, it will display the data in the way you have sorted it.

Create a New Scenario (Standard View)

When you create a portfolio, Unifier automatically creates one initial scenario sheet. You can create additional scenario sheets.

To create a new scenario sheet

1) Click the plus sign at the top of the scenario sheet window.

   Unifier adds a "new scenario" tab to the top of the window.

2) Enter a name for the new scenario and press the Enter key on your keyboard.

You can include up to 30 characters in the name. Letters, numbers, hyphens, spaces, underscores, and special characters are allowed.

The project records that will be included on the scenario sheet are extracted from the database using a query that your Administrator created when the portfolio was configured. Whenever you create or open a scenario sheet, Unifier re-runs the query and adds or removes projects from the scenario depending on whether or not the project matches the query criteria. For example, a project that was previously on the sheet may be dropped from the sheet if it no longer meets the query criteria. Another project may be added to the sheet because it now meets the query criteria.

Edit the Name of a Scenario Sheet (Standard View)

To edit the name of a scenario sheet

1) At the top of the scenario sheet window, double click on the tab showing the name you want to edit. The tab name becomes editable.

2) Change the name as necessary. You can include up to 30 characters in the name. Letters, numbers, hyphens, spaces, underscores, and special characters are allowed.

Duplicate a Scenario (Standard View)

To duplicate a scenario

1) At the top of the scenario sheet window, select the tab containing the scenario you want to duplicate.

2) Click **Duplicate** in the top, right-hand corner of the window.

   Unifier duplicates the scenario into a new tab, which you can rename. All the projects in the original scenario will be duplicated to the new scenario, including their linked or unlinked state, and current column widths, targets, sorting, etc. For the new scenario, Unifier will calculate the new totals and then calculate the variance to show the difference.

Share a Scenario (Standard View)

Sharing a scenario makes the budget numbers you propose available to project managers for viewing. Project managers will not see the changes you make on the scenario sheet itself. Instead, the project managers will use a read-only portfolio budget curve in their Cost Manager Cash Flow node to view both their original budget curve and a parallel scenario curve that shows the differences between their initial forecast projections and your proposed numbers.

In order for project managers to see the portfolio budge curve, you must share the scenario. For information about the portfolio budget curve, see Creating Cash Flow Detail Curves in Projects and Shells.

You must have "full access" permission to share a scenario. You can share only one scenario at a time.

To share a scenario

1) At the top of the scenario sheet window, select the tab containing the scenario you want to share.

2) Click **Share** in the top, right-hand corner of the window.

3) Click **Save**.

Unifier visually marks the scenario tab with a "shared" icon and makes the scenario numbers visible on the portfolio budget cash flow curve for the project manager to see.

To stop sharing a scenario

1) At the top of the scenario sheet window, select the tab containing the scenario you want to stop sharing.

2) Click **UnShare** in the top, right-hand corner of the window.

3) Click **Save**.

Remove a Scenario (Standard View)

To remove a scenario

1) At the top of the scenario sheet window, click the x on the tab containing the scenario you want to delete, or

2) Right click the tab containing the scenario you want to delete, and select **Remove**.

3) Click **Save**.

Approve a Scenario (Standard View)

After management has approved a scenario for the portfolio, you can mark the scenario as "approved." You must have "full access" permission to approve a scenario.

Once you approve a scenario, Unifier:

▶ Marks the approved scenario "shared" so that project managers can see the approved dates and numbers. The scenario is set to read-only mode and can no longer be modified or deleted.

▶ Updates each projects' original budget numbers with the proposed numbers on the approved scenario.

▶ Updates each projects' monthly or yearly cash flow numbers with the proposed numbers on the approved scenario.

▶ Updates the project start date (if it was changed) for any planned projects that will begin during the portfolio's planning period.

▶ Updates the project/shell data with any project/shell information that was changed on the scenario sheet, and sends you an email notification of the updates

▶ Locks the budget and cash flow numbers to prevent any further changes.

To approve a scenario

1) At the top of the scenario sheet window, select the tab containing the scenario you want to approve.

2) Click **Approve** in the top, right-hand corner of the window.

3) Click **Save**.

When you approve a scenario, Unifier automatically shares the scenario and visually marks the scenario tab with an **Approved and Shared** icon to indicate to project managers that this is the approved scenario.

To "un-approve" a scenario

1) At the top of the scenario sheet window, select the tab containing the scenario you want to un-approve.

2) Click **UnApprove** in the top, right-hand corner of the window.

3) Click **Save**.

The Portfolio Manager deletes the approval icon from the tab, but does not delete the shared icon. If you want to stop sharing the scenario as well, you must click **Unshare** in the top, right-hand corner of the window.

> **Note**: If you "un-approve" a scenario, Unifier does NOT reset dates to their original values. Date fields will retain the approved values.

Export the Scenarios (Standard View)

To use scenario data for additional purposes, you can export your scenario sheets to CSV files or Excel sheets.

To export scenarios

Click the **Print** button at the top of the window. Then select **Export to CSV** or **Export to Excel**. The Portfolio Manager will export all of your scenario sheets.

You will see a prompt at the bottom of the window, asking you to open or save the files.

When you open the file, it displays the data from each scenario sheet, arrayed in tabs and columns identical to the Portfolio Manager scenarios. The sheet will include any formulas that were created in the Portfolio Manager for calculating values. The sheet also honors the frozen columns, as well as the scrolling ability so that you can scroll through the cash flow columns.

Financial Period in Portfolio Manager

If you select the financial period type of the period structure in the configuration of Portfolio Manager, then Unifier summons all of the sub-periods, based on the selected planning period (drop-down list), starting from the year.

When you select Financial period in the time scale of Cash Flow curve, then Unifier populates the financial period (present in the Shell options) in the financial period field of that Cash Flow curve.

The financial period present in the Shell options of parent Shell will not be used to filter projects in Portfolio Manager

> **Note**: Once, a financial period from the Shell is being used in a portfolio, then you will not be able to change it in the future unless you delete all of

the scenarios associated with it.

Unifier displays all of the periods (and their names) in Portfolio Manager as individual columns.

The scenario sheets brings in the following data from any Shell type in a hierarchy:

▸ Project information from the Shell Attribute Form
▸ Project information from a single-record business process
▸ Project start and end dates from the Shell Attribute Form
▸ Project start and end dates from a single-record business process
▸ Cash Flow data (both forecasted and actual) from each project Cost Manager
▸ Column names in the Portfolio manager will be the period name from financial period.
▸ Forecast & Actuals data will be populated only when user chooses the Forecast option in Cashflow "Begin calculations at the end of the curve."
▸ Forecast data will be populated if "Display financial period breakdown of Actuals" checkbox is unchecked.
▸ Actuals data will be populated if "Display financial period breakdown of Actuals" checkbox is checked.
▸ Baseline data will be populated if user has not used the option in Forecast "Begin calculations at the end of the curve."

Once these scenario analyses have been completed, you can send the best (or several best) scenarios to the executive decision makers for approval. Once a scenario has been approved, Unifier:

▸ Marks the approved scenario "shared" so that project managers can see the approved dates and numbers. In this case, the scenario is set to read-only mode and can no longer be modified or deleted.
▸ Updates each project's original budget numbers with the proposed numbers on the approved scenario.
▸ Updates each project's monthly or yearly cash flow numbers with the proposed numbers on the approved scenario.
▸ Updates the project start date (if it was changed) for any planned projects that will begin during the portfolio's planning period.
▸ Locks the budget and cash flow numbers to prevent any further changes.

> **Note**: The pre-actuals will be the consolidated amount for actuals before the start of Financial Period.

Unifier Planning Manager

The Planning Manager provides sponsoring companies the ability to create, organize, manage, and update all company or project/shell planning initiatives from conception to completion. It supports the ability to define unlimited number of planning categories, such as capital project planning, IT planning, resource planning, etc., providing a flexible method for managing and organizing any type of planning initiative.

The Planning Manager provides the flexibility of defining unique planning item property forms and planning sheets. Each planning sheet can be configured with any number of columns to capture and manage data for all planned items.

In addition, the planning sheet can be configured to compare planned data with actual rolled up data from Unifier projects/shells, related to each planned initiative.

The Planning Sheet is central to Planning Manager functions. Each planning item "type" (such as a capital plan or a campus remodel) can have one or more planning sheets that contain information about the plans of this type being considered by your company or project. It is from these sheets that you can access, create, update, and import or export company plans. Business processes designed for planning items can roll up information onto the planning sheets. In addition, Project/Shell Creation types of business processes can be designed to create new projects or shells for planning items when they reach a certain status or condition. If the Project/Shell Creation BP includes a Planning Item Picker, you can link new projects/shells with a planning item. At runtime in Unifier, this BP will automatically create a link to the planning item when the project/shell is created, and data will begin to roll up to the Planning Sheet from the business processes in this project/shell.

In Unifier, the **Planning Items** node is where you create new plans and proposals, import plans from outside applications, export a plan template, and link a plan to a running project or shell in Unifier.

The **Planning Sheets** node is where you create and manage planning sheets. A planning sheet can contain data for one or multiple plans and proposals. From the planning sheet, users can automatically update individual plans with data added to the planning sheet and refresh the data on the sheet, such as changes to dates or cost numbers.

In This Section

About the Planning Manager

The Planning Manager is where you can plan for new projects/shells and proposals and create forecasts for those projects/shells that are already running in Unifier. You cannot administer planned projects/shells the way you administer real projects/shells in Unifier; however, you can manage the planning phases for these projects/shells as business processes in Unifier using the same functions used by other business processes. Planned projects/shells can include cost sheets, resource sheets, funding sheets, and other typical business processes; but certain data, such as dates and monies, can be viewed as future forecasts.

You can have a Planning Manager at both the company and project/shell levels.

The Planning Sheet is central to Planning Manager functions. This sheet contains information about all the plans (planning items) being considered by your company. It is from this sheet that you access, create, update, and import or export the company's plans. From the planning sheet, you can automatically update plans with changes made on the planning sheet. Reciprocally, you can refresh the planning sheet with changes made to individual plans. In addition, planning sheets can be configured to compare planned data with actual rolled-up data from Unifier projects/shells related to each planning item.

Using a Project/Shell Creation type of business process, you can create new projects or shells for planning items when they reach a certain status or condition. If the Project/Shell Creation business process includes a Planning Item Picker, you can link new projects/shells with planning items. Instead of linking a planning item to a project in the Planning Manager, this business process will automatically create the link when the project/shell is created, and data will begin to roll up to the Planning Sheet from the business processes in this project/shell.

Using Unifier's snapshot feature, you can take a "picture" of the planning sheet at any point in time. This is a way of "drilling down" into the planning process to expose specific plans or planning phases for particular attention.

In Unifier, the **Planning Items** node is where you create new plans and proposals, import plans from outside software applications, export a plan template, and link a plan to a running project or shell in Unifier.

The **Planning Sheets** node is where you create and manage planning sheets. A planning sheet can contain data for one or multiple plans and proposals. From the planning sheet, you can automatically update individual plans with data added to the planning sheet and refresh the data on the sheet, such as changes to dates or cost numbers.

Access planning items and planning sheets

The Planning Manager groups planning initiatives by planning type; for example, Capital Planning or IT Planning. Each planning type will have a node available for planning items in that type, and also for planning sheets to manage the planning initiatives.

Planning items and sheets are grouped by their planning type.

To view planning items and planning sheets

1) In User Mode, navigate to:
   - ▸ (For a Planning Manager at the company level) Go to the **Company Workspace** tab and click **Planning Manager** in the left Navigator.
   - ▸ (For a Planning Manager at the project/shell level) Open the shell or sub-shell where the Planning Manager resides. In the Navigator, click **Planning Manager**.

   Unifier expands the navigator to show the planning types and their corresponding items and sheets.

2) To view:
   - ▸ Planning items, choose a **<planning type> - Items**
   - ▸ Planning sheets, choose a **<planning type> - Sheets**

   Unifier displays the items or sheets in the right pane.

   > **Note**: If an advanced log has been designed for the Planning Manager, the log will display a tree structure with a middle column that narrows the navigation to help you locate and select the correct item or sheet.

3) To open the item or sheet, double-click the name of it in the right pane.

Access Planning Items from Master Log - Business Processes node

The **Master Log - Business Processes** node can list all planning items at the shell/project level in separate nodes for each type.

> **Note**: The name of the **Master Log - Business Processes** node can be customized.

If you are an active member of the project, shell, or sub-shell, and you have permissions, you can access shell/project planning item records from the **Master Log - Business Processes** node. The **Master Log - Business Processes** node is in the **Home** page. The **Master Log - Business Processes** node allows you to access all or a subset of records of the same type, in a single log that spans multiple shells/projects. Also, you can create and use saved searches under the **Master Log - Business Processes** node.

> **Note**: If you do not have permissions to view any of the business process types listed under the **Master Log - Business Processes** node, then you will not see the **Master Log - Business Processes** node in the **Home** page.

Records are listed under the **Master Log - Business Processes** node by planning item type. The **Master Log - Business Processes** node can be renamed by your Administrator, and access to the node depends on permissions.

Depending on permissions, you can perform these actions on records listed in a Master Log:

▸ Create a new record
▸ Edit an existing record
▸ Perform bulk edits on records

You can also save searches of records in the Master Logs as needed.

To access Master Logs

1) Go to the **Home** page and click **Master Log - Business Processes** node (or **Master Logs - Planning Items** node) in the left Navigator.
2) Click the name of the planning item you want to access.

Create a planning item

To create a planning item

1) Navigate to:
   ▸ (For a Planning Manager at the company level) Go to the **Company Workspace** tab and click **Planning Manager** in the left Navigator.
   ▸ (For a Planning Manager at the project/shell level) Open the project or shell here the Planning Manager resides and click **Planning Manager** in the left Navigator.

   Unifier expands the navigator to show the planning types and their corresponding items and sheets.
2) Click the **[planning item] - Items** node. The [planning item] log opens.
3) Click **New**. The planning item form opens.
4) Complete the form fields. The form fields will vary depending on the design of the form for this planning type.

> **Note**: If the planning item form has a Project or Shell Picker, you can use it to link the planning item directly to a project/shell. Business processes in the project or shell with fields that match those on the planning item form will roll up values to the Planning Sheet.

5) (Optional) Add an attachment to the planning item.

Click the **Add Attachment** button on the tool bar and select the place where the attachment resides, on your computer, or in a Unifier folder.

For a file on your computer, the File Upload window opens. Under **Document Title**, enter the title of the attachment you want to include, or click the **Browse** button to browse the directories on your computer for the file.

To add multiple attachments, click the **Add Row** button and repeat the step above.

When you have added the attachments, click **OK**.

You can also choose other options, such as including reference files and automatic revision. To do so, click the Advanced Options button.

For a Unifier file, the Select Files window opens, showing the company documents you can choose from.

Select the file and click **OK**.

6) Save the form (click **Save** to save or **Finish Editing** to prevent further editing).

Bulk Edit Planning Items from the Planning Manager Log

For instructions on editing these records in bulk refer to the *Unifier Business Processes User Guide*.

Delete planning items

You can delete planning items if they are in a non-terminal status. You can delete planning items in two ways:

▸ From the planning item record itself
▸ From the Planning Manager Log using Bulk Delete mode

> **Note**: When you delete a record in Unifier, it is not actually deleted. It is only hidden from view on the log; the record remains in the system. Consequently, you cannot create another record with the same name. If there is a business process that auto-creates a planning item record, the name of that planning item will need to be changed; otherwise, you will never see it on the log.

To delete a planning item from a record

Open the record and click the Delete button on the toolbar.

To delete planning items from the Planning Manager log

1) Open the planning items log.

2) Highlight the item or items you want to delete.

3) From the **Edit** menu, choose **Bulk** Delete.

> **Note**: You cannot delete planning items from a master log.

Create a planning sheet

You can create planning sheets for each planning type. These are based on templates created in Administration Mode.

To create a planning sheet

1) Navigate to:
   - (For a Planning Manager at the company level) Go to the **Company Workspace** tab and click **Planning Manager** in the left Navigator.
   - (For a Planning Manager at the project/shell level) Open the shell or sub-shell where the Planning Manager resides and click **Planning Manager** in the left Navigator.

   The Navigator expands to show the planning types and their corresponding items and sheets.

2) Under the planning type for which you want to create a sheet, click the **[planning item] - Sheet node**. The planning sheets log opens.

3) Click **New**. The Properties window opens.

4) On the **General** tab, name the planning sheet and enter an optional description.

5) Click the **Options** tab. For:
   - **Sort by Column:** Choose the column to sort the planning item rows by. The default is Name (planning item name). As you add additional columns to the sheet, these columns will be available to select.
   - **Sort Order:** Choose **Ascending** or **Descending**; works in conjunction with Sort by Column.
   - **Update Planning Items:** Select this checkbox if you want planning sheet users to be able to manually edit planned item data. This helps prevent conflicting data from multiple planning items. This box can be checked on only one sheet per planning type. When you select this box, the sheet is moved to the top of the log and displayed in bold font, thereby acting as a master planning sheet.

6) Click **OK**. The planning sheet opens. The columns are those defined in the default structure. You can add additional columns as needed. Rows correspond to planning items. See *Add and manage planning sheet rows* (on page 509).

Copy a planning sheet

The user will be allowed to create a new planning sheet under a planning type by copying another planning sheet. When a planning sheet is created by copying another planning sheet, all column definitions, manually entered data with each row should be replicated (copied over) including column definitions.

To create a planning sheet by copying another planning sheet

1) Select a planning sheet from the Planning Sheet log window.
2) Click the **Copy** button. The Properties window opens.
3) Enter a name for the new sheet. You can change the selections in the Options tab.
4) Click **OK**.

Open the planning sheet

To open a planning sheet:

From the log window, double-click a sheet or select a sheet and click the **Open** button.
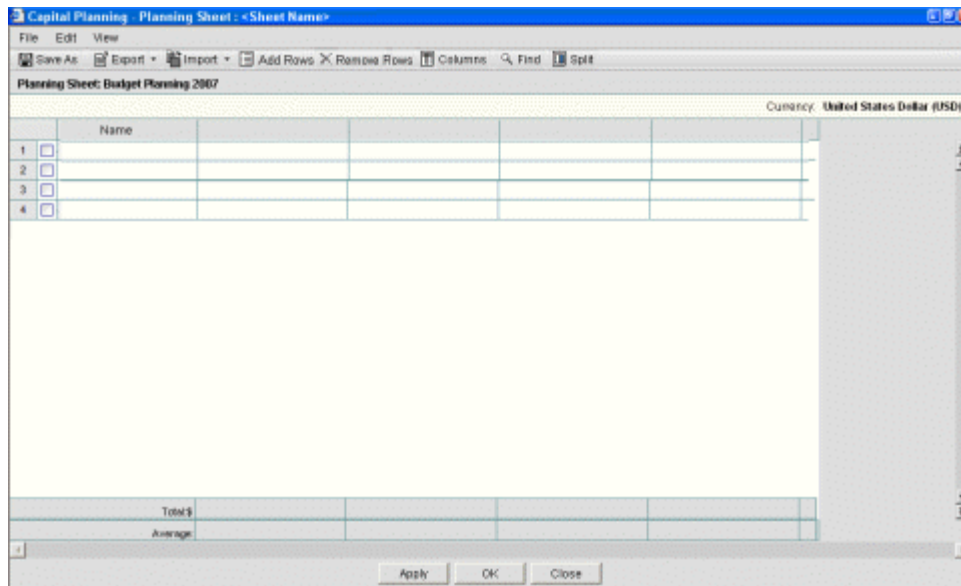
Columns displayed initially are based on the planning sheet default structure defined in Administration Mode (Configuration node).

Add and manage planning sheet rows

You can add planning items of the same type to create rows on the planning sheet. By default, there are two rows at the bottom of the sheet, one for total and one for average, which add a summary row for the column data.

To add a row (planning item) to a planning sheet

1) Open the planning sheet.
2) Click the **Add Rows** button. The planning items window opens, displaying the planning items created for the planning type.
3) Select one or more items and click **Add Row**. The rows are added to the sheet.

To delete a row from the planning sheet

1) Open the planning sheet.

2) On the planning sheet, select one or more rows to delete.

3) Click the **Delete Rows** button.

4) Click **Yes** to confirm. The rows will be removed from the sheet.

View column details

Clicking on a column link from the planning sheet will display the column details.
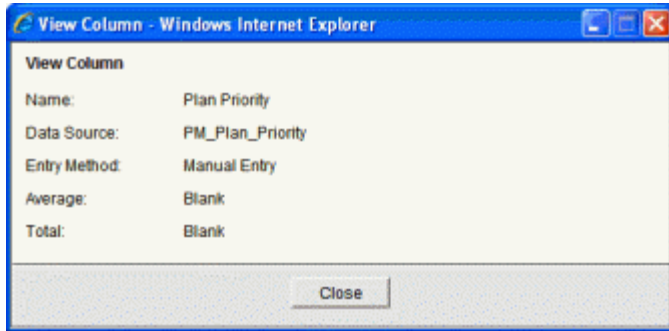
View column details

Refresh a planning sheet

Refreshing the planning sheet will update all rolled-up column data. This process runs in the background and may take some time to complete, depending on the design of the sheets being updated.

To refresh a planning sheet

1) Navigate to the planning sheet log.

2) Select one or more planning sheets and click the **Refresh** button.

   Once the Refresh button is clicked, the Last Update column (if the log window was designed to show this column) will display In Progress to indicate that the planning sheet is getting refreshed. When the refresh is complete, the Last Update column will show the date on which the sheet was updated. Do not open the sheet while refresh is in progress.

Modify planning items from a planning sheet

You can update planning item information from a planning sheet. The **Update planning items** option must be selected in the planning sheet properties (Options tab).

While defining columns on a planning sheet, data elements from the planning item can be selected. Some of these data elements can be edited from the planning sheet. Changes made to these elements are reflected on planning items automatically.

Data elements that are editable and not required on the planning item form will be editable from the planning sheet. The following are conditions under which a data element is not editable from the sheet:

▶ BP picker data elements

▶ Project picker

▶ Shell picker
▶ Data elements that are required on the form
▶ Data elements that are of SYS Logical Datasource (formulas)
▶ Data elements that are SYS Datasource

You cannot change the planning name. This can only be changed from the planning item window.

Grant planning sheet permission

In addition to module-level permission, access to each planning item and planning sheet can be controlled based on user side permissions. The creator of a planning sheet is the owner of the sheet. By default, the owner has full sheet permissions. The owner can grant permission to other users or groups as needed.

To grant permissions to a planning sheet

1) In the planning sheet log, select the planning sheet.
2) Click the **Permissions** button. The Edit Permission window opens.
3) Add the users or groups you wish to grant permission, set the permission level, and click **OK**. The permission settings are:
   ▶ **Modify Permission:** Can view, edit, and modify permissions of a planning sheet.
   ▶ **Modify Properties:** Can edit planning sheet properties.
   ▶ **Edit:** Can view, add, edit, or import data on a planning sheet. The user cannot change the column structure.
   ▶ **View:** Can view the planning sheet in view-only mode.
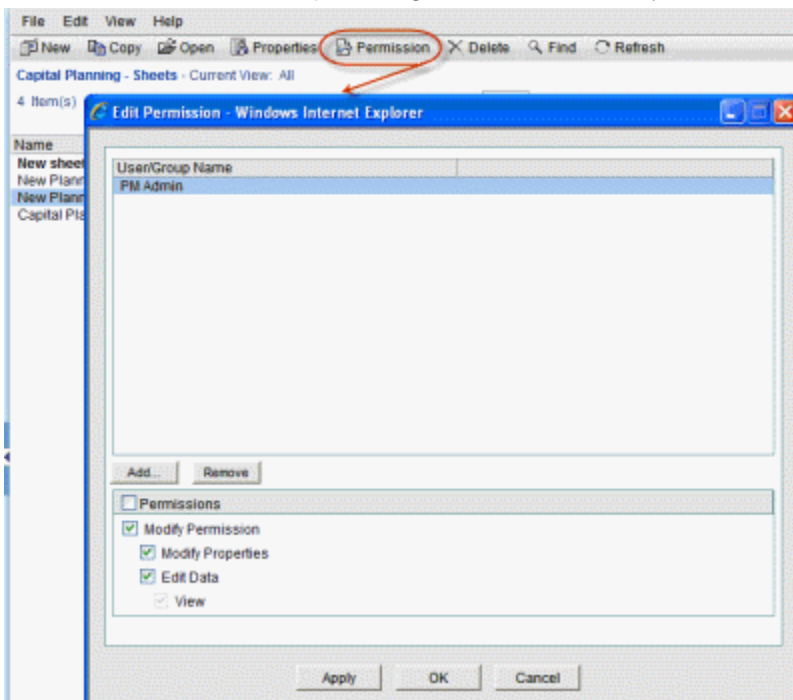
Grant permission to the planning sheet

To grant permissions to a planning item

1) Open the Planning Item log that contains the item you want to grant permissions to.
2) Select the planning item.
3) Click the **Permission** button. The Edit Permission windows opens.
4) Add the users or groups to whom you want to grant permissions and set the permissions you want to grant.
    ‣ Modify Permission: Users can view, edit, and modify permissions of the planning item. With this permission, you automatically give the user edit and view permissions.
    ‣ Edit Data: Users can edit the planning item information.
    ‣ View: Users can view the planning item but cannot make changes.
5) Click **Apply** if you want to grant permissions to more users. Click **OK** to apply the permissions and close the window.

Understanding Reverse Auto-population

Certain data elements support reverse auto-population. These are specified in uDesigner. Reverse auto-population means that some values can be updated when other values are modified in a business process record that has reached a specified status.

Depending on the setup in uDesigner, auto-population can occur in these instances:

‣ Changes to data elements in a BP upper form can result in changes to the upper form of another BP.
‣ Changes to the detail form in a BP can result in changes to the upper form and detail form of another BP.
‣ Changes to the upper form or detail form of a BP can result in changes in the Asset, Resource, or Planning Manager forms.

Print a Planning Manager Form

You can print a copy of a Planning form. You can choose PDF, HTML or Custom print formats and select one of the following options:

‣ Save a copy of the form as a PDF file and print the file
‣ Print an HTML view
‣ Print from a Word file if a custom print layout has been created for the form

The Custom Print formats include the BI Publisher custom print templates designed in the **Custom Templates** node. If custom print layouts have been created for the Planning Manager, the form will print according to the layout that you select. See the following Custom Format Print Options for details. See the following *Printing Options - Custom Format* for details.

To preview and print a Planning Manager item:

1) Open the planning item that you want to print.
2) From the **File** menu, choose **Print Preview**, then choose one of the following:
    ‣ **HTML** to view the form in the browser which can then be printed.

- ‣ **PDF** to open the form in Adobe Reader, which can be saved or emailed as a PDF file, or printed process, you are asked to save the changes to the form.

- ‣ **Custom** to select the BI Publisher, Microsoft Word, and PDF custom print templates from the same place as the current custom prints. See the following ***Printing Options - Custom Format*** for details.

The Print Options window opens. This window displays the record information that can be printed.

3) Select the checkboxes for the information that you want to print.

4) To select all the checkboxes, click the **Select All** checkbox. To deselect all, uncheck the **Select All** checkbox. If you deselect all checkboxes, only the header and footer will print.

5) Click **OK**. The preview form opens in an HTML or PDF (Adobe Acrobat or Reader) window, from which you can print.

   If you chose PDF, you can save a copy by clicking the **Save a Copy** button, or print. To print from HTML format, click on the **Print** icon in the upper right corner.

Print Options for Planning Manager Form

Following is a summary of the print options.

Print option	What it prints
Detail Form	This prints the information entered on the form.
General Comments	The general comment text and create details are printed.
Record Attachments	File attachments to the record are listed alphabetically by file name, and also include the file title, issue date, revision number, and file size.
Record Attachments > Comments	Prints comments associated with file attachments to the record. "Record Attachments" must also be selected to select this option.

To print a Planning Manager item with a custom print layout:

1) Open the planning item that you want to print. Be sure it is in a view mode.

2) From the File menu, choose **Print Preview**, then choose **Custom** to select the BI Publisher, Microsoft Word, or PDF custom print templates from the same place as the current custom prints (Custom Format Print selection window).

3) Select a layout and click **OK**. The File Download window opens.

4) Choose to **Open** or **Save** the file, which is a Microsoft Word DOC file.

5) Open the file in Microsoft Word and print. (This feature works with Microsoft Word 2003 and 2007.)

Printing Options - Custom Format

The Custom Format Print window has two sections:

- ‣ Select a custom print template

▶ Select a template and format to print

Both sections facilitate custom print template and format selections.

Select a custom print template

Lists all the custom print templates, including the custom print templates created in the **Custom Templates** node and the custom print templates. For example, the list may include BI Publisher custom print templates, Word, and PDF custom print templates.

If there are multiple custom print templates, all the published templates are listed in this section.

The "Select a template and format to print" is populated by the selection made in the "Select a custom print template" section.

Select a template and format to print

▶ If you select a BI Publisher custom print, then you can select the desired template and format from the drop-down lists.
▶ Template drop-down displays all the available templates for the selected format.
▶ Format drop-down displays the available formats for the selected template.
▶ If the custom print template was created using PDF or Word, then the "Select a template and format to print" is disabled.

Default template and format

▶ If a BI Publisher print template is selected, then the default values in the drop-down lists are set based on the default in the custom print template.
▶ When a BI Publisher print template is selected in the "Select a custom print template" section, the template and format are populated based on the default value selected at the time of designing the print template.

Planning Manager with Redesigned User Interface

Similar to a business process, the Level attributes can be accessed through the redesigned user interface which provides a better visibility.

> **Note**: For details about the existing functionalities, not described in this section, refer to the topics under the Unifier Planning Manager.

Planning Manager Item Log (Attributes)

The Planning Item log displays the log and the preview pane (**Company Workspace** > **User** mode > **Planning Manager**).

> **Note**: The functions of the options presented below have been explained in the preceding sections. This section explains new functions and procedural differences.

The log contains the following toolbar options:

▶ **Create**

When you click **Create** to create a new record, the **Create New Planning - Item** window opens. The three horizontal bars icon enables you to update a record and access the following:

- ▸ **Auto-create**
- ▸ **Print**
- ▸ **Reload**
- ▸ **Terminate Record**
- ▸ **Transfer Ownership**
- ▸ **Delete**
- ▸ **Help**
- ▸ **Close**

Note: When you are updating a record, the following additional tabs are displayed: **Audit Log** and **Reference Records**.

During the creation step, the record has the following tabs:

- ▸ **Comments**

  Enables you to add comments to the Planning attribute, only in the edit mode.

- ▸ **Linked Records**

  Enables you to link records to the Planning attribute. The functional flow is the same as a non-workflow business process.

- ▸ **Actions**
- ▸ **View**
- ▸ **Settings**
- ▸ **Refresh**
- ▸ **Print**
- ▸ **Search**
- ▸ **Find on page**
- ▸ **Help**

The **Actions** option enables you to:

- ▸ **Import**
- ▸ **Export CSV Template**
- ▸ **Edit Permission**
- ▸ **Bulk Edit**
- ▸ **Print**
- ▸ **Transfer Ownership**
- ▸ **Terminate Record**
- ▸ **Delete**

For each record, the *gear* (⚙) menus are as follows and each option enables you to conduct the action on one particular record.

- ▸ **Open**
- ▸ **Edit Permission**

- **Print -   HTML**
- **Print - PDF**
- **Print - Custom**
- **Transfer Ownership**
- **Terminate Record**
- **Delete**

The log preview pane has two tabs:

- **Record Details**
- **Permission**

> **Note**: If an attribute form is present, then you can hover over the question mark (?) symbol to see more information in the form of a tooltip.

Planning Manager Sheet Log

Similar to the Cost Sheet log (new user interface), the Planning Manager Sheet log (for Company level, Shell level, and Project level sheets) contains the following elements:

- Log header
- Toolbar
- Grid with columns and rows
- Right-hand pane with tabs corresponding to each row of the sheet log

Toolbar

Option	Description
Create	As designed in uDesigner, the Create window enables you to enter values in fields that are categorized in different blocks. To modify the Data Sort options, open the Planning Sheet > **Properties** (Classic view): **File** > **Properties**.
Delete	Enables you to delete one sheet, or a selected number of sheets, from the log.
Refresh	To refresh the items on the log, after updating.
Print	To print the log.

Search	Similar to the **Search** option in the Business Processes log, this option enables you to search among log items.
	The **Search** window contains all of the elements from the Planning sheet detail form log **Find** section, from uDesigner.
	If the **Find** option is not defined in uDesigner, then there will be two fields in this window: <label of DE uuu_name> and <label of DE uuu_last_update_date>. You can run a search on these two sheet attributes.
	If the elements are defined in the log (the **Find** option is defined in uDesigner), then all the defined elements appear in the window in the same order as defined in uDesigner.
Find on Page	To find an item on the log.
<Planning name> Help	To access corresponding help.

Columns

All columns are displayed according to the log design in uDesigner. In addition, there is one system defined column (Updates Planning Items) which shows up as the first column in the Planning Sheet log. This column is used to capture which planning sheet updates the Planning Items.

Rows

If the newly created sheet is the one that updates the planning items, then the first column (Updates Planning Items) displays a checkmark icon.

At a given time, only one planning sheet in the log can updated Planning Items. So, if you modify the properties of a sheet to change the value of "Update Planning Items," the checkmark icon (in the first column) will appear or disappear based on your changes.

When you open the log (clicking the Planning Sheets node in the Navigator), and there are no records in the log, the right-hand pane does not have any contents.

When you open the log (clicking the Planning Sheets node in the Navigator), and there are records, then:

- If no sheet is set to update the planning items: The topmost row in the log is selected by default and the right-hand pane displays the selected sheet properties.
- If one of the sheets in the log is set to update the planning items: The sheet is selected by default and the right-hand pane displays the sheet properties.

The tabs in the right-hand pane are:

- **Properties**

  This tab is selected by default and displays all attributes of the planning sheet as defined in uDesigner. The tab also contains the option to choose whether a sheet updates the planning items, or not.

- **Permissions**

> If you do not have Modify permission or Full Access permission (for planning sheets), then you will not be able to view the Permissions tab. Also, if you do not have the Modify Properties permission (for Planning Sheet), then you will not be able to modify the planning sheets properties.

▶ **Audit Log**

> Similar to the other audit logs in Standard view in Unifier, it displays the actions taken by the users.

The *gear* (⚙) menus for each planning sheet:

▶ **Open**: To open the planning sheet.

▶ **Copy**: Use Create Planning Sheet overlay form. All properties of the source sheet are shown as copied into this overlay form.

▶ **Delete**: To delete a sheet.

You can select multiple sheets and right click to delete.

The *gear* (⚙) menu is not available when you select multiple sheets.

Unifier Resource Manager

The Resource Manager is where you can set up and manage a company's or shell's personnel resources. Resources can include those of a partner company. The Resource Manager has limited functionality in generic shells.

▸ You cannot allocate resources in a generic shell. This means you cannot view the **Allocation** and **Utilization** sheets.

▸ The Resource Booking business process is not available; however, you can book resources directly onto the **Resource Summary** sheet in a generic shell.

The Resource Manager manages the planning, deploying, and tracking company or project/shell resources. It supports the creation and management of resources and roles, with the ability to define and leverage multiple role rates, skills, proficiency levels, resource capacities, and more.

Resources can be associated with Unifier users, which enables the ability for resources to log in and view individual calendars and respond to assignments. Resources can be associated with one or multiple roles with different role rates. This allows for accurate resource cost tracking and management at the project level.

The Resource Manager supports timesheet business processes for capturing and tracking actual resource costs associated with activities and assignments at the project, shell, and the company level. The manager also supports hard and soft Resource Booking business processes using a calendar that shows what project/shells a resource has been booked for, as well as the times during which the resource is unavailable.

An interactive Resource dashboard provides the ability to track and report on all resource allocations, booking, utilization, and more.

In the Resource Manager, your administrator can classify job functions into roles that can then be allocated to projects. These roles will be used to define billable rates, which are used in budgeting, and can also be used in planning for resource demands across projects. Roles are associated with personnel resources—the people who can perform these roles in a project. The Resource Manager is where personnel are assigned to roles and projects.

In the Resource Manager, a company's or shell's personnel can serve multiple roles, depending on their skills or interests. For example, a construction role and a plumbing role might be served by one person who has both carpentry and plumbing skills. The Resource Manager automatically creates the following Resource sheets you need to manage resources, bookings, and certain budgeting functions:

Sheet	Description
Allocations Summary	Master allocation sheet that shows role allocations at the company and project/shell level in both hourly and currency views. Read-only.
Resource Allocation	Allows manual entry of role allocations against projects/shells from company level so users can balance resources across projects/shells. The Resource Allocation Sheet rolls up to the Allocations Summary Sheet at both the project/shell and company level.
Booking	Shows hard resource bookings across projects/shells in both hourly

Summary	and currency views. Can add or edit hard-booked resources directly on the Booking Summary Sheet, or though the Resource Booking business process. If the Resource Booking business process has been designed to include resource capacity, the Booking Summary can also show each resource's availability for booking hours.
Actuals Summary	Shows resource actuals from timesheet data for the company in both hourly and currency views. Read-only. Populated by the Time Sheet business process.
Utilization Summary	Shows current total utilization of resources as a percentage of the total at the company level. Read-only. **Note**: Resources that are hard-booked in the Schedule Manager will roll up to this sheet.
Bookings vs. Actuals	At both company and project/shell level, shows hard resource bookings across projects/shells in both hourly and currency views, similar to the Booking Summary Sheet. Also shows columns per resource for booked hours, actual hours, and the variance (booked, minus actual hours). Read-only.
Availability	At the company level, shows current availability of each resource across projects/shells. The resource availability equals the resource's total capacity, minus the total bookings for the resource across the projects/shells, and minus the non-project times specified for the resource.

In This Section

Using the Resource Manager

The Resource Manager is available at the company and project level, and allows you to:

- ▶ View and configure resource charts
- ▶ View resources, roles, and various resource sheets
- ▶ Allocate roles to projects
- ▶ Have resources enter their own time sheets

At the company level, the Resource Manager has four nodes:

> ▶ **Resource Dashboard:** Allows you to configure displaying Resource Manager information across projects.
> ▶ **Roles:** Displays the company-level roles entered in Administration Mode.
> ▶ **Resources:** Displays the company-level resources that are hard-booked across projects.
> ▶ **Resource Sheets:** Lists the available company-level (cross-project) resource sheets.

At the Project level, the Resource Manager has three nodes:

> ▶ **Resource Dashboard:** Allows you to configure displaying Resource Manager information across projects.
> ▶ **Resources:** Displays resources that are hard-booked for the project.
> ▶ **Resource Sheets:** Lists the available project-level resource sheets.

View roles

Roles are defined and maintained in Administration Mode at the company level. At the company level, you can view role details, which includes resources and rates.

To view role details

1) In User Mode, select **Company Workspace tab> Resource Manager > Roles**. The Roles log opens.
2) Select a role and click **Open**. The Role Properties window opens. The window has three tabs:
   > ▶ **General:** Displays the role name, description, and status, and may display other fields; the fields on this tab correspond to the role attribute form.
   > ▶ **Rates:** Displays standard and overtime rates defined for the role.
   > ▶ **Resources:** Displays resources that have been associated with the role.

Role Name	Description	Role Status
Construction Manager	Construction Manager	Active
Delivery Team Leader	Delivery Team Leader	Active
Program Engineer	Program Engineer	Active
Health & Safety Advisor	Health Safety and Environmental	Active
Operations Manager	Operations Manager	Active
Environmental & Social Advisor	Environmental & Social Advisor	Active
Security Advisor	Security Advisor	Active
Estimator	Construction Estimator	Active
Quality Control Manager	Quality Control Manager	Active
Plant Maintenance	Plant Maintenance	Active
Project Coordinator	Project Coordinator	Active
Civil Engineer	Civil Engineer	Active
Maintenance Engineer	Maintenance Engineer	Active
Project Manager	Project Manager	Active

File   Edit   View   Help
New   Open   Find   Import   Export
Roles   - Current View: All
14 Item(s)   Page 1   of 1

View resources

Resources are defined and maintained in Administration Mode at the company level. You can view resources that are hard-booked for a project or across multiple projects.

To view resource details

1) In User Mode, do one of the following:
   ‣ To view resources across projects, select **Company Workspace tab> Resource Manager > Resources**.
   ‣ To view resources for a project, select **Projects tab > project > Resource Manager > Resources**.

   The Resources log opens.

2) Select a resource and click **Open**. The Resource Properties window opens. The window has five tabs:
   - **Resource Code:** Automatically generated, manually entered, based on the configuration.
   - **Resource Name:** This is the name of the resource.
   - **Description:** Description of the resource.
   - **Resource Capacity (Hrs):** Default value is 8. This defines the number of hours a person can work in a day.
   - **Sunday (Hrs.).....Saturday (Hrs.)**: Depending on the design of the Resource Attribute form, these fields may or may not appear on the General tab. If they do, they will show the number of hours the resource can work on each of these days. Unifier will use these values to calculate the resource's Capacity per week.
   ‣ **General:** This tab may vary greatly with the design of the resource attribute form you imported. Fields may include:
   ‣ **Roles:** Displays any roles that have been associated with the resource.
   ‣ **Skills:** Displays any skills associated with the resource.
   ‣ **Calendar:** The calendar displays bookings, vacation days, etc. for the resource.
   ‣ **Projects:** Displays the projects in which the resource is booked and booking specifics.

Edit your own resource properties

At the company level, you can edit your own resource properties and calendar. From your user sign in, Unifier identifies you and automatically gives you permissions to modify your properties and calendar. However, you must have View permission to the Resource Log.

To edit your resource properties

1) Click the **Company Workspace** tab and go to **Resource Manager > Resources** in the Navigator.
2) On the Resources Log, double-click your name. The Resource Properties window opens.
3) Edit your information under each tab as necessary.

General Tab

This tab may vary according to the design of the resource attribute form. Fields may include:

Resource Code: Automatically generated, manually entered, based on the configuration.

Resource Name: Edit your name, if necessary.

Description: Edit your description.

Resource Status: Edit your status. The default is active.

Capacity per week (Hrs): Edit the number of hours you can work in a day. Default value is 8.

Sunday (Hrs.).....Saturday (Hrs.): These fields may or may not appear. If they do, you can edit the number of hours you can work on each of these days. Unifier will use these values to calculate your **Capacity per week**.

Roles Tab

To add a role to your profile:

a) Click **Add**.

b) Select a role from the Role picker and click **Open**.

     Unifier adds the role to your profile.

     To remove a role from your profile, select the role and click **Remove**.

Skills Tab

To add a skill to your profile:

a) Click **Add**.

b) Select the skill from the drop-down list.

c) Specify your proficiency in this skill.

d) Specify your interest in this skill.

     To remove a skill from your profile, select the skill and click **Remove**.

Calendar Tab

You can view and manage booking dates as well as unavailable dates (non-project time, such as vacation days). The calendar shows both your soft and hard bookings.

To edit your booking calendar:

1) You can click the **Month** tab or **Week** tab to change the calendar view. A maximum of five projects/shells can be shown for any day in the month view. If you are booked for more than five project/shells in a day, you can view them all in the week view.

2) To view all projects/shells for any given day, select a day and click the **Booking Details** button.

     The Resource Booking Details window opens. The window displays the project/shell bookings for you on the selected date. For each project/shell, it shows project/shell number, project/shell name, booking status, dates when the booking starts and ends, total hours booked during this period on the project/shell, and total hours booked on the current date on the project/shell. The dates and hours shown include non-project time.

3) To make yourself unavailable for booking on a certain date, select the date and check the **Unavailable** checkbox. You can click the drop-down list and select an option.

Projects/Shells Tab

The Projects/Shells tab is read-only. You cannot edit the information on this tab.

Working with Resource Sheets

The company-level and project-level resource manager sheets are created automatically when the Resource Manager is activated in Administration Mode. The available resource sheets are listed below.

▶ **Allocations Summary Sheet:** This is the master allocation sheet, which shows role allocations entered at the company and project level. This is a read-only sheet.
▶ **Resource Allocation Sheet:** The company-level resource allocation sheet allows role allocations against projects from the company level. The project-level resource allocation sheet allows role allocations for the project.
▶ **Booking Summary Sheet:** The booking summary sheet shows resource bookings for a project or across projects in the company. This sheet can be populated by the Resource Booking business process, or by resources directly added to the sheet.
▶ **Actuals Summary Sheet:** The actuals summary sheet is a read-only sheet that shows resource actuals (time sheet data) for a project or across projects in the company. This sheet is populated by the Timesheet business process.
▶ **Utilization Summary Sheet:** The utilization summary sheet is a read-only sheet that shows total utilization of resources for a project or across projects.

View Resource Manager sheets

Resource Manager sheets are available in the Company Workspace, and in projects and shells.

To view company-level sheets

1) In User Mode, select **Company Workspace tab> Resource Manager > Resource Sheets**. The Resource Sheets log opens.
2) Select a sheet from the log and click **Open**.

To view project-level sheets

1) In User Mode, select **Projects tab > project > Resource Manager > Resource Sheets**. The Resource Sheets log opens.
2) Select a sheet from the log and click **Open**.

See the descriptions below for details about each of the sheets. In general, the sheets work similarly to each other at the company and project level. In general, you can:

▶ View data by hours or by cost (not available on all sheets)
▶ Save or open the sheet as a PDF file, allowing you to save and print the sheet
▶ Create and view snapshots (not available on the resource allocation sheets)

The structure of each resource sheet is similar:

▶ The left pane of the sheet displays default columns, which depend on the sheet. For example, resource name, role name, etc.

▸ The right pane displays the time line columns. Depending upon the display (day, week, month), the time line will show a column for each period with the actual allocation in hours (hours view) or in currency (cost view).

▸ To change the timescale, click the **Display** field at the top of the sheet and choose one of the following:

  ▸ **Day:** The column header will show the actual date of the allocation.

  ▸ **Week:** The column header will show the actual date of the start of the week (Monday) from the company calendar.

  ▸ **Month:** The column header will show the actual date of the start of the month from the company calendar.

▸ In the upper right corner of each sheet is a time line slider:

  ▸ **Start of the time line:** The earliest date that can be displayed on the time line will be the minimum of the default start date specified in the Resource Manager configuration and the earliest transaction date.

  ▸ **End of the time line:** The latest date displayed on the time line will be the maximum of the default date specified in the Resource Manager configuration and the latest transaction date.

  ▸ To quickly scroll through the date columns, you can click the slider in the top right corner of the sheet and slide it to the time period you wish to view.

  ▸ **Default view:** By default, when the sheet is opened, the time line will always center on the current period (day, week, month). Scroll left or right to see other periods.

  > **Note**: If the sheet is currently being edited, you will not be able to change the Display By field or the time line slider. To change the sheet display, first save any edits by clicking the Save button.

Allocations summary sheet

This is a read-only sheet that totals resource data by role. In company-level sheets, there are two possible sources of the information displayed on the sheet: the company-level resource allocation sheet and project/shell level resource allocation sheets. For project/shell allocation summary sheets, the source is the resource allocation sheet for that project or shell.

Allocations are shown for each role. At the company level, allocations are shown for each role against one or more projects. The combination of role and project is always unique. The **Role Name** column is sorted alphabetically. The role name is hyperlinked. Clicking on the role name will open the Role properties window in view-only mode.

You can view summary information by hours allocated for that role, or by cost (hours multiplied by hourly rate, as defined in the Role properties in Administration mode).

> **Note**: This sheet is not available in generic shells.

To view the allocations summary sheet

1) In the company-level or project/shell level Resource Sheets log, select **Allocations Summary** and click **Open**.

   The window opens in a split mode by default. You may need to use the scroll bars at the bottom of the window to view the columns you want to see on either side of the sheet.

   Each row corresponds to a role that has been allocated to a project or shell, either in the company level or project/shell level resource allocation sheet. On the left side of the sheet, you will see the role name, project/shell number and name (in company-level sheets), the date range in which the role is allocated, and the total number of hours, which is the sum of all the values entered for that row in the resource allocation sheet. On the right side of the sheet are the hours allocated to each role.

2) You can view this sheet by hours or by cost:

   ▸ To view by hours, click the **View menu and choose Mode > Hours**. The sheet displays the hours allocated to each resource, as rolled up from the resource allocation sheets.

   ▸ To view data by cost, click the **View** menu and choose **Mode > Currency Amount**. The sheet displays the cost charged against each resource: hours are rolled up from the resource allocation sheets, then multiplied by the hourly rate defined for the role in Administration mode.

   ▸ To display the most current costs, click the **Refresh Rates** button. Select the effective date when prompted. Rates will refresh from the selected date to all dates in the future for which values exist on the sheet. Costs for dates earlier than the selected date will not be refreshed. The date will default to the current date.

Column	Description
Role Name	Allocations are shown for each role against one or more projects. The combination of role and project is always unique. The Role

	Name column is sorted alphabetically. Clicking on the role name will open the Role properties window in view-only mode.
Project Number	The project number is shown hyperlinked. Clicking on the Project Number will open the corresponding project allocation summary sheet. This is shown in the company-level sheet only.
Project Name	The name of the project. This is in the company-level sheet only.
Date From	Displays the earliest date that has a non-zero allocation for the role.
Date To	Displays the latest date that has a non-zero allocation for the role.
Total Hours	Displays the sum of hours allocated to the role. This field is displayed only in hours view.
Total Cost	Displays the total amount allocated to the role. This field is displayed only in cost view.

Resource allocation sheet

In this sheet, you can allocate resources, based on roles, to a project or CBS-code based shell. The Resource Allocation sheet is available at the company level and also in projects and shells in which resource allocation is enabled.

> **Note**: The ability to allocate resources to a project/shell with this sheet is dependent upon how the Resource Manager has been set up in Administration Mode. During the setup of the Resource Manager in a project or CBS-based shell, the Administrator can choose to allow resource allocation from the company level sheet (the allocations are roll down to the specific project/shell Resource Allocation sheet, which is view-only); directly from the project/shell level sheet (this will show up in the project/shell and the company level Allocation Summary sheet); or the administrator can choose to disallow allocation for a particular project or shell (in this case, the Resource Allocation sheet and Allocation Summary sheet are not available for that project/shell).

Allocations at the company level:

▶ Roll up to the company allocations summary sheet.
▶ Roll down to the individual projects/shells, in their resource allocation sheet and allocation summary sheet.

Allocations at the project/shell level:

▶ Roll up to the project/shell allocations summary sheet.
▶ Roll up to the company allocations summary sheet and resource allocation sheet.

The resource allocation sheet can be viewed by hours only.

> **Note**: This is not available in generic shells.

To view the resource allocation sheet

In the company-level or project-level Resource Sheets log, select **Resource Allocations Sheet** and click **Open**.

Company-level resource allocation sheet

Column	Description
Role Name	Allocations are shown for each role against one or more projects. The combination of role and project is always unique. The Role Name column is sorted alphabetically. Clicking on the role name will open the Role properties window in view-only mode.
Project Number	The project number of the allocation. This is displayed in the company-level sheet only.
Project Name	The name of the project. This is displayed in the company-level sheet only.
Date From	Displays the earliest date that has a non-zero allocation for the role.
Date To	Displays the latest date that has a non-zero allocation for the role.
Total Hours	Displays the sum of hours allocated to the role, This field is displayed only in hours view.

To allocate a resource

1) Open the Resource Allocation sheet.

2) Click the **Add** button. The Resource Allocation window opens (see below.)

3) Complete the window:

   ▸ **Role Name:** Click **Select**, choose a role, and click **OK**.

   ▸ **Project:** Click **Select**, choose a project, and click **OK**.

   ▸ **Date From:** Click the calendar and choose the start date for the allocation.

   ▸ **Date To:** Click the calendar and choose the end date for the allocation.

   ▸ **Allocated Hours:** This field will auto-populate based on the dates selected (number of workdays x capacity). This is an editable field. You can adjust the amount as needed.

4) Click **OK**.

To edit allocation information

1) Open the company level or project/shell level Resource Allocation sheet.

   As mentioned at the start of this topic, the ability to allocate resources to a project/shell with this sheet is dependent upon how the Resource Manager has been set up in Administration Mode. Depending on project/shell setup, allocations may be done for that project or shell in the company-level sheet, the project/shell-level sheet (or allocations may not be allowed for a particular project or shell).

   If you have questions regarding allocations, contact your Project/Shell Administrator.

2) If the sheet is editable, click in the cell to edit. The cell becomes editable. You may need to scroll to the cell, or use the Display By or timeline slider to navigate to the column to edit.

3) Make changes to the cell.

> **Note**: If the sheet is currently being edited, you will not be able to change the Display By field or the time line slider. To change the sheet display, first save any edits by clicking the Save button.

4) Click **Save** to save the sheet.

To delete an allocation

Select a row and click **Delete**.

Booking summary sheet

You can only see the **Booking Summary** sheet in active or on-hold projects or shells in which the **Resource Manager** is active. In the sheet you can view, add, or update hardbooked resources. In Unifier, resources are of two types: hardbooked or non-hardbooked.

▸ **Hardbooked** resources are labor resources that are firmly committed to a project and not available for other work.

▸ **Non-hardbooked** resources can include things like labor, equipment, or materials Non-hardbooked resource leverage roles and are added to a project through the **Resource Assignment** form in the schedule sheet activity attribute form. See *Resources tab of the Activity properties* (on page 569)

Resource booking rows can be added to the sheet using the **Resource Booking** business process, or you can manually add them directly to the sheet. You can also modify data manually on the sheet. Data is rolled up from the project/shell **Resource Booking Summary** sheet. You can also view rates for each resource booking.

> **Note**: Resource Booking business processes are not supported in generic shells. To compensate, however, you can manually add bookings to the **Booking Summary** sheet in shells.

To view the booking summary sheet

1) In the company-level or project/shell-level Resource Sheets log, select **Booking Summary Sheet** and click **Open**.

2) You can view this sheet by hours or cost:

   ▸ To view by hours, click the **View** menu and choose **Mode > Hours**. The sheet displays the hours charged against each resource, as rolled up from the resource allocation sheets.

   ▸ To view data by cost, click the **View** menu and choose **Mode > Currency Amount**. The sheet displays the cost charged against each resource, as rolled up from the resource allocation sheets.

3) You can group by role or resource:

   ▸ To group by role, click the **View** menu and choose **Group By** > **Role**. This is the default.

   ▸ To group by resource, click the **View** menu and choose **Group By** > **Resource.** This groups the information by resource only. The role column is not applicable.

Column	Description
Role Name	Allocations are shown for each role. The role is always unique. The Role Name column is sorted alphabetically. The role name is hyperlinked. Clicking on the role name will open the Role properties window in view-only mode.
Resource Name	Bookings are shown for each resource against a role allocation. Resources are sorted alphabetically within a role. The resource name is hyperlinked. Clicking on the resource name will open the Resource properties window in view-only mode.

Project Name	Displays the project name for the booking row. The project name is hyperlinked and will open the project-level booking sheet. This column is displayed in the company-level sheet only.
Non-Project Time	This column only appears on the company-level Booking Summary. Displays a resource's time that has been charged against non-project hours, such as PTO or vacation.
Date From	Earliest date that a non-zero booking exists for the resource.
Date To	Latest date that a non-zero booking exists for the resource.
Total Hours	Total hours (shown in the hours view only).
Total Cost	Total cost in base currency (shown in the cost view only).
Average Rate	Average resource rate per hour in company currency (shown in the cost view only).

To view cell details

1) Click on hyperlinked values (in View mode). With Modify permission, you can edit cell values (in Edit Mode). You can view information by hours or cost. You can also group information by roles or by resources. The cell details are read-only, see the table below.

2) Click **Close Window** when you are done viewing cell details.

Field	Description
Resource Code	The resource code assigned to the resource.
Resource Name	The resource name.
Role Name	The role name assigned to the resource.
Project Name	The name of the project associated with the resource.
Booked Week	The current time based on the timescale represented in the Booking Summary Sheet.
Total Booked Hrs.	The total hours booked through the Resource Booking business process transactions combined with manual booking transactions. All transactions are listed under Booking Transactions on the lower part of the Cell Details window.
Booking Transactions	The total hours booked through the Resource Booking business process.
Manual Booking Hrs.	The total hours booked through manual booking changes.
Average Rate (per Hour)	This can be the Role rate, or the rate specified when the booking was added.
Cost	The total of the rate multiplied by the hours.
Currency	The Company or project currency.

Booking Transactions	The various transactions that affect the booking hours. These transactions can occur through manual changes to the booking, or through the Resource Booking business process. Booking transactions that occur through the manual changes are specified as Manual Entry; transactions that occur through the Resource Booking business process are designated with the title of the business process.

To update a hard-booked resource to the Booking Summary Sheet

In Edit mode, and with Modify permission, you can manually update the values on the Booking Summary Sheet. You can update values for resource bookings that were added to the sheet through the Resource Booking business process, or values for resources that were added to the Booking Summary Sheet manually. Manually entered transactions costs are calculated based on the current day's rate.

> **Note**: The Resource Booking business process is used only to add bookings, not to modify existing bookings.

1) In the company-level or project-level Resource Sheets log, select **Booking Summary Sheet** and click **Open**.
2) Click **Edit** to enter Edit Mode.

> **Note**: If you are in these modes: Mode > Currency Amount, Group By > Role, or Group By > Resource, you must choose the Mode > Hours to be able to access Edit Mode.

3) Increase or decrease the booking hours on the sheet as needed. You can select a row and click **Clear** to clear any row of values, and then enter new values.

   All cells that contain hours values on the Booking Summary Sheet are editable. Hyperlinks to the Cell Details are not displayed in Edit Mode. You can edit hours in any display mode (Day, Week, Month). You can increase or decrease hours to any value greater than or equal to zero (0). Hours cannot exceed 24 hours for any day.

4) Click **Save**, or click **View** to return to View Mode without saving the changes. The cost or hours values are then displayed as hyperlinks. You can click these hyperlinks to view the Cell Details for the values.

   All values that you change directly in the Booking Summary Sheet are reflected in the Cell Details for the resource booking. Each change to the resource bookings is listed in the Booking Transactions list, whether the change was made through the Resource Booking business process, or was made directly on the Booking Summary Sheet.

> **Note**: Utilization Summary Sheet values are recalculated when the resource bookings are modified in the Booking Summary Sheet.

To manually add a hard-booked resource on the Booking Summary Sheet

You can add resource bookings using the Resource Booking business process, or by adding the resources directly into the Booking Summary sheet. Manually entered transactions costs are calculated based on the current day's rate.

> **Note**: The resource bookings that you add directly into the sheet have not been through the approval process inherent in the Resource Booking business process. Keep this in mind when you are using this method to add bookings to the sheet.

You must have Modify permission to be able add a resource booking to the Booking Summary Sheet.

1) In the company-level or project-level Resource Sheets log, select **Booking Summary Sheet** and click **Open**.

2) Click **Add** to enter Edit Mode. The Resource Booking window opens.Complete the form using the table below these directions as a reference.

> **Note**: If you are in these modes: Mode > Currency Amount, Group By > Role, or Group By > Resource, you must choose the Mode > Hours to be able to access Edit Mode.

3) Click **OK**.

A new row is created in the Booking Summary Sheet. Enter values in the new row as needed. If the booking type is non-project time, Unifier will create a new row and populate the Non-Project time column with the type of time, such as "PTO" or "vacation," or "administration." All values for the row will be zero, which you can change manually where necessary.

4) Click **Save**, or click **View** to return to View Mode without saving the changes. The hours values are then displayed as hyperlinks. You can click these hyperlinks to view the Cell Detail values.

> **Note**: Utilization Summary Sheet values are recalculated when resource bookings are added to the Booking Summary Sheet.

In this field	Do this
Booking Type	Select **Project/Shell** if you are booking the resource against a project or shell. Select **Non-Project Time** if you are booking the resource against non-project work. ▸ If you select this option, you will not need to specify a role name or a project/shell against which to book this time. ▸ You can select **Non-Project Time** only on company-level

	Booking Summary sheets.
Role Name	Select a role.
Resource Name	Select a resource name.
Project/Shell	Select a project or shell against which to book this time. At the Company level, this list includes active projects that have Resource Manager configured.
Non-Project Time	If the Booking Type is Non-Project Time, select the type of non-project work you are booking this resource against.

Actuals summary sheet

This sheet lists the actual time (hours) entered by each resource using time sheet business processes, displaying resource hours for the project/shell or across projects/shells.

You can select the time sheet business process to use.

To view the actuals summary sheet

1) In the company-level or project-level Resource Sheets log, select **Actuals Summary Sheet** and click **Open**.
2) You can view this sheet by hours or cost:
   ▶ To view by hours, click the **View** menu and choose **Mode > Hours**. The sheet displays the actual hours from time sheets.
   ▶ To view data by cost, click the **View** menu and choose **Mode > Currency Amount**. The sheet displays the cost charged against each resource from time sheets.

Column	Description
Resource Name	This sheet displays hour and cost information for each resource that has submitted time sheet business processes.

To define the time sheet to roll up to the actuals sheet

1) On the actuals summary sheet, click the **Properties** button.
2) In the Business Process field, click the drop-down list and choose the Timesheet business process to use to roll up.
3) Click **OK**.

Booking vs. Actuals summary sheet

At both the company level and project/shell level, you can use this sheet to see booking information versus actual time usage against a project or shell.

To view the Booking vs. Actuals summary sheet

1) In the company-level or project-level Resource Sheets log, select **Bookings vs. Actuals Summary Sheet** and click **Open**. Unifier displays a Properties window.

2) In the Properties window, specify the time sheet business process that should roll up values to the **Booking vs. Actuals Sheet**.

3) Click **OK**.

Unifier uses the values on the time sheet business process you specified to calculate the data on the **Booking vs. Actuals** summary.

The sheet shows all booked resources, along with their roles and the projects/shells they are booked in. It shows both the booked hours and the actual hours the resources worked on the project/shell. The sheet does not show non-project hours.

To see details

To see a resource's booking details, click the hyperlinked hours in the **Booked** column. Unifier opens a Cell Detail window showing the booking details for the resource. To see details on a resource's actual hours worked, click the hyperlinked hours in the **Actuals** column. Unifier opens a Cell Detail window showing the actuals for the resource.

Utilization summary sheet

This sheet displays utilization in hours for each resource, per role.

> **Note**: This sheet is not available in generic shells.

Project level

The sheet displays utilization of resources as a percentage at the project level and is shown for each resource-role combination.

Utilization% = (Total Assigned Hours / Hard-booked Hours) *100

▸ Rolling over the cell value shows a break up of hard-booked hours and assigned hours.
▸ Utilization over 100% (over-utilization) is displayed in red.

This sheet cannot be opened unless the Schedule Manager is loaded or a master schedule sheet is created.

To view the project-level utilization summary sheet

In the project-level Resource Sheets log, select **Utilization Summary Sheet** and click **Open**. You can view this sheet by hours only.

Company level

The information is displayed across projects.

To view the company-level utilization summary sheet

In the company-level Resource Sheets log, select **Utilization Summary Sheet** and click **Open**. You can view this sheet by hours only.

Column	Description
Resource Name	Displays resources by name.
Role	Displays the role, per resource.

Resource Availability sheet

The **Resource Availability Sheet** resides at the company level. This sheet shows the current availability of each resource across all projects/shells. A resource's availability equals the resource's total capacity (hours available), minus the total bookings across the projects/shells, and minus the non-project times specified. The sheet also shows over-bookings and zero hours where the resource is not available due to PTO, vacation, or administrative duties.

Unifier automatically adds the **Resource Name** column to the sheet; you cannot move this column. Unifier adds rows to the sheet whenever a Resource Booking business process is submitted. You can manually add columns directly to the sheet to show more information. You can also modify data manually on the sheet.

To open an Availability Sheet

In the company-level Resource Sheets log, select **Availability Sheet** and click **Open**.

	Resource Name	Dec 19, 10	Dec 26, 10	Jan 2, 11	Jan 9, 11	Jan 16, 11	Jan 23, 11	Jan 30, 11	Feb 6, 11
1	Fred Kisner	40.00	40.00	30.00	30.00	30.00	30.00	31.00	0.00
2	George Haddad	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00
3	Henry James	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
4	Joe Smith	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
5	Michael Jones	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
6	Monica Lu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Paula Spiese	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Lynn Anderson	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
9	Rob Jackson	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	David Balboa	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
11	Ryan Lee	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
12	Steve Wozniak	0.00	0.00	-5.00	0.00	0.00	0.00	0.00	0.00
	T	349.00	349.00	315.00	317.00	319.95	319.95	320.19	289.00

Availability will be zero if the resource takes PTO or vacation.

Negative numbers indicate a resource is overbooked.

Use the **Display By** field to show the data by day, week, or month.

Use the slider to move quickly through a year by day, week, or month as specified in the **Display By** field.

To view a resource's available hours and other information

Click the resource's name. Unifier opens a read-only copy of the resource's properties. These can include the resource's address and phone number. This window will also show the resource's capacity of work hours per week. Depending on the design of the **Resource Attribute** form, this window might also show a breakdown (as in the example below) of the resource's hourly working capacity by day.

To view booking details

You can drill down to an individual resource to see a read-only copy of the booking information. To do so, click on the value in any date column. Unifier displays the cell details.

The cell details show the following information:

Resource Code	The code assigned to the resource
Resource Name	The name of the resource.
Period Type	The period of availability being displayed. (This reflects what the Display By choice was.)
Period	The time the data on this window covers (day, week ending date, month ending date).
Capacity	The hours the resource is available during the period.
Booked Hours	The number of hours the resource is booked during this period.
Available Hours	The number of available hours the resource has left for booking during this period.
Transactions	The booking transactions that are reflected in the data in this window.
	Project/Shell No. shows the number of the project/shell for which the resource is booked.
	Record Number shows the number of the business process record (unless the entry was manual).
	Title shows the title of the business process. This column will show "Manual Entry" for any hours that were manually entered on the sheet.
	From Date shows the beginning date of the resource's period of

	availability.
	To Date shows the end date of the resource's period of availability.
	Total Hrs shows the total number of hours the resource is available during the period.

To add columns to the sheet

By default, the left column of the sheet displays the name of the resource and cannot be edited or moved. You can add additional columns to the left side of the sheet to customize it to your needs. To add columns:

1) On the sheet, click the **Columns** button. The Columns window opens, showing the columns currently displayed on the left side of the sheet.
2) Click the **New** button. The Column Properties window opens.
3) Use the information in the table below to complete the fields in this window.
4) Click **OK**. Unifier closes the Column Properties window.

    On the Columns window, you can adjust the order of the column(s) you added by using the Move Up (Left) and Move Down (Right) buttons.

In this field:	Do this:
Name	This field will show the name of the element you choose in the Datasource field (below).
Datasource	Select a Data Source from the drop-down list. The list displays the data elements from the Resource Attribute form.
Data Format	This controls how data is displayed on the sheet. Select: Show as percentage to display the data as a percentage. Decimal places if you want the data to include decimal amounts. Choose 0 to 8. Use 1000 Separator if you want to include a comma (,) separator in numbers. Negative Number Format if you want to show negative numbers in parentheses or with a minus sign.
Display Mode	Show or Hide to display or hide the column from user view.
Column Position After	Specify the column after which this new column should appear.

View resource sheets

The company and project/shell Resource Manager sheets are created automatically when the Resource Manager is activated in Administration Mode.

To view company-level sheets

1) In User Mode, select **Company Workspace tab> Resource Manager > Resource Sheets**. The Resource Sheets log opens.

2) Select a sheet from the log and click **Open**.

To view project/shell level sheets

1) In User Mode:

    ‣   For a standard project, select the **Std. Projects tab > project > Resource Manager > Resource Sheets**. The Resource Sheets log opens.

    ‣   For a shell, select the **<shell tab> Resource Manager > Resource Sheets**. The Resource Sheets log opens.

2) Select a sheet from the log and click **Open**.

See the descriptions below for details about each of the sheets. In general, the sheets work similarly to each other at the company and project/shell level. In general, you can:

    ‣   View data by hours or by cost (not available on all sheets)

    ‣   Save or open the sheet as a PDF file, allowing you to save and print the sheet

    ‣   Create and view snapshots (not available on the resource allocation sheets)

The structure of each resource sheet is similar:

Use this column splitter to make additional columns visible. Click on the splitter arrow, then release the mouse button and drag the splitter left or right. When you have exposed the columns you want to see, click the mouse button again to "fasten" the split.

‣   The left pane of the sheet displays default columns, which depend on the sheet. For example, resource name, role name, etc.

▶ The right pane displays the time line columns. Depending upon the display (day, week, month), the time line will show a column for each period with the actual allocation in hours (hours view) or in currency (cost view).

▶ To change the timescale, click the **Display by** field at the top of the sheet and choose one of the following:

 ▶ **Day**: The column header will show the actual date of the allocation.

 ▶ **Week**: The column header will show the actual date of the start of the week (Monday) from the company calendar.

 ▶ **Month**: The column header will show the actual date of the start of the month from the company calendar.

▶ In the upper right corner of each sheet is a time line slider:

 ▶ To quickly scroll through the date columns, you can click the slider in the top right corner of the sheet and slide it to the time period you wish to view.

 ▶ **Start of the time line**: The earliest date that can be displayed on the time line will be the minimum of the default start date specified in the Resource Manager configuration and the earliest transaction date.

 ▶ **End of the time line**: The latest date displayed on the time line will be the maximum of the default date specified in the Resource Manager configuration and the latest transaction date.

 ▶ **Default view**: By default, when the sheet is opened, the time line will always center on the current period (day, week, month). Scroll left or right to see other periods.

Filter Data on a Resource Sheet

The resource sheets can contain large amounts of data. To make working on the sheets easier, you can create a filter to limit the amount of data they display. For example, you could filter the sheet to show only certain resource roles, such as carpenters or electricians. Once you have created a filter, Unifier includes it on a list of filters available to anyone who uses the sheet. To create a filter:

1) Open the resource sheet from the log and choose **View > Filters**. The **Set Up Filters** window opens, showing a list of filters that have already been created (if any).
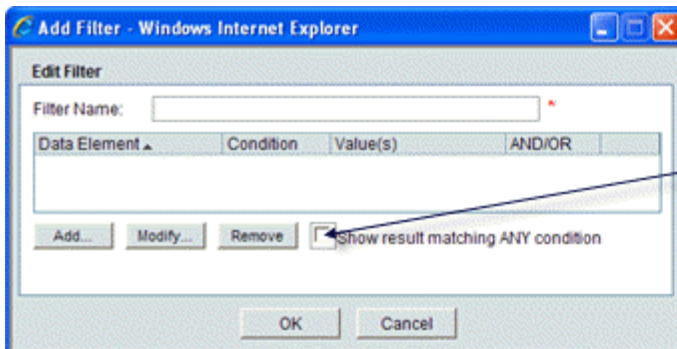
2) Click the **Add** button. The Add Filter window opens.

3) In the **Filter Name** field, enter a name for this filter.

4) Click the **Add** button. The Query Condition window opens.

Use this window to create a query that will extract the data you want to see on the sheet. For information about creating a query refer to *Unifier General User Guide.*

5) To filter the sheet, click **Apply Filter**.
6) To save the filter, click **OK**.

To apply a filter to the sheet

1) Open the sheet in the log.
2) Click the Filtered by drop-down list and select the filter you want to use.
3) Click **Apply Filter**.

Unifier refreshes the sheet to show the filtered records.

If you want to re-display all the rows on the sheet, you can clear the filter by choosing **Clear Filters** from the View menu.

To edit a filter

1) Open the sheet.
2) From the View menu, choose **Filters**. The Setup Filters window opens, showing a list of the filters that have been created for the sheet.
3) Select the filter you want to edit and click **Edit**.

Print resource sheets

To print or create a PDF file of the sheet:

1) Open the sheet. Choose to view by hours or cost.
2) Click the **File** menu and choose **Print**.
3) At the prompt, choose to open the file or save as a PDF file.

If you open the file, the file will open in Acrobat Reader, from which you can print the file. If you choose to save the file, you can save to your local drive and print or distribute as needed.

Save and view resource sheet snapshots

You can save a snapshot of all of the view-only sheets, except the resource allocation sheet.

To save a snapshot of the sheet

1) Open the sheet, and choose to view by hours or cost, where applicable.
2) Click the **File** menu and choose **Create Snapshot**.
3) Enter a title and click **OK**.

To view a snapshot

1) From the sheet, click the **File** menu and choose **Open Snapshot**.
2) Select a snapshot from the log and click **Open**.

Viewing and Configuring Resource Dashboards

The dashboard is available in the company-level and project-level Resource Manager. It allows you to monitor resource planning and deployment.

Data is refreshed when the Resource Dashboard node is selected or changes are made.

You can configure the dashboard to display charts in two-column layout. Configuring the Resource Dashboard is similar to setting up the project or company summary, except that the available charts are system-based and not based on user-defined reports.

You can choose to display system-defined charts in resource management key performance areas.

Company Level	Project Level
Booking	Booking
Actuals	Actuals
Utilization	Utilization
Supply vs. Demand	

Supply vs. demand charts

These charts:

▸ Show allocations by role and compare them with resource daily capacity.

▸ Highlight issues with having too much demand that cannot be satisfied.

▸ Measure ability to satisfy resource demand and identify additional staffing needs.

These charts are used to display the existing demand (allocation) versus available capacity in the company. You can use these reports to verify that sufficient manpower is available in the company to satisfy this demand. The supply (or capacity) in this case is unconstrained and unnetted. This means that the capacity does not consider existing bookings (soft or hard).

Calculating values on the demand vs. supply charts:

Allocation % = Total Allocation / Total Capacity * 100

Allocation is obtained from the company allocation summary sheet for the specified range of dates. Total capacity will add capacity hours of all resources at the company level that can play the role (not limited to default roles) for the range of dates. Allocation cost is obtained from the company allocation summary sheet. The charts include active roles and active resources only. Capacity is based on the company calendar (working days only).

Actuals charts

These charts:

▸ Show actuals by role and corresponding bookings against the role. Non-project time can be included on the charts.

▸ Highlight issues with costs going over budget.

Calculations on actuals charts (company level):

- ▸ Data obtained from the company-level summary sheets based on the current configuration of the time sheet BP on the sheet.
- ▸ Booking used is hard-booking.
- ▸ Booking is obtained from company booking summary sheet.

Calculations on actuals charts (project level):

- ▸ Data obtained from the project-level summary sheet based on the current configuration of the time sheet BP on the sheet.
- ▸ Booking used is hard-booking.
- ▸ Booking is obtained from the project booking summary sheet.

Booking charts

These charts are used to plot resource booking (soft and hard) against demand (allocation) and capacity:

- ▸ Show allocations by role and corresponding bookings against the role.
- ▸ Highlight issues with underbooking or overbooking.
- ▸ Show hard- and soft-booking. Non-project time can also be shown.
- ▸ Successful satisfaction of resource demand via resource commitments (booking).

Calculations on the booking charts (company level):

- ▸ Booking obtained from company booking summary sheet for the specified range of dates.
- ▸ Allocation obtained from the company allocation summary sheet for the specified range of dates.
- ▸ Overbooking % = [(Total Booking – Capacity)/Capacity] * 100 (0% if negative).
- ▸ Total capacity will add capacity hours of all resources at the company level that can play the role (not limited to default roles).
- ▸ Booking cost is obtained from the company allocation summary sheet.
- ▸ Total Booking = Soft + Hard booking.

Calculations on the booking charts (project level):

- ▸ Booking obtained from the project booking summary sheet for the specified range of dates.
- ▸ Allocation obtained from the project allocation summary sheet for the specified range of dates.
- ▸ Booking cost is obtained from the project allocation summary sheet.
- ▸ Capacity, Overbooking and Unmatched Supply column to show only at company level.
- ▸ Total Booking = Soft + Hard booking.

Utilization charts

These charts:

- ▸ Show utilization of resources against budgeted project work.
- ▸ Resource Manager can see that all resources are adequately occupied with billable project work. Administrative work at the company level does not count.

Calculating values on the utilization charts (company level):

- ▸ Utilization % obtained from the company utilization summary sheet for the specified range of dates.
- ▸ Booking is obtained from the company booking summary sheet.
- ▸ Assigned hours is obtained by adding assigned hours on project schedule sheets across all projects.
- ▸ Utilization % = (Total Assigned Hours / Hard-booked Hours) * 100 (shows two decimal places).

Calculating values on the utilization charts (project level):

- ▸ Utilization % obtained from the project utilization summary sheet for the specified range of dates.
- ▸ Booking is obtained from the project booking summary sheet.
- ▸ Assigned hours is obtained by adding assigned hours from the project schedule sheets.

About Resource dashboards

The dashboard is available in the company-level and project/shell level Resource Manager. It allows you to monitor resource planning and deployment. Data is refreshed when the Resource Dashboard node is selected or changes are made.

You can configure the dashboard to display charts in two-column layout. Configuring the Resource Dashboard is similar to setting up the project/shell or company summary, except that the available charts are system-based and not based on user-defined reports. You can display system-defined charts in resource management key performance areas.

Company Level	Project Level
Booking	Booking
Actuals	Actuals
Utilization	Utilization
Supply vs. Demand	

Supply vs. demand charts

These charts:

- ▸ Show allocations by role and compare them with resource daily capacity.
- ▸ Highlight issues with having too much demand that cannot be satisfied.
- ▸ Measure ability to satisfy resource demand and identify additional staffing needs.

These charts are used to display the existing demand (allocation) versus available capacity in the company. You can use these reports to verify that sufficient manpower is available in the company to satisfy this demand. The supply (or capacity) in this case is unconstrained and unnetted. This means that the capacity does not consider existing bookings (soft or hard).

Calculating values on the demand vs. supply charts:

- ▸ Allocation % = Total Allocation / Total Capacity * 100

Allocation is obtained from the company allocation summary sheet for the specified range of dates. Total capacity will add capacity hours of all resources at the company level that can play the role (not limited to default roles) for the range of dates. Allocation cost is obtained from the company allocation summary sheet. The charts include active roles and active resources only. Capacity is based on the company calendar (working days only).

Actuals charts

These charts:

▶ Show actuals by role and corresponding bookings against the role. Non-project time can be included on the charts.
▶ Highlight issues with costs going over budget.

Calculations on actuals charts (company level):

▶ Data obtained from the company-level summary sheets based on the current configuration of the time sheet e sheet.
▶ Booking used is hard-booking.
▶ Booking is obtained from company booking summary sheet.

Calculations on actuals charts (project level):

▶ Data obtained from the project-level summary sheet based on the current configuration of the time sheet BP on the sheet.
▶ Booking used is hard-booking.
▶ Booking is obtained from the project booking summary sheet.

Booking charts

These charts are used to plot resource booking (soft and hard) against demand (allocation) and capacity:

▶ Show allocations by role and corresponding bookings against the role.
▶ Highlight issues with underbooking or overbooking.
▶ Show hard- and soft-booking. Non-project time can also be shown.
▶ Successful satisfaction of resource demand via resource commitments (booking).

Calculations on the booking charts (company level):

▶ Booking obtained from company booking summary sheet for the specified range of dates.
▶ Allocation obtained from the company allocation summary sheet for the specified range of dates.
▶ Overbooking % = [(Total Booking – Capacity)/Capacity] * 100 (0% if negative).
   ▸ Total capacity will add capacity hours of all resources at the company level that can play the role (not limited to default roles).
   ▸ Booking cost is obtained from the company allocation summary sheet.
   ▸ Total Booking = Soft + Hard booking.

Calculations on the booking charts (project level):

   ▸ Booking obtained from the project booking summary sheet for the specified range of dates.

▸ Allocation obtained from the project allocation summary sheet for the specified range of dates.

▸ Booking cost is obtained from the project allocation summary sheet.

▸ Capacity, Overbooking and Unmatched Supply column to show only at company level.

▸ Total Booking = Soft + Hard booking.

Utilization charts

These charts:

▸ Show utilization of resources against budgeted project work.

▸ Resource Manager can see that all resources are adequately occupied with billable project work. Administrative work at the company level does not count.

Calculating values on the utilization charts (company level):

▸ Utilization % obtained from the company utilization summary sheet for the specified range of dates.

▸ Booking is obtained from the company booking summary sheet.

▸ Assigned hours is obtained by adding assigned hours on project schedule sheets across all projects.

▸ Utilization % = (Total Assigned Hours / Hard-booked Hours) * 100 (shows two decimal places).

Calculating values on the utilization charts (project level):

▸ Utilization % obtained from the project utilization summary sheet for the specified range of dates.

▸ Booking is obtained from the project booking summary sheet.

▸ Assigned hours is obtained by adding assigned hours from the project schedule sheets.

Configure the dashboard

You can configure the content layout by doing the following:

▸ Add one or more charts in each column.

▸ Set up filter conditions and title for each chart.

▸ Add the same chart multiple times to the same column and display the same report with different query parameters.

To configure the resource manager dashboard

1) From the Resource Dashboard log, click **Edit** and choose one of the following:

▸ **Left Column**: The Left Column Blocks window opens.

▸ **Right Column**: The Right Column Blocks window opens.

These are set up the same way.

2) To add a chart, click **Add**. Complete the Add Summary Block window:

▸ Report Name: Click **Select**. Choose a chart from the list and click **OK**. The report fields are auto-populated. You can edit the title if desired.

    ▸ Specify filter conditions:

        ▪ Roles and projects are multiselect fields (you can choose one or more from the list).

        ▪ If fields are left empty, it means all.

        ▪ Project field is disabled in the project-level dashboard and displays the current project.

To edit a chart on the blocks list

Select it from the list and click **Open**.

To delete a chart on the blocks list

Select it from the list and click **Delete**.

▸ Roles and projects are multiselect fields (you can choose one or more from the list).

▸ If fields are left empty, it means all.

▸ Project field is disabled in the project-level dashboard and displays the current project.

▸ Shows current project.
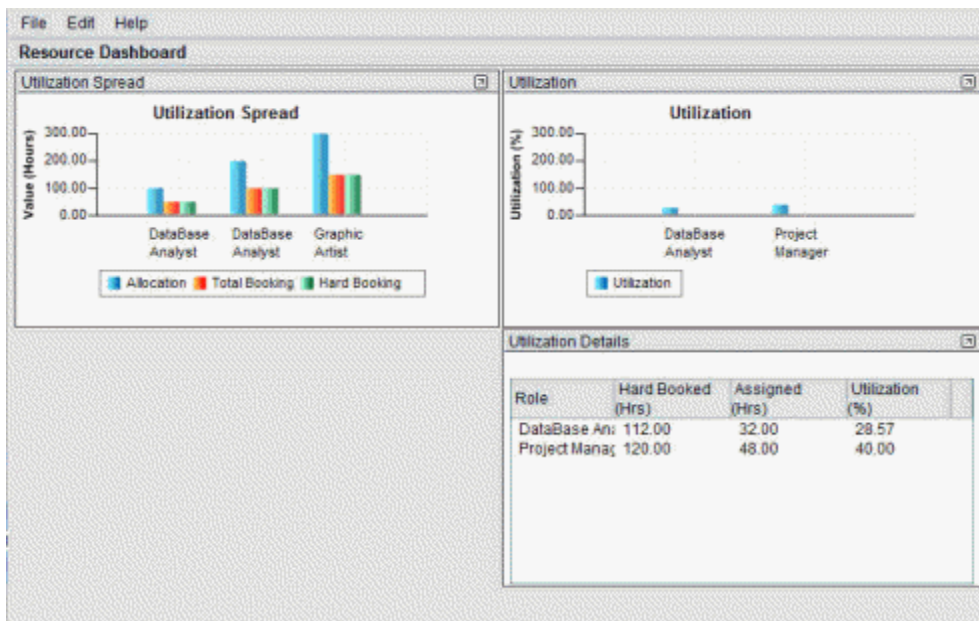
Example project resource dashboard

Print the dashboard

To print the dashboard:

1) Navigate to the company-level or project-level resource dashboard.

2) Click **File > Print Preview**. A print preview window of the dashboard opens in an HTML view.

3) Click the **Print** button.

About Resource Business Processes

Resource-type business processes can be designed in uDesigner and deployed in Unifier to work with the Resource Manager. There are two resource-type business processes that work with the Resource Manager:

▸ Resource Booking
▸ Timesheet

Resource Booking business process

This is used to book resources; that is, to fill project requirements with an available resource from the company. Resources can be booked within the duration of resource allocation.

Notes:

- The Resource Booking business process is used only to add bookings, not to modify existing bookings.
- The Resource Booking business process is not available in generic shells. However, you can book resources via manual entry on the Resource Booking Sheet.
- When a record reaches a defined terminal status, the resource is hard-booked.
- While the record is in a non-terminal status, the resource is considered soft-booked.
- Resource Manager configuration determines if overbooking is allowed.

To use a Resource Booking business process

Open a project or shell and launch the resource booking business process. In the upper form, pick a date range to book resources. The date range will constrain the detail form grid display. The line item list displays a summary of booking rows.

Example Resource Booking business process

▶ Click the **Add** button and choose **Detail Line Item**. The Find window opens.

▶ Click **Select** to allocate the role, and then click the **Search** button. The business process pre-populates with rows from the project allocations summary sheet.

▶ The resource is hard-booked when the terminal status Approved is reached in the workflow. The resource is soft-booked when the status is other than the terminal status, for example, Pending.

Timesheet business process

Use the Timesheet business process to submit your time sheets. Actual hours and costs can be rolled up to the actuals summary sheets of the Resource Manager. The business process can also be designed to roll up costs to the project/shell cost sheet (Resource Actuals column).

The Timesheet business process:

▶ Specifies the time you spend on a project.

▶ Calculates rates based on role properties

▶ Rolls up actuals to the actuals summary sheet at the company level and project/shell level.

Multiple Timesheet business processes can exist for a company. For example, a company may design one Timesheet business process to capture and roll up time (hours) only. Another time sheet type BP can be used to design a reconciliation business process that references the time sheet and is used to specify, modify, and roll up actuals costs.

The Timesheet business process is used to enter the actual hours you worked on each day. Time can be entered as regular work hours or over-time so that the appropriate billable rate can be applied. Time can be entered for company-level tasks, holidays, paid time off, and project or shell-level work. For billable activities, the billable rate is obtained from the role or from the project/shell booking (average booking rate), as applicable.

In addition to your own time sheet, a separate time sheet can be designed with a workflow schema that will accommodate someone else reporting your time on your behalf. For example, a company may allow a project manager or resource manager to report time for you.

If the Timesheet business process has been designed for line item entries, you can enter line items for time you spent on different types of work during a week, such as different projects. You could use other line items to report holidays, PTO, or company-level work.

The actual hours and corresponding costs from Timesheet business processes feed various sheets at the company and project/shell level, including company and project/shell actuals sheets, and company account and project/shell costs sheets.

To use a time sheet business process

Open a project, and launch the time sheet business process.

The Week Of required field is the limiting factor for the line items. The week begins on Sunday.

Understanding Reverse Auto-population

Certain data elements support reverse auto-population. These are specified in uDesigner. Reverse auto-population means that some values can be updated when other values are modified in a BP that has reached a specified status. Auto-population can occur on BPs that are in the same shell or across shells.

Depending on the setup in uDesigner, reverse auto-population can occur in these instances:

▸ Changes to data elements in a business process upper form can result in changes to the upper form of another business process.

▸ Changes to the detail form in a business process can result in changes to the upper form and detail form of another business process.

▸ Changes to the upper form or detail form of a business process can result in changes in the Asset, Resource, or Planning Manager forms.

In the Resource Manager, reverse auto-population might occur if a Resource Booking business process references a move order business process.

Unifier Schedule Manager

The Schedule Manager helps you manage project or shell and program schedules. You can create a **Project Schedule Sheet** that is customized to the project's needs. Once these sheets are created, you can then use them to create project activities and tasks, assign resources to tasks, create relationships between activities, track schedule progress and variables, and calculate the schedule's critical path.

In Unifier, you can also import project schedule records from Primavera Project Planner® or Microsoft® Project. These external project schedules can provide additional detail or supporting schedule information; for example, resource information, or subcontractor or vendor schedules. Imported schedules are editable within Unifier, and the data can be used in reports.

The Schedule Manager presents schedule activities as interactive Gantt charts, where you can:

▶ Zoom in to see tasks at the day, week, or month level
▶ Move activities and add dependency relationships, and automatically update the dates on the schedule
▶ Create critical path calculations that will flag activities that, if delayed, can cause the schedule to go beyond the planned project end date

Using Unifier snapshot feature, you can take a "picture" of the schedule sheet at any point in time. Using the Schedule Manager's baseline function, you can measure progress and determine payments against original estimates; and with the tracking Gantt feature, you can compare schedule dates, such as baseline estimates against the actual schedule.

If you copy activities from one schedule to another, Unifier will immediately notify you if the change will create a schedule conflict so that you can make corrections as you work. Each change in the Schedule Manager creates a record in Unifier, which is useful for auditing purposes. An audit report of these records shows detailed information on dates, events, actions, and old values versus new values, along with the user or proxy user who performed the action.

Each project/shell can have multiple schedule sheets, and one master schedule sheet. This master sheet drives project start and end dates, tracks the project's progress, and serves as the interface between the Schedule Manager and other Unifier modules. In particular, the master schedule updates resource assignment information in the Resource Manager, which affects timesheets and resource utilization figures; and it integrates cost items on the schedule with the Cost Manager. Unifier users can refresh resource rates on the schedule sheet and post the new rates to the Cost Manager, update the cost sheet with assignment costs, and refresh costs on the sheet to recalculate labor costs and post them to the cost sheet.

Features include the following:

▶ Fully configurable activity attributes form
▶ Activities and Gantt chart on the same schedule sheet
▶ Interactive Gantt chart with ability to drag activity end dates and link activities
▶ Tracking Gantt chart
▶ Filters for activities
▶ Baselines for schedule sheets and activity sheets
▶ Activity update
▶ Ability to create one or multiple interactive schedule sheets for the same project or shell

- ▶ Integration of Schedule Manager with the Resource Manager, enabling resource loading of schedule activities
- ▶ Multiple CBS codes for each activity to capture activity costs, such as labor, non-labor, and fixed costs. If designed in uDesigner, you can add a column to the schedule sheet to display the CBS codes associated with each activity.
- ▶ View the cost distribution information by CBS codes from a schedule sheet
- ▶ Cut and paste and copy and paste of rows in a sheet
- ▶ Update of schedule sheets from linked templates
- ▶ Critical path calculation and display
- ▶ Streamlined and enhanced integration and interaction between Unifier Schedule Manager, Primavera, and Microsoft® Project
- ▶ Activity progress tracking and percentage of work completed per assigned resource
- ▶ Works with shells that have the CBS cost type
- ▶ Scope Management, with the ability to launch business processes from activities and automate schedule management.
- ▶ Budget and progress settings, and the ability to work with progress and earned progress data

For information about language (internationalization) and CSV files refer to *Unifier General User Guide*.

In This Section

Schedule Sheet permissions

User Mode sheet-level permissions can be assigned by the creator or a user with Full Access permission.

Sheet-level permissions are set up on each project or shell Schedule Sheet on the user side, and can also be set up on schedule sheets within project or shell templates.

To assign permissions to a schedule sheet

1) Open the project or shell, or the project/shell template.
2) Select the schedule sheet in the Schedule Sheets log.
3) Click the **Permission** button.
4) Add users or groups and assign permissions:
   ‣ **Modify Permissions:** Allows the user to modify the permissions of a schedule sheet. Checking this permission will check all permissions below.
   ‣ **Edit Data:** Allows the user to edit the sheet, including data, columns, and rows, cut and paste activities. Users that have the Edit Data permission can import data. They can also edit Activity Progress and refresh the schedule sheet.
   ‣ **Edit Data and Structure**: Allows the user to set and clear baselines on schedule sheets and Activity Sheets; also to copy and paste activities. Enables users to add or remove linked schedule sheet templates. Also enables users to edit data element level restrictions on activities on a schedule sheet.

   Users with the Edit Data and Structure permission can edit these activity progress related components:
   - Options tab of the Schedule Sheet Properties
   - Budget and Progress Setup (schedule sheet level or activity level)
   - Activity Progress
   - Activity Progress Log
   - Schedule sheet refresh
   ‣ **View:** Allows the user view-only access to the sheet. Automatically granted if any of the permissions above are granted. Can also view the Linked Template window.
5) Click **OK**.

Create a Schedule Sheet

Each schedule sheet that you create has its own set of properties, which you can use to control schedule sheet behavior.

Unifier separates Schedule Sheet Properties into five tabs; each tab has a distinct purpose.

‣ The General tab is where you can define basic schedule information, for example, Schedule Sheet Name, and Start Date.
‣ The Gantt Chart tab is where you can define what you want to see in the visual representation of the sheet, for example, common choices are Activity Name, Start Date, and Finish Date.

- ▸ The Tracking Gantt tab is where you can set up comparisons of activities, for example, you can compare Actual Start Date with the originally planned Start Date.
- ▸ The Options tab is where you can set up how you want Unifier to update activity status and progress requirements.
- ▸ The Schedule tab is where you set the schedule sheet refresh schedule.

You can create a project or shell schedule sheet in the following ways:

- ▸ Manually
- ▸ Copying from a project/shell schedule sheet template
- ▸ Copying from another schedule sheet in your project
- ▸ Importing a schedule file.

You can have any number of schedule sheets in a project or shell. You can designate one sheet as a master schedule sheet, which appears in bold in the log. The master schedule sheet drives the activity start and finish dates, and allows you to assign resources to activities. You can use it to track progress and resource assignment information to other modules in Unifier.

> **Note**: You may want to set up the schedule sheet before selecting it as the master sheet. Once you select the sheet as the master sheet, it cannot be deselected.

To create a project or shell schedule sheet manually

1) In User Mode, select the project or shell, and select **Schedule Manager > Schedule Sheets**. The Schedule Sheets log opens.
2) Click **New**. The Schedule Properties window opens.
3) Complete the Schedule Properties tabs. See *Schedule Sheet Properties General Tab* (on page 560).

To create a schedule sheet by copying from a project or shell template

1) In User Mode, select the project or shell, and select **Schedule Manager > Schedule Sheets**. The Schedule Sheets log opens.
2) In the Schedule Sheets log, click **Copy > Template**.
3) Select the template to copy and click **Open**.
4) Complete the Schedule Properties tabs. See *Schedule Sheet Properties General Tab* (on page 560).

To create a project or shell schedule sheet by copying another sheet

1) In User Mode, select the project or shell, and select **Schedule Manager > Schedule Sheets**. The Schedule Sheets log opens.
2) In the Schedule Sheets log, click **Copy**. The Schedule Sheets window opens showing all sheets in the project/shell (both active and inactive)
3) Select the schedule sheet to copy and click **Open**. The Schedule Sheet Properties window opens.
4) Complete the Schedule Properties tabs. See *Schedule Sheet Properties General Tab* (on page 560).

To import CSV files

1) Open the schedule sheet.
2) Choose **File > Import > From CSV**. If a default mapping is not selected, the Select Data Mapping window opens.
3) Select the data mapping you want to use for this import and click **OK**. The File Upload window opens.
4) Browse to select the file to upload.
5) Click **OK**.

To import XML and MPP files

1) Open the schedule sheet.
2) Choose **File > Import > From External Source**. If a default mapping is not selected, the Select Data Mapping window opens.
3) Use the table below to complete the fields in this window.
4) Click **OK**. The File Upload window opens.
5) Browse to select the file to upload.
6) Click **OK**.

In this field:	Do this:
MPP	Data mapping is not required; leave the Data Mapping field empty.
MPP XML	Data mapping is required; select the mapping you want to use.
MPP activity calendar	Select Consider Activity Calendar. This requires an existing calendar in Unifier with the same name. If an activity calendar is not imported and considered, the activity will use the existing calendar defined in the schedule sheet properties.
MPP Resource assignments	Data mapping is not required; leave the Data Mapping field empty. This requires a data set for the SYS Resource Type data element. Use MPP standard resource types: Work, Material, and Cost. Upon import, Unifier will soft-book these resource types.

Before you begin:

▸ You must have permission to import files. See *Schedule Sheet permissions* (on page 557).
▸ For CSV or XML files, your administrator must first define the data mapping.
▸ To use the Activity Calendar from Microsoft Project, first create a calendar in Unifier with the same name as the external calendar.

▸ To import Resource Assignments from Microsoft Project, first add the same MPP resource types to the SYS Resource Type data set in Unifier. We recommend using MPP standard resource types: Work, Material, and Cost.

Schedule Sheet Properties General Tab

To complete the **General** tab of the schedule sheet properties:

1) In **User Mode**, open the project or shell in the left Navigator. Click **Schedule Manager > Schedule Sheets**. The Schedule Sheets log opens.

2) Click **New** or open an existing schedule sheet. The Schedule Sheet Properties window opens.

3) Complete the **General** tab as described in the table below.

4) Click **OK**. The new schedule is available in the log.

From here you can:

▸ Open the Properties window, the Gantt Chart tab, the Tracking Gantt tab, the Options tab, and the Schedule tab.

▸ Open the sheet and add columns and rows (activities).

In this field:	Do this:
Schedule Title	Enter a title for the template. This is used as the template identifier and must be unique. (up to 120 characters)
Description	Enter an optional description. (up to 400 characters)
Master Schedule	When you create a new schedule sheet in a project or shell or project or shell template, you can select this checkbox to make the schedule sheet the "master schedule (one per project or shell or project or shell template; once selected, it cannot be deselected).
Status	When you are ready to make the template active and available for use, click Active.
Auto-control	Controls the automatic update of tasks for Scope Management. The default is Off. Setting Auto-control to On enables the automatic launch of BP records. Setting Auto-control to Off means that BPs will not be launched automatically on activities. Also, completion conditions will not be checked on activities. Users can still launch BPs manually. Note: Unifier disregards predecessor/successor dependency relationships when you manually start an activity, even if auto-control is set to On in the schedule sheet properties.
Calendar	Select a calendar to use with the schedule sheet. You can choose from Standard Calendars (company-level calendars), Project/Shell Calendars, or Custom Calendars (defined for the Schedule Manager). This calendar is used by all activities on the schedule sheet. The Calendar data element is also available for use as a column in the schedule sheet. When a

	new schedule sheet is created, the Project/Shell Calendar is selected by default. Users can change this default selection. The calendar selected affects project durations and due dates. For templates, the only choice is Standard calendars. The Schedule Start Date always uses the Project/Shell Calendar. Activity start dates are not affected when you change the calendar. The selected Start Date or Finish Date for an activity can be a non-working calendar day, however the duration of the activity will only account for working calendar days.
Schedule Start Date	Drives the dates of floating activities on the schedule sheet for Scope Management. No activities can begin before this date; however, activities do not have to begin on this date if their preceding activities complete previous to this date. The Manual and Shell Attribute radio buttons are active for a master schedule sheet if the Project Start Date data element has been added to the Shell Attribute form (for CBS shells) in uDesigner, and if no activity has started on the sheet. These buttons allow you to specify whether the Schedule Start Date should be set manually, or automatically populate. For non-master schedule sheets, the choice is always Manual, and Shell Attribute is not selectable. If you select the Manual radio button, you can select a Schedule Start Date. If you select Shell Attribute radio button, the Schedule Start Date automatically populates from the Project Start Date specified on the General tab of the shell properties. Also, the shell Project Start Date can update the master schedule sheet start date if no activity has been started on the sheet. Sheets other than the master schedule sheet are created with the Project Start Date specified on the shell, but this date cannot be updated from the Project Start Date field in the shell properties.
Notify users and/or groups on errors	Select Users and groups to be notified if there are errors during any point during the Scope Management task routing.
Permission: Enforce Activity Level Permissions by Group	Select to specify that you are implementing group activity editing. If you select this checkbox, you must also select a default group.
Default Group	Required if you select Permission Enforce Activity Level Permissions by Group. Select the group to use as the default group for activity-level editing.

Gantt Chart tab of the Schedule Sheet Properties

You can define the display of data elements on the activity bars on the Gantt chart. You can add up to three labels: to the left, on top, and to the right of each activity bar. The labels correspond with the data element fields that are available on the Properties window (activity attribute form) for each activity.

> **Note**: If you are selecting specific calendars for your project/shell and schedule sheet, the Gantt chart uses the project-level or shell-level calendar, not the calendar selected for the schedule sheet.

To configure Gantt chart activity bar text

1) Click the **Gantt Chart** tab.
2) Select data elements. You can add one label or all three. The selected data element(s) will display at the Top, Left or Right of the activity bar. The available data element options are derived from the activity form (schedule attribute form or default form).
3) Click **OK**.

Schedule Sheet Properties: Tracking Gantt Chart tab

A tracking Gantt chart allows you to compare two sets of dates for a specific activity. It allows you to track activity progress against the original plan. For example, the tracking Gantt chart allows the comparison between two sets of dates such as baseline and actuals. Users with view permissions can view a tracking Gantt chart. The tracking Gantt chart is view only. It is not interactive like the regular Gantt chart.

You can define the display of data elements on the activity bars on the Tracking Gantt chart. You can add up to three labels: to the left, on top, and to the right of each activity bar. The labels correspond with the data element fields that are available on the Properties window (activity attribute form) for each activity.

To configure Tracking Gantt chart activity bar text

1) Click the **Tracking Gantt Chart** tab.
2) Select data elements. You can add one label or all three. The selected data elements will display at the Top, Left or Right of the activity bar. The available data element options are derived from the activity form (schedule attribute form or default form).
3) Click **OK**.

Options Tab of the Schedule Sheet Properties

These options allow you to control the automatic update of activity status based on Actual Start and Actual Finish dates, to specify that activity progress requires an Actual Start Date, and to enforce a dependency between Activity % Complete and the Actual Finish Date (with the option of auto-update of the Activity % Complete).

See *Project Progress Data Accumulation and Calculation* (on page 635) for details on progress data accumulation and earned progress.

To specify that activity status auto updates based on actual start and finish dates

By default, the Activity Status controls Actual Start and Finish of an activity. If you select the Auto update activity based on Actual Start/Finish Dates, the Actual Start date and Actual Finish date control the Activity Status. Selecting this box, makes the Activity Status field read-only on the Activity Properties. When this checkbox is deselected, you can change the Activity Status.

The following table describes the interactivity of the Actual Start, Actual Finish, and Activity Status fields when the Auto update activity status based on Actual Start/Finish Dates checkbox is selected:

Actual Start	Actual Finish	Activity Status
Editable (no date selected)	Editable (no date selected)	Read-only. Not Started option is selected.
Editable (date selected)	Editable (no date selected)	Read-only. In Progress option is selected.
Editable (date selected)	Editable (date selected)	Read-only. Complete option is selected.

1) Click the **Options** tab.
2) Select the **Auto update activity status based on Actual Start/Finish Dates** checkbox.
3) Click **OK**.

To specify that activity progress requires an actual start date

You can specify that activity progress information cannot be entered if there is no actual start date for the activity. For example, an actual start date must be specified for users to be able to enter any activity progress, including Activity % Complete and Earned Progress on the Activity Properties.

When the Checking the Activity Progress requires an Actual Start date checkbox is selected, Unifier validates that there is an Actual Start date specified for the activity. If there is no Actual Start date, and this checkbox is selected, users will not be able to enter activity progress data until the Actual Start date is added for the activity.

> **Note**: You cannot select the Activity Progress requires an Actual Start date checkbox if the activity has recorded progress. If there are any progress entries, Unifier will not allow you to select this checkbox until a start date is provided or the existing progress data is deleted.

1) Click the **Options** tab.
2) Select the **Activity Progress requires an Actual Start date** checkbox.
3) Click **OK**.

To enforce dependency between Activity % Complete and Actual Finish Date for an activity

You can enforce a dependency between the Activity % Complete and the Actual Finish Date of an activity. When you select Enforce Activity 100% Complete again Actual Finish, Unifier will require the user to enter the percentage for Activity % Complete as 100%. Conversely, when the user specifies that Activity % Complete is 100%, Unifier will require the user to enter a value for the Actual Finish Date. Also, you can enforce that Activity % Complete is changed to 100% if an Actual Finish Date is entered.

> **Note**: If data has been entered (Activity Finish Data is entered or the Activity % Complete is less than 100%, or vice versa), and then you attempt to select the Enforce Activity 100% Complete against Actual Finish checkbox, the system will prevent you from selecting the checkbox for this option. In this case, you must clear the existing data to be able to select the Enforce Activity 100% Complete against Actual Finish checkbox.

1) Click the **Options** tab.
2) Select the **Enforce Activity 100% Complete against Actual Finish** checkbox.
3) Click **OK**.

> **Note**: Impact on Scope Management: If you have specified a dependency between the Actual Finish Date of an activity and the Activity % Complete, the Activity % Complete value for an activity will automatically update to 100% when an Actual Finish Date is entered for that activity. This can occur when the Activity Status is updated to Complete, whether through a business process or manually.

To auto-update Activity % Complete based on Actual Finish Date for an activity

If you have selected Enforce Activity 100% Complete again Actual Finish, you can further specify that the Activity % Complete value is automatically updated to 100% when the user enters a Actual Finish Date.

1) Click the **Options** tab.
2) Select the **Enforce Activity 100% Complete against Actual Finish** checkbox, and the **Auto-Update % Complete to 100% after entering Actual** checkbox.
3) Click **OK**.

Schedule Tab of the Schedule Sheet Properties

The schedule sheet refresh updates cost data associated with the schedule sheet. The refresh updates activity costs and resource/role costs.

A schedule sheet refresh can fail if:

▶ An activity has more than one CBS code
▶ A cost sheet column to which a schedule sheet column is associated is deleted from the cost sheet

You can set the refresh frequency. The refresh frequency you set is shown in the schedule sheet log under the column heading **Scheduled**. Schedule sheets that require refresh are listed in the Schedule Sheet log displaying the refresh icon.

To set the refresh frequency of schedule sheet template data

1) In User Mode, open the project or shell in the left Navigator. Click **Schedule Manager > Schedule Sheets**. The Schedule Sheets log open.
2) Select one or more schedule sheet templates.
3) Choose **Refresh > Set Frequency**. The Set Frequency window opens.
4) Select the **Enable scheduled refresh** checkbox.
5) Select the **Frequency** and the **Range of Recurrence**.
6) Click **OK**.

Create a master schedule sheet

Unifier allows one master schedule sheet per project/shell. You can mark a schedule sheet in a project or shell and project or shell template as the Master Schedule sheet.

Caution: Upon saving, Master Schedule designation is permanent and cannot be undone.

You can use the master schedule sheet to:

▸ Drive project dates, for example start date, finish date, planned completion, revised completion
▸ Drive activity start and end dates
▸ Track progress of activities over the lifetime of the project
▸ Drive scope management
▸ Post costs to the Cost Manager
▸ Support Cash Flow and Earned Value analysis
▸ Interface with the Resource Manager for resource assignments and availability

You can mark one schedule sheet in a project/shell as the master schedule sheet.

Once you save a schedule sheet as the master, there is no un-do to non-master status.

To mark a sheet as the master schedule sheet

1) In User Mode open the project/shell in the left navigator.
2) Click **Schedule Manager > Schedule Sheets**. The Schedule Sheets log opens.
3) Select the sheet that you want to make a Master Schedule Sheet and click the Properties button. The Properties window opens on the General tab.
4) Select the **Create as master schedule sheet** checkbox.
5) Click **Yes** to confirm.

Open / Modify schedule sheet template properties

You can modify the properties of a schedule sheet template.

To modify schedule sheet template properties

1) In User Mode, open the project or shell in the left Navigator and click **Schedule Manager > Schedule Sheets**. The Schedule Sheets log opens.

2) Select a template.

3) Click the **Properties** button.

4) Modify the properties as needed.

5) Click **OK**.

Changes that occur to copied and pasted activities

▶ Status will be set to **Not Started** for the pasted activity.

▶ **Actual Start Date** and **Actual Finish Date** will be cleared.

▶ Links to BP Record, Record Status are not copied.

▶ Critical Path elements are recalculated.

▶ Copying an activity will not copy dependencies.

▶ Moving **Summary Activities** will automatically move all activities below the summary whether the summary is expanded or collapsed. If the activity is not a summary row, any corresponding summary tasks will be updated automatically to reflect any changes in start, finish, and duration. The **Gantt Chart View** will reflect the new ordering of activities without affecting dependencies.

Activities remain in the buffer until the next copy/cut or save. Allowed actions that do not empty the buffer are:

▶ Find

▶ Zoom In or Zoom Out

▶ Focus

▶ Opening the Activity Attribute form without changing data.

If you perform any other actions before clicking Paste then the contents of the buffer are lost. A subsequent paste will not result in any action. Actions that empty the buffer are:

▶ All actions on the toolbar (**Save, Add, Delete, Indent/Outdent, Gantt, Progress, Close Window**.)

▶ All actions under the **File** menu

▶ All actions under the **Edit** menu (Except Paste)

▶ All actions under the **View** menu except Find

▶ Clicking into any editable cell or modifying dates via **Gantt** or the **Activity Attribute** form.

Add an activity to a schedule sheet

Before you begin: Schedule sheet permission is granted on a sheet-by-sheet basis. Adding or editing an activity requires **Edit Data** or greater permission. If you only have **View** permission you cannot add or edit activities. See *Schedule Sheet permissions* (on page 557).

This page contains information on adding activities manually, copying activities from another sheet, and using copy/cut and paste.

For information about importing schedule sheet data directly into Unifier see ***Create a Schedule Sheet*** (on page 557).

Add activities

You can add activities to a schedule sheet in the Activity Properties window.

Click the topic links for information and directions on completing:

▸ The ***General tab of the Activity properties*** (on page 568)
▸ The ***CBS tab of the Activity properties*** (on page 569)
▸ The ***Resources tab of the Activity properties*** (on page 569), and ***Role-related Calculations*** (on page 571)
▸ The ***Dependencies tab of the Activity properties*** (on page 574)

To manually add an activity to a schedule sheet

1) In User Mode, open the project/shell where the schedule sheet resides, and click **Schedule Manager** in the left navigator.
2) Select **Schedule Sheets**. The Schedule Sheets log opens.
3) From the **Edit** menu, or from the toolbar, click Add and select Manual. The Activity Properties window opens.
4) Complete the activity property tabs as described in ***General tab of the Activity properties*** (on page 568).

To copy an activity from another sheet

1) In User Mode, open the project/shell where the schedule sheet resides, and click **Schedule Manager** in the left navigator.
2) Select **Schedule Sheets**. The Schedule Sheets log opens.
3) Open the sheet you want to change.

   The default order for a new row is at the end of the activities list. You can insert a row where you want it by selecting a row on the sheet. Unifier adds the new row above the selected row.
4) From the **Edit** menu, or from the toolbar, click **Add** and select **Copy Activity From**. The Schedule Manager Picker window opens.
5) Select a schedule sheet from the **Schedule Sheet** drop-down list, which lists all the active schedule sheets in the current project.
6) Select an activity from that sheet and click **Copy**.

   Non-hardbooked roles are copied into the destination schedule sheet.

   The role amount is recalculated for the added activity and for any activity that has its start or finish dates changed as a result of the addition.
7) If you want to make changes to the activity properties, click the activity to open it.

To copy and paste activities in a sheet

1) Open the schedule sheet in the log.
2) Highlight the row or rows you want to copy.
3) Choose **Edit > Copy**.

4) Select the destination for the copied rows. The rows you copy will be inserted above the selected destination row.

5) Choose **Edit > Paste**. You can choose **Edit > Paste** multiple times to repeat pasting the copied rows.

6) Copy and paste copies all data on the copied activity including **Scope Management Setup**, **dependency relationships**, **Baselines**, **CBS**, and **resource assignments**.

To cut and paste activities in a sheet

1) Open the schedule sheet in the log.

2) Highlight the row or rows you want to cut.

3) Choose **Edit > Cut**. The row you want to cut is highlighted, and remains in place until you paste it.

4) Select the destination for the cut rows. The rows you paste will be inserted above the selected destination row.

5) Choose **Edit > Paste**. You can choose **Edit > Paste** multiple times to repeat the pasting of the cut rows.

6) You can undo the cut action by choosing **Edit > Undo Cut**.

General tab of the Activity properties

General tab

The General tab shows fields from the schedule sheet. The fields may vary depending upon how the designer created the schedule sheet attribute form. The table below shows mandatory fields.

In this field:	Do this:
Activity ID	The Activity ID reflects the list order of activities on the schedule sheet. This field is automatically populated and can change if activities are added or removed.
Activity name	The activity name reflects the activity on the schedule sheet. This is an editable field; any changes in the attribute form will show up on the schedule sheet.
Start Date	Enter or edit the date an activity will start. role-related calculation
Finish Date	Enter or edit the date an activity will end. Any changes to the finish date, either in Activity Properties or directly in a schedule sheet column, will trigger Unifier to recalculate the role amount of the role assigned to the activity. This helps you understand the cost impact of a schedule change.
Task Duration	The task duration is automatically calculated from the start and finish dates. If you enter a value that is larger than the difference between the start and finish dates, then the duration is re-calculated from the start date.

CBS tab of the Activity properties

CBS Codes tab

Here you can link a CBS code to an activity, which makes the activity available for cash flow analysis.

To add a CBS code

1) Click the **Add** button located on the bottom left of the window. The Add CBS Code window opens.
2) Select a CBS code from the CBS code picker. The CBS Item automatically populates based on the CBS code selection.
3) Add a value for Split Percent. Unifier highly recommends using 100%.

To remove a CBS code

1) Select the CBS code you want to remove.
2) Click the **Remove** button located on the bottom left of the window.

Resources tab of the Activity properties

Resource tab

Here you can assign resources and roles to an activity using the Schedule Sheet Resource Assignment form, which can be different than the one shown here. Fields can be in a different order on the form, the form can include additional fields than this form, and the form can dynamically change, depending on field selections.

Before you begin, be sure your administrator defined resources and roles in the company-level Resource Manager.

To add or edit a resource

1) Click the **Add** button located on the bottom left of the window. The Resource Assignment window opens.
2) Use the information in the table below to complete the fields on this form.
3) Click **OK** to save the form.

In this field:	Do this:
Resource Type	Select a resource type for the activity. Hard Booked resource costs roll up to the total activity cost as a labor cost.They are company defined and can be virtually anything from a person to something like pipe or concrete. Non-hard booked resource costs roll up to the non-labor costs of an activity. They are company defined as well, and can be virtually anything from a person to something like

	pipe or concrete. Note: Data set values for this drop-down field must start on row 1 and cannot be 0 (zero).
Resource Picker	Select a resource for the activity. If you selected a hard booked resource for the activity, you can use the Resource Picker to assign a resource to this activity. If you selected a non-hard booked resource, the Resource Picker is unavailable and you must enter the Resource Name.
Resource Name	View or enter the resource name. If you selected a hard booked resource, this field is automatically populated. If you selected a non-hard booked resources, you must enter the name of the activity resource.
Resource Code	View or enter the resource code of the assigned resource. If you selected a hard booked resource, this field is populated with the code of the selected resource. If you selected a non-hard booked resource, this field is editable and you can enter a value.
Role Data Picker	If this field is not on your form, disregard these instructions. If this field is on your form, you can select a role for the activity. See *Role-related Calculations* (on page 571) for instructions on working with this field.
Role Name	This is a read-only field where you can the role of the resource assigned to the activity. If a hard booked resource is selected, then this field is auto-populated. If a non-hard booked resource is selected, then this field is not populated. If a role data picker is on your form, and you selected a role using the picker, the Role Name is automatically populated.
Quantity (Qty)	Enter the resource quantity, for example tonnage or number of days, as suitable for the resource.
UOM	Select the unit of measure associated with the effort. For example, if the Resource Type is Man-hours, the unit of measure is hours.
Rate	View or enter the unit rate of the effort. If a hard booked resource is selected, this value is read-only and populated based on the rate at which the resource is booked.

	If a non-hard booked resource is selected, you must enter a rate. If you used a role data picker to select the role, the rate is pre-populated.
Amount	View or enter the amount or cost of the effort. If the resource selected is hard booked, this field is read-only and the value is calculated automatically by multiplying Quantity (Qty) with Rate. Otherwise, this data element is editable. You can enter a value in Primavera Unifier or a formula can be defined in uDesigner to calculate the amount.
Role Amount	If this field is not on your form, disregard these instructions. If this field is on your form, this field is automatically calculated.
% Units	View or enter the percentage of the resource available for the activity If a hard booked resource is selected, enter the percentage. If a non-hard booked resource is selected,this field is unavailable. If a role is selected using the role picker, this field is automatically calculated.
% Complete	this is a read-only field that shows the percentage completion of the activity.The value of this data element is calculated using Progress Quantity / Quantity (Qty).

Role-related Calculations
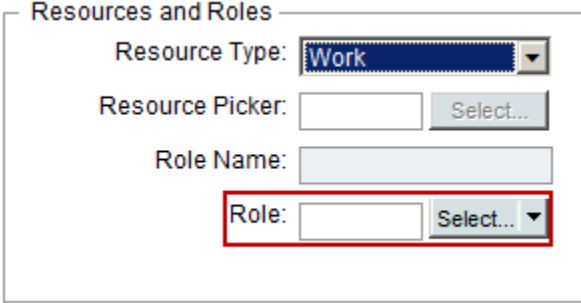
When you use a role data picker to assign a role to an activity, Unifier can use the role information to calculate role costs.

Role-related calculations

Activity role rate: For the activity role rate calculation, Unifier takes into account the effective date of the current role rate and the active currency exchange rate. Unifier recalculates the role amount under these circumstances:

▸ The activity role rate changes, or any other activity dates change, for example, finish date or duration.
▸ The role changes.
▸ An activity is copied in the sheet.
▸ An activity is copied from another sheet.

Activity role amount: Unifier calculates the activity role amount on a daily basis. It considers:

▶ Value of the role rate, as of the effective date (this can differ by effective date)
▶ Activity duration (this is the length of time the role rate was applicable before another rate became effective)
▶ Active currency exchange rate (this can change due to currency fluctuations)
▶ Percentage of a role's assignment to the activity (% Unit) (this can differ during the activity)

Unifier uses active currency exchange rates for transaction-to-project currency conversions. Exchange rate changes will flag the schedule sheet for refresh.

Role amount recalculation: Any changes to start and finish dates, duration, predecessor activities, constraints, available days (via the calendar), activity levels (indent or out-dent) can trigger Unifier to recalculate the activity role amount. You can see the effect of activity role rate changes in cash flow distribution. Unifier calculates all values on a daily basis and adds up all amounts.

Activity Role Rate	40	40	40	40	42	42	44	44	44	44	44	44
Active Exchange Rate	0.75	0.75	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Activity Duration	1/1	2/1	3/1	4/1	5/1	6/1	7/1	8/1	9/1	10/1	11/1	12/1
% Unit	100	100	100	100	100	100	100	100	100	100	100	100

Activity amount: An activity can have more than one role, each with its own costs. If the activity is associated with at least one CBS code, Unifier tallies the role amounts for an activity, rolls up costs to non-labor costs, and displays the sum of CBS code in cash flow.

To use the role picker

1) Open the project or shell where the schedule sheet resides, and click **Schedule Manager > Schedule Sheets** in the left Navigator. The Schedule Sheets log opens.
2) Select the schedule sheet that contains the activity you want to modify and open it.
3) Click the activity you want to modify. The Activities Properties window opens.
4) Click the **Resources** tab and click the **Add** button located on the bottom left of the window. The Resource Assignment window opens.
5) If you are using a role data picker, complete these fields:

In this field:	Do this:
Resource Type	Select a non-hard booked resource type for the activity.
	Non-hard booked resource costs roll up to the non-labor costs of an activity.
	They are company defined, and can be virtually anything from a person to something like pipe or

	concrete.
Resource Picker	This field is not available.
Resource Name	Enter the name of the activity resource.
Resource Code	Enter the resource code of the assigned resource.
Role Data Picker	Select a role for the activity. You can click the Select button or the drop-down arrow and click Roles. This is a dynamic button whose label changes according to the previous selection. For example, after you select a role, the button name changes to Rateso you can access the Role Rate Override.
Role Name	The Role Name is automatically populated.
Quantity (Qty)	Enter the resource quantity, for example tonnage or number of days, as suitable for the resource.
UOM	Select the unit of measure associated with the effort. For example, if the Resource Type is Man-hours, the unit of measure is hours.
Rate	This field is not available for direct edit. Rates can be changed either at the company level or via Role Rate Override.
Amount	This data element is editable. You can enter a value in Unifier or a formula can be defined in uDesigner to calculate the amount.
Role Amount	This field is automatically calculated.
% Units	This field is automatically calculated.
% Complete	This field is read-only; it shows the percentage completion of the activity.The value of this data element is calculated using Progress Quantity / Quantity (Qty).

If you want to override the role rate, go to the next procedure to override the role rate, below. If not, click OK to save and close the form.

To override the role rate

1) In the **Role** picker field click the **Rates** button.

The Current Effective Rate window opens, which shows the Effective Date, Standard Rate, and Custom Rate for the role selected.

2) In the Current Effective Rates window select the **Custom Rate** field and enter the new rate for the role. You cannot change the Standard Rate from this window.

3) If you want to add another rate that will take effect at a later date, click the **Add** button. Unifier adds a line to the form.

4) In the **Effective Date** field, specify when this rate should take effect. Dates must be unique and fall within Start / Finish dates.

5) In the **Custom Rate** field, specify the rate you want for the role.

6) Click **OK**. Role rates recalculate upon schedule sheet refresh.

Dependencies tab of the Activity properties

Dependencies tab

Here you can add dependencies between the current activity and other activities from the schedule sheet. You can select another activity on the schedule sheet, determine the relationship, (e.g. Finish to Start, Start to Finish, Start to Start, or Finish to Finish), and add a Lag.

> **Note**: Unifier disregards predecessor/successor dependency

relationships when you manually start an activity, even if auto-control is set to On in the schedule sheet properties.

To add or edit a dependency

1) Click the **Add** button located on the bottom left of the window. The Add Dependency window opens.
2) In the **Activity Name** field, select the activity to make dependent upon the current activity.
3) In the **Relationship** field, select from one of the following options:
   ▸ **Finish to Start**: the dependency must finish before the Activity can start.
   ▸ **Start to Finish**: the dependency must start before the Activity can finish.
   ▸ **Start to Start**: the dependency must start before the Activity can start.
   ▸ **Finish to Finish**: the dependency must finish before the Activity can finish.
4) In the **Lag** field, enter the number of days for a gap or overlap between the selected activity and the current activity. A positive lag indicates a gap. A negative number indicates an overlap.
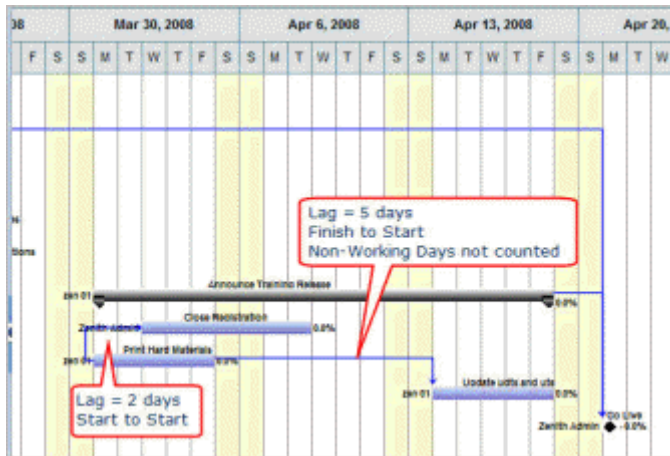
To remove a dependency

1) Select the dependency to remove.
2) Click the **Remove** button located on the bottom left of the window.

Add a schedule Sheet column

There are three default columns: **Start Date**, **Finish Date**, and **Duration**. Duration always displays the result of **Finish Date** minus **Start Date**. You can add other columns as needed. You can add baseline columns that map to **Start Date**, **Finish Date**, and **Duration.** See *Set Schedule Sheet Baselines* (on page 591)

> **Note**: Any changes to an activity start date, either in Activity Properties or directly in a schedule sheet column, will trigger Unifier to recalculate the role amount of the role assigned to the activity. For more information,See *Role-related Calculations* (on page 571)

To add a schedule column

1) In User Mode, open the project or shell where the schedule sheet resides and click **Schedule Manager > Schedule Sheet**. The Schedule Sheets log opens.
2) Open the schedule sheet and click the **Columns** button. The Columns Log opens
3) Click the **New** button. The Column Properties window opens.
4) Complete the Column Properties window as described in the following table.
5) Click **OK**.

In this field:	Do this:
Name	This field is populated with the chosen Data Source
Data Source	Select a Data Source from the drop-down list. The options include the data elements in the activity Properties window. When a schedule attribute form is designed in uDesigner, the data sources include all elements on the form, including hidden elements. This list also shows data elements based on Sys Project Cost Data

	Source data definitions.
Entry Method	Choose one (the options that are available are dependent on the data source chosen): ▸ **Manual Entry**: Users enter values directly on the schedule sheet ▸ **Formula**: Value is calculated using the entered formula. Formulas can include calculating differences between date columns, or adding / subtracting numeric columns / values from dates. This is useful to calculate durations or to calculate one date from another date by adding/subtracting days. ▸ **Cost Sheet Column**: Select a Cost Sheet column to associate with the data element based on the data definition Sys Project Cost Data Source. This pull-down menu lists all of the columns defined on the Cost Sheet. The cost data is refreshed when you or a user choose **File > Refresh** in a Schedule Sheet and refresh immediately or set up a refresh frequency. The Cost Sheet Column selector is available on schedule sheets in projects or shells and in project or shell templates. ▸ The Cost Sheet Column definition must be reselected in a new schedule sheet that you create by copying a sheet or template, or by copying a project or shell. Definition must also be reselected if you link the schedule sheet.
Data Format	This controls how data is displayed on the schedule sheet. Options are: ▸ **Show as percentage**. Data is displayed as % ▸ **Decimal places**. Choose 1 to 8 ▸ **Use 1000 Separator**. Select checkbox to include a comma (,) separator ▸ **Negative Number Format**. Choose parentheses or minus sign
Summary	This controls the display of numeric and date column data on summary rows. ▸ **Display**: Select the checkbox to display summary data for the column ▸ **Date Rollup**: Available only for Date data types. Select Earliest Date or Latest Date. ▸ **Earliest Date**: To summarize columns that represent activity start dates (e.g. start, planned start, actual start, etc.). The cell on the summary activity will show the earliest date from all child activities. ▸ **Latest Date**: Tto summarize columns that represent activity finish dates (e.g. finish, planned finish, actual finish, etc.). The cell on the summary activity will show the latest date from all child activities. ▸ **Number Rollup**: Available for numeric columns. Choose Total (displays sum total of the rows), Average (displays average

	value of the rows), or Weighted Average based on and select a field from the Activity Attributes form. For example, you might choose Total for currency or other numeric types; for percentage columns, you might want to choose Average.
	▸ **Weighted Average Based On**: The drop-down list for this option lists the data elements available on the Activity Attribute form. Only data elements of the type Numeric are available for selection. Selecting this option and a data element allows Unifier to calculate the weighted average of summary rows. For example:
Display Mode	Choose to **Show** or **Hide** the column from user view. Users with Create permissions can see hidden column in the Columns Log.
Column Position After	The new column will be inserted after the column selected.

Create a formula column in a schedule sheet

You can create formula columns on a schedule sheet or template. Formulas can calculate differences between date columns, or add / subtract numeric columns / values from dates. This is useful to calculate durations or to calculate one date from another date by adding/subtracting days.

You can define formulas of the following types:

▸ Numeric: Build a numeric formula. This choice is available if the data source is SYS Numeric Logical.

▸ Date Difference: Formula is by default Later Date – Earlier Date. This choice is available if the datasource is SYS Numeric Logical.

▸ Date Add: Add a numeric value to a date. This is available if the datasource is SYS Date Logical.

SYS Numeric Logical and SYS Date Logical are data definitions form which data elements can be created in uDesigner and used on schedule attribute forms.

How to tell which data source to use in building a formula

The ability to build formulas is dependent on the data definitions used to create the data elements on the schedule attribute form. You can navigate to Administration Mode > Data Structure > Data Elements to see which data elements are based on the above data definitions (click the column heading in the Data Elements log to sort by data definition. Alternatively, you can choose a Data Source in the drop-down list, then, with the Data Source field still active, press your keyboard's up and down arrow keys to scroll through the data source options. When one of the above data definitions is reached, the Formula radio button becomes active.

To create a numeric formula

Choose **Numeric** and click **Create**. Activity data type displays data elements that are defined on the detail form along with "SYS Numeric Datasource" and "SYS Numeric Logical Datasource".

To create a date difference formula

1) Choose **Date Difference** and click **Create**.
2) Enter Earlier Date and Later Date:
   a. Click **Select**. The Data Element picker opens.
   b. Choose a data element. Options are data elements from schedule sheet detail form or columns defined on schedule sheet. Only date type (Timestamp) data elements are displayed.
   c. Choose **Calculation based on Calendar days** (non-working days will be counted) or Work days (non-working days will be ignored). Work days are defined in the company calendar.
3) Click **OK**.

To create data add formula

1) Choose **Data Add** and click **Create**.
2) Choose a data element for Date and Add (click **Select** to open the data element picker). Data elements on the schedule sheet detail form and schedule sheet columns are available.
   ‣ For Date, only date type (Timestamp) of data elements are displayed.
   ‣ For Add, only numeric (integer, float) type of data elements or columns are displayed in the picker list. This includes Total and Average columns.
3) Choose Calculation based on Calendar days (non-working days will be counted) or Work days (non-working days will be ignored). Work days are defined in the company calendar.
4) Click **OK**.

Working with Schedule Sheets

Working with schedule sheets entails, for example:
   ‣ Adding or managing rows and columns.
   ‣ Tracking activity progress and costs.
   ‣ Managing dependencies and constraints.

In the open schedule sheet you can view activities and columns in the left pane and view the Gantt chart in the right pane. You can move the split screen bar to the left or right as needed. Scroll bars are available on the bottom of the sheet.

Refer to the *Unifier Earned Value Management User Guide* for more details about Activity Sheets and Schedule Sheets.

To open a project or shell schedule sheet

1) In User Mode, open the project or shell where the schedule sheet resides, and select **Schedule Manager > Schedule Sheets** in the left Navigator. The Schedule Sheets log opens.

   ▸ The log lists all active schedule sheets. To view all active and inactive sheets, click the **View** menu and choose **All**.

   ▸ The Refresh icon indicates whether you must refresh a schedule sheet to display the latest data. The refresh icon is not displayed for schedule sheets that are Inactive, or are in a view-only project or shell.

2) Double-click a schedule sheet in the log to open the sheet.

   If the sheet requires a refresh of the data, you will be asked if you want to refresh the sheet. Click **OK** to refresh the sheet, or **No** to close the sheet with out refreshing the data.

3) Select the sheet in the log and click **Open**, or double-click the sheet. The schedule sheet opens.

Schedule sheet toolbar

You can perform the following functions from the toolbar. Click the down arrow next to a button to view further options.
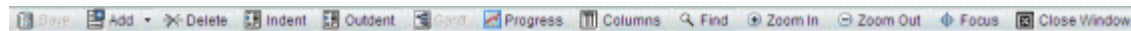
Button	Action
Save	Saves changes made to the schedule sheet.
Add	Click the arrow next to the button and choose one of the options: **Manual:** Add a row (activity) manually. **Copy Activity From:** Add a row by copying a row in a selected sheet.
Delete	Select a row and click **Delete** to delete the activity.
Indent	Select a row and click to indent the row. The row above become a summary row.
Outdent	Select an indented row and click to out-dent.
Gantt	Return to the Gantt chart view.
Progress	Access the Activity Progress view. See ***Entering Progress in the Activity Progress Window*** (on page 650) for details on activity progress.
Columns	Add and manage columns on the sheet.

Find	Click to search for an activity. You can search on any column on the sheet.
Zoom In	Click to zoom in the Gantt chart. The default view is week (by day), which is the maximum zoom-in view.
Zoom Out	Click to zoom out the Gantt chart. You can zoom out to month (by week) view and year (by month) view.
Focus	Select an activity and click to move the activity into focus. The Gantt chart view moves to the beginning date of the selected activity.
Close Window	Close the schedule sheet.

Using a Gantt Chart

The Gantt Chart is displayed in the right pane of the schedule sheet. The activities are shown as bars and align with activities in the left pane. The activity bar is drawn with the start date, finish date, and duration elements of the activity. The Gantt chart is shown in week/day zoom mode by default.

The Gantt chart displays:

‣ Activity bars, which illustrate start and finish dates and duration
‣ Dependency links between dependent activities
‣ Summary rows
‣ Milestones
‣ Critical paths

The Gantt chart is interactive. You can:

‣ Zoom in or out of the Gantt chart view to display detail or overview of scheduled activities.
‣ Configure activity bar labels; for example, you can display percent complete to monitor the progress of activities, or names of resources assigned to activities, or virtually any activity property. See **Gantt Chart tab of the Schedule Sheet Properties** (on page 562).
‣ Increase and decrease activity schedule durations by dragging on bar ends.
‣ Move activities from one time frame to another (modifying start and end dates).
‣ Add or remove a predecessor (dependency). See **Dependencies tab of the Activity properties** (on page 574).
‣ Resize Gantt window by dragging the vertical split bar.
‣ Display critical paths.

The Gantt chart is refreshed automatically when any changes are made on the activities.
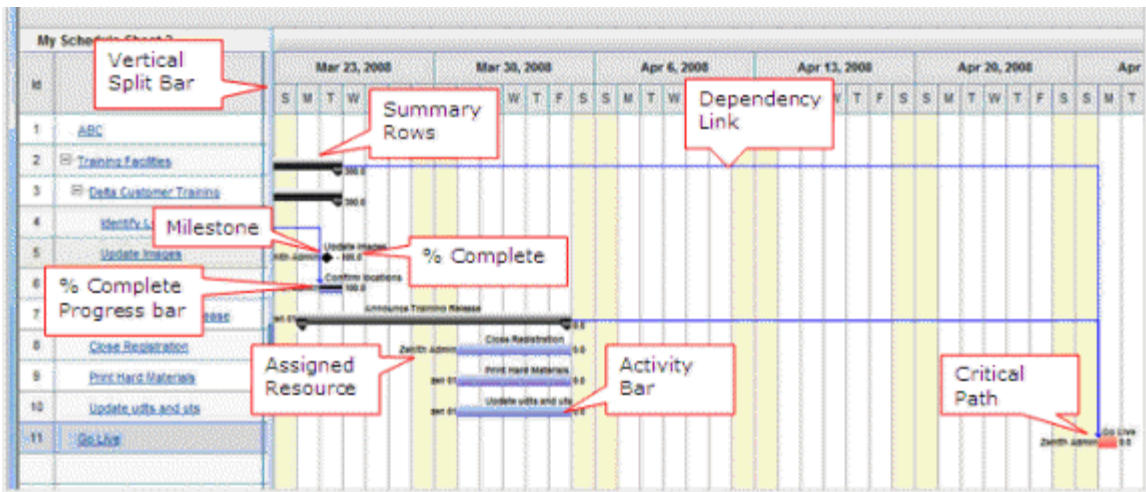
Understanding the Gantt chart view

Zoom in or out of the Gantt chart

You can view the Gantt chart by week (per day), month (per week), or year (per month) by zooming in and out. This allows you to view the Gantt chart in detail or over an extended period of time.

To zoom in or out of the Gantt chart

1) Open the schedule sheet.
2) Do one of the following:
   ▸ Click the **Zoom In** button on the toolbar. The default view is weekly, with each day of the week displayed. This is the maximum detail level that you can zoom in to the schedule sheet.
   ▸ Click the **Zoom Out** button. You can zoom out to view the Gantt chart by month with each week in the month displayed, or by year with each month displayed.

View the critical path

The critical path calculation can be used to flag activities on the schedule that, if delayed, can cause the schedule to go beyond the pre-planned project or shell end date. Therefore, it is important to have fixed project or shell start and end dates defined for the project or shell. Project or shell start and end dates should not automatically adjust as activities are added or rescheduled.

To view the critical path

1) Open the schedule sheet.
2) Click the **View** menu and choose **Critical Path**.

   The activities that are on the critical path will change to red on the Gantt chart. The critical path action will also update the system-defined data element uuu_float to zero if it has been included on the activity attributes form (Activity Properties window).

3) To restore the Gantt chart view, click the **View** menu and choose **Gantt Chart**.

View a tracking Gantt chart

A tracking Gantt chart allows you to compare two sets of dates for a specific activity. It allows you to track activity progress against the original plan. For example, the tracking Gantt chart allows the comparison between two sets of dates such as baseline and actuals. Users with view permissions can view a tracking Gantt chart. See *Set Schedule Sheet Baselines* (on page 591) for details on setting baselines.

The tracking Gantt chart is view only. It is not interactive like the regular Gantt chart.

To view a tracking Gantt chart

1) Select the schedule sheet in the log and choose **View > Tracking Gantt**.
2) You can switch back to the regular Gantt chart by choosing **View > Gantt**.

    The tracking Gantt chart displays the data elements as a set of two bars (upper and lower) that allow you to make the comparison.

Using a Tracking Gantt Chart

You can use a Tracking Gantt chart to the compare data sets defined in the schedule sheet properties. The read-only Tracking Gantt chart displays comparison as a set of two bars (upper and lower).

To view a tracking Gantt chart

1) Select the schedule sheet in the log and choose **View > Tracking Gantt**.
2) You can switch back to the regular Gantt chart by choosing **View > Gantt**.

Find an activity

You can search for a specific activity by the values of any column on the schedule sheet.

To search for an activity

1) Open the schedule sheet.
2) Click the **Find** button on the toolbar. The Find window opens.
3) Complete the window:
    ▸ **Column:** Click the drop-down list and choose a column to search on. The default is activity name.
    ▸ **Value:** Enter all or part of a value to search for. For example, to search for the word Construction, you can enter the entire word or any part of the word.
    ▸ **Search:** Click the drop-down list and choose to search down or up from a selected row. If you do not select a row, the search will begin at the top row.
4) Click **Find Next**. If an activity is found that matches the search criteria, the row will be highlighted. To keep searching, click **Find Next** again.
5) When you are done searching, click **Cancel** to close the window.

About activity-level editing restrictions

Your Administrator can set up cell editing restrictions in schedule sheets. These restrictions can allow certain work groups to edit specific dates in the sheet, and prevent other groups from editing these dates. If you are a member of a specific work group that has these restrictions set, you will find that you are able to edit only certain cells on the schedule sheet.

The following image shows an example of the impact on dates in a schedule sheet with activity-level editing configured, and with activities and group-specific date columns. In this example, the groups Const, IT, and ATM all have group-specific start and finish dates for activities:

Activity	Start Date	Finish Date	Const Start Date	Const Finish Date	IT Start Date	IT Finish Date	ATM Start Date	ATM Finish Date
Activities owned by Const Group	Project manager can edit thise dates		Const Group can edit these dates					
Activities owned by IT Group					IT Group can edit these dates			
Activities owned by ATM Group							ATM Group can edit these dates	

As shown in the example, the date cells in the schedule sheet that are specific to a certain group can be edited only by that group.

Restrict Access to Activity fields and columns

You can restrict user access to selected fields and columns (those based system defined data elements on the General tab, which are on the Activity Attribute form and on the Resource tab, which are on the Resource Assignment Attribute form).

> **Note**: These restrictions also apply to schedule sheet columns when a restricted data element is used as a column.

After a field or column is marked with restricted access for selected users or groups, those users or group members cannot modify those data elements (fields). For Start Data, Finish Date and Duration data elements, users that are restricted cannot modify this group data elements, even if they have restriction on any one of the data elements in the group. Also, the Gantt Chart will be disabled for a user if the Start, Finish, and Duration data elements are restricted for that user.

If a data element cannot be modified by a user or group then data imported through CSV / XML for that data element is ignored. If there is any failure in validation (both user and system defined), Unifier will stop data import.

To restrict access to specified system defined data elements

1) Navigate to the schedule sheet log.
2) Open a schedule sheet.
3) Choose **File > Restrictions**. The Restrictions Setup window opens.
4) Add the user or group name whose access you want to restrict.

Working with Unifier Managers

5) Choose the data elements to restrict. The data elements listed for the Activity Attribute form and the Resource Assignment Attribute form are those that are system defined (the data element name starts with **uuu_**) and were added to the forms. You can select all of the listed data elements, or individual data elements.

6) Click **OK**.

Use filters in a schedule sheet

You can use filters to locate certain activities in a schedule sheet. The filter is based on criteria that you specify. When you use a filter, it applies only to the schedule sheet you are working with, but the filters you create are visible to all other users.

To add a filter for activities in a schedule sheet

1) Select the records in the schedule sheet that you want to filter.
2) Open the schedule sheet in the log and choose **View > Filters**. The Filters window opens.
3) Click **Add**.
4) In the Add Filter window, specify the filter criteria. Each filter can have multiple criteria based on the data elements in the activity attribute form. You can also use this window to edit or remove filters. The **Add** and **Remove** buttons are enabled only for users who have edit permissions on the schedule sheet.
5) Selecting the **Display Summary Activities** checkbox controls whether the filtered schedule sheet displays summary activities corresponding to any leaf activities displayed in the sheet. The filter is not applied to the summary activities.
6) Click **Apply** to save and immediately apply the filter to the schedule sheet.
7) Click **OK** to save the filter for later use.

To apply a filter to schedule sheet activities

1) Open the schedule sheet in the log and choose **View > Filters**. The Filters window opens.
2) Select the activities you want to filter.
3) Select a filter name and click **Apply Filter**. The schedule sheet refreshes with the filter applied.

To clear a filter from a schedule sheet

1) To return the schedule sheet to the original view, select the schedule sheet in the log.
2) Choose **View > Clear Filters**.

Update rates and cost data

When a resource is assigned, the average booking rate is used to calculate assignment costs.

Average Booking Rate = Total Booking Cost / Total Hours for the entire booking row selected while assigning the resource.

Labor Cost (for a resource assignment) = Total Assigned Hours x Average Booking Rate.

After assignment, the booking rate may change as changes occur to the booking sheet. These rate changes will not automatically affect the assignment (labor) costs stored in the schedule sheet.

You can update resource rates on the master schedule sheet and also update the project or shell cost sheet with corresponding assignment costs. The active currency exchange rate at the time of assignment will be used.

The update has two options:

▶ **Resource Utilization:** This updates resource rates only.
▶ **Resource Utilization and Cost Manager:** This updates resource rates on the schedule sheet and posts costs to the cost manager. This option is only enabled on the master schedule sheet.

To update rates on the schedule sheet

1) Open the master schedule sheet.
2) Choose **Edit > Update > Resource Utilization**. Labor costs on the entire schedule sheet are recalculated based on the latest average booking costs and exchange rate.

To update costs on the cost sheet

1) Open the schedule sheet.
2) Choose **Edit > Update > Resource Utilization and Cost Manager**. Labor costs are updated and posted to the cost sheet (column with labor cost data source) based on the CBS codes and split percentage specified on each activity. The existing cost in the cost sheet columns will be replaced by new values. Similarly, any values in the Fixed Cost, Non-Labor Cost, and Total Cost columns in the schedule sheet will be posted to corresponding data sources on the cost sheet.

Constrain Schedule Sheet Activities

You are able to constrain activities on a schedule sheet. A constraint ties a successor activity start date to a predecessor activity completion date, after observing dependencies and lags. Available constraints in Unifier are As soon as possible (ASAP) and None.

To constrain a schedule sheet activity

Before you can constrain an activity, the activity's dependencies must be set.

1) Navigate to the schedule sheet where you want to constrain activities and open the sheet.
2) Double-click the activity you want to constrain. The Activity form window opens.

> **Note**: If the schedule sheet displays the Activity Constraint column, you can assign the constraint without opening the Activity form window.

3) For each activity you want to constrain, select the activity constraint you want, either **As soon as possible** or **None**.

As soon as possible: If the start date of a predecessor activity changes, either pulls in or pushes out, the start date of an ASAP-constrained successor activity changes accordingly. If an ASAP-constrained activity does not have a predecessor, the schedule sheet start date determines the activity start date; unstarted ASAP-constrained successor activities align accordingly.

None: The start date of a None-constrained activity does not change if the start date of a predecessor activity changes. The schedule sheet start date does not determine the start date of None-constrained activities that do not have predecessor activities. The only in-built rule is that the start date of the None-constrained activity should not be earlier than the schedule sheet start date.

Integration: When activities are created through CSV, MPP, MPP XML, or P6, the default value will be None. Upon modification of the activity constraint type, Unifier scheduler will readjust the schedule sheet accordingly.

4) Click **OK** to close the Activity form window and save the schedule sheet.

Add general comments (with or without file attachments)

You can add general comments to a schedule sheet, and can include file attachments with the comments. This is similar to adding general comments to a business process.

To add a general comment to a schedule sheet

1) Select the schedule sheet in the log and click the **Comments** button. The General Comments window opens.
2) Add your text comments in the **Text Comments** box in the upper portion of the window. You can view any previous comments in the Existing Comments section of the window.
3) To attach a file to the general comment, click the **Attach** button.

> **Note**: Once you add a general comment to a schedule sheet, you cannot edit or delete it.

4) Click **OK** to save the general comment.
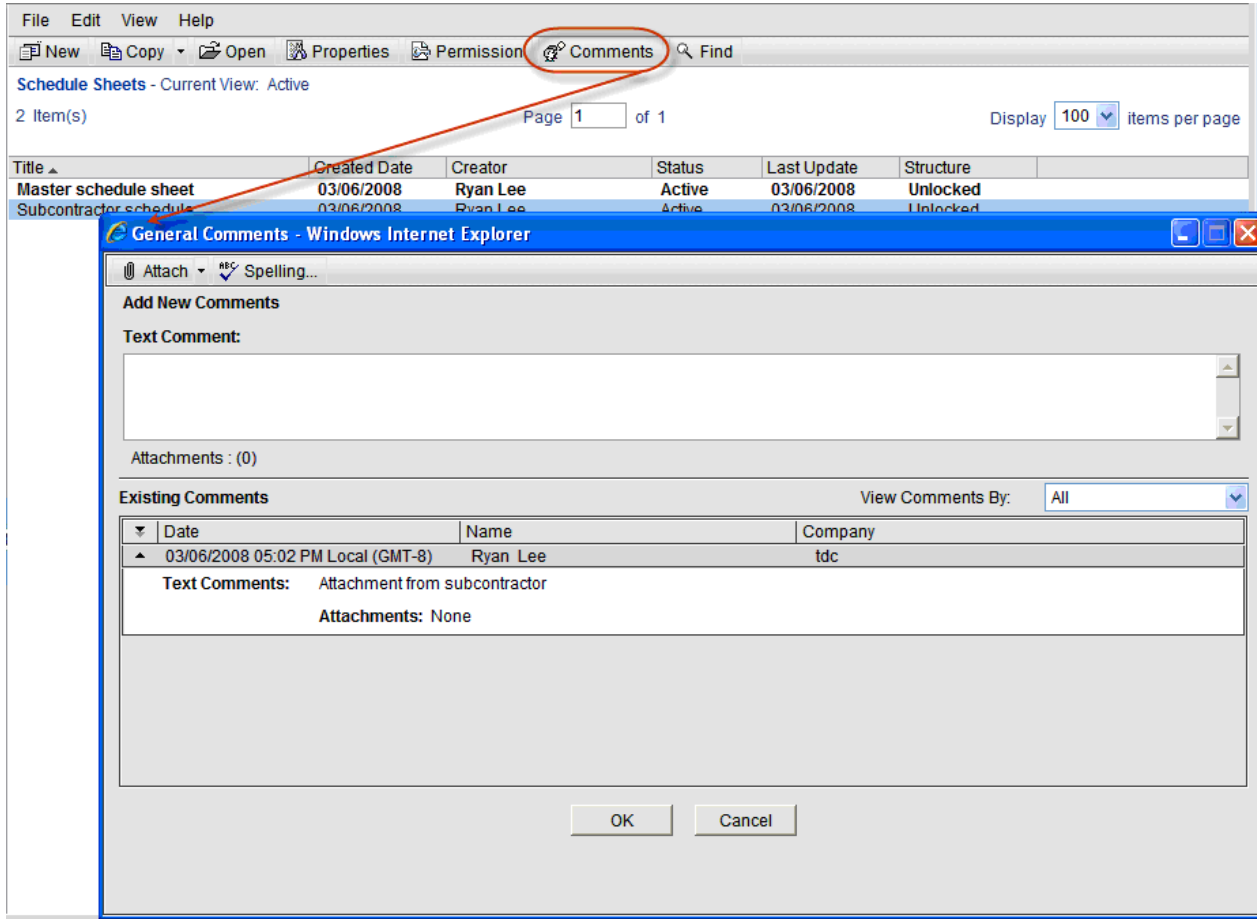
Refreshing Schedule Sheet data

A schedule sheet refresh is required if there are changes to project costs, activity costs, for example role rates and amounts, currency rates, and schedule sheet or activity calendars. When the schedule sheet requires a refresh, you will see a refresh icon in the log. When you open a schedule sheet that requires a refresh, you will be asked if you want to refresh the data in the sheet. If you decline the refresh the schedule sheet will not open.

Schedule sheet refresh options are set on the Refresh tab of the schedule sheet properties. Options include:

▸ Cost: Refresh the cost data only from the associated CBS code
▸ Schedule: Refresh the schedule data only, based on dates
▸ Cost and Schedule: Refresh both the cost and schedule data
▸ Set Frequency: Define the schedule sheet refresh frequency. This scheduled refresh updates both cost and schedule data.

➤ History: View the schedule sheet refresh history

Schedule sheet refresh can fail if:

➤ An activity has more than one CBS code
➤ A cost sheet column to which a schedule sheet column is associated is deleted from the cost sheet

To set the frequency of schedule sheet refresh

The schedule sheet refresh frequency you set is shown in the schedule sheet log under the column heading **Scheduled**.

1) Navigate to the schedule sheet log.
2) Select one or more schedule sheets.
3) Choose **Refresh > Set Frequency**.

4) Select the **Enable scheduled refresh** checkbox.
5) Select the **Frequency** and the **Range of Recurrence**.
6) Click **OK**.

To view schedule sheet refresh history

1) Navigate to the schedule sheet log.

2) Choose **Refresh > History**.
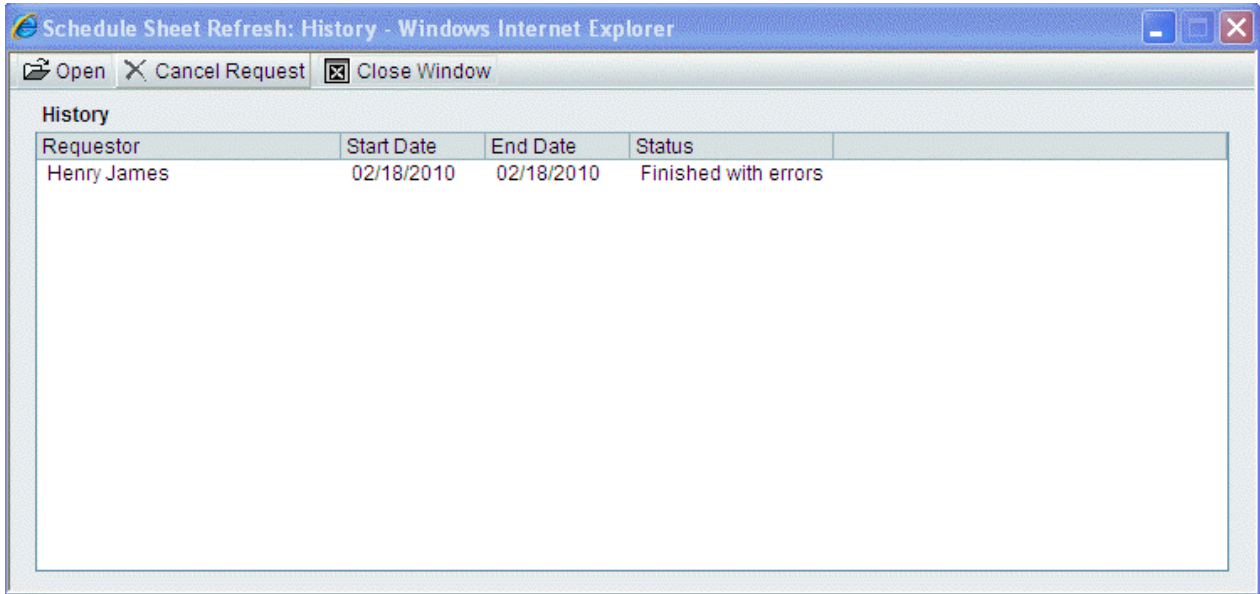
3) Select a record and click **Open** to view history details.

4) Click **Cancel Request** to cancel any history query that has not started (has no Start Date).

5) Click **Close Window**.

Print a Schedule Sheet

You can print schedule sheet columns and Gantt charts from the PDF of the schedule sheet.

To print a schedule sheet

1) Navigate to your project or shell and open the schedule sheet you want to print.

2) Click **File > Print** to open the print option window.

3) Select the print options you want.

   ▸ All columns - Check to print all columns of the schedule sheet (default.)

   ▸ Gantt Chart - Prints the current view of the Gantt chart (Gantt, Critical and Tracking.) This is checked by default.

4) Click the **Print to PDF** button.

   Your browser may require you to confirm opening the PDF or saving the PDF. If saving the PDF, click Save. Browse to where you saved the file and open the PDF. If you click Open, an Adobe PDF opens with the schedule sheet.

5) From within Adobe PDF file, click **File > Print**. The Adobe Print window displays.

6) For multiple pages of a schedule sheet, select **Tile All Pag**es from the **Page Scaling** drop-down.

> **Note**: This option is not available on older Adobe Reader versions. It is recommended that you upgrade to the latest Adobe Reader (free). If you have Adobe Acrobat or Adobe Professional, the Tile All Pages option will print multiple pages of the schedule sheet.

7) Click **OK**. To cancel the print, click **Cancel**.

Schedule Manager audit log

Each change in the Schedule Manager creates a record in Unifier, which is useful for auditing purposes. An audit report of these records shows detailed information on dates, events, actions, and old values versus new values, along with the user or proxy user who performed the action.

To view schedule sheet details in the audit log

1) Navigate to the Schedule Sheets log in the Schedule Manager node.
2) In the **View** menu, click **Audit Log**.

   You can review audit log entries for Date, Event, Action, Field, Old Value, New Value, User Name, Proxy User, and Attachments.

To view cell details in the audit log

1) Navigate to the Schedule Sheets log in the Schedule Manager node and open a schedule sheet.
2) Under the **File** menu, click **Audit Log**.

   You can review audit log entries for Date, Event, Action, Field, Old Value, New Value, User Name, Proxy User, and Attachments.

Set Schedule Sheet Baselines

A baseline is a set of original project or shell estimates. It consists of the following for a task:

▸ Start
▸ Finish
▸ Duration

Comparing multiple baselines provides insight into project health. With the original estimates, you can track the progress of a project or shell and compare its state at any given time. Unifier leverages the CBS code association between schedule sheets and earned value (EV) sheets to construct baseline comparison. The best way to do this is to:

▸ Copy the schedule sheet to establish a new baseline
▸ Create a corresponding detail-level EV sheet for the new schedule sheet
▸ Create a summary EV sheet to compare selected baseline information

For more information, see *Creating an EV Sheet* (on page 331).

You can save up to 11 sets of baselines in a single project or shell schedule sheet. You can use these various baselines as snapshots of your project or shell progress over time, with each baseline corresponding to key project or shell events.

The first baseline that you save is named Baseline. Subsequent baselines are named Baseline 1 through Baseline 10. The baseline sets are system-defined data elements that your administrator has included on the activity attribute form. When you set up the baselines, the values from the start, finish, and duration elements are mapped to the baseline set.

> **Note**: The baseline columns are not required, but you must use all three of them, if you use them at all. You must use the complete baseline set of columns (start, finish, and duration) in your sheet. You cannot use one baseline column alone.

All baseline attributes are read only in the schedule sheet. They can be modified only via the set/clear schedule sheet baseline actions. Users with the Edit Data and Structure permission on the schedule sheet can set or clear baselines.

> **Note**: The Edit data permission allows you to import data.

All baseline attributes are read-only on the schedule sheet. They can be modified only via the set/clear schedule sheet baseline actions. Users with the Edit Data and Structure permission on the schedule sheet can set or clear baselines..

You can also set baselines on projects or shells listed on an Activity Sheet. See *Set up Activity Sheet Baselines* (on page 608) for details.

To set a baseline on a schedule sheet

1) Open the schedule sheet in the log. If you modify the schedule sheet, you must save the sheet before you can set baselines.
2) Choose **Edit > Baseline**. The Set Baseline window opens.
3) Select the baseline to set. The **Set baseline** radio button is selected by default. Only baselines that have been designed in uDesigner are available.
4) Click **OK**. The values from the start, finish, and duration elements are copied into the corresponding baseline elements. If the baseline elements contain data, you will receive a warning that the baseline will be overwritten You can choose whether to override the data.

To clear a baseline on a schedule sheet

1) Open the schedule sheet in the log.
2) Choose **Edit > Baseline**. The Set Baseline window opens.
3) Select the baseline you want to clear.
4) Select the **Clear baseline** radio button.
5) Click **OK**.

Lock or unlock the schedule sheet structure

You can lock a schedule sheet. This locks the columns and activity rows, preventing editing of the sheet structure.

To lock or unlock a schedule sheet

1) Open the schedule sheet.

2) Click the **File** menu and choose **Lock Structure** or **Unlock Structure**.

Linked schedule sheets

Linked schedule sheets are project or shell schedule sheets that are dynamically linked to a schedule sheet template. You must work with your Administrator to enable and setup the schedule sheet linking.

Linking is optional; it is useful if you have numerous project or shell schedule sheets to update simultaneously with the exact same information and structure.

Linked schedule sheets can be updated manually, but you can only make limited changes to dates and data.

You can change:

▸ Start and Finish dates
▸ Durations
▸ Schedule sheet properties; however a linked template push cannot change sheet properties

You cannot:

▸ Add Activities
▸ Delete Activities
▸ Indent/Outdent Activities
▸ Import CSV, MPP
▸ Import with Overwrite or Merge (XML, WS)
▸ Modify Activity Name, Activity Codes
▸ Modify Scope Management Setup
▸ Cannot add /modify/delete columns
▸ Re-arrange (cut/paste) activities

The overall structure of the sheet (adding or deleting activities, for example) is updated only through the associated linked template. The Administrator must unlink the linked schedule sheets for you to be able to modify the structure of the sheet.

> **Note**: Updating schedule sheets through linked schedule sheet templates can overlay the structure of schedule sheets and the data elements listed below. Be sure that you want the linked sheets to be updated to this extent by the template.

A linked schedule sheet template update to a linked schedule sheet can push:

▸ Changes to Activity Name
▸ Changes to Activity Codes
▸ Changes Activity Id (caused by re-ordering of activities)
▸ Addition of new activities or deletion of activities
▸ New or changed predecessor relationships
▸ Addition, deletion, or modification of column definitions
▸ Ordering of activities in sheet
▸ Changes to the indentation of activities

> **Note**: Changes to dependent activity Start Date or Finish Date caused by changes such as modifications to predecessors or the addition or deletion of activities are handled dynamically by the schedule sheet

To view the linked template for a linked schedule sheet

1) Navigate to the schedule sheet log.

2) Select a schedule sheet that is linked to a schedule sheet template.

3) Choose **View > Linked Template**. The Linked Template window opens.
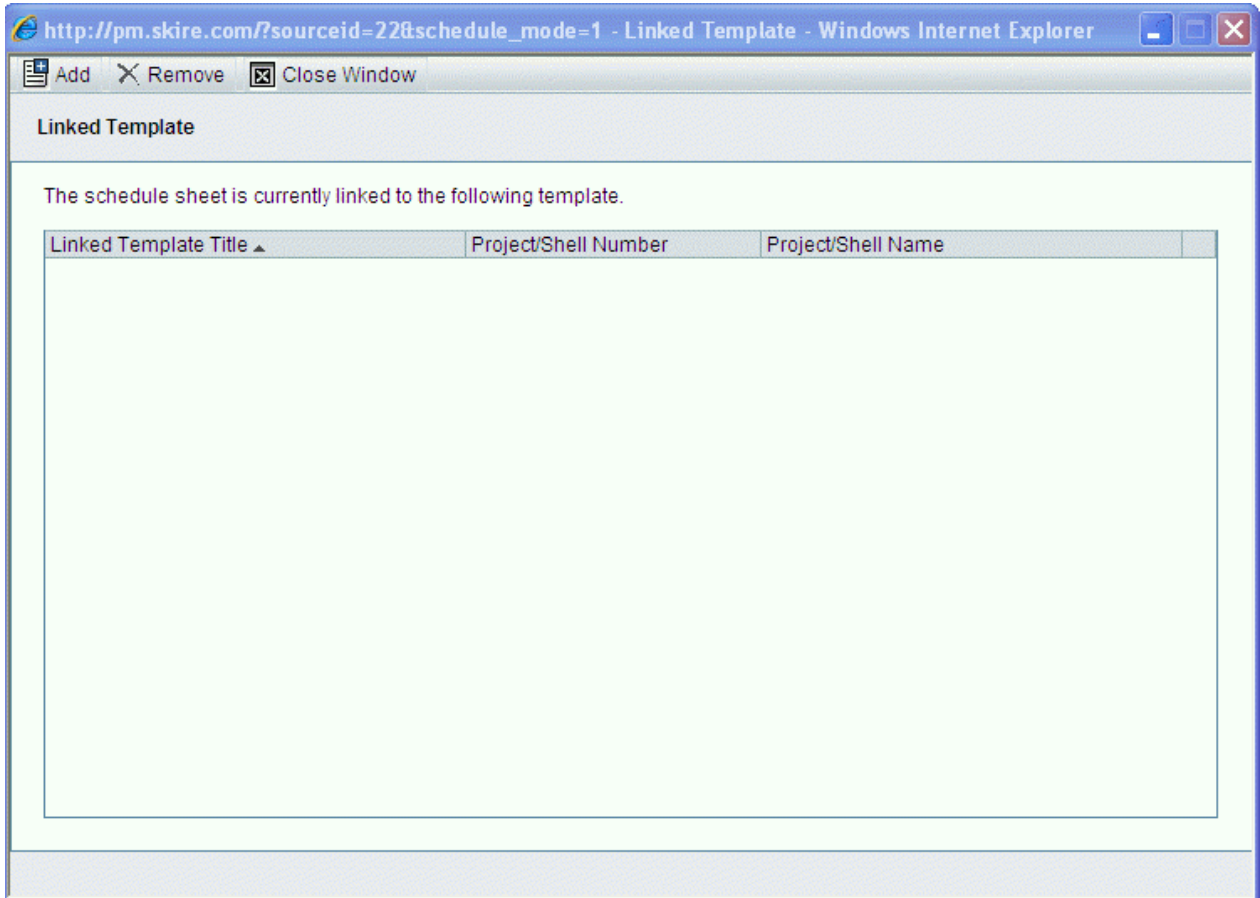
Linked Template window

4) Click **Close Window** when you are done viewing the linked templates.

To link existing schedule sheets to a link-enabled template

You can link an existing schedule sheet to a link-enabled template. Linking an existing schedule sheet causes loss of existing data on the project or shell schedule sheet, including all activities, columns and cell data. Project or shell schedule sheet properties, including the Schedule Start Date are retained.

1) Navigate to the schedule sheet log.

2) Select a schedule sheet that you want to link to a schedule sheet template.

3) Choose **View > Linked Template**. The Linked Template window opens.

4) Click **Add**. The Schedule Sheet Templates window opens.

5) Select a template and click Select.

6) Click OK on the confirmation message that data in the newly-linked sheet will be modified when the update is completed using the link between the template and the sheet.

7) Click **OK**.

To unlink schedule sheets from a link-enabled template

Unlinking removes the link between the schedule sheet and the template so no further updates can occur from the template.

1) Navigate to the schedule sheet log.

2) Select a schedule sheet that is linked to a schedule sheet template.

3) Choose **View > Linked Template**. The Linked Template window opens.

4) Click **Remove**.

5) Select the template.

6) Click **OK**.

Linked tags and Business Process fields

Tags work with linked elements to connect schedule sheet activities with business processes, shells, and configurable manager objects. With this feature, you can view key activity dates, such as milestones, on forms like project details, without having to open the schedule sheet.

To select a link tag to populate a business process field

1) Add a "Tag" column to the schedule sheet.

2) On the schedule sheet, select the row containing the activity you want to link.

3) Click in the Tag column. The cell becomes editable.

4) Click the arrow and select the tag you want to assign to this activity.

5) When you assign this tag to the activity, any form associated with this schedule that contains a linked element with a matching tag will now show the current value of that activity.

Search for schedule sheets

To search for a schedule sheet in the log:

1) In User Mode, select the project or shell, and select **Schedule Manager > Schedule Sheets**. The Schedule Sheets log opens.
2) Click the **Find** button. The Find box opens at the top of the log.
3) Click the **Search By** drop-down list and enter the field to search by.
4) Enter search criteria in the **Search for** field.
5) Click **Search**.

Program Schedule Sheets

Program-level schedule sheets are created automatically when a project or shell schedule sheet (for a project or shell within the program) is created. The rows are the project or shell sheets. You can configure columns. There is one schedule sheet per program.

To open a program schedule sheet

In User Mode, select **Programs > Schedule Manager > Schedule Sheets**. The Schedule Sheet log opens.

Rows correspond to project schedule sheets. You can click the row to open the project schedule sheet. Default columns are Project Name, Start Date, and Finish Date. You can create additional columns in the same way that you do for a project/shell schedule sheet.

Add a program schedule sheet column

To create a column on a program schedule sheet

1) Open the program schedule sheet.
2) Click the **Columns** button. The Columns Log window opens.
3) Click **New**. The Column Properties window opens.
4) Complete the window as described in the following table.
5) Click **OK**.

In this field:	Do this:
Name	This field is populated with the chosen Data Source
Data Source	Select a **Data Source** from the drop-down list. The options are from project schedule sheets. The drop-down will only show data elements of type Date and SYS Date Logical Data Source (from activity detail form).
Rollup from Project	Configure rollup parameters from project schedule sheets. Select **Enable rollup from project schedule** to rollup project data. When you select **Enable rollup from project schedule**, the data

	comes from the top-level summary row for the schedule sheet. If you do not have a top-level summary row, do not select **Enable rollup from project schedule**. Instead, select from these options: ▸ **Date rollup:** Choose to roll up the Earliest Date or the Latest Date across all projects for Date type data. ▸ **Number rollup:** Choose roll up Total or Average values for Numeric type data, or Weighted Average based on and select a data element from the Activity Attributes form.
Entry Method	Choose one (the options that are available are dependent on the data source chosen): ▸ **Manual Entry**: Users enter values directly on the schedule sheet ▸ **Formula**: Value is calculated using the entered formula. Formulas can include calculating differences between date columns, or adding/subtracting numeric columns/values from dates. This is useful to calculate durations or to calculate one date from another date by adding/subtracting days.
Data Format	This controls how data is displayed on the schedule sheet. Options are: ▸ **Show as percentage**. Data is displayed as % ▸ **Decimal places**. Choose 1 to 8. If the data element was defined in uDesigner with a specific number of decimal amount, it will override any decimal places you specify here. ▸ **Use 1000 Separator**. Select checkbox to include a comma (,) separator ▸ **Negative Number Format**. Choose parentheses or minus sign
Summary	This controls the display of numeric and date column data on summary rows. ▸ **Display**: Select the checkbox to display summary data for the column ▸ **Date Rollup**: Available only for Date data types. Select Earliest Date or Latest Date. ▸ **Earliest Date**: To summarize columns that represent activity start dates (e.g. start, planned start, actual start, etc.). The cell on the summary activity will show the earliest date from all child activities. ▸ **Latest Date**. To summarize columns that represent activity finish dates (e.g. finish, planned finish, actual finish, etc.). The cell on the summary activity will show the latest date from all child activities. ▸ **Number Rollup**: Available for numeric columns. Choose Total (displays sum total of the rows) or Average (displays average value of the rows). For example, you might Total for currency or other numeric types; for percentage columns, you might

	want to choose Average.
Display Mode	Choose to **Show** or **Hide** the column from user view. Users with Create permissions can see hidden column in the Columns Log.
Column Position After	The new column will be inserted after the column selected.

Activity Sheets

Activity sheets exist in the Schedule Manager at the Program level. An activity sheet allows you to view, edit, and update activity dates across project and shells. The activity data is from the Master Schedule Sheets only.

For example, uParks Company has 1000 projects that fall within four categories. Four programs are created to manage the Schedule Sheet activities. Each program has its own Program Manager, controlling 250 projects. uParks has a finite number of resources and needs to stagger the work so resources can be used evenly over time. The Program Managers want to adjust their project forecast dates so that 20 projects will complete each month for the next 12 months (with 30 completing in month 12, so that all 250 are completed in a year). Using activity sheets, you can manage your project and shell data in this way.

Activity sheet terminology

▸ **Activity Sheets**: Used to view and update the Master Schedule Sheet data from projects and shells within Programs.
▸ **Activity Code**: A value in a Program activity sheet used to map to an activity in one or more projects or shells.
▸ **Sub-columns**:
  ▸ Columns grouped under an Activity Code
  ▸ Displays data from projects/shells
  ▸ Updates data in a project/shell

The activity sheet allows you to:

▸ Display and edit Master Schedule Sheets activity data across projects and shells as columns and sub-columns
▸ Modify editable elements
▸ Affects down stream dates of linked activities
  ▸ Start, Finish, Duration
  ▸ Estimated Start, Finish, Duration
  ▸ Critical path dates

Project or shell names form the rows of the activity sheet; the activity codes and activity data elements form the columns and sub-columns in the sheet. The activity sheet also allows you to update multiple activities after modifying and saving the activity sheet. This update automatically updates the downstream dates of linked activities, such as Start Date, Finish Date, Duration, Estimated Start Date, Estimated Finish Date, or other dates.

> **Note**: In Cash Flow, Cost Sheet, and Earned Value, you can replace the Summary Sheet with the Activity Sheet as a source.

Create an Activity Sheet

The permissions for creating an Activity Sheet are the same as those for creating a Schedule Sheet. You can create a new sheet or use a template.

To create an activity sheet

1) Navigate to **Projects tab > Programs > Schedule Manager > Activity Sheets**. The Activity Sheets log opens.
2) Click **New**. Select an Activity Sheet template.
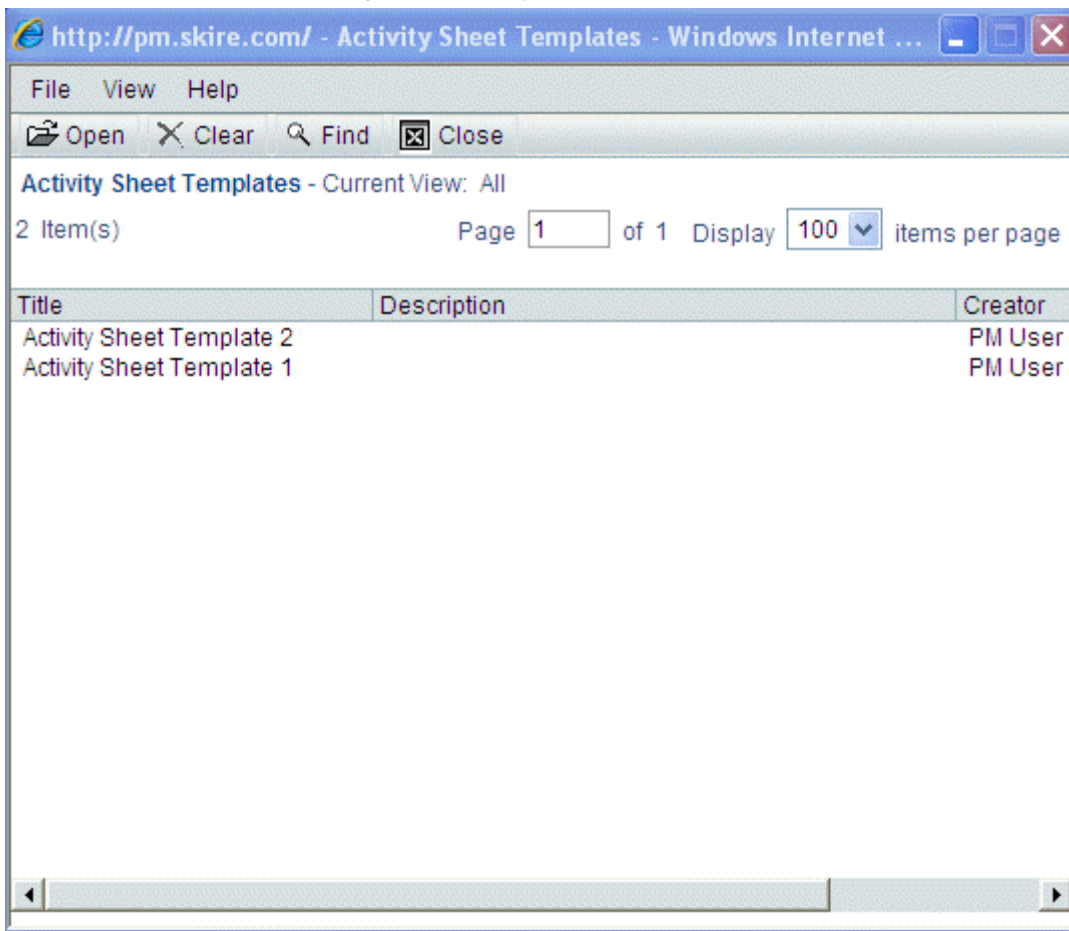
Activity Sheet templates window, example

The Activities Sheet properties window opens.

3) Complete the General tab as needed, as described in the table below.

Activity Sheet properties window, General tab

4) Complete the Activity Codes tab (as needed, or use the codes set up in the template) by clicking **Add** to add rows and select activity codes. The Activity Codes make up the columns in the Activity Sheet.

Select the activity codes that make up the columns of the activity sheet. Confer with your uDesigner user and Company Administrator to ensure that you can create activity sheets that contain the correct activity codes to form the sheet columns.

Activity names on the Master Schedule Sheet map to the Activity Codes that you add to the activity sheet. There is a one-to-one correspondence between activities and Activity Codes.

If you add the activity picker in a business process, then Unifier automatically populates the CBS cost code after you select the activity from the activity picker.

> **Note**: Only elements that are marked as editable can be modified.

5) Click the **Move Up (Left)** or **Move Down (Right)** buttons to change the sorting order of the activity codes.
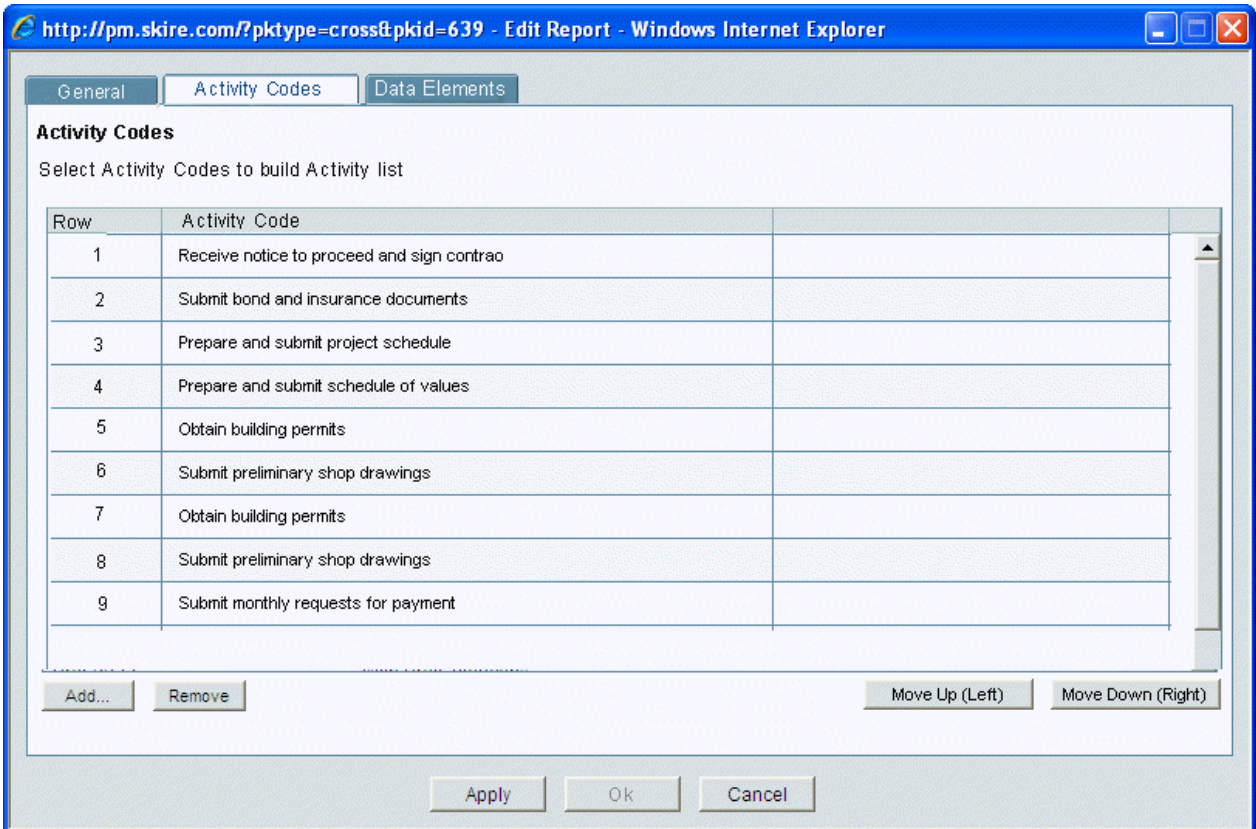
Activity Sheet properties window, Activity Codes tab example

6) Click **Add** to add click **Apply** to save your changes.

7) Complete the Data Elements tab by clicking **Add** to add rows and select activity attributes. The Data Elements make up the sub-columns in the Activity Sheet. The sub-columns are repeated under the columns. Modify these data elements as needed, or use those defined in the template.

8) Use the **Editable** checkbox to designate which data elements will be editable in the Activity Sheet. Only one of Start Date, Finish Date, or Duration elements can be made Editable (the other two elements of the group, if added, are not selectable).

These elements are always read-only, and cannot be marked as editable:

 ‣ Actual Start/Finish/Duration
 ‣ Auto-update Activity checkbox
 ‣ Milestone checkbox
 ‣ Activity Code
 ‣ Activity Status
 ‣ Baseline elements

9) Select the **Allow negative lag** to accommodate specified Start/Finish Dates checkbox to specify that the activity update process adjusts lag automatically to accommodate user-specified values (for Start Date, Finish Date, and Duration only). The default is unchecked.

10) Click the **Move Up (Left)** or **Move Down (Right)** buttons to change the sorting order of the data elements.
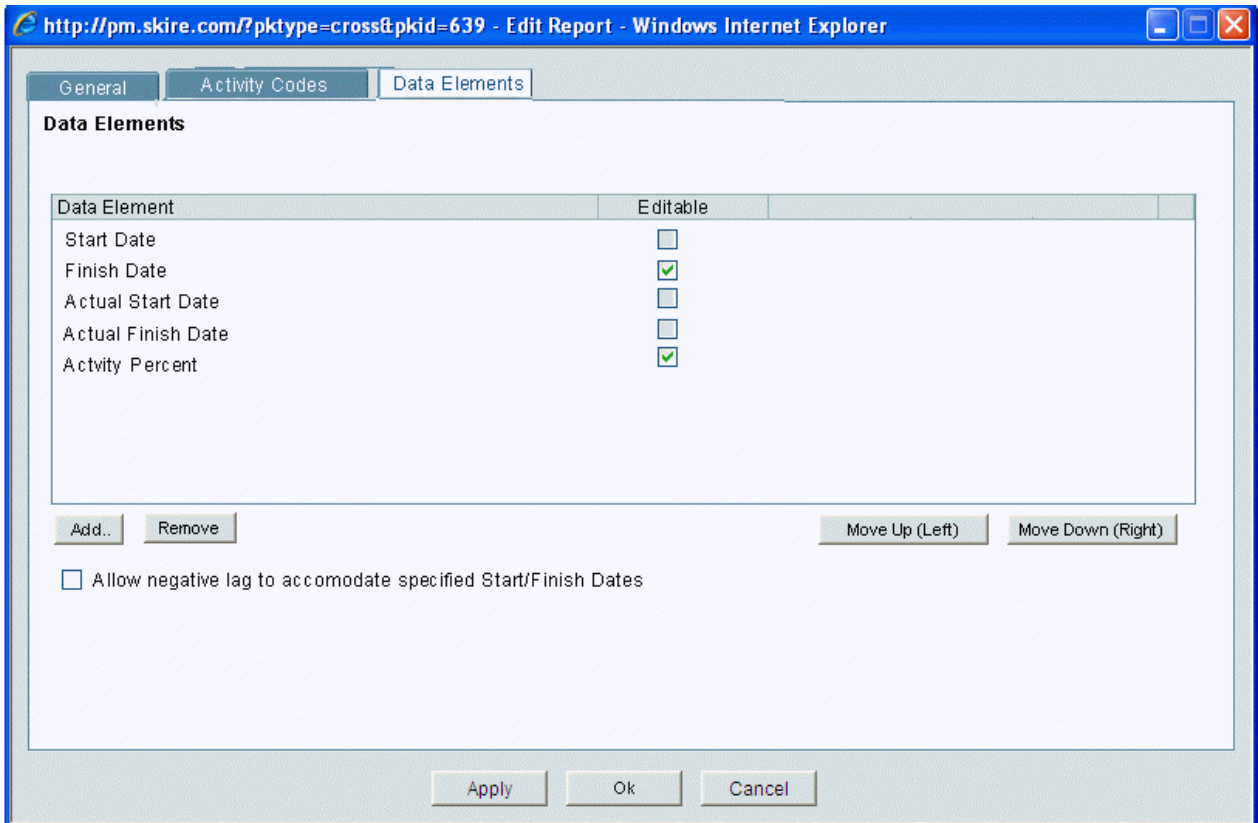
Activity Sheet properties window, Data Elements tab example

11) Click **OK**. The new Activity Sheet is available in the log.

Example Activity Sheet

The rows in the sheet list the projects and shells related to the selected activity codes. The headings for the columns in the sheet are the selected activity codes; the sub-columns are the represented as the data elements for the activity codes.

The Number column lists the project or shell number; the Name column lists the project or shell name. The Location column lists the location of each shell, and is blank for projects.

Cell values are obtained from the project or shell Master Schedule Sheet from activities that the match Activity Code.

NA displays in a cell if:

‣ The Activity Code is not found

‣ You do not have permissions to view or update a Master Schedule Sheet

‣ A project or shell does not have a Master Schedule Sheet

In this field	Do this
Title	Enter a title for the sheet. This is used as the sheet identifier and must be unique. (up to 120 characters)
Description	Enter an optional description. (up to 400 characters)
Status	When you are ready to make the sheet active and

	available for use, click Active. The default is Active.

Update Multiple Activities

You can use the Activity Sheet to update multiple activities at once.

▶ Changes to activity Start and Finish dates made via program activity sheets prompt role amount recalculation on the affected schedule sheets.

▶ All changes are captured in the Audit log.

To update multiple activities

1) In User Mode, navigate to **Projects tab > Programs > Schedule Manager > Activity Sheets**. The Activity Sheet log opens.

2) Select the Activity Sheet and click **Open**.

3) Modify the data as needed. Cells that are modified are highlighted on the sheet. Only elements that were marked as editable can be modified. To undo changes in a row, select the row and click **Refresh**.

4) Click the **Save** button. The Activity Update Status window opens.
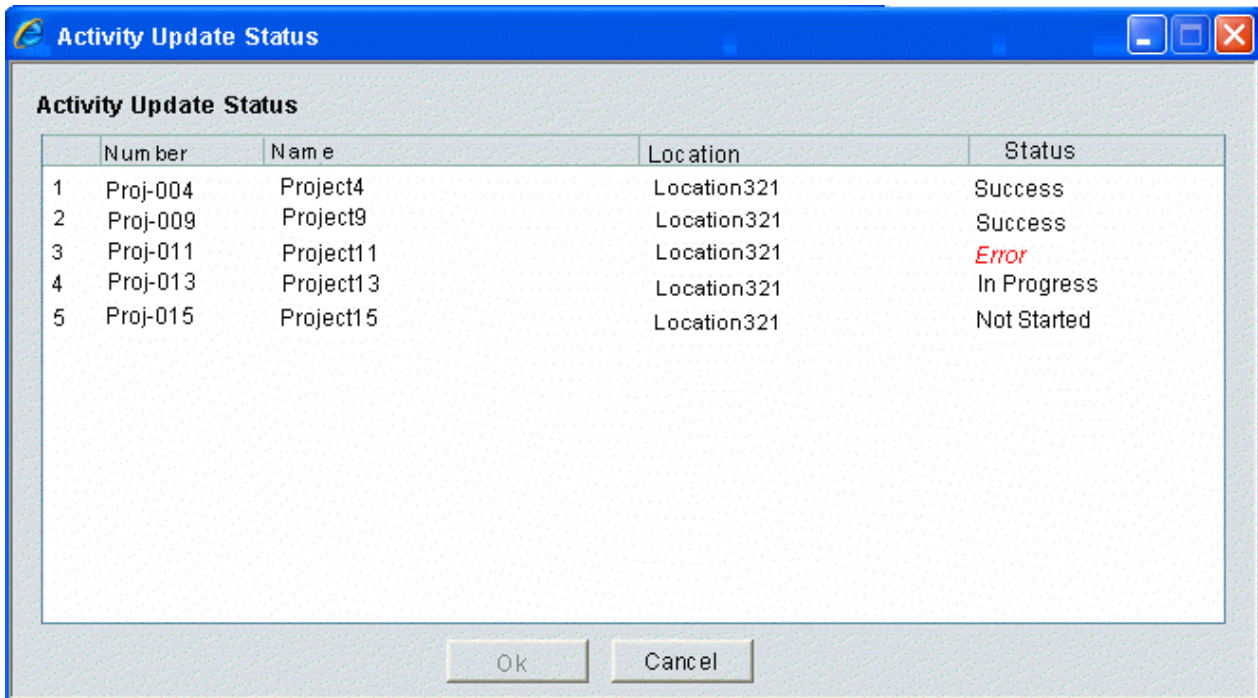
Activity Update Status window

You cannot modify the Activity Sheet while the status window is active. The status window scrolls to display In Process projects.

These are some possible activity update errors:

▶ Date (either manually entered or automatically calculated) conflicts with a dependency

▶ Date entered is before the scheduled Start Date

5) Click on the **OK** button to return to the Activity Sheet.

There are icons in the first column. The check mark icon displays for successfully processed project rows.

	Number	Name	Location	Start date	Finish date	Duration	Activity Percent	Non labor Costs	Start date	
✓	PRJ-09002	North Oakland Medical Center		01/29/2009	02/18/2009	2.0	35.0	0.0	01/06/2009	
	PRJ-09004	West Street Office Tower		NA	NA	NA	NA	NA	NA	
	Proj-0001	Terminal Expansion	/Capital Projects/Sout	NA	NA	NA	NA	NA	NA	

Successful update of an Activity Sheet

The X mark icon displays for rows that could not complete the processing due to errors. The X mark icons are hyperlinks. Click the icon to open a dialog box that describes the error encountered by the update process for that specific project row in the update.

	Number	Name	Location	Start date	Finish date	Duration	Activity Percent	Non labor Costs	Start date	
✗	PRJ-09002	North Oakland Medical Center		01/29/2009	01/27/2009	2.0	35.0	0.0	01/06/2009	
	PRJ-09004	West Street Office Tower		NA	NA	NA	NA	NA	NA	
	Proj-0001	Terminal Expansion	/Capital Projects/Sout	NA	NA	NA	NA	NA	NA	

Error on update of Activity Sheet

You can modify data elements other than the system defined Start Date, Finish, Date or Duration directly to matching activities without affecting other activities.

If there are Finish-Start dependencies:

▸ If you modify the Start Date on any activity, the system will compute the Finish Date of current activity, keeping the Duration Constant

▸ If you modify the Start Date on any activity, the Start Date of the successor (downstream) activity is updated

▸ If you modify the Finish Date on any activity, the system will compute the Start Date, keeping Duration constant

▸ If you modify the Finish Date on any activity, the system will modify the Start Date of successor (downstream) activity

▸ If you modify the Duration on any activity, the system will compute a new Finish Date, keeping the Start Date constant

▸ If you modify the Duration on any activity, the system modifies the Start Date of successor (downstream) activities

Changes to activities that occur through Activity Sheet update are shown on the Audit Log.

Undo Activity row changes

Refresh allows you to undo changes to cells in selected rows, so you can save the Activity Sheet without updating those cells.
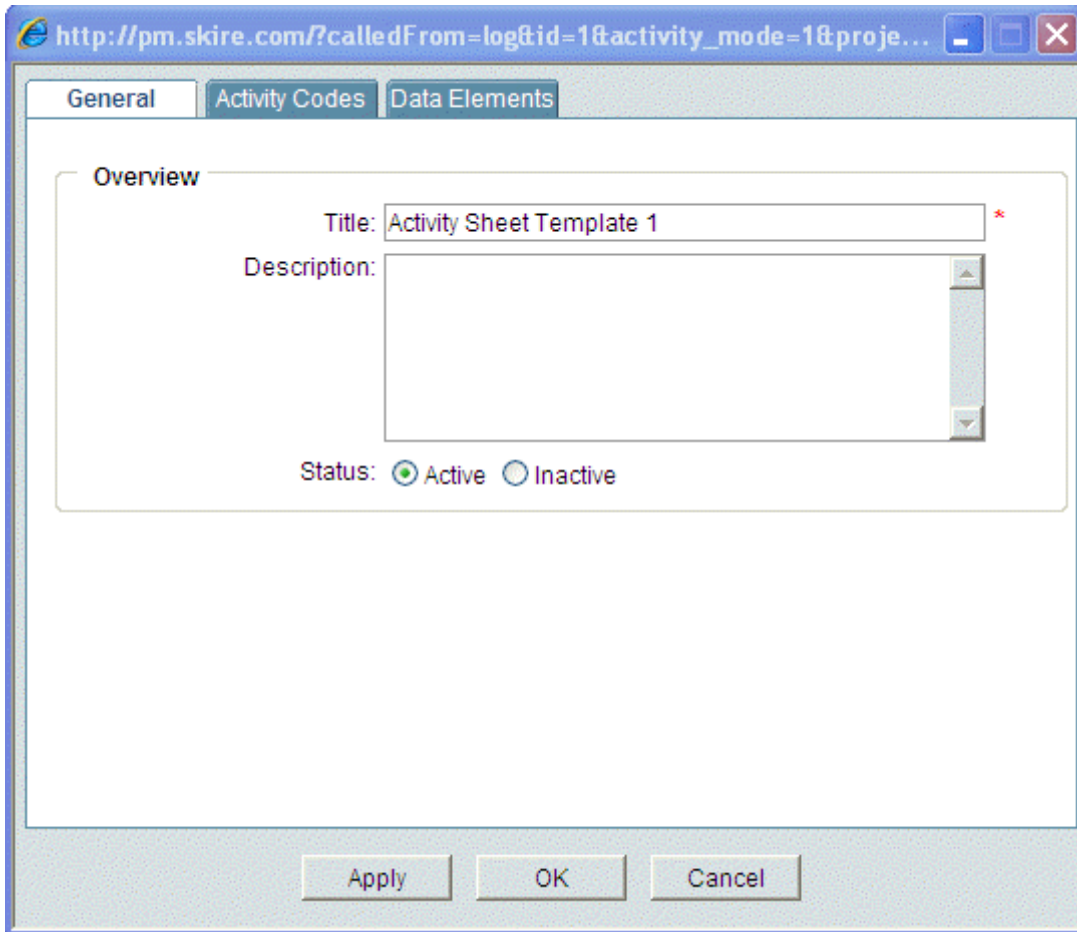
To refresh Activity Sheet rows

1) In User Mode, navigate to **Projects tab > Programs > Schedule Manager > Activity Sheets**. The Activity Sheet log opens.

2) Select the Activity Sheet and click **Open**.

3) Select one or more rows in the sheet.

4) Click the **Refresh** button. Highlighting is removed from the selected rows. Those rows are not modified when you click **Save** to update the Activity Sheet.

Update Activity Sheet Properties

To update Activity Sheet properties:

1) In User Mode, navigate to **Projects tab > Programs > Schedule Manager > Activity Sheets**. The Activity Sheet log opens.

2) Select the Activity Sheet and click **Open**.

3) Click the **Properties** button.

4) Update the properties as needed and click **OK**.

Export Activity Sheets

You can export the entire Activity Sheet to a CSV file.

To export an Activity Sheet

1) In User Mode, navigate to **Projects tab > Programs > Schedule Manager > Activity Sheets**. The Activity Sheet log opens.

2) Select the Activity Sheet and click **Open**.

3) Choose **Edit > Export to CSV**.

Set up Activity Sheet Baselines

You can set baselines on Activity Sheets at the program level. On Activity Sheets, baselines can be set for multiple projects or shells, and so affect all activities on the selected project or shell schedule sheets. The baselines you set on the Activity Sheet will affect all of the activities on the selected projects or shells, regardless of which activities are displayed on the Activity Sheet. Setting baselines at the Activity Sheet level can be useful if you are managing several projects or shells as a program. This functionality enables you to have insight into the activities for all of the selected projects or shells, and be able, for example, to discover quickly whether there has been any delay in any of the project or shell activities.

Users with the Edit Data and Structure permission on the project or shell schedule sheet can set or clear baselines for the activities from those projects or shells on the activity sheet.

See **Set Schedule Sheet Baselines** (on page 591) for further details on baselines.

To set a baseline on an Activity Sheet

1) Open the Activity Sheet in the log. If you have modified the Activity Sheet, you must save it before you can set baselines.
2) Choose **Edit > Baseline**. You can select this action only if you have saved changes to the Activity Sheet.
3) Select **Baseline > All** to apply the baseline to all of the projects and shells listing in the Activity Sheet. Select **Baseline > Selected** to select one or more project or shell rows. The Set Baseline window opens.
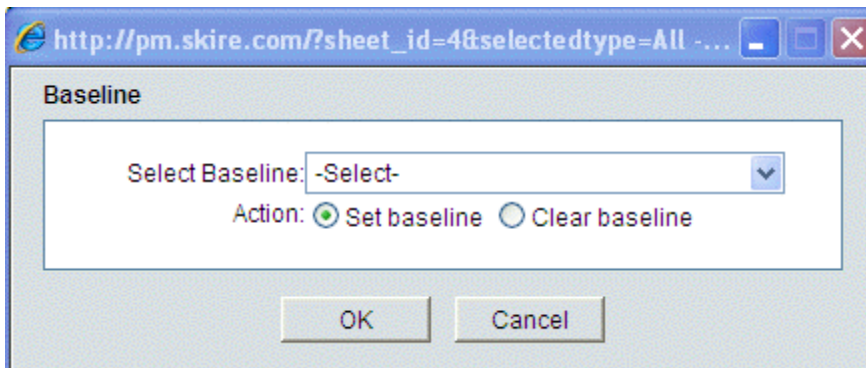
4) Select the baseline to set. The **Set baseline** radio button is selected by default. Only baselines that have been designed in uDesigner are available.
5) Click **OK**. The values from the start, finish, and duration elements are copied into the corresponding baseline elements. If the baseline elements contain data, you will receive a warning that the baseline will be overwritten. You can choose whether to override the data. The Confirmation window opens.
6) Click **Yes** to confirm the baseline settings. The Processing Status window opens. After the system processes the baselines, you will see a check mark next to the rows in the Activity Sheet that indicate the baseline was set successfully. If the baseline was not set, failed rows in the sheet are marked with an X.

To clear a baseline on an Activity Sheet

1) Open the schedule sheet in the log.

2) Choose **Edit > Baseline**. The Set Baseline window opens.

3) Select the baseline you want to clear.

4) Select the **Clear baseline** radio button.

5) Click **OK**. The Confirmation window opens. Click **Yes** to confirm the cleared baselines. The Processing Status window opens. After the system processes the baselines, you will see a check mark next to the rows in the Activity Sheet that indicate the baseline was cleared successfully. If the baseline was not cleared, failed rows in the sheet are marked with an X.

Activity Sheet (Integrated with an External Application)

> **Note**: Integration with P6 application applies to Unifier CBS type Shell only. The integration does not apply to the Unifier Project (Standard).

For details about the Activity Sheet, see Unifier Activity Manager and Master Rate Sheet.

Additional information about an Activity Sheet integrated with an external application

▸ It is required that an Activity Sheet to have the following fields as fixed columns:
   ▸ **Activity ID**
   ▸ **Activity Name**

   > **Note**: You cannot remove the two required fields from an Activity Sheet.

▸ When an Activity Sheet attribute form is deployed to Unifier for the first time, all fields present in the Activity Sheet attribute form are saved and displayed as columns in the Activity Sheet following the same order.

▸ If you remove a field from an Activity Sheet attribute form and the Activity Sheet attribute form is deployed to Unifier, then the deployment does not go through if the field that you had removed from the Activity Sheet attribute form is present as a column in the Activity Sheet in Unifier; otherwise, the deployment goes through if the field that you had removed from the Activity Sheet attribute form is not present as a column in the Activity Sheet.

▸ If you add a new field to an existing Activity Sheet attribute form and the Activity Sheet attribute form is deployed to Unifier, then the columns in the Activity Sheet do not reflect this change and you need to add the field to the columns in the Activity Sheet manually.

▸ You can add columns to or remove columns from an Activity Sheet view.

▸ You can arrange the columns order in an Activity Sheet.

▸ You can find, sort, group, and filter Activity Sheets.

▸ The data within and Activity Sheet is synchronized with P6 by way of Gateway (Import/Export Synchronization) daily.

   > **Note**: Exchange of data with inactive Unifier CBS type Shells is not permitted whether initiated manually or by Gateway.

You can map the P6 CBS Code to the Unifier CBS Code (`bitemID`) in Gateway (in the field mappings).

When the Activity Sheet data is synchronized between P6 and Unifier, then Unifier Provider converts the P6 CBS Code to the corresponding Unifier CBS Code (bitemID), and the Activity Sheet, in Unifier, is populated automatically.

When the data is synchronized between Unifier and P6, then Unifier Provider converts the Unifier CBS Code (bitemID) to the corresponding P6 CBS Code, and the Activity Sheet, in P6, is populated automatically.

The CBS auto-population works differently in Base commit, Change commit, and Payments with respect to other classifications that are under Cost type business processes.

The auto-population for the CBS Code occurs in Base Commit business processes and Change Commit business processes.

In Payments business processes, the CBS Code matches with the Commit line item of SOV, then the CBS Code is auto-populated; otherwise, the CBS Code does not auto-populate.

- If there is only one Commit line item matching the CBS Code/Cost Code, then the CBS Code will be auto-populated along with the Commit line item from the SOV, if the CBS Code/Cost Code matches with what is present in the SOV.
- If there is more than one Committed line item (where the CBS Code matches with the Activity picker), then the value for the CBS code remains as it was.
- If the Activity picker is associated with a CBS Code that is not used by any of the Committed line items in the SOV, then the value for the CBS code remains as it was.

You can change the CBS Code by clicking the CBS Picker, which will over-write the auto-populated value.

Gateway and Unifier Provider

The Activity Sheet object in Unifier must be available for integration through Gateway.

> **Note**: The Activity Sheet object, in its entirety, must be available as a fields in both Gateway and Unifier.

To synchronize data between a P6 Activity object and a Unifier Activity Sheet object, data mapping must take place. The following sections explain data mapping in detail.

Data Mapping Templates

About Data Mapping templates

When a project in Unifier is linked to a project in P6, each project retain their respective name, with no changes applied to the names.

Establishing a link between a project in Unifier and a project in P6 is based on a specific Data Element (DE) in Unifier (uuu_int_p6_Project_id) corresponding to a specific P6 element (Project ID).

The following lists the out-of-the-box (OOTB) Data Mapping templates available for use and provides a description for each template.

Create Activity Sheet from P6

Use this template to map all the fields in the Activity Sheet to the P6 Activity object that is needed from P6. You can use this template to create a new Activity Sheet in Unifier projects.

There are 26 pre-defined elements that are included in the Activity Sheet Attribute form. By default, this template contains the first 24 pre-defined elements that are included in the Activity Sheet Attribute form, and the fields are mapped to the corresponding P6 Activity object.

The following elements are excluded from this template:

▶ Primary Constraint
▶ Secondary Constraint

You can deploy custom activity attributes to Gateway and then add those attributes to this template.

Update Activity Sheet from P6

Use this template to update an existing Activity Sheet in a Unifier project based on P6 data.

There are 26 pre-defined elements that are included in the Activity Sheet Attribute form. By default, this template contains 22 pre-defined elements that are included in the Activity Sheet Attribute form, which cannot be populated by Reverse Auto-Population. As a result, the template does not contain the following elements:

▶ Actual Start
▶ Actual Finish
▶ Primary Constraint
▶ Secondary Constraint

You can deploy custom activity attributes to Gateway and then add those attributes to this template.

Send Activity data to P6

Use this template to map those fields in the Activity Sheet Attribute form, to P6 Activity object, that might get updated in Unifier by way of a Business Process record. These fields need to be updated from Unifier to P6 through Gateway.

There are 26 pre-defined elements that are included in the Activity Sheet Attribute form. By default, this template contains the 2 fields that can be populated by Reverse Auto-Population. As a result, the template contain the following two elements, only:

▶ Actual Start
▶ Actual Finish

You can deploy custom activity attributes to Gateway and then add those attributes to this template.

> **Note**: The fields in this template must be maintained exclusive of the fields in the "Update Activity Sheet from P6" template. There are no common fields between the "Send Activity Data to P6" template and the "Update Activity Sheet from P6" template. If you add the common fields to the two templates, inaccurate information can be generated in either application (Unifier or P6).

Editing Data Mapping templates

You can edit (take out a field or add a new field) any of the Data Mapping templates mentioned in this section by going to Gateway > Configuration > Customization.

1) From the Customization window, select the "Activity" business object from the "Select Business Object'' drop-down list to see all Data Mappings, based on the "Activity" object.
2) Select any Data Mapping template.
3) Click Edit and go to the Mappings tab.
4) Add a new field, to exchange data for example.

You can add any custom field to an Activity Sheet Attribute form in uDesigner and Deploy the Activity Sheet Attribute form to Gateway. All the fields from the Activity Sheet Attribute form appear in Unifier (P6 Activity Sheet drop-down list). As a result, you can select any Activity Sheet Attribute form that you have defined in Unifier and map the Activity Sheet Attribute form to a corresponding activity field (fixed field or user-defined field) in P6; however, ensure that you map the Unifier element to the Activity Sheet Attribute form in a way that the "Data Types" of the P6 Activity elements match the Data Definitions (DEs) of the Unifier Activity Sheet Attribute form. The following shows the mapping of data between the P6 Data Types and the corresponding Unifier DEs.

P6 Data Type	Corresponding Unifier Data Definition
Text (40 chars)	SYS Short Description Text 50
Text (120 chars)	SYS Short Description Text 120
Text (UDF* Fields)	SYS Short Description Text 255
Date	Date Picker
Cost	Currency Amount
Number	Decimal Amount
Integer	Integer Amount
Indicator	SYS P6 Indicator **Note**: In the Edit window of the Data Mapping template, Gateway does not display "Indicator," as an available field type. As a reasult, you need to map an "Indicator" type field from Unifier to P6 UDF and set the "Data Type" as "String."
Activity Status Pulldown	SYS Short Description Text 50

P6 Data Type	Corresponding Unifier Data Definition
Activity Type Pulldown	SYS Short Description Text 50

*UDF: User-defined Field

Additional information about editing Data Mapping templates

In P6 some activity attributes fields, cannot be updated manually, or by way of any other methods. These fields must be calculated using the P6 internal logic. If you modify the "Send Activity Data to P6" Data Mapping template to map to a P6 activity attributes field that cannot be updated, then:

▶ The P6 internal logic prevents the mapping during integration and synchronization will fail.
▶ The data in P6 is updated incorrectly.

Ensure that you are aware of the limitations when you add a new field to the "Send Activity Data to P6" Data Mapping template.

Since the "Actual Finish" field is added to the "Send Activity Data to P6" Data Mapping template and based on the value of the "Activity Type" field in P6, the "Actual Finish" field gets calculated, in P6, you must not keep the "Actual Finish" field in the "Send Activity Data to P6" Data Mapping template. Instead, you must keep the "Actual Finish" field in the "Update Activity Sheet from P6" Data Mapping template.

In short, you need to keep, or designate, only one application (Unifier or P6) as the source for each field. This is to prevent a field to get updated in both applications (Unifier or P6).

Business Flows

The Unifier Provider allows you to filter Unifier Shells using "Project IDs." You can do this filtering in two ways:

▶ By entering a fixed list of comma-separated Project IDs values (corresponding to each Unifier Shell), and when you synchronize, all the Projects in Unifier that match those Project IDs are pulled.
▶ By using any Shell attribute (custom or system defined). When Object = Project, you can go to the "Source App Parameters" window and add filter conditions to a synchronization, using any data element of "Data Type = String" or "Data Type = Integer'" from a Shell attribute form. The "Field" drop-down lists in the Edit Business Flow window has an option called, "Shell Attribute." You can:

1. Select **Shell Attribute**.
2. Use the information presented (in the **Value** box) to enter any Shell attribute DE name of Data Type = "**String**" or "**Integer**."
3. Click **Add Row** and set the item as a condition to filter the Unifier Shell.

> **Notes**:
>
> - You can set only one value for a Shell attribute within a given condition; however, you can add more than one condition for a Shell attribute.
> - If you set conditions for a DE which is neither "Text" nor "Integer," the synchronization will fail and you will receive an error-message.

There are two templates available for OOTB Business Flows:

▶ **Get Activity data from P6**

   ▶ To create Activity Sheet in the Unifier Projects.

   ▶ To update an existing Activity sheet.

▶ **Send Activity data to P6**

   To transfer, or push, data from a Unifier Activity Sheet object to a P6 Activity object.

> **Note**: For details, see the "***Data Mapping Templates***" section.

The "Import Project data" flow ("Send Activity Data to P6" flow) has the Data Mapping template the "Send Activity Data to P6" set a "Update" only to prevent the accidental creation of activities in P6 from Unifier. P6 is the source for all activities.

Synchronization

The synchronization of the following two commands (on the OOTB Data Mapping templates) is scheduled to run *daily*:

▶ **Get Activity Data from P6**
▶ **Send Activity Data to P6**

> **Note**: For details, see the "***Data Mapping Templates***" section.

Synchronization can be performed:

▶ From Unifier by executing the "Get Data" or "Get Activity Sheet Data" commands from the "Activity Sheet" log or the Shell log.
▶ From Gateway, manually.

The Unifier Provider performs a check to see if the Unifier Project is linked to the corresponding P6 Project.

▶ If the Unifier Project is not linked to the corresponding P6 Project, you need to establish the link.
▶ If P6 does not have a corresponding project, then a message will notify you that the project has not been created in P6.

To ensure a successful synchronization, do the following:

1) Set the Shell attribute DE = `uuu_integrated_with` to P6.

> **Note**: If the attribute was missing, after this setup the integration will take

place.

2) Receive the Activity Sheet data from Gateway and:

   ▸ If an "Activity Sheet" does not exist in Unifier, create the "Activity Sheet," populate the fields with the data received, and name the sheet as: `<P6 project name>`.

   ▸ If an "Activity Sheet" exist in Unifier, update the "Activity Sheet" with the data from Gateway.

You need to perform the steps above to create the "Activity Sheet" within Unifier Shells for the first time, only. Once you create an "Activity Sheet," the hourly synchronization updates the "Activity Sheet" with the latest data received from Gateway.

When projects between Unifier and P6 are linked for the first time, Gateway ensures that a P6 Project attribute that is integrated is checked.

If a "Get Activity Data from " synchronization is performed, but the P6 Project that must correspond to the Unifier Project is not found by Gateway, then Unifier will generate an error-message.

Sending Activity Sheet data to P6

When you synchronize, the Unifier Provider performs the following:

▸ Checks to ensure that the Unifier Project contains an "Activity Sheet."

   ▸ If an "Activity Sheet" does not exist, then the system generates an error-message.

   ▸ If an "Activity Sheet" exist, then you can continue on with pulling (receiving) data.

▸ Pull all updated "Activity Sheet" data by way of Reverse Auto-Population since the last "Send Activity Data to P6" synchronization. You can send the updated "Activity Sheet" to Gateway in Portable Database Image (PDI) format.

   ▸ If the "Activity Sheet" has not been updated by way of Reverse Auto-Population, then you do not need to send data to P6.

   ▸ If you add a DE to a Data Mapping template that is read-only in P6, then the system generates an error-message.

Additional information about synchronization

▸ If an Activity Type, in a Schedule, is set as "Start Milestone," then P6 does not allow you to update the "Actual Finish Date." If you proceed with updating the "Actual Finish Date," then you generate inconsistent data.

▸ If an Activity Type, in a Schedule, is set as "Finish Milestone," then P6 does not allow you to update the "Actual Start Date." If you proceed with updating the "Actual Finish Date," then you generate inconsistent data.

▸ You must define the filter condition before you filter the Unifier Project using the "Send Activity Data to P6" synchronization command.

> **Note**: If a filter condition is defined in Business Flow, but a filter condition is not defined in the synchronization, Gateway will not know which Unifier Project to send data from. As a result, filter condition must be defined within the synchronization itself.

Connectivity issues with Gateway or incorrect Gateway parameters will cause synchronization to fail. Use History, Admin mode, to see the list of failed synchronizations, if any.

Criteria for successful data exchange

Ensure that the fields ("Update Activity Sheet from P6" and "Send Activity data to P6") in the Data Mapping templates are not overlapping and a field that is set to map from P6 to Unifier is not added to the "Send" template.

> **Note**: The OOTB Data Mapping templates are designed in a way that the fields are exclusive; therefore, when you edit a Data Mapping template, ensure that you keep the fields that are exclusive intact.

If you use DE = uuu_int_p6_project_id for linking P6 and Unifier projects, when the "Project ID" field in P6 is updated, then the "P6 Project ID" (uuu_p6_project_id), field in corresponding Unifier Shell, must be updated manually.

UDR, Data Views, and ER View

You can access and open an "Activity Sheet" in Unifier by way of User-Defined Reports (UDRs), Data Views, and ER views.

The new Data Type that you need to use for creating UDRs is the "Shell Activity Sheet."

Using Schedule Sheets

Before you begin: *Schedule Sheet permissions* (on page 557) are granted on a sheet-by-sheet basis. Adding or editing an activity requires **Edit Data** or greater permission. If you only have **View** permission you cannot add or edit activities. The Schedule Manager helps you manage project or shell and program schedules by:

▸ Creating project activities
▸ Assigning cost codes to activities
▸ Assigning   roles to activities
▸ Creating relationships between activities
▸ Tracking schedule progress and variables
▸ Calculating the schedule's critical path

Best Practice is to set up your schedule sheets and complete with activity rows, in the project template.   However, you can create **Project Schedule Sheets** and add activities in existing projects.

In Primavera Unifier, you can also import project schedule records from Primavera P6. Imported schedules are editable within Primavera Unifier, and the data can be used in reports. If you copy activities from one schedule to another, Primavera Unifier will immediately notify you if the change will create a schedule conflict so that you can make corrections as you work.

Each change in the Schedule Manager creates a record in Primavera Unifier, which is useful for auditing purposes. An audit report of these records shows detailed information on dates, events, actions, and old values versus new values, along with the user or proxy user who performed the action.

Each project can have multiple schedule sheets, and one Master Schedule Sheet. The master schedule sheet drives project start and end dates, tracks the project's progress, and serves as the interface between the Schedule Manager and other Primavera Unifier modules. The master schedule integrates cost items on the schedule with the Cost Manager. Primavera Unifier users can refresh resource rates on the schedule sheet and post the new rates to the Cost Manager, update the cost sheet with assignment costs, and refresh costs on the sheet to recalculate labor costs and post them to the cost sheet.

Features include the following:

▶ Fully configurable activity attributes form
▶ Activities and Gantt chart on the same schedule sheet
▶ Interactive Gantt chart with ability to drag activity end dates and link activities
▶ Tracking Gantt chart
▶ Filters for activities
▶ Baselines for schedule sheets and activity sheets
▶ Activity update
▶ Ability to create one or multiple interactive schedule sheets for the same project or shell
▶ Integration of Schedule Manager with the Resource Manager, enabling resource loading of schedule activities
▶ Multiple CBS codes for each activity to capture activity costs, such as labor, non-labor, and fixed costs. If designed in Primavera uDesigner, you can add a column to the schedule sheet to display the CBS codes associated with each activity.
▶ View the cost distribution information by CBS codes from a schedule sheet
▶ Cut and paste and copy and paste of rows in a sheet
▶ Update of schedule sheets from linked templates
▶ Critical path calculation and display
▶ Streamlined and enhanced integration and interaction between Primavera Unifier's Schedule Manager and Primavera and Microsoft Project
▶ Activity progress tracking and percentage of work completed per assigned resource
▶ Works with shells that have the CBS cost type
▶ Scope Management, with the ability to launch business processes from activities and automate schedule management.
▶ Budget and progress settings, and the ability to work with progress and earned progress data

You will need to add activity rows to the schedule sheet before you can enter your company data to the schedule sheet.

Scope Management

The Scope Management defines deliverables, responsible roles, actual assignees and their schedules, and drives coordinated production of these deliverables. The Scope Management initiates actions for producing deliverables based on the completion of dependencies. It routes them to the responsible person or group, monitors their completion, and updates deliverable statuses automatically. It manages different activities across schedules for different team members simultaneously.

Team members work on BPs that are linked to activities in a schedule sheet. The Scope Management allows you to use existing schedule management functionality with added data elements to automate the management of a project's scope and schedule with all associated activities, tasks, and deliverables. This feature provides project managers with the ability to manage each scope item's task assignments, ownerships, and durations.

Project managers can use scope management to manage high-volume, quick turnaround projects that have standardized scope and scheduled activities. Examples of projects that would benefit from the use of scope management functionality are retail construction projects such as bank branches or chain fast food restaurants. Unifier scope management capabilities are also useful for large capital projects with complex scope and schedules, and that have numerous dependent activities and milestones with associated tasks and deadlines.

Scope management:

▶ Coordinates the creation of the defined deliverables using the schedules of the various assignees
▶ Automatically moves tasks to the next assignee.
▶ Routes tasks related to the deliverables to the next responsible assignee (person or group), monitors the state of the tasks, and updates deliverable status automatically. Actions for the creation of deliverables are based on fixed-time durations and the completion of dependencies.
▶ Launches business processes that are linked to activities

This functionality can be enabled on any schedule sheet, including a master schedule sheet. Scope management enables you to link BPs with schedule sheet task activities and route those BPs with an automatic update of status as they are routed and worked on. The BPs represent the work that needs to be done to complete the task. You can override automatic routing at any time and launch the BPs manually. The BP-related task is completed when specified conditions are met.

Working with Schedule Sheets with Scope Management

You can have any number of schedule sheets. There is one master sheet, which appears in bold in the log. The master schedule sheet drives the activity start and finish dates. You can use it to track progress and resource assignment information to other modules in Primavera Unifier. You can use scope management on any schedule sheet. You must have the correct permissions to be able to view and modify scope management data. If you find that you cannot access the functionality that you need, see your company administrator.

To access project schedule sheets

1) In User Mode, select **Project Standard tab > project > Schedule Manager > Schedule Sheets** or **Shells tab > shell type> shell instance > Schedule Manager > Schedule Sheets**. The Schedule Sheets log opens.

2) By default, the log lists all active schedule sheets. To view all active and inactive sheets, click the **View** menu and choose **All**.

Scope management and multiple calendars

In Scope Management a business process record can be created from an activity based on the setup. As part of setup, you can define how the system should calculate the workflow duration of the business process record that gets created.

These are the following options:

Enforce Activity Duration: System will take the planned duration of the activity and will pass it to business process record to calculate workflow due date and the workflow duration.With multiple calendars, it is possible that the activity has a different calendar than the calendar used on business process (which was the project/shell calendar). In this scenario, the system will take the duration from the activity and calculate the record/workflow due date based on business process calendar.

Enforce Activity Finish Date: System will set planned finish date as the workflow due date. With multiple calendars, it is possible that the activity has a different calendar than the calendar used on business process (project/shell calendar). In this scenario system will take planned finish date of activity and force it to due date of business process record.

In both cases when progress comes back from business process record to the activity, the system will take the actual end date and updates activity actual finish date. In this scenario, the system will not consider activity calendar.

Manage scope management properties

Scope Management functionality can be enabled on any schedule sheet (including master schedule sheets). You can modify the properties associated with scope management. These include:

▸ Auto-control
▸ Schedule start date
▸ Error notification to users and groups

To manage scope management properties

1) In User Mode, navigate to the project or shell Schedule Manager and select Schedule Log. The Schedule Sheets log opens.

2) Select a schedule sheet and click **Properties**.

3) On the General tab, complete or modify the fields described in the following table and then click **OK**.

In this field:	Do this:
Auto-control	Controls the automatic update of tasks. The default is Off. Setting auto-control to On enables the automatic launch of

	BP records. Setting auto-control to Off means that BPs will not be launched automatically on activities and completion conditions will not be checked on activities. Users can still launch BPs manually.
	Note: Unifier disregards predecessor/successor dependency relationships when you manually start an activity, even if auto-control is set to On in the schedule sheet properties.
Schedule Start Date	Drives the dates of floating activities on the schedule sheet. Activities cannot begin before this date, unless their preceding activities complete previous to this date.
Notify users and/or groups on errors	Select users and groups to be notified if there are errors during the scope management task routing.

About scope management data elements

There are data elements that are specific to scope management, which were added to the schedule attribute form in uDesigner. These data elements can be added to the scope management schedule sheet as columns as you work with the sheet. If data elements are on both the schedule attribute form and on the business process that you will be using to run the activity task for scope management, the values are copied from the form to the business process and vice versa.

When you are planning to use scope management, consult with the uDesigner user and your company administrator to achieve the setup of data elements and business processes that will meet your business needs for managing scope.

The scope management-specific data elements that are added to the schedule attribute form are:

Data Element Name	Description
Actual Start Date	Actual start date of the activity.
Actual Finish Date	Actual finish date of the activity.
Actual Duration	Actual duration of the activity. This is calculated from the Actual Start Date and Actual Finish Date.
Status	Activity status. The default is Not Started.
Predecessors	A list of the predecessor activities. **Note**: Activities that have no predecessors are known as floating activities.
Record Number	Hyperlink to the linked business process record.

Record Status	Hyperlink to the linked business process record.
Estimated Start Date	Calculated date.
Estimated Finish Date	Calculated date.
Estimated Duration	Calculated duration.
Auto-update Activity Data	Enables the automatic update of activity data. The default is unchecked. If this checkbox is not selected, the activity must be completed manually, and automatic completion will be turned off. This means you must change the activity status to compete and enter an actual finish date.
Linked BP Name	Name of the linked business process.

Set up scope management for activities

You can set up the schedule sheet activities to link to BPs, specify responsible users or groups, enter a due date, and create completion conditions.

You can change all setup options for activities that have the status of not started or not applicable. For activities that have an in-progress status and have a linked BP record, you can change only the completion conditions. You cannot change setup options for activities with the status complete.

To set up scope management for an activity

1) In User Mode, navigate to the Schedule Manager and select Schedule Log. The Schedule Sheets log opens.
2) Select a schedule sheet click the **Open** button.
3) Select an activity in the sheet.
4) Choose **File > Setup Scope Management**. The Activity Task Setup window displays on the right side of the pane, replacing the view of the Gantt portion of the window.

> **Note**: You can return to the Gantt chart view by clicking the **Gantt** button.
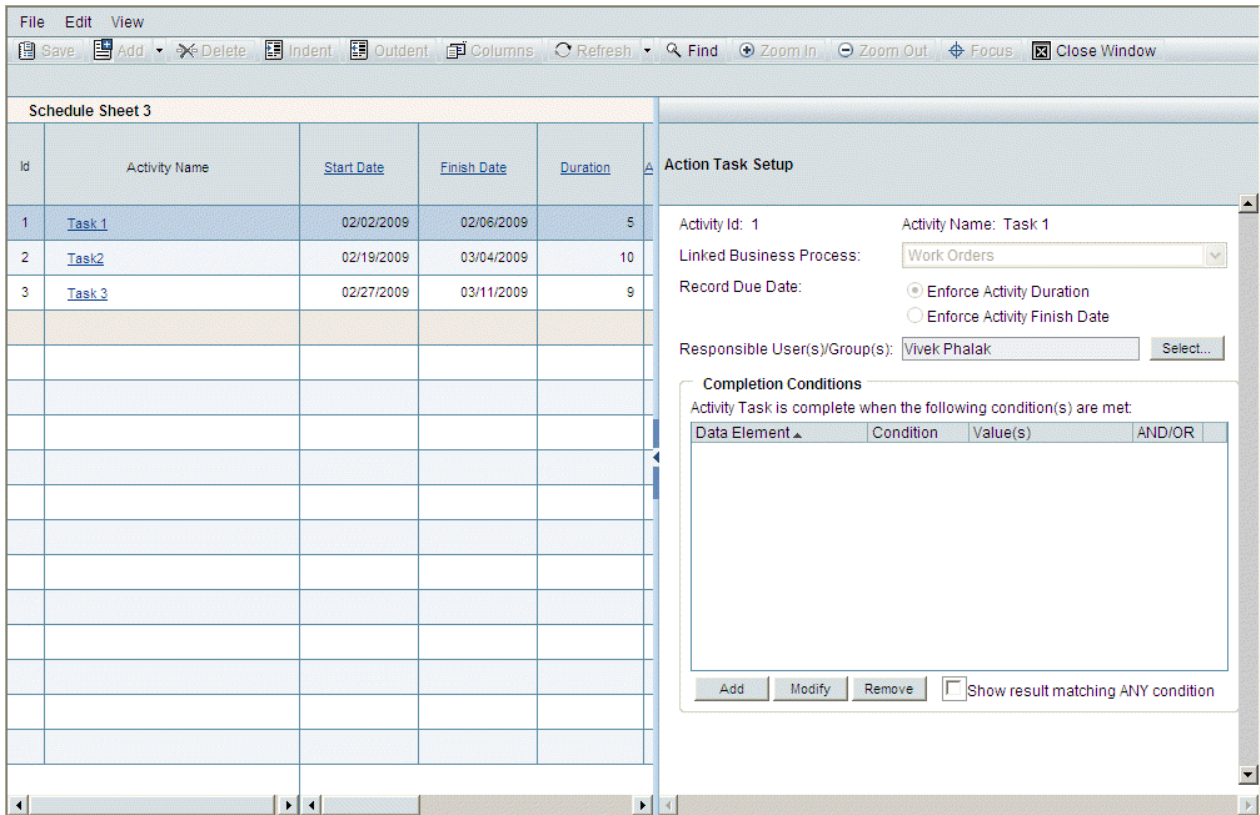
Activity Task Setup example window

5) Complete the **Activity Task Setup** portion of the window as described in the table below.
6) Repeat these steps for each activity.
7) Click the **Save** button when your changes are complete.

In this field:	Do this:
Linked Business Process	Select a project or shell level workflow BP that will launch from the activity.
Bypass initiation step during auto-creation	Auto-created records normally appear in users' Tasks and BP logs as an initiation step (I Step). Select this check box if you want to bypass the I step that this auto-creation normally creates. If you select this option, the auto-created record will skip the initiation step and will appear in the user's BP log at the step that the Administrator designated on the BP's Auto-Creation tab during setup.
Record Due Date	Select **Enforce Activity Duration** (default) or **Enforce Activity Finish Date**. When a BP is launched automatically or manually from an activity, you can specify whether the record due date on the newly launched BP

	record is set to use the activity duration or the activity finish date. **Enforce Activity Duration:** The finish date of the activity is not considered. If the Record Due Date option is set to enforce the activity duration, the value is calculated as: Record Due Date = Current Date (date/time) + Activity Duration (days) **Enforce Activity Finish Date:** If the Record Due Date option is set to enforce the activity finish date, it is calculated as: Record Due Date = Activity Finish Date Note: This functionality applies to workflow BPs launched from Scope Management only. Non-workflow BPs cannot be launched using Scope Management. Note: If you select Enforce Activity Finish Date, the workflow due date for the business process might be affected. Be sure to select Yes for Override Workflow Due Date in the workflow setup for the affected business process.
Responsible User(s) /Group(s)	Select one or more users or groups to which to route the business process. Be sure to add users and groups to this field so the business process associated with the activity will launch properly.
Completion Conditions	Add one or more conditions to indicate the completion condition on the activity. Click **Add** and select from the data elements for the selected BP, enter a label for the condition data element, select a condition, and select a value. Click **OK**. Conditions can be a BP status, a monetary value, or the completion of certain predecessor activities. You set up several completion conditions for each activity. See *Completion Conditions* (on page 623) for details.
Show results matching ANY condition	Select to complete the activity if any of the completion conditions are met for the activity.

Completion Conditions

You can set up completion conditions for a string or a date.

For example, for the string *Amount*:

For example, for a date:

Launching Business Processes from Activities

While the scope management functionality is automatic after it is set up, you can also manually launch or remove BPs from activities and manage the activity properties.

> **Note**: If a project or shell changes status from Active to View-Only or Inactive, business processes associated with activities are not launched while the project or shell has the View-Only or Inactive status. When the

project or shell reverts to Active status, you must adjust the dates on these business processes and launch them manually.

Manually launch a business process

When you manually launch a BP associated with an activity, you override the Auto-control property setting. See *Manage scope management properties* (on page 619) for details on properties.

See *About Launching or Removing Business Processes from Activities* (on page 627) for details on the conditions under which you can manually launch BPs.

To manually launch a BP associated with an activity

1) In User Mode, navigate to the Schedule Manager and select Schedule Log. The Schedule Sheets log opens.
2) Select a schedule sheet and click the **Open** button.
3) Select an activity.
4) Choose **Edit > Linked Business Process > Start**. You can select one or more BPs and launch them. They will be routed to the assignees that have been specified.

Remove the link between a business process and an activity

You can remove (unlink) a BP from an activity. See *About Launching or Removing Business Processes from Activities* (on page 627) for details on the conditions under which you can remove BPs from activities.

To remove the link between an activity and a BP

1) In User Mode, navigate to the Schedule Manager and select Schedule Log. The Schedule Sheets log opens.
2) Select a schedule sheet and click the **Open** button.
3) Select an activity.
4) Choose **Edit > Linked Business Process > Remove Record**. You can select one or more BPs. The BP itself is not deleted.

> **Note**: The link between a BP and an activity is automatically removed if the BP is terminated. When a linked BP is terminated, the BP hyperlink is removed from the associated activity, and the activity is set to not started.

Update activity properties

To update activity properties for scope management:

1) In User Mode, navigate to the Schedule Manager and select Schedule Log. The Schedule Sheets log opens.
2) Select a schedule sheet and click the **Open** button.
3) Click the link for an activity. The Activity Properties window displays.

4) Modify the activity properties as needed. The properties shown in the Activity Properties window depend on the design configured in uDesigner. Activity properties associated with scope management can include what is shown in the table below.

5) Click **OK**.

Property Name	Definition
Activity Statuses	Read-only for automatically controlled activities. Editable for manually controlled activities. The statuses are: **Not Started:** All activities have this as the initial status by default. Indicates that the BP linked to the activity has not yet been launched. **In Progress:** Indicates that predecessor activities are complete and that the current activity is not started. A new BP record is created and linked to the activity. Note: You cannot modify certain activity attributes while an activity is In progress. **Complete:** Indicates that an activity is complete based on the completion conditions set up for the activity.
Linked BP Name	Read-only; displays the BP linked to the activity.
Record Number	Read-only; displays the current record number that is linked with the activity.
Record Status	Read-only; displays the current status of the BP record linked to the activity.
Actual Start Date	Read-only or editable, depending on the setting for the Auto-update activity data box. This value is set when the linked BP is launched for the activity.
Actual Finish Date	Read-only or editable, depending on the setting for the Auto-update activity data box. This value is set when the linked BP is completed based on the completion conditions.
Estimated Start Date	Read-only; indicates the estimated start date for the activity.
Estimated Finish Date	Read-only, indicates the estimated finish date for the activity.
Auto-update activity status	The default is not selected. Indicates if the current activity is automatically controlled or manually controlled.
Dependencies	Read-only; lists the predecessor activities for the current activity using a coding format indicating lag and lead time: Finish to Start (FS), Start to Start (SS), Finish to Finish (FF), and Start to Finish (SF). For example: 3FS + 3d (Activity 3 is a predecessor with FS relationship with 3 days lag) 2SS - 1d (Activity 2 is a predecessor with SS relationship with a 1 day

	lead)
	An activity can have multiple dependencies separated by a comma. The value is updated every time there is an addition or change to the predecessors.

Status Transitions and Activities

Scope management activities have statuses that control the transition of the activity from one state to another as it progresses toward completion. You can perform certain changes to the activity during its progress, but it can be limited as to what you can change while an activity has the status In Progress. The activity status transitions vary depending on whether an activity is automatically or manually launched.

Automatic activity status transitions

When activities are auto-controlled (the Auto-update Activity Status box is checked), activity status is read only. The statuses automatically transition as follows:

▸ **Not started** (default)
▸ **In progress** (this is when the linked BP is launched)
▸ **Complete** (when the BP completion conditions are met)

Manual activity status transitions

You can change the activity status manually when the Auto-update Activity Status box is not checked. You can change the status during any of the states (not started, in progress, or complete).

▸ If you change the status of an activity to In Progress, you can enter the actual start date. This clears the existing actual finish date.
▸ If you change the status of an activity to Not Started, both the actual start date and the actual finish date are read only.
▸ If you change the status of an activity to Complete, you can enter an actual finish date. In this case, the actual start date, if it is not populated, is set to the actual finish date at activity completion.

About Launching or Removing Business Processes from Activities

Scope management functionality enables automatic or manual creation of business processes (BPs) from activities on a schedule sheet. A new BP record can be created for every eligible activity. The BP record will be permanently linked to the activity, unless you terminate or remove the BP. An activity can be linked to only one BP record at a time. Any two activities cannot link to the same BP record.

Automatic launching of business processes

For BPs to launch automatically from activities, these conditions must be met:

▸ **Auto-control** must be set to **On** on the Schedule Sheet properties
▸ Activity is not manually controlled, which means that **Auto-update Activity** is selected

▶ Activity has a BP setup
▶ Activity has the status **Not Started**
▶ Activity has no predecessors or the predecessors are all in **Complete** status
▶ The **Start Date** for the activity is not in the future

Manually launching business processes

You can launch BPs manually by selecting an activity and choosing **Edit > Linked Business Process > Start**. To manually launch BPs, these conditions must be met:

▶ Activity has the status Not Started
▶ BP setup is present on the activity

> **Note**: A BP can be launched manually to override the setting of the Auto-control flag on the Schedule Sheet Properties and Auto-update Activity Data on the Activity Properties.

Manual launch under various conditions:

Auto-control on Schedule Sheet Properties	Auto-update Activity Status on Activity	System Behavior
On/Off	Checked	Manually launched BP is tracked by the system, and actuals will be auto-populated on launch and completion.
On/Off	Unchecked	Scope Management will not keep track of BP completion and auto-population of actual start and finish dates of manually launched BP.

Manually remove business process link

You can remove a linked BP record manually if these conditions are met:

▶ Activity is in manual mode; that is, Auto-update Activity Status on Activity is unchecked
▶ Activity is in any status.

Automatic removal of business process link

If a BP is terminated by the user, the termination removes the BP link from the activity and sets the activity back to Not Started.

About Activity Completion

This section covers the criteria for automatic and manual completion of scope management activities.

Conditions for the automatic completion of activities

Unifier checks the linked BP record workflow for in-progress status activities that are not manually controlled (Auto-update Activity Data box is checked for the activity).

When the system detects BP completion based on the conditions, it performs the following actions:

1) **Actual finish** is updated with current date
2) **Activity status** is updated to complete
3) Success of activities is evaluated for the automatic launching of further BPs

If there is no BP setup or if the activity is manually controlled, the system does not evaluate the BP completion conditions but waits for you to manually complete the activity.

Conditions for the manual completion of activities

Activities that are manually controlled **(Auto-update Activity Data** box is unchecked) can only be completed manually. In this case, you must change the activity status to **Complete** and enter the actual finish date, which is required for the activity to complete successfully.

About Manual or Automatic Control of Individual Activities

This section describes the behavior of manual and automatic control of scope management activities.

Auto-update activity data on activity attributes

Activities can be controlled in two modes: automatic or manual. This choice depends on the value of the Auto-update Activity Data checkbox.

If **Auto-update Activity Data** is checked, automatic launching of BPs and completion checks with the possibility of launching the BP sooner.

If **Auto-update Activity Data** is unchecked (default value), the user has manual control, but basic scope completion rules are enforced. BP link is maintained. New BPs can be launched manually. The BP is not checked for completion.

The following table summarizes the behavior in each mode:

Behavior	Automatic	Manual
Auto-update Activity Data checkbox	Checked	Unchecked (default)
BP setup allowed	Yes	Yes
Create BP record link	Yes	Retain existing link if any exists
BPs launched by scheduler	Yes	No
Manual BP launch	Yes	Yes, but completion and actuals are not tracked

BP condition check	Yes	No
Scope status updated	Updated by system	Manual update via drop-down list choice
Scope status update rules enforced	Yes	Yes
Actual dates	Automatic	Manual

Rules for modifying the Auto-update Activity Data checkbox

These are the rules for using the Auto-update Activity Data checkbox.

▶ The Auto-Update Activity Data checkbox is unchecked by default for all schedule sheets.

▶ As soon as a new BP is set up for the activity (by choosing **File > Setup Scope Management**), the Auto-update Activity Data checkbox will be checked only for activities in the Not Started status.

▶ Updating the BP setup on an activity later will only check the Auto-update Activity Data checkbox automatically if the activity is in the Not Started status. If you have not set up any BP linking, by default, the box is unchecked. In that case, you can update the Actual Start, Actual Finish, and Status fields.

▶ You can manually modify the Auto-update Activity Data checkbox for any activity status, including complete.

System behavior when the Auto-update Activity Data checkbox is modified

The following is the sequence of the system behavior when the Auto-update Activity Data checkbox is modified:

1) The Auto-update Activity Data checkbox is unchecked by default, assuming that no BP setup exists for the activity. As soon as a new BP is set up or modified for the activity, the Auto-update Activity Data checkbox is checked.

2) Unchecking the Auto-update Activity Data checkbox will:

   a. Retain the BP record link (if any).

   b. Retain the original status of the activity.

   c. Change the activity status of an editable field.

   d. Retain existing actuals but allow them to be modified.

3) Subsequent checking of the Auto-update Activity Data checkbox will:

   a. Retain the BP record link if it exists.

   b. If a BP record link exists, update BP record status on the activity, and check the BP record for complete condition and set the appropriate status of the activity (either Complete or In Progress).

   c. If a link does not exist and conditions allow the start of the BP, the system launches the BP and sets the activity status to In Progress.

   d. If a link does not exist and conditions do not allow the start of the BP, the system sets the activity status to Not Started.

> **Note**: Setting the status to Not Started or Not Applicable in manual control mode does not clear the BP record link. The actual start cannot be a future date when entered manually, and the actual finish cannot be a future date when entered manually.

Impact of Schedule Start Date

The schedule start date on schedule sheet properties defines the earliest possible date on the schedule sheet. The start dates of all activities on the schedule sheet must be greater than or equal to the schedule start date.

The schedule start date affects the first activity in a group of linked activities and controls the start of any floating activities. Floating activities are activities that have no predecessor activities.

When you change the schedule start date, the entire schedule moves, and all the dates adjust in relation to the new schedule start date.

The schedule start date is a required field on schedule sheet properties. Updates to the schedule start date start activities are based on following rules:

▸ Floating activities start and retain the offset from the schedule start date specified on the sheet properties.
▸ The start date on floating activities can be updated; however, the activities start date cannot be earlier than the schedule start date.
▸ The start date of any floating activity will drive the start of the system update process. Each floating item may be the root of a tree and hence will have its own system update process that drives launching and completion of BPs for the current activity and successor activities.
▸ Forecast dates (start date, finish date) can only be changed for not started or in-progress activities.
▸ The schedule start date cannot be changed when at least one activity is in progress or complete.
▸ Manual launch cannot be done on any activity before the schedule start date on the sheet properties.

Calculation of Estimated Start and Finish Dates

Estimated dates are used to predict the effect of delayed or early completion of predecessor activities on successor activities. They are useful to identify potential problems or the potential for schedule compression.

The estimated start, finish, and duration are read-only elements calculated by the system. They are updated by the system each time activities complete. Succeeding estimated dates are adjusted based on the logic below.

For completed or predecessor complete activities:

▸ Estimated Start Date = Actual Start Date
▸ Estimated Finish Date = Actual Finish Date

For in-progress or not started activities:

▸ Estimated Start Date = Predecessor (latest) Estimated Finish Date

▶ Estimated Finish Date = Estimated Start Date + Forecast Duration

Impact of Successor and Predecessor Activities on Launching and Completion of BPs

This section discusses the interaction of activities and the launching of BPs. The start of an activity is affected by whether there is a lag or a lead, as shown in the examples below.

Finish-to-start (FS)

The successor activity is launched when the activity completes or the Calculated Date = Predecessor Actual Finish + Lag (if not already past).

In case of a lead, the successor activity is launched on the forecast start date (similar to a floating activity.

Finish-to-start

Start-to-start (SS)

When an activity's predecessor is started (for example, status = in-progress), it is also placed into an in-progress status (assuming zero lag).

▶ **Lag**: Success, or activity will be started on forecast date
▶ **Lead**: Success, or activity will be started on forecast date
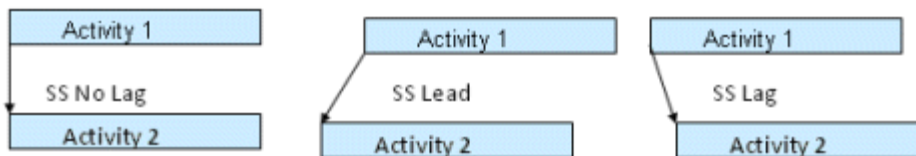
Start-to-start

Finish-to-finish (FF) and start-to-finish (SF)

The activities will be treated as floating activities. They are launched on their forecast date.

▶ **Lag**: Success, or activity will be started on forecast date
▶ **Lead**: Success, or activity will be started on forecast date

Finish-to-finish, start-to-finish

Entering and Viewing Cost Data

In uDesigner, data elements can be added that allow you to enter and view cost data on schedule sheets. These data elements are Activity Cost 1 (and Activity Total Cost 1 Per CBS) and Activity Cost 2 (and Activity Total Cost 2 Per CBS). The Cost and Per CBS data elements have a predefined association between them. Also, the Activity Latest Progress As Of data element can be added to allow you to track the date of the last change to an activity.

> **Note**: Unifier refreshes the cost data when you choose File > Refresh in a Schedule Sheet and refresh immediately or set up a refresh frequency. See *Refreshing Schedule Sheet data* (on page 588) for details.

In the activity setup performed by the Administrator, one of more CBS Codes can be associated with an activity. The value carried by the Total Cost data element on add to a Schedule Activity Attribute form gets passed onto these CBS codes as the result of calculations such as data roll up to a Cost Sheet, or earned value calculations. The logic used by the Activity Cost 1 and Activity Cost 2 and the associated Activity Total Cost 1 Per CBS and Activity Total Cost 2 Per CBS data elements is based on the association of an activity to a CBS code.

The values for Activity Total Cost 1 Per CBS and Activity Total Cost 2 Per CBS data elements are calculated by the system based on the corresponding Activity Cost 1 or Activity Cost 2 data element values.

These are the steps the system follows to calculate values for Activity Total Cost 1 Per CBS and Activity Total Cost 2 Per CBS data elements:

1) If the combination of Cost and Per CBS data elements are used on an Schedule Activity Attribute form, the system will scan through all of the activities and associated CBS codes.

2) The system will accumulate all of the values in the Activity Cost 1 or Activity Cost 2 data elements for all activities per CBS code associated with each activity.

3) Use the total value calculated in step 2 per CBS code as the value for each Activity Total Cost 1 Per CBS and Activity Total Cost 2 Per CBS data element specified for each activity.

4) Each activity gets a total value calculated in step 2 based on the CBS code associated with it.

The following example explains these calculations. For this example, the data elements Activity Cost 1 and Activity Total Cost 1 Per CBS have been added to the attribute form:

Activity Name	Activity Cost 1	Activity Total Cost 1 Per CBS
Control Account 1	$28,000.00	
Control Activity 1.1	$19,000.00	
Control Point 1.1.1	$10,000.00	$28,000.00

CBS - 1	$10,000.00	
Control Point 1.1.2	$9,000.00	$28,000.00
CBS - 1	$9,000.00	
Control Activity 1.2	$9,000.00	
Control Point 1.2.1	$5,000.00	$28,000.00
CBS - 1	$5,000.00	
Control Point 1.2.2	$4,000.00	$28,000.00
CBS - 1	$4,000.00	
Control Account 2	$20,000.00	
Control Activity 2.1	$20,000.00	
Control Point 2.1.1	$8,000.00	$20,000.00
CBS - 2	$8,000.00	
Control Point 2.1.2	$12,000.00	$20,000.00
CBS - 2	$12,000.00	

In the above example, Control Point 1.1.1 has a value $28000.00, which was arrived at by adding the value of CBS - 1 across all activities.

Effects of multiple calendars

Activities can be affected by calendar selection, if there are multiple calendars implemented. There can be a Calendar column in the activity sheet, for example. This column will allow to select a calendar per activity as needed. If this column exists, you can select from the Company level calendars and Project/Shell calendars as permissions allow. Any defined Custom calendars (which are defined for the Schedule Manager at the project or shell level) are not available for selection on the Activity Sheet.

If you are using an Activity Attribute form designed in uDesigner to manage activities, the data element uuu_activity_calendar can be added to the form so users can select calendars. If you are not using a designed Activity Attribute form (are letting Unifier use the default form provided), the data element uuu_activity_calendar is automatically included in the Activity Attribute form.

When activities are updated through the Activity Sheet, they consider the calendar in use for the activity. The Start Dates, Finish Dates and Durations can be affected by the calendar used for an activity. Double-click on the Calendar cell to see a list of Company level calendars and project/shell calendars (not the custom calendar). You can select another calendar for the activity.

The selected Start Date or Finish Date for an activity can be a non-working calendar day, however the duration of the activity will only account for working calendar days.

> **Note**: When you select the alternate calendar and click Save, the schedule sheet associated with the activity is marked for refresh with the refresh icon (rotating arrows).

Project Progress Data Accumulation and Calculation

The Schedule Manager allows you to enter activity progress, which is accumulated and used to calculate the earned progress for each activity. Earned progress represents how much has been earned on an activity. Depending on type of activity, earned progress can be tied to activity progress directly. However, it is also possible nothing is earned even if the progress is 99%, if the activity has been defined to have earned progress counted upon 100% of activity completion.

Earned progress is a quantitative measurement to indicate how much has been earned on an activity over the duration of the activity. Earned Progress can be represented by amount, quantity and a percentage value. Earned Progress is based on the progress entered by the user on an activity.

Each activity can earn progress in different ways. One way to earn is when progress is entered. Another way to earn is by % of activity when the activity is started and earn remaining % when that activity is finished. Unifier captures earned progress for an activity as well as resources that assigned to an activity. Earned progress data from the Schedule Manager is related to CBS codes and is used by the Earned Value module (in the Cost Manager) to calculate different key components that are required to perform Earned Value analysis.

The Schedule Manager also allows you to enter activity progress in the activity properties.

The calculations described in this section pertain to the progress and earned progress data accumulation and calculation discussed in *Progress and Earned Progress Calculations* (on page 655). If you do not need to work with progress or earned progress data to ultimately calculate Earned Value, you do not need to read this section.

> **Note**: The calculations described in this section pertain to the progress and earned progress data accumulation and calculation. If you do not need to work with progress or earned progress data to ultimately calculate Earned Value, you do not need to read this section.

Terminology

Progress: A percentage that indicates how much of an activity has been accomplished.

Earned Progress: This quantity represents the progress earned for a given activity over a time period. Depending on type of activity, earned progress can be tied directly to activity progress. Also, earned progress can be set up to be given at activity finish. For example, earned progress might not be awarded for incremental percentages of progress, and not be counted until 100% of an activity is complete.

Earned Progress and Earned Value

The Earned Value module uses the concept of Earned Value Management (EVM), which is an analytical tool that allows Project Managers and stake holders of a project to determine whether a project is on schedule and on budget. Based on the outcome of the earned value analysis, the project manager can determine if corrective action is needed to ensure that the project can be completed with in its constraints. Examples of corrective action can be the change of project scope, extension of the schedule, or the addition of resources.

There are a number of parameters that are used to calculate Earned Value to determine if a project is on schedule and on budget. Some of these parameters are Budget, Progress, or Actual Cost. All of these parameters must be considered together to determine the current state of a project. One of the key components of this technique is to capture the progress of a project. This progress is usually provided by a General Contractor or the person who is in charge of the project. These progress entries are analyzed to determine the state of the project. Progress information entered by user can be analyzed to determine the progress of the project with respect to budget and schedule.

Add a progress filter for earned value to a column

If the **Schedule Attribute** form includes an **Activity Earned Value Filter** field (**uuu_activity_ev_filter**), you can set up progress filtering for earned value sheets in the Cost Manager.

To set up the schedule sheet for progress filtering
1) Open a schedule sheet in a template or project/shell.
2) Add the **Activity Earned Value Filter** data element as a column to the schedule sheet.
3) Enter an alphanumeric value, such as "progressable" or "non-progressable," into the column cell. (Use whatever term you like.)
4) Save the schedule sheet.

Enter progress and earned progress information

In Unifier, there are several areas that enable you to enter (based on settings), view progress and earned progress information, or control the accumulation of progress information:

1) **Budget and Progress Setup window**: First, set up how you want your progress data calculated. See *Setting Up the Budget and Progress Method* (on page 637) for details.
2) **Enter data on the attribute forms**. The fields that allow you to enter data are determined by the settings on the Budget and Progress Setup window:
   ‣ Resource Assignment Attribute form (Resource tab of Activity Properties)
   ‣ Schedule Attribute form (General tab of Activity Properties)

See ***Entering Progress Data on the General and Resource Tabs of Activity Properties*** (on page 648) for details.

3) **Activity Progress window**: View activity and resource progress; depending on settings on the Budget and Progress Setup window, you can enter progress data in this window. This window is available only if you have imported the Resource Assignment Attribute form. See ***Entering Progress in the Activity Progress Window*** (on page 650) for details.

4) **Check activity and resource progress in the logs**: View and enter progress data as needed:
   ‣ Activity Progress log
   ‣ Resource Progress log

   See ***Using the Activity Progress and Resource Progress Logs*** (on page 654) for details.

5) **Options tab of the Schedule Sheet Properties**: The options on this tab allow you to control the automatic update of activity status based on Actual Start and Actual Finish dates, and to specify that activity progress requires an Actual Start Date.

Setting Up the Budget and Progress Method

The Schedule Manager allows you to set up a budgeted cost of work schedule profile for each activity on a schedule sheet to distribute budget associated with the activity.You can enter this profile information in the Budget and Progress setup window, either at the schedule sheet level (for all of the activities on the sheet) or at the individual activity level.

These settings include selecting a profile, an entry method, and calculation methods for % Complete and % Earned. The settings you select in this window control how the progress and earned progress data that is entered on the Resource Assignment Attribute form (Resource tab for Activity Properties) and the Activity form (General tab for Activity Properties) is calculated. Also, you can choose the workpackage-related CBS codes to link to, and lock the progress so it cannot be updated outside of a defined period.

You can configure the setup for progress (both resource and activity) and earned progress settings independently. At the same time, you can also have activity or resource progress calculate earned progress automatically or the earned progress calculate the progress.

Most of the Budget and Progress settings that you can use at the schedule sheet level are also available at the activity level, however there are some differences. This section will first document the settings for the schedule sheet level, and mention when there are variations at the activity level and refer to the appropriate section.

> **Note**: The Budget and Progress Method setup options for an activity cannot be modified after a user begins to enter progress for that activity. This includes activity progress or progress of the resource assigned to that activity.

The calculations used to derive progress and earned progress are explained in ***Progress and Earned Progress Calculations*** (on page 655).

To setup the budget and progress method

1) Navigate to a schedule sheet log.
2) Open a schedule sheet.

3) Choose **File > Budget and Progress Setup > Schedule Sheet** or **File > Budget and Progress Setup > Activity**. A the activity level, the Budget and Progress Method Setup window opens in the right side of the schedule sheet window, and replaces the Gantt chart. When you are done working with the activity-level Budget and Progress Method Setup window, you can choose **View > Gantt Chart**.

4) Select the Budget and Progress settings. The Budget and Progress Method Setup window has several sections where you can choose settings.

▶ **Activity Budget Distribution Profile**: See *Select the activity budget distribution profile* (on page 640) for details on the profile setting choices.

▸ **% Complete and Earned Progress**: See *Select the entry method for the % complete and earned progress* (on page 642) for details on the entry methods.

▸ **% Complete Calculation Method**: See *Select the calculation method for % complete* (on page 643) for details on these calculation methods.

▸ **% Earned Calculation Method**: See *Select the calculation method for % earned* (on page 645) for details on these calculation methods.

▸ **Additional Options (schedule sheet level only)**: See *Select CBS codes filtered by workpackage (schedule sheet level only)* (on page 647) and *Lock the reporting and progress entry period (schedule sheet level only)* (on page 648) for details.

5) Click **OK**.

Select the activity budget distribution profile

You can choose the option that determine how the budget of an activity is distributed.

To set up budget distribution for activities at the schedule sheet level

1) Open a schedule sheet.
2) Choose **File > Budget and Progress Setup > Schedule Sheet**. The Default Budget and Progress Method Setup window opens.
3) Under the **Activity Budget Distribution Profile** section, choose an option. This option will apply to all activities in the schedule sheet, unless it is overridden by the selection of a different option for an individual activity.

Data Element Name	Description
Linear	This option distributes the activity budget linearly.
S-curve Sigma Mu %	This option distributes the activity budget based on Sigma and Mu values. S-curve calculations are based on Sigma and Mu values that are provided as setup parameters. The system will generate data using following probability density function: $$f(x) = \frac{1}{\sqrt{2\pi\sigma^2}}\, e^{-(x-\mu)^2/(2\sigma^2)}$$ Parameters in this equations are: *X* is determined based on the number of periods. *Mu* is the mean that is calculated based on user input. *Sigma* is the standard deviation that is used based on user input.
On Start and Finish % budgeted on Start and Finish	This option distributes the activity budget based on the Start and Finish Dates of the activity. % budgeted on Start: This option allows you to enter the percentage that should be budgeted on start of the activity. % budgeted on Finish: This is a read-only field, and is calculated based on the % budgeted on Start value. The

	value for this filed is (100 - % budgeted on Start).
Import distribution data from external sources	This option allows Unifier to import progress data from Primavera. Data mapping is required in the schedule sheet to ensure the spread will be populated correctly in the EV sheet. All required fields must be mapped.
Distribution profile based on resource	This option distributes the cost of a role per activity by rolling up the rate of all the resources assigned to the activity. If hard booked resources are allocated, the total cost = (role rate) x (currency rate) x (quantity.) If the resources are not allocated, the total cost is manual entry (from a formula).
	In a schedule sheet's activity, you will need to match the activity's total cost to the role cost total. The total amount is rolled up to the cash flow module to create a cash flow profile based on the resource(s) cost on the activity.

The tables below show incremental and cumulative examples of how these three options work, and the differences between them. This data is assumed for these examples:

▸ **Start Date**: 01/1/2009
▸ **Finish Date**: 12/1/2009
▸ **Total Cost**: $12000.00
▸ **For S-Curve**: Sigma = 2 and Mu = 50%
▸ **For Start and Finish**: % budget distribution on start = 5%, % budget distribution on finish = 95%

Incremental

Option	01-09	02-09	03-09	04-09	05-09	06-09	07-09	08-09	09-09	10-09	11-09	12-09
Linear	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
S-Curve	26.52	104.88	323.06	789.30	1462.17	2120.93	2401.43	2120.93	1447.85	774.98	323.06	104.88
On Start and Finish	600	0	0	0	0	0	0	0	0	0	0	11400

Cumulative

Option	01-09	02-09	03-09	04-09	05-09	06-09	07-09	08-09	09-09	10-09	11-09	12-09
Linear	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
S-Curve	26.52	131.40	454.46	1243.76	2705.93	4826.86	7228.29	9349.22	10797.07	11572.10	11895.10	11999.99

On Start and Finish	600	600	600	600	600	600	600	600	600	600	600	12000

To set up budget distribution for activities at the activity level

1) Open a schedule sheet.

2) Highlight an activity row in the sheet.

3) Choose **File > Budget and Progress Setup > Activity**.

4) Under the **Activity Budget Distribution Profile** section, choose an option. This option will apply specifically to the selected activity, and will override any default option set up at the schedule sheet level. The behavior of these Activity Budget Distribution Profile options at the activity level is the same as the default options at the schedule sheet level.

Select the entry method for the % complete and earned progress

You can select an entry method for the progress and earned progress data, and can enter progress (both resource and activity) and earned progress independently. Also, you can select an entry method that allows you to enter the progress of activity or resource then calculate earned progress, or enter earned progress and calculate progress for an activity or resource.

To select the entry method for the % complete and earned progress for activities at the schedule sheet level

1) Open a schedule sheet.

2) Choose **File > Budget and Progress Setup > Schedule Sheet**.

3) In the **Default % Complete and Earned Progress** section, choose a default entry method. This entry method will apply to all activities in the schedule sheet, unless it is overridden by the selection of a different entry method for an individual activity.

Use this Entry Method	To do this:
Independently Control % complete and earned quantity	Enter the progress of activity or resource independent of earned progress.
Activity and resource % complete updates % earned	Enter the progress of activity or resource, and earned progress will be automatically calculated.
Activity and resource % earned updated % complete	Enter the earned progress of activity or resource, and progress will be automatically calculated.
Do not allow update of % complete and % earned	**Not** enter either progress or earned progress. You cannot enter any type of activity progress information with this option selected.

To select the entry method for the % complete and earned progress for activities at the activity level

1) Open a schedule sheet.

2) Highlight an activity row in the sheet.

3) Choose **File > Budget and Progress Setup > Activity**.

4) Under the **% Complete and Earned Progress** section, choose an entry method. This option will apply specifically to the selected activity, and will override any default entry method set up at the schedule sheet level. The behavior of these % Complete and Earned Progress Entry Method options at the activity level is the same as the default options at the schedule sheet level.

Select the calculation method for % complete

You can select an option that allows you to enter progress information for a key quantity (referred to as the Leader) of an activity which will determine the overall progress of other resources and the activity itself. For example:

▶ **Example 1**: Assume that there are two resources on an activity, called Resource 1 and Resource 2. If the key quantity is Resource 1 and you enter progress (say 30%) on Resource 1, then Resource 2 should also progress with same 30%. Also, overall activity progress should progress by 30%.

▶ **Example 2**: Assume that the key quantity (Leader) in this example is Activity % Complete. If you enter progress of 50% on the activity, Resource 1 and Resource 2 are updated with the same progress of 50%.

The key quantity is referred to as the Leader in Unifier.

To select the % complete calculation method for activities at the schedule sheet level

1) Open a schedule sheet.

2) Choose **File > Budget and Progress Setup > Schedule Sheet**.

3) Under the **Default % Complete Calculation Method** section, choose an option. This option will apply to all activities in the schedule sheet, unless it is overridden by the selection of a different option for an individual activity.

> **Note**: Company holidays based on company calendar should be considered while distributing budget. Budget should not be distributed on days that are marked as holidays on company calendar.

Use this Calculation Method	To do this:
Manual activity % complete and resource % complete	Enter the progress of activity and resource independent of each other. Entering Activity % Complete will not update resource progress and entering resource % complete will not update Activity % Complete.
Manual activity % complete - updates resource % complete	Enter the progress of an activity, and resource % complete will be updated automatically. If this option is selected, Activity % Complete will become the key quantity or Leader, which will control the progress of the entire activity, including resources.
Resource updates Activity - weighted	Enter progress for each resource

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average of resource costs	independently. Activity % Complete is read-only and will be automatically calculated based on weighted resource cost.
	The following formula is used to calculate this value:
	{Sum of [Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
	All resources are considered in this calculation, including hard booked resources.
Resource updates Activity - weighted avg. of resource hours	Enter progress for each resource independently. Activity % Complete will be read-only and will be automatically calculated based on weighted resource man hours.
	The following formula is used to calculate this value:
	{Sum of [Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Quantity) } * 100
	The only resources considered in this calculation are hard booked resources.

Note: Progress entry for Resource and Activity before importing Resource Assignment Attribute form is based on Activity % Complete and Resource % Complete. After the Resource Assignment Attribute form is imported, progress on activity will be Activity % Complete, but for Resource it is Progress Quantity the data element. Resource % Complete is then read-only and always calculated.

To select the % complete calculation method for activities at the activity level

1) Open a schedule sheet.

2) Choose **File > Budget and Progress Setup > Activity**.

3) Under the **% Complete Calculation Method** section, choose an option. This option will apply specifically to the selected activity, and will override any default entry method set up at the schedule sheet level. The behavior of these % Complete Calculation Method options at the activity level is the same as the default options at the schedule sheet level. The exception is **Lead resource updates Activity and other resources**, described in the next step.

4) Under the activity level, you can select **Lead resource updates Activity and other resources**, and choose resources (including hard booked) that are assigned to the activity on the Resource tab. This option allows you to select a resource as a key quantity or a Leader. If you select this option and a resource from the drop down menu, then you can enter progress on only that resource. Activity % Complete and Resource % Complete on all other resources are read-only and will be automatically calculated based on the progress entered on key quantity or leader resource.

For example:

Assume that there is an activity with Resource 1 and Resource 2, with the Activity % Complete at 0%:

Resource	Work Hours	% Complete
Resource 1	200	0
Resource 2	500	0 (read-only)

For a further example, assume that Resource 1 is the key quantity or Leader, with the Activity % Complete at 30%:

Resource	Work Hours	% Complete
Resource 1	200	30
Resource 2	500	30 (read-only)

You can change the Lead resource updates Activity and other resources drop down menu selection until there is progress or earned progress entries for the activity or resource. After progress or earned progress data is entered, the Budget and Progress Method Setup for the activity is disabled and you cannot delete the resource selected as Leader. If you find that you must change the settings for the activity, you must delete the activity and start over with new data and settings.

Select the calculation method for % earned

Earned progress is a quantitative measurement to indicate how much has been earned on an activity over its duration. Earned progress can be represented by amount, quantity and a percentage value.

Earned progress is based on the progress entered on an activity. Activities can earn progress in when progress is entered, or by % of activity budget, when the activity is started and earn remaining the remaining percentage when that activity completes.

Unifier allows you to accumulate and calculate earned progress for an activity as well as resources assigned to an activity:

▸ Earned Progress is calculated at activity level and each resource assigned to that activity.
▸ Earned Progress calculated under a schedule sheet for activity and assigned resources is used later in the Earned Value module (in the Cost Manager) to calculate Budgeted Cost of Work Performed (BCWP).
▸ Earned Progress calculated at the activity level is used when BCWP needs to be represented by the cost.
▸ Earned Progress calculated at resource assignment level is used when BCWP is represented by a unit of measure (for example, Hours).

To select the % earned calculation method for activities at the schedule sheet level

1) Open a schedule sheet.
2) Choose **File > Budget and Progress Setup > Schedule Sheet**.

3) Under the **Default % Earned Calculation Method** section, choose an option. This option will apply to all activities in the schedule sheet, unless it is overridden by the selection of a different option for an individual activity.

Use this Calculation Method	To do this:
Manual activity % earned and resource % earned	Enter earned progress of activity and resource independent of each other. Entering Activity earned progress will not update resource earned progress and entering resource earned progress will not update activity earned progress.
Manual activity % earned - updates resource % earned	You can select this option only if Manual activity % earned and resource % earned is selected. Allows you to enter earned progress of an activity and resource earned progress will be updated automatically.
Resource updates Activity - weighted average of resource costs	Enter earned progress for each resource independently. Activity earned progress will be read-only and will be automatically calculated based on weighted resource cost. Following formula will be used. (Sum of Resource Cost * Resource Earned Progress / Total Activity Work Hours) * 100 All resources will be considered in this calculation including hard booked resources.
Update Activity and all resources on activity start and finish % earned on Actual Start and Actual Finish	Allow the system to calculate earned progress based on actual start and finish of the activity % earned on Actual Start: This option will allow user to enter % that should be earned on start of the activity. User can enter a value. % earned on Actual Finish: This is a read-only field. Should always be calculated based on % earned on Actual Start. Value for this filed should be (100 - % earned on Actual Start). If you select this option, earned progress is calculated based on Update Activity and all resources on activity start and finish of the activity. Unifier will automatically calculate earned progress for activity and assigned resources when actual start and finish dates are entered.

To select the % earned calculation method for activities at the activity level

1) Open a schedule sheet.
2) Choose **File > Budget and Progress Setup > Activity**.

3) Under the **% Earned Calculation Method** section, choose an option. This option will apply specifically to the selected activity, and will override any default entry method set up at the schedule sheet level. The behavior of these % Earned Calculation Method options at the activity level is the same as the default options at the schedule sheet level. The exception is **Lead resource updates Activity and other resources**, described in the next step.

4) Under the activity level, you can select **Lead resource updates Activity and other resources**, and choose resources (including hard booked) that are assigned to the activity on the Resource tab. This option allows you to select a resource as a key quantity or a Leader. If you select this option and a resource from the drop down menu, then you can enter progress on only that resource.

For example:

Assume that there is an activity with Resource 1 and Resource 2, with the Earned Progress at 0%:

Resource	Work Hours	% Complete
Resource 1	200	0
Resource 2	500	0 (read-only)

For a further example, assume that Resource 1 is the key quantity or Leader, with the Earned Progress at 30%:

Resource	Work Hours	% Complete
Resource 1	200	30
Resource 2	500	30 (read-only)

You can change the Lead resource updates Activity and other resources drop down menu selection until there is progress or earned progress entries for the activity or resource. After progress or earned progress data is entered, the Budget and Progress Method Setup for the activity is disabled and you cannot delete the resource selected as Leader. If you find that you must change the settings for the activity, you must delete the activity and start over with new data and settings.

Select CBS codes filtered by workpackage (schedule sheet level only)

An activity in a schedule sheet can be associated with one or more CBS Codes. This assignment is used to create a mapping between costs associated with an activity to a Cost Code (CBS Code). Unifier allows you to choose a workpackage to use to filter the CBS codes you can select in the Activity Properties, CBS Codes tab. You can choose one workpackage to use as a filter.

> **Note**: The Workpackage must be active and contain CBS codes, and also transactions must have occurred using the pertinent CBS codes, or the CBS codes tab will not contain codes for you to select.

To filter CBS codes by workpackage

1) Open a schedule sheet.
2) Choose **File > Budget and Progress Setup > Schedule Sheet**.

3) Under the **Additional Options** section, in the **Workpackage** field, click **Select**.

Workpackage selection

Lock the reporting and progress entry period (schedule sheet level only)

You can prevent users from entering or modifying progress data entries made prior to the current week or the current month. These selections allow you to control the activity and resource data entered on the Activity Progress window. See *Entering Progress in the Activity Progress Window* (on page 650) for details.

To specify a restriction on data entry or reporting for progress data

1) Open a schedule sheet.

2) Choose **File > Budget and Progress Setup > Schedule Sheet**.

3) Under the **Additional Options** section, in the **Reporting Period** field, select **Week** or **Month**. If there is an activity calendar specified, that calendar affects the reporting period for these options.

Reporting Period selections

4) Check the **Do not allow progress entry older than current period** checkbox. This checkbox works in conjunction with Reporting Period that you select. If you select Week as the reporting period then users cannot enter or modify progress entered prior to current week; if you select Month as the reporting period then users cannot enter or modify progress entered prior to current month.

5) In addition, you can select **Allow editing of last period progress** and specify a number of working days into the current period. Selecting this option allows users to modify progress of the last period (based on the reporting period) until a specified number of days into the current period.

6) Click **OK**.

Entering Progress Data on the General and Resource Tabs of Activity Properties

The Resource Assignment Attribute form (when imported, replaces the Resources tab of the Activity Properties and provides data elements to other areas) contains fields related to resources assigned to an activity to that allow you to enter effort and expense information related to that effort. The Resource Assignment Attribute form allows you to assign a resource to a Resource Type, rather than to a hard booked resource. Also, it allows the capture of progress with respect to effort, and the base lining of resource assignment.

The Schedule Attribute form is used as the General tab of the Activity Properties can also include fields that allow you to enter progress and earned progress data.

The ability to enter progress and earned progress on the Schedule Attribute and the Resource Assignment Attribute forms is based on the options selected on the Budget and Progress Setup for a given activity. See **Setting Up the Budget and Progress Method** (on page 637). Fields on the forms are editable or read-only and calculated based on the option settings.

This progress or earned progress is time stamped when entered:

▶ For an activity:

  ▸ Date on which the progress or earned progress is entered or calculated.

  ▸ Activity % Complete value

  ▸ Earned Progress value

▶ For a resource:

  ▸ Date on which the progress quantity and or earned progress is entered or calculated

  ▸ Progress Quantity value

  ▸ Earned Progress value

You can access time stamped information through the Activity Progress Log or the Resource Progress Log. See **Using the Activity Progress and Resource Progress Logs** (on page 654) for details on the logs.

The calculations used to derive progress and earned progress are explained in **Progress and Earned Progress Calculations** (on page 655).

To enter data into the attribute forms

1) Navigate to a schedule sheet.

2) Click an activity name.

3) On the **General** tab, you can enter progress or earned progress data in these fields, depending on settings on the Budget and Progress Setup window, and if the data elements for these fields have been added to the Schedule Attribute form and that form has been imported:

  ▸ Earned Progress

  ▸ Earned Amount

  ▸ Forecast 1 Start

  ▸ Forecast 1 Finish

  ▸ Activity Percent 1

4) On the **Resource** tab, you can enter progress or earned progress data in these fields, depending on settings on the Budget and Progress Setup window, and if the data elements for these fields have been added to the Resource Assignment Attribute form and that form has been imported The fields you see may vary:

  ▸ Resource Name

  ▸ Role Name (Picker)

  ▸ Resource Type

  ▸ Quantity (Qty)

- UOM
- Amount
- % Units
- Earned Progress
- Earned Amount
- ETC
- ETC Amount
- Resource % 1

> **Note**: You can double-click the resource name to view the Resource Assignment Attribute form in view-only mode.

5) Click **Add**.
6) Enter resource data as needed.
7) Click **OK**.

Entering Progress in the Activity Progress Window

The Activity Progress window allows users to quickly modify the daily activity and resource progress data for a selected activity. Users can move down the rows of activities with the Activity Progress window open and quickly modify the progress for each activity without having to open the activity.

> **Note**: The Activity Progress window is available only if the Resource Assignment Attribute form is designed and imported into Unifier.

You can access the Activity Progress Log and the Resource Progress Log from the Activity Progress window. The logs display the progress data that is entered over time, and allow the user to view and modify the progress data for activities and resources. See *Using the Activity Progress and Resource Progress Logs* (on page 654) for details.

> **Note**: If you enter partial activity progress data, for example enter Activity Progress for a day, but do not enter the Resource Progress (or enter Resource Progress and do not enter Activity Progress at that time), and then save the data, you cannot enter the Resource Progress later that day. You can however, enter the progress the next day.

To view or enter activity progress on the Activity Progress window

1) Navigate to a schedule sheet.
2) Highlight an activity name.

3) Click the **Progress** button. The Activity Progress window opens on the right side.

The Activity Progress and Resource Progress fields are editable or read-only depending on settings on the Budget and Progress Method setup window.

4) Click **Save**.

In this field:	Do this:
Activity progress as of	Select a date for which you want to enter progress data. Today's date shows by default. This date is used as the time stamp for progress data entered on this window. If you choose a date that conflicts with the date restriction you have set up on the Budget and Progress Method Setup under Additional Options (see **Lock the reporting and progress entry period (schedule sheet level only)** (on page 648) for details) you will receive a warning message. If you have select the Reporting Period: ▸ Week: You cannot select a date prior to current week. Weeks are

	counted as Sunday to Saturday. For example, if today is Monday, June 22, you cannot select a date prior to Sunday, June 21. ▸ Month: You cannot select a date prior to current month. For example if the current month is June 2009, you cannot select a month prior to June 2009. You can select a date in the future if it is in the current period. You cannot select a date which is designated as a company holiday on company calendar.
Activity Progress - latest activity progress information	
Activity Progress Log button	Click to access the Activity Progress Log. See ***Using the Activity Progress and Resource Progress Logs*** (on page 654) for details. This log displays all activity progress entries made by user.
Activity Percent Complete	Enter or view activity progress data. This field is read-only or editable based on settings in Budget and Progress Method setup window for the activity. Unless you enter a value, the latest previously-entered value is retained in this field.
Earned Progress	Enter or view activity progress data. This field is read-only or editable based on settings in Budget and Progress Method setup window for the activity. Unless you enter a value, the latest previously-entered value is retained in this field.
Latest Progress as of	View the date on which Unifier last calculated activity progress. This field corresponds with Primavera Current Data Date. Unifier honors Current Data Date on schedule sheets imported from Primavera.
Latest % Complete	View the latest activity % complete.
Latest Earned Progress	View the latest earned progress of the activity.
Resource Progress - latest resource progress information	
Activity Progress Log button	Click to access the Resource Progress Log. See ***Using the Activity Progress and Resource Progress Logs*** (on page 654) for details. This log displays all resource progress entries made by user.
Leader Column	View an icon to indicate the leader selected on the Budget and Progress Method Setup window.
Resource Name	View the name of the resource. This column will show Resource Name for each resource from resource assignment form.
Quantity	View the quantity for each resource from the Resource Assignment Attribute form.
Progress Quantity	Enter progress quantity. Unless you enter a value, the latest previously-entered value is retained in this field.

Earned Progress	View the earned quantity of each resource, which is associated with the Earned Progress on Resource Assignment Attribute form. Unless you enter a value, the latest previously-entered value is retained in this field.
UOM	View the unit of measure for each resource from the Resource Assignment Attribute form.
Resource Latest Progress - latest progress information for each resource. Select a resource listed under Resource Progress to see the latest progress for each resource.	
Resource Name	View the name of the selected resource.
Progress as of	View the latest progress entry date of the resource.
Progress Quantity	View the latest progress quantity entered.
Earned Progress	View the latest earned quantity of the resource.
UOM	View the unit of measure for the resource.

To view or enter activity progress on the Activity Progress window for a summary activity

1) Navigate to a schedule sheet.
2) Highlight a summary activity name.
3) Click the **Progress** button. The Activity Progress window opens on the right side. For an explanation of the fields on this window, see the table below.

Activity Progress
Activity % Complete: 100.00 % Latest Progress as of: 10/13/2009
Earned Progress: 100.00 %
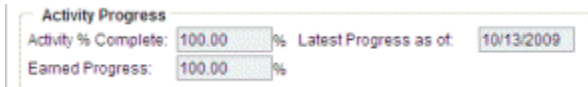
4) Click **Save**.

Activity Progress window fields:

In this field:	Do this:
Activity % Complete	View the activity percent complete for the activities.
Latest Progress as of	View the latest progress entry date across all leaf activities under the selected summary activity.
Earned Progress	View the latest earned quantity of the activities.

Export and Import Activity Progress data

You can export and import to import Activity Progress using CSV files. This CSV export and import functionality is available only if the Resource Assignment Attribute form has been imported.

To export Activity Progress data

You can export Activity Progress data to a CSV file with latest activity and resource information. The CSV will only contain leaf level activities. This is an example of an exported Activity Progress CSV file:

	A	B	C	D	E	F	G	H	I	J
1	Note									
2	Columns with '!' cannot be modified									
3										
4	Progress as of!									
5	8/27/2009									
6	A!	Activity ID!	Activity Name!	Leader!	Activity % Complete	Earned Progress	Latest Progress as of!	Latest % Complete!	Latest Earned Progress!	
7	R!	Resource Name!	Quantity!	Leader!	Progress Quantity	Earned Progress	Latest Progress as of!	Latest Progress Quantity!	Latest Earned Quantity!	UOM!
8	A		1	Activity 1			08/26/2009		30.00	30.00	
9	R	Manhours	400				08/26/2009	30.00	30.00	Hrs
10	R	Equipment	1				08/26/2009	30.00	30.00	Each
11	R	Material	1000	Yes			08/26/2009	30.00	30.00	L.ft
12	A		2	Activity 2			08/20/2009		20.00	10.00	
13	R	Manhours	500				08/15/2009	15.00	10.00	Hrs
14	A		3	Activity 3	Yes		08/20/2009		20.00	10.00	
15	R	Manhours	500				08/20/2009	20.00	10.00	Hrs

Example of Activity Progress CSV file

In the example, notice that the first column is named *Progress as of!*. This date is used as a timestamp on the progress information. There are two headers in this example file:

Notice that there is a *Leader!* Column. This column identifies which row is a leader for an activity. This is based on Budget and Progress setup profile option of an activity. If the activity is updating all resources then the activity shows *Yes* in the Leader column. If a resource is updated all other resources then the resource shows *Yes* in the Leader column. For all other options, the Leader column will be empty.

1) In a schedule sheet, choose **File > Export > Activity Progress Template**.
2) Modify the CSV file as needed to add activity progress data.
3) Save the CSV file and import.

To import Activity Progress data

1) In a schedule sheet, choose **File > Import > Activity Progress**.
2) Browse to select the CSV file to import.
3) Click **OK**.

Using the Activity Progress and Resource Progress Logs

After entering activity or resource progress data, the user can view or modify the data by going to an Activity Progress Log or Resource Progress Log. These logs are accessible only from the Activity Progress window. From these logs, the user can view progress effective date, progress quantity and earned quantity. The user can also modify the progress and earned quantity data, for the most recent entry and for entries in the past, depending on the settings for the editing of period progress on the Budget Progress and Method Setup window. See *Lock the reporting and progress entry period (schedule sheet level only)* (on page 648) for details.

For example, you might want to use this log to modify data if you need to change past progress data based on actual start of data calculation, which saves you from having to delete the activity and loose all of the data associated with that activity.

> **Note**: Modifying log information will not change the current information on Schedule Attribute form and Resource Assignment Attribute form unless data related to today is modified.

To view or modify progress data from the Activity Progress or Resource Progress logs

1) Navigate to a schedule sheet.
2) Highlight a summary activity name.
3) Click the **Progress** button. The Activity Progress window opens on the right side.
4) Click the **Activity Progress Log** button or **Resource Progress Log** button.
5) Modify progress data as needed. Select the row you want to modify and double click the cell that needs to modify. The Progress Quantity or Earned Progress columns can be editable depending on settings on Budget and Progress Method Setup window for the activity.
6) Click **Save**.

Progress and Earned Progress Calculations

> **Note**: The calculations described in this section pertain to the progress and earned progress data accumulation and calculation discussed in *Project Progress Data Accumulation and Calculation* (on page 635). If you do not need to work with progress or earned progress data to ultimately calculate Earned Value, you do not need to read this section.

This section explains calculations involved in calculating progress and earned progress at activity and resource level based on different options selected on Budget and Progress Method setup window. The data elements on the Schedule Attribute and Resource Assignment Attribute forms are considered and affected by the progress and earned progress calculations are:

▸ Activity
  ▸ Total Cost
  ▸ Activity % Complete
  ▸ Earned Progress
  ▸ Earned Amount (Value of this data element is always based on uDesigner design)
▸ Resource
  ▸ Role
  ▸ Quantity
  ▸ Rate
  ▸ Amount
  ▸ Resource % Complete (Value of this data element is calculated as (Progress Quantity / Quantity) %
  ▸ Progress Quantity

▸ Earned Quantity
▸ Earned Amount (Value of this data element is always based on uDesigner design)

The calculations are described in terms of the calculation options in relation to the % Complete and Earned Progress entry method selected:

▸ *Independently Control % complete and Earned quantity* (on page 656)
▸ *Activity and resource % complete updates % earned* (on page 669)
▸ *Activity and resource % earned updates % complete* (on page 673)
▸ *Do not allow update of % complete and % earned* (on page 679)

See *Select the entry method for the % complete and earned progress* (on page 642) for details on these methods.

Independently Control % complete and Earned quantity

This section contains scenarios for calculations based on the entry method **Independently Control % complete and earned quantity** and the **% Complete Calculation Method** option selected.

Method is Manual activity % complete and resource % complete

This section contains scenarios based on the option selected for % Complete Calculation Method being **Manual activity % complete and resource % complete**.

% Earned Calculation Method option is Manual activity % earned and resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

▸ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
▸ % Complete Calculation Method option = Manual activity % complete and resource % complete
▸ % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Manual activity % earned - updates resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
▶ % Complete Calculation Method option = Manual activity % complete and resource % complete
▶ % Earned Calculation Method option = Manual activity % earned - updates resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) (Activity-level Earned Progress * Quantity)

% Earned Calculation Method option is Resource updates Activity - weighted average of resource costs

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
▶ % Complete Calculation Method option = Manual activity % complete and resource % complete
▶ % Earned Calculation Method option = Resource updates Activity - weighted average of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry

	Earned Progress	Calculated (Weighted Cost) and read-only. {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Lead resource updates Activity and other resources

This combination of settings is not available.

% Earned Calculation Method option is Update Activity and all resources on activity start and finish

If the entry method and option settings on the Budget and Progress Method Setup window are:

▸ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity

▸ % Complete Calculation Method option = Manual activity % complete and resource % complete

▸ % Earned Calculation Method option = Update Activity and all resources on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (Weighted Cost) and read-only. {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, when Actual Start is entered, Earned Progress

		= 5% * Quantity
		When Actual Finish is entered, Earned Progress = 100% * Quantity.

Method is Manual activity % complete - updates resource % complete

This section contains scenarios based on the option selected for % Complete Calculation Method being **Manual activity % complete - updates resource % complete**.

% Earned Calculation Method option is Manual activity % earned and resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity

▶ % Complete Calculation Method option = Manual activity % complete - updates resource % complete

▶ % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Calculated (read-only). (Activity-level Activity % Complete * Quantity)
	Earned Progress	Manual entry

% Earned Calculation Method option is Manual activity % earned - updates resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity

▶ % Complete Calculation Method option = Manual activity % complete - updates resource % complete

▶ % Earned Calculation Method option = Manual activity % earned - updates resource % earned

This data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Calculated (read-only). (Activity-level Activity % Complete * Quantity)
	Earned Progress	Calculated (read-only). (Activity-level Earned Progress * Quantity)

% Earned Calculation Method option is Resource updates Activity - weighted average of resource costs

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity

▶ % Complete Calculation Method option = Manual activity % complete - updates resource % complete

▶ % Earned Calculation Method option = Resource updates Activity - weighted average of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (Weighted Cost) {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Calculated (read-only). (Activity-level Activity % Complete * Quantity)
	Earned Progress	Manual Entry

% Earned Calculation Method option is Lead resource updates Activity and other resources

This combination of settings is not available.

% Earned Calculation Method option is Update Activity and all resources on activity start and finish

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
▶ % Complete Calculation Method option = Manual activity % complete - updates resource % complete
▶ % Earned Calculation Method option = Update Activity and all resources on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (Weighted Cost) {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Calculated (read-only). (Activity-level Activity % Complete * Quantity)
	Earned Progress	Calculated based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, when Actual Start is entered, Earned Progress = 5% * Quantity When Actual Finish is entered, Earned Progress = 100% * Quantity.

Method is Resource updates Activity - weighted avg. of resource hours

This section contains scenarios based on the option selected for % Complete Calculation Method being **Resource updates Activity - weighted avg. of resource hours**.

% Earned Calculation Method option is Manual activity % earned and resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
▶ % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours
▶ % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and (read-only). {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Quantity)] / Sum of (Resource Quantity) } * 100 Only hard booked resources will be considered.
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Manual Activity % earned - updates resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
▶ % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours
▶ % Earned Calculation Method option = Manual activity % earned - updates resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and (read-only). {Sum of [(Resource Progress Quantity /

		Resource Quantity) * (Resource Quantity)] / Sum of (Resource Quantity) } * 100 Only hard booked resources will be considered.
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (Activity-level Earned Progress * Quantity)

% Earned Calculation Method option is Resource updates Activity - weighted avg. of resource costs

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity

▶ % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours

▶ % Earned Calculation Method option = Resource updates Activity - weighted avg. of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and (read-only). {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Quantity)] / Sum of (Resource Quantity) } * 100 Only hard booked resources will be considered.
	Earned Progress	Calculated (Weighted Cost) {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Lead resource updates Activity and other resources

This combination of settings is not available.

% Earned Calculation Method option is Update Activity and all resources on activity start and finish

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity

▶ % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours

▶ % Earned Calculation Method option = Update Activity and all resources on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and (read-only). {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Quantity)] / Sum of (Resource Quantity) } * 100 Only hard booked resources will be considered.
	Earned Progress	Calculated (Weighted Cost) {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, When Actual Start is entered, Earned Progress = 5% * Quantity When Actual Finish is entered, Earned Progress = 100% * Quantity.

Method is Resource updates Activity - weighted avg. of resource costs

This section contains scenarios based on the option selected for % Complete Calculation Method being **Resource updates Activity - weighted avg. of resource costs**.

% Earned Calculation Method option is Manual activity % earned and resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
▶ % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs
▶ % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered.
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Manual activity % earned - updates resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
▶ % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs
▶ % Earned Calculation Method option = Manual activity % earned - updates resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All booked resources will be considered.
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (Activity-level Earned Progress * Quantity)

% Earned Calculation Method option is Resource updates Activity - weighted avg. of resource costs

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity

▶ % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs

▶ % Earned Calculation Method option = Resource updates Activity - weighted avg. of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered.
	Earned Progress	Calculated (Weighted Cost). {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		

	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Lead resource updates Activity and other resources

This combination of settings is not available.

% Earned Calculation Method option is Update Activity and all resources on activity start and finish

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity

▶ % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs

▶ % Earned Calculation Method option = Update Activity and all resource on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered.
	Earned Progress	Calculated (read-only) based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, When Actual Start is entered, Earned Progress = 5% When Actual Finish is entered, Earned Progress = 100%
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then,

| | | When Actual Start is entered, Earned Progress = 5% * Quantity |
| | | When Actual Finish is entered, Earned Progress = 100% * Quantity. |

Method is Lead resource updates Activity and other resources

This section contains scenarios based on the option selected for % Complete Calculation Method being **Lead resource updates Activity and other resources**. There is only one data entry scenario for this setting.

% Earned Calculation Method option is Lead resource updates Activity and other resources

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Independently Control % complete and earned quantity

▶ % Complete Calculation Method option = Lead resources updates Activity and other resources.

▶ % Earned Calculation Method option = Lead resource updates Activity and other resources

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only.
		{Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
		All resources will be considered.
	Earned Progress	Calculated (Weighted Cost) and read-only.
		{Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Manual Entry (Only resource that is selected under drop-down). For all other resources, Progress Quantity will be calculated based on
		(Leader Progress Quantity / Leader Quantity) * Resource Quantity
	Earned Progress	Manual Entry (only resource that is selected under drop-down). For all other resources,

		Progress Quantity will be calculated based on
		(Leader Earned Quantity / Leader Quantity) * Resource Quantity

Activity and resource % complete updates % earned

This section contains scenarios for calculations based on the entry method **Activity and Resource % Complete Updates % Earned** and the **% Complete Calculation Method** option selected.

Method is Manual activity % complete and resource % complete

This section contains scenarios based on the option selected for % Complete Calculation Method being **Manual activity % complete and resource % complete**. There is only one data entry scenario for this setting.

% Earned Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

▸ % Complete and Earned Progress entry method = Activity and resource % complete updates % earned

▸ % Complete Calculation Method option = Manual activity % complete and resource % complete

▸ % Earned Calculation Method option = Not available

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) Same as Progress Quantity

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Method is Manual activity % complete - updates resource % complete

This section contains scenarios based on the option selected for % Complete Calculation Method being **Manual activity % complete - updates resource % complete**. There is only one data entry scenario for this setting.

% Earned Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

▸ % Complete and Earned Progress entry method = Activity and resource % complete updates % earned

▸ % Complete Calculation Method option = Manual activity % complete - updates resource % complete

▸ % Earned Calculation Method option = Not available

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		
	Progress Quantity	Calculated (read-only) (Activity-level Activity % Complete * Quantity)
	Earned Progress	Calculated (read-only) Same as Progress Quantity

Method is Resource updates Activity - weighted avg. of resource hours

This section contains scenarios based on the option selected for % Complete Calculation Method being **Resource updates Activity - weighted avg. of resource hours**. There is only one data entry scenario for this setting.

% Earned Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

▸ % Complete and Earned Progress entry method = Activity and resource % complete updates % earned

▸ % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours

▸ % Earned Calculation Method option = Not available

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 Only hard booked resources will be considered
	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) Same as Progress Quantity

Method is Resource updates Activity - weighted avg. of resource costs

This section contains scenarios based on the option selected for % Complete Calculation Method being **Resource updates Activity - weighted avg. of resource costs**. There is only one data entry scenario for this setting.

% Earned Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

▸ % Complete and Earned Progress entry method = Activity and resource % complete updates % earned
▸ % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs
▸ % Earned Calculation Method option = Not available

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 Only hard booked resources will be considered

	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) Same as Progress Quantity

Method is Lead resource updates Activity and other resources

This section contains scenarios based on the option selected for % Complete Calculation Method being **Lead resource updates Activity and other resources**. There is only one data entry scenario for this setting.

% Earned Calculation Method option is Lead resource updates Activity and other resources

If the entry method and option settings on the Budget and Progress Method Setup window are:

▸ % Complete and Earned Progress entry method = Activity and resource % complete updates % earned

▸ % Complete Calculation Method option = Lead resource updates Activity and other resources

▸ % Earned Calculation Method option = Lead resource updates Activity and other resources

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered
	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		
	Progress Quantity	Manual entry. (Only resource that is selected under drop-down). For all other resources, Progress Quantity will be calculated based on (Leader Progress Quantity / Leader Quantity) * Resource Quantity

| | Earned Progress | Calculated (read-only) |
| | | Same as Progress Quantity |

Activity and resource % earned updates % complete

This section contains scenarios for calculations based on the entry method **Activity % Earned and Resource % Earned Updates % Complete** and the **% Earned Calculation Method** option selected.

Method is Manual activity % earned and resource % earned

This section contains scenarios based on the option selected for % Earned Calculation Method being **Manual activity % earned and resource % earned**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Activity and resource % earned updates % complete
▶ % Complete Calculation Method option = Not available
▶ % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (read-only)
		Same as Earned Progress
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Calculated (read-only)
		Same as Earned Progress
	Earned Progress	Manual entry

Method is Manual activity % earned - updates resource % earned

This section contains scenarios based on the option selected for % Earned Calculation Method being **Manual activity % earned - updates resource % earned**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Activity and resource % earned updates % complete

▶ % Complete Calculation Method option = Not available

▶ % Earned Calculation Method option = Manual activity % earned - updates resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (read-only) Same as Earned Progress
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Calculated (read-only) Same as Earned Progress
	Earned Progress	Calculated (read-only) (Activity-level Earned Progress * Quantity)

Method is Resource updates Activity - weighted avg. of resource costs

This section contains scenarios based on the option selected for % Earned Calculation Method being **Resource updates Activity - weighted avg. of resource costs**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Activity and resource % earned updates % complete

▶ % Complete Calculation Method option = Not available

▶ % Earned Calculation Method option = Resource updates Activity - weighted avg. of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		

	Activity % Complete	Calculated (read-only) Same as Earned Progress
	Earned Progress	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered
Resource		
	Progress Quantity	Calculated (read-only) Same as Earned Progress
	Earned Progress	Manual entry

Method is Lead resource updates Activity and other resources

This section contains scenarios based on the option selected for % Earned Calculation Method being **Lead resource updates Activity and other resources**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

▸ % Complete and Earned Progress entry method = Activity and resource % earned updates % complete
▸ % Complete Calculation Method option = Not available
▸ % Earned Calculation Method option = Lead resource updates Activity and other resources

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity	Activity % Complete	Calculated (read-only) Same as Earned Progress
	Earned Progress	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Calculated (read-only) Same as Earned Progress
	Earned Progress	Manual Entry (Only resource that is selected under drop-down).

		For all other resources, Earned Progress will be calculated based on(Leader Earned Progress / Leader Quantity) * Resource Quantity

Method is Update Activity and all resources on start and finish

This section contains scenarios based on the option selected for % Earned Calculation Method being **Update Activity and all resources on activity start and finish**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

▶ % Complete and Earned Progress entry method = Activity and resource % earned updates % complete
▶ % Complete Calculation Method option = Not available
▶ % Earned Calculation Method option = Update Activity and all resources on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (read-only)
		Same as Earned Progress
	Earned Progress	Calculated (read-Only) based Update Activity and all resources on activity start and finish.
		For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then,
		When Actual Start is entered, Earned Progress = 5%
		When Actual Finish is entered, Earned Progress = 100%
Resource		
	Progress Quantity	Calculated (read-only)
		Same as Earned Progress
	Earned Progress	Calculated (read Only) based Update Activity and all resources on activity start and finish.

		For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then,
		When Actual Start is entered, Earned Progress = 5% * Quantity
		When Actual Finish is entered, Earned Progress = 100% * Quantity.

Creating Schedule Manager Custom Calendars

Unifier allows you to create Custom Calendars to be used by the Schedule Manager. The Custom Calendar that you specify can override the company-level Standard Calendar. If there is no Custom Calendar, the Standard Calendar marked as the default calendar is the calendar that is used by the Schedule Manager.

Unifier allows you to create multiple Custom Calendars, enabling you to create a library of calendars that can be selected for use on your schedule sheets. The multiple calendars enable you to have calendars to support varying work schedules (depending on locality) and to account for holidays and other non-working days. For example, some countries in the Middle East have weekends that are other than Saturday and Sunday.

You must have permissions granted to create, modify, delete, or view Custom Calendars.

About Calendars and Activities

When you select or change an activity calendar, the calendar affects the following dates and date pickers:

▶ **Start Date** date picker
▶ **Finish Date** date picker
▶ Duration calculation
▶ **Actual Start Date** date picker
▶ **Actual Finish Date** date picker
▶ Actual Duration
▶ Forecast Start calculation
▶ Forecast Finish calculation
▶ Forecast Duration calculation
▶ Critical Path
▶ Estimate dates
▶ Estimate duration
▶ Float calculation
▶ Progress window Progress As Of Date date picker
▶ Budget and Progress options **Do not allow progress entry older than the current period** and **Allow editing of last progress**
▶ Any date or date only picker data element

This is how the dates are changed when the activity calendar changes. Changes occur when the schedule sheet is refreshed.

▸ Activity (not started): If the Start Date is affected by a new activity calendar, the Start Date and Finish Date will change to keep the Duration as specified. The system will use the next day on the calendar.

▸ Activity (not started): If the Finish Date is affected by a new activity calendar, the system will select either a previous or next working day on the calendar.

▸ Activity (in progress): If the Finish Date is affected by a new activity calendar, the system will select either a previous or next working day on the calendar. The Start Date is not affected in this case.

▸ Activity (completed): No impact on Start Date or Finish Date for the activity.

Create a custom calendar in the schedule manager

To create a custom calendar in the Schedule Manager, you must have Create permission. You can create a new calendar manually, or by copying and modifying an existing calendar.

To create Custom Calendars

1) In User Mode, select the project or shell, and select **Schedule Manager > Custom Calendars**. The Custom Calendars log window opens.

2) Click **New**. The Calendar Properties window opens.

3) Enter the calendar name and an optional description.

4) Specify the working and non-working days for the calendar you are creating. Browse to the month and year using the pull-down menus at the top of the calendar. Saturdays and Sundays are set as non-working days by default. Do one of the following:

   ▸ To set a particular date as a non-working day (for example, a holiday), click the date on the calendar and select **Non Working**. The date will appear greyed out, and will not be used in date calculations.

   ▸ To set a non-working day as a working day, click a greyed cell and select **Working**.

   ▸ To set a particular day of the week (for example, every Saturday) as a non-working day, click the day at the top of the calendar (for example "Sat"), then click **Non Working**. All Saturdays in the calendar will be changed to non-working days (grey).

   ▸ To set a particular day of the week as a working day, click the day at the top of the calendar, then click **Working**.

   ▸ If you only want to set the day of the week in a particular month as working or non-working days, select each day individually and click **Working** or **Non Working**.

   > **Note**: If you have marked the day of the week as a non-working day throughout the calendar by selecting the day at the top of the calendar (for example "Sat"), then you will not be able to mark individual days (that is, individual Saturdays in this example) as working days. To be able to include both working and non-working instances of a day of the week on the calendar, you must select them individually.

5) Click **OK**.

To copy an existing calendar

1) In User Mode, select the project or shell, and select **Schedule Manager > Custom Calendars**. The Custom Calendars log window opens.

2) Select a calendar in the log.

3) Click **Copy**. The Calendar Properties window opens with the calendar description and calendars days specified. You can copy from Standard (Company level) or Custom (project or shell level) calendars.

4) Enter the calendar name and change the optional description as needed.

5) Modify the working and non-working days that are specific to the new calendar you are creating. Browse to the calendar months you want to modify. Select the calendar day and click the **Working** or **Non Working** radio buttons as needed.

6) Click **OK**.

Do not allow update of % complete and % earned

When the **Do not allow update of % complete and % earned** entry method is selected, these fields are disabled.

- Activity
    - Activity % Complete
    - Earned Progress
- Resource
    - Resource % Complete
    - Progress Quantity
    - Earned Quantity

P6 Summary Sheets

Unifier allows you to store summarized data from P6 in the P6 Summary Sheets node.

Refer to the *Unifier Earned Value Management User Guide* for more details about Activity Sheets and P6 Summary Sheets.

To view the P6 Summary Sheets node in a Project or Shell, User mode, the Project or Shell attribute form must have the Data Element (DE) *uuu_int_schedule_type*, and you (User) must have the appropriate permissions for accessing the node.

The placement of P6 Summary Sheet node under the Schedule Manager is by default. A User can move P6 Summary Sheet node under other Summary nodes (Example: Cost Manager) if needed.

The P6 Summary Sheets node contains one sheet, or more, that contains "summarized" P6 data:

- **Master Summary Sheet**

    Contains summarized data from the P6 Project and the sheet is linked to the current Project or Shell.

Note: the Master Summary Sheet is not displayed as "Master" in the Master Summary Sheet properties.

▸ **Baseline Summary Sheet**

A P6 Project can contain any number of baselines, or not baselines at all. A baseline is a copy of the P6 Project that contains frozen data per Data Date. You can select to bring summarized baseline data from a P6 Project to Unifier, via Gateway. The Baseline Summary Sheets that you bring to Unifier, from a P6 Project, reside in the Master sheet below the P6 Summary Sheets node, in Unifier.

Note: The Baseline Summary Sheet appears as an additional Schedule Sheets node under the Schedule Manager.

Notes:

- When a P6 User enters the actual and progress data in P6 Schedule, the date is displayed as "Progress as of" date in P6 Schedule.
- You cannot create a new P6 Summary Sheet in Unifier, manually. Unifier allows a total of 12 summary sheets to be integrated: 1 current Schedule Summary sheet and 11 Baseline Summary Sheets, or 12 Baseline Summary Sheets.

Schedule Sheet Integration

Unifier supports out of the box (OOTB) mapping for integration between P6 and Unifier, using Schedule Sheets.

This OOTB mapping is available as part of Project Control installation as a shell template (T-002). You must create a new shell by copying shell template (T-002) in order to integrate P6 and Unifier using Schedule Sheets.

To view the data mapping fields in Unifier:

1) Go to **Company Workspace** > **Admin** mode > **Templates** > **Shells** > **Projects**.
2) Open the **T-002** (Project #) **Owner Project Template**(Project Name).
3) From the left-hand navigator, click **Schedule Manager** > **Schedule Sheets**.
4) In the **Schedule Sheets** log, open **Project Schedule Sheet**.
5) From the menu bar, click **File** > **Data Mappings**.
6) Click **P6** (to select) > **Modify** > **Activity** tab.

The column name and XML elements are listed as shown below. You can use the XML elements for integration with P6.

Column	XML Element
Activity Name	Name
Activity Percent	PercentComplete
Actual Finish Date	ActualFinishDate
Actual Start Date	ActualStartDate

Column	XML Element
Duration	PlannedDuration
Early Start date	EarlyStartDate
Early finish date	EarlyFinishDate
Finish date	PlannedFinishDate
Late Start date	LateStartDate
Late finish date	LateFinishDate
P6 Activity Number	Id
P6 CBS	CBSCode
Start date	PlannedStartDate

Auto-Scheduling of Activities

You can disable automatic re-scheduling within Unifier Schedule Sheet to:

▶ Schedule Activities manually.
▶ Integrate Activities with their dependencies with the same schedule as exists in P6 and MPP.

Disabling Automatic Scheduling of Activities

When Activities with dependencies are integrated by Direct Integration with P6, or imported through MPP XMLS, the activities are re-scheduled automatically within Unifier Schedule Sheet to honor the dependencies, leading to Data change. You can disable this automatic reschedule in Schedule sheet to integrate or import the data as is and to schedule the Activities manually, if desired.

To enable or disable auto-scheduling:

1) Go to the **Schedule Sheet Properties** window, **General** tab.
2) Select your option in **Auto-Schedule** field. The default selection is **Enable**.

In the **Schedule Sheets** log, the column **Auto-Schedule** displays the condition of the sheet.

When the auto-scheduling is *disabled*:

▶ You will be able to edit the **Activity Properties** of a particular **Activity**, for example **Start Date**, **Finish Date**, **Duration**, **Predecessor**, **Dependencies,** etc. The properties of the dependent activities are not impacted because of disabling automatic scheduling is disabled.
▶ You can, manually, reschedule the schedule sheet to implement your changes by refreshing it through manual **Schedule** refresh, **Cost and Schedule** refresh, or enabling scheduled refresh (**Set Frequency**). These options are available under **Refresh** option in the log toolbar.

▶ After changing the **Activity Properties** of individual activities, when the schedule sheet is refreshed manually or through **Schedule** refresh, then the entire schedule sheet will be re-scheduled. The impact on dependent activities can be reviewed after refresh.

▶ The refresh status of schedule sheet is displayed on **Schedule Sheet Refresh** window (**History Details** window).

▶ No updates will take place for resource rates on the master schedule sheet and also update to shell cost sheet with corresponding assignment costs until you allow manual scheduling through manual or **Schedule** refresh. Once the schedule sheet is manual scheduled, the updates will take place.

▶ On clicking **Update** > **Resource Utilization** (on the master schedule sheet) and also **Update** > **Resource Utilization and Cost Manager**, the following alert message is displayed: *Cannot update cost till Sheet is scheduled.*

Calendar

When the calendar that is defined for a particular **Activity** is changed in the **Activity Properties**, then Unifier changes the **Finish Date**. In this case, if the auto-scheduling is *disabled*, then no impact of this change is reflected in the dependent activities.

When the calendar that is defined for a particular **Schedule Sheet** is changed in the **Schedule Sheet Properties**, then the next time you open the schedule sheet, the following message is displayed: *Schedule sheet requires a refresh due to modifications to a Calendar or Rates associated to a Role on a Resource. Do you want to refresh schedule sheet?*

If you select **Yes**, then the schedule sheet will be rescheduled on refresh, as an impact of Calendar change, irrespective of whether Auto-scheduling is enabled or disabled.

If you select **No**, then no impact of Calendar change is reflected in the schedule sheet.

Unifier Activity Manager

Unifier enables you to create, consolidate, and monitor activities that must be completed on a schedule by way of the **Activity Manager**.

Refer to the *Unifier Earned Value Management User Guide* for details about the Unifier **Activity Manager**, **Master Rate Sheet,** and **Rate Sheet**.

Unifier Space Manager

In Unifier, the Space Manager is where you can perform the tasks of facilities management. The Space Manager integrates the AutoCAD® application to provide drawing and modeling capabilities for your architectural, layout, and design needs.

> **Notes**:
>
> - The Space Manager is only available to shells; it cannot be used in the Projects (Standard) node.
> - You cannot view .DWF files in Google Chrome or Mozilla Firefox browsers. To view .DWF files, use Microsoft Internet Explorer.

Using the Space Manager, you can gather data about the levels in your facility (such as floors and parking lots) and the spaces that exist on each level (cubicles, offices, conference rooms, etc.). Each level is supported by an AutoCAD® drawing. You can enter individual spaces into Unifier, or directly onto an AutoCAD® drawing and classify them into categories (such as common areas, or usable space) to make managing them more efficient. Similar to the Asset Manager, categories (called types) of spaces can be designed in uDesigner, and you can then add records of individual spaces to these types and manage them on an electronic sheet.

The Space Manager is a means of organizing all the square footage in your facility to make monitoring, maintaining, and revising your facility more efficient. The Space Manager can be integrated with other managers or business processes to give you a broader view of your company's physical capital and resources. For example, the Space Manager can be integrated with the Asset Manager to include the computers that reside in each cubicle on a level; or integrated with the Resource Manager to include the employees who occupy each space on a level.

In uDesigner, one attribute form is designed for a "level" type in your facility and multiple attribute forms for "spaces" types. With these attribute forms, you can create a hierarchy of levels and spaces within levels to store the facilities data you choose to collect.

In Unifier, the **Sheets** node in the Space Manager stores the manager sheet on which all the levels in your facility are shown. Unifier automatically creates a level sheet for every level type that is created. On these sheets, you can import and export drawing files to and from AutoCAD®, and also import and export column data. From the level sheet, you can also automatically update individual level records with data added to the sheet, either manually or via a formula created for a column.

The **Stack Plans** node is where you can create stack plans to show the actual usage of the levels in the company's building(s). You can choose the information (data elements or specific spaces) you want to see on the stack plan and update the plan periodically to keep abreast of changes in the levels' space usage. For example, you might want to know the square footage used by each department on each floor (level); or how many square feet of a floor are vacant versus leased.

The **Levels** node lists all the levels that exist in your facility. Each level is supported by an AutoCAD® drawing. This node is where you can create new levels or update existing ones, download drawing files, attach a drawing to the level, and print the drawing. This is where you can create new levels or update existing ones, import data from CSV files, export templates to CSV.

The **Spaces** node shows a list of all the space types, and under the space type sub-node, all the spaces that exist in your facility. This is where you can create new spaces or update existing ones, import data from CSV files, export templates to CSV, and select spaces to view on the level drawing.

The Space Manager allows you to identify floors and each space by type and associate attributes to the particular spaces. For example, a multi-floor building could have many types of spaces, such as offices, cubicles, restrooms, conferences room, laboratories, and eating areas.

You manage spaces according to space type. Examples of space types are:

▶ Gross measured area, which is the entire square footage of a floor, from wall to wall
▶ Common area, such as hallways, lobbies, and entrances
▶ Usable space, such as cubicles, offices, and conference rooms
▶ Vertical penetration, which includes elevators, stairwells, and columns

The Space Manager is available within a shell. Each shell can have only one Space Manager. A building is at the shell level. An example hierarchical arrangement of objects in the Space Manager is as follows:

▶ Buildings (shell level)
  ▶ Levels (Floors) of the building or other similar structures (in this case, Floor is an example of a level record)
    ▪ Spaces in the building. These are the various spaces in the structure, such as storage rooms, offices, and other interior spaces (space records). Spaces is a fixed node designed in uDesigner.

The Space Manager includes a sheet to help you manage levels and spaces. The sheet will allow you to create formulas to calculate total leasable and rentable space for a facility or building.

uCAD Plug-In

Users can integrate the Unifier Space Manager with AutoCAD® using the uCAD plug-in application, which can be downloaded from Unifier. uCAD enables:

  ▶ Authoring of space objects in AutoCAD®
  ▶ Identifying spaces on a floor drawing and link them to Unifier space objects
  ▶ Associate a drawing file to a Unifier level record
  ▶ Transferring changes to level and space records between the Unifier Space Manager and AutoCAD®

Space Manager prerequisites
  ▶ Generic or CBS shells configured
  ▶ Level and space attribute forms defined in uDesigner

▹ uCAD plug-in and AutoCAD® installed on your desktop (if you are going to use the Space Manager with the optional AutoCAD® integration)

The *Unifier uCAD Installation and User Guide* is also available from the Unifier Support window, on the Download tab. After you download the uCAD plug-in you can access uCAD from the Windows Start menu > Programs> uCAD. When you install the plug-in, the uClient Configurator is also installed.

The *Unifier uCAD Installation Guide* is available in the uCAD Help menu.

▹ AutoVue installed and properly licensed, which is used to view the uploaded drawing files within the Space Manager window.

For information about language (internationalization) and CSV files refer to *Unifier General User Guide*.

In This Section

Accessing the Space Manager

The Space Manager is available within a shell. Each shell can have one space manager.

To access the Space Manager:

1) In user mode, select the shell that you are working in.

2) In the shell, Click the **Space Manager** module to open.

3) Click the appropriate node to access a level or space.

Quick Calendar

The Quick Calendar is available for Space Manager. For details, refer to the "Working with Quick Calender Entry" section in the Unifier Business Processes User Guide.

Working with Levels (Standard View)

The **Levels** log enables you to view record summary, take actions from the log, and make log adjustments as explained in the following sections.

When you select a record in the log, Unifier opens a pane (on the right-hand side of the page), **Record Details** tab, that enables you to view the details of the selected record. In addition, you can:

- ▶ Print the log based on the current view. This would output a report similar to a UDR.
- ▶ Select the order of the columns in the log and define which columns must be visible.
- ▶ Sort on one or many columns within the log.
- ▶ Group based on one column, or up to 3 columns, and define how the groups are sorted and how rows are sorted within the groups.
- ▶ Apply filters to individual columns.
- ▶ Lock columns so that they are fixed on the left-hand side and the remaining columns scroll on the right-hand side.

> **Note**: For details about the existing functionalities, not described in this section, refer to the topics under the Unifier Space Manager.

Levels Log Options (Standard View)

Levels log toolbar options:

- ▶ **Create**
- ▶ **Actions**
  - ▸ **Import**
  - ▸ **Export CSV Template**
  - ▸ **Bulk Edit**
  - ▸ **Last Import Log**

    Enables you to open the **Last Import Log** window which displays the pertinent information.
- ▶ **Download drawing file**

  Enables you to download the drawing file that is associated with the level.
- ▶ **Upload drawing file**

  Enables you to upload the drawing file that is associated with the level.
- ▶ **View**

  The system-defined views are:
  - ▸ **All Records**
  - ▸ **Records Created by Me**
  - ▸ **Create New View**
  - ▸ **Manage Views**
- ▶ **Edit View**

  Enables you to change the View settings.

▶ **Refresh**

▶ **Printing the log content**

▶ **Search as defined in uDesigner**

▶ **Find on Page**

▶ **Help**

The *gear* (⚙) menus:

▶ **Open**

▶ **Copy**

▶ **View on Drawing**

▶ **View Spaces** (Spaces)

Enables you to open the space picker field. The title is "Spaces on <Level Name>," and the floor name is considered the level name value for the level that you select.

▶ **Print - HTML**

▶ **Print - PDF**

▶ **Print - Custom**

> **Note**: If an attribute form is present, then you can hover over the question mark (?) symbol to see more information in the form of a tooltip.

Creating a New Level Record (Standard View)

To create a new level:

1) Go to your project (**User** mode).

2) Click **Space Manager** to expand.

3) Click **Levels** to open the log. The log is divided into two panes. The left-hand pane contains the toolbar options and columns which provide details about the level. The right-hand pane (properties pane) contains the following tabs:

   ▸ **Record Details**

   ▸ **Permissions**

4) Click **Create**.

5) When the **Create New Levels** window opens, enter the values in the required fields. At this point, you are creating the floor details. If the properties window is not open, click the three vertical dots icon (located on the right-hand border of the **Create New Levels** window, in the middle) to open the properties pane. The properties pane contains the following tabs:

   ▸ **Comments**

      Contains additional details about the record. You can add comments to the space attribute in the edit mode, only.

   ▸ **Linked Records**

      Enables you to link records to the space attribute. The functional flow is similar to that of a non-Workflow BP.

▸ **Linked Mail**

Enables you to link email to the space attribute. The functional flow is similar to that of a non-Workflow BP.

6) When finished, click **Submit**.

7) When the log appears, click the refresh icon to refresh the screen. Review your recently created level.

The details of a level:

1) Open a level from the log to see the level window. The window is divided into two panes. The left-hand pane contains the following blocks:

▸ **General**

▸ **Floor Plan Image**

The right-hand pane (properties pane) contains the following tabs:

▸ **Comments**

▸ **Linked Records**

▸ **Linked Mail**

▸ **Audit Log**

Lists all the actions taken by a user (Bulk Edit, Create, etc.)

▸ **Level Content**

The toolbar options are **Edit** and the horizontal lines icon drop-down arrow (hamburger icon). Use the hamburger icon to print, view spaces, access help, or close the record. Depending on the availability of associated images, the menu options can change (View Drawing). The View Spaces option enables you to access information about any space associated with the level, if any. Records with associated drawings have a file icon next to the record, on the log.

2) If you change or add any information, click **Submit** to make your changes a part of reference record to the level details or content. Click the **Level Content** tab to see the details.

To copy an existing level record:

1) In User Mode, in the shell, select **Space Manager** > **Levels**.

2) In the level log, select a level and select **Copy**. The levels form opens with the information from the original level record.

3) Modify the form as needed.

4) Click **Finish Editing** to save the new level record.

Exporting and Importing CSV Level Templates and Records (Standard View)

1) Navigate to the Space Manager levels log.

2) Click the **Export Template** button. The exported CSV template is based on the Integration interfaced design of Level that was created in uDesigner.

3) Save the CSV file to your desktop.

To modify an imported file

1) Open the CSV file in Microsoft Excel or a compatible software application. You can also edit the CSV file in a text editor such as Notepad.

2) Add data to the CSV file, one record per row. Do not add, move, or delete columns or change the structure of the file.

3) Save the file.

> **Note**: Excel 2003 cannot handle CSV files with 15 or more rows. In CSV files, columns are separated with commas. When you open a CSV file with Excel that has empty columns at the end of the file, Excel drops the additional commas from the 15th row onward, resulting in an error when you try to import the file. To work around this problem, do one of the following:
>
> ▪ Add your data to the CSV file in Excel and save the file. Then reopen the file in a text editor such as Notepad, find the rows that have the missing commas, and add the additional commas to these rows.
>
> ▪ Use the text editor instead of Excel to modify column values in the CSV file.

To import CSV files or drawing files

1) In the Space Manager, select the level which you want to import the new record or drawing file. Be sure that you are importing the correct file.

2) Click **Import**.

3) In the File Upload window, browse for the file and click **OK**.

    Unifier checks the file for the following items to make sure that valid records are created:

    ▸ The file format of the imported file matches the interface design created in uDesigner.

    ▸ Make sure that you are importing into the same log from which you exported the CSV template file.

    ▸ The required fields contain data in the correct format.

    If an error occurs, an error message gives you the option to save a text file that lists the errors.

To view the import validation error file

1) At the import error message, click **Yes**. You can then choose **Open** to open the file or **Save** to save the file to your local machine.

2) The error file is a CSV file. Click on a cell to view the full contents of the listed error.

3) After fixing the errors, you can use this file to re-import the records.

Opening Levels (Standard View)

You can view any of the level or space records in the logs. If there are many records listed in a level or space log, you can use search criteria to narrow the options.

To view a level record and its associated drawing

1) In User Mode, in the shell, select **Space Manager** > **Levels.**
2) Select a level record from the log window and click the **Open** button to open the levels detail page.
3) Click the **Spaces** option (on the toolbar) to view the associated spaces of the selected level. To view the space records of a particular space type, click the **Space Type** drop-down menu and select the desired space type.

To view the level on the associated drawing, click **View on Drawing** option on the toolbar.

Locating and Opening Space Records from Within a Level Record (Standard View)

> **Note**: This is only available if there is a drawing file associated with level record and the user used uCAD to author space objects in AutoCAD®.

To highlight space records in a level record on a drawing

1) In User Mode, in the shell, select **Space Manager** > **Levels**.
2) Select a level.
3) Click **Open**.
4) Select a space record from the bottom of the window. If the space record selected is associated with a drawing using uCAD then the corresponding spaces in the drawing will be highlighted.

To open a space record from a level

1) In User Mode, in the shell, select **Space Manager** > **Levels**.
2) Select a level.
3) Click **Open**.
4) Select a space record in the bottom portion of the window.
5) Click **Open**. The detail form for the selected space record opens.
   You can highlight the entire floor and view all available spaces.

Downloading a Drawing File to a Level Record (Standard View)

You can download a drawing to the level record from the Levels log, or from the level record itself. This action is possible only if a drawing has already been imported and associated with the level. Downloading a drawing file downloads a read-only copy of the drawing, which you can modify for this Space Manager session only. Any changes you make to the drawing will not be permanent.

> **Note**: For security, the Company Administrators can specify the list and size of files that can be uploaded to the Company Properties page, by users and per company policy. Contact your Company Administrator for

more information.

Download a drawing file

1) Do either of the following:

   ▶ On the Levels log, select the level and click the **Download** button. The Download Files and Folders window opens.

   ▶ Open the level record and click the **Download** button. The Download Files and Folders window opens.

2) Use the **Save In** field and the list of folders beneath it to navigate to the directory where you want the drawing file to reside.

3) Specify the **Document Download Options**, if necessary.

4) Click **Save**.

Working with Space Log (Standard View)

The Space log enables you to view record summary, take actions from the log, and make log adjustments as explained in the following sections.

When you select a record in the log, Unifier opens a pane (on the right-hand side of the page), **Record Details** tab, that enables you to view the details of the selected record. In addition, you can:

▶ Print the log based on the current view. This would output a report similar to a UDR.

▶ Select the order of the columns in the log and define which columns must be visible.

▶ Sort on one or many columns within the log.

▶ Group based on one column, or up to 3 columns, and define how the groups are sorted and how rows are sorted within the groups.

▶ Apply filters to individual columns.

▶ Lock columns so that they are fixed on the left-hand side and the remaining columns scroll on the right-hand side.

Opening Space Records (Standard View)

To open a Space record follow these steps:

1) **User** mode > **Shell** > **Space Manager** > **Spaces** > **<space type>**.

2) Select a Space record from the log and click **Open**.

You can open a Space record from an advanced log, also. An advanced log creates a tree hierarchy structure for records. This tree structure makes it easier to view and select records from a log of spaces in the Space Manager. To open a space record from an advanced log, use the middle navigation column to narrow the focus of the log; then pick the space from the log in the right pane.

Business Process (BP) Query-based Tab (QBT) in the Space Records

Once a BP QBT is configured and the Space is deployed after changes made, the QBT appears in the Space for which the QBT has been configured.

Space Log Options (Standard View)

Space log toolbar options:

▸ **Create**
▸ **Actions**
   ▸ **Import**
   ▸ **Export CSV Template**
   ▸ **Bulk Edit**
   ▸ **Print**
   ▸ **Delete**

   The **Delete** option in the **Delete Records** window is disabled until you enter a reason for deletion. If you enter the reason and then remove it completely, then the **Delete** option will become disabled again. You cannot leave a blank space in the available box and click **Delete**.

   ▸ **Deleted Record History**

   A window opens and displays the history of deleted items.

▸ **View**

   The system-defined views are:

   ▸ **All Records**
   ▸ **Records Created by Me**

   In addition, there are option for user to:

   ▸ **Create New View**
   ▸ **Manage Views**

▸ **Edit View**

   Enables you to change the View settings. Rules for changing views will be the same as other logs.

▸ **Reload the page**
▸ **View on Drawing**
   Enables you to select multiple records and view the space records in the associated drawing file.
▸ **Printing the log content**
   ▸ **Print**
   ▸ **Export to CSV**
   ▸ **Export to Excel**
▸ **Search as defined in uDesigner**
▸ **Find on Page**
▸ **Help**

The *gear* (⚙) menus:

▶ **Open**
▶ **Copy**
▶ **View on Drawing**
▶ **Delete**

> **Note**: If an attribute form is present, then you can hover over the question mark (?) symbol to see more information in the form of a tooltip.

Creating a New Space Record (Standard View)

To create a new space:

1) Go to your project (**User** mode).
2) Click **Space Manager** to expand.
3) Click **Spaces** to expand.
4) If available, click an element (for example, **Leasable Spaces**) to open the log. The log is divided into two panes. The left-hand pane contains the toolbar options and columns which provide details about the space. The right-hand pane (properties pane) contains the following tabs:
   ▸ **Record Details**
   ▸ **Permissions**
5) Click **Create**.
6) When the **Create New <space>** window opens, enter the values in the required fields. At this point, you are creating a space. If the properties window is not open, click the three vertical dots icon (located on the right-hand border of the **Create New <space>** window, in the middle) to open the properties pane. The properties pane contains the following tabs:
   ▸ **Comments**

   Contains additional details about the record. You can add comments to the space attribute in the edit mode, only.
   ▸ **Linked Records**

   Enables you to link records to the space attribute. The functional flow is similar to that of a non-Workflow BP.
   ▸ **Linked Mail**

   Enables you to link email to the space attribute. The functional flow is similar to that of a non-Workflow BP.
7) When finished, click **Submit**.
8) When the log appears, click the refresh icon to refresh the screen. Review your recently created space.

The details of a space:

1) Open a space from the log to see the space window. The window is divided into two panes. The left-hand pane contains the following tabs:

   ▸ **Details**

   ▸ **Asset**

   Contains the assets associated with the space. If any QBDEs are associated with the record, the **Asset** tab will list the QBDEs. You can click **Create**, to open the **Create New Assets** window and enter asset information. The **Create New Assets** window has the following elements:

   Left-hand pane: **Asset Details** tab (**General** and **Preventive Maintenance Information** blocks), **Gauges & Meters** tab, and **Components** tab.

   Right-hand pane: **Attachments** tab, **Comments** tab, **Linked Records** tab, and **Linked Mail** tab.

   The right-hand pane (properties pane) contains the following tabs:

   ▸ **Comments**

   ▸ **Linked Records**

   ▸ **Linked Mail**

   ▸ **Audit Log**

   Lists all the actions taken by a user (Bulk Edit, Create, etc.)

   ▸ **Space Content**

   This tab contains the list of records that are associated with the space. A graphical representation is also present for the same. The **Space Content** tab will be similar to the Reference Records seen in the Business Processes, with the following differences:

   'Reference Records' = 'Space Content'

   'Business Process' = 'Record Type'

   Objects seen in the link will be based on the referring or referred object type.

   Similar to Reference records, the **Space Content** tab displays the linked records and the reference records.

2) If you change or add any information, click **Submit** to make your changes a part of reference record to the space details or content. Click the **Space Content** tab to see the details.

Click the horizontal lines icon drop-down arrow (hamburger icon) to print, reload, view associated drawing (for a floor/level), access help, or close the record.

Viewing a Space on a Drawing (Standard View)

This feature is only available if a drawing file has been associated with a level record and uCAD was used to author the space object in AutoCAD.

To view a space on a drawing

1) In User Mode, in the shell, select **Space Manager** > **Spaces** > **<space type>**. The Spaces log opens.

2) Select a space record and click **View on Drawing**. The View on Drawing window opens with the selected spaces highlighted on the drawing.

Working with Levels Sheet (Standard View)

The **Space Manager** includes a sheet to help you manage levels and spaces. The sheets allow you to create formulas to calculate "leasable" space and other related information in a building. You can create levels sheets for a **Space Manager**. You can create only one sheet per shell.

The levels sheet is listed in the **Levels Sheet** log in the **Space Manager**.

> **Note**: You must have permissions to access a sheet.

Levels Sheet Log Options (Standard View)

The **Levels Sheet** log contains two panes. The left pane contains a list of sheets, and the right pane displays the Properties tab which displays the following properties for each sheet:

- ▶ **Title**
- ▶ **Description**
- ▶ Levels that are included in the sheet (**All Levels** or **Levels with statuses**)
- ▶ Status of the levels such as occupied and inactive

You can modify and save the properties, provided that you have permission.

The left pane contains the levels sheet and the following information is provided in column format:

- ▶ **Name**
- ▶ **Description**
- ▶ **Last Modified Date**

Creating a New Levels Sheet Record (Standard View)

When there is no levels sheet available, Unifier displays the **Create** toolbar option. To create a new levels sheet:

> **Note**: You must have the **Create** permission in order to be able to create a levels sheet.

1) Go to your shell or project and switch to user mode.
2) Click **Space Manager** to expand.
3) Click **Levels Sheet**.
4) Click **Create**. and select one of the following options:
   - ▶ **Manual**
   - ▶ **From <shell or project>**

If you click the **Manual** option, the **Create Levels Sheet** window opens. Enter and select values in each field and click Save.

If you decide to create levels sheet from a shell or project, click the **From <shell or project>** option, to open   the **Levels Sheet** window. Use the **Find on Page** option to find the desired shell or project, click **Select**, and follow the prompts. You can create one levels sheet per shell or project, only.

Once the sheet is created, use the **Refresh Sheet Data** toolbar option to refresh the data on a sheet (updating the data). This toolbar option does not refresh the log items that are displayed in the **Levels Sheet** log. Note that when you click the **Refresh Sheet Data** toolbar option, the cell under **Last Modified Date** will show "In Progress" until the data update is complete, after which the date of the refresh is displayed.

To add columns to a level sheet:

1) In User Mode, navigate to the Space Manager in a shell and select **Level Sheets**.
2) Select the level sheet, and click **Open**.
3) Click **Columns**. The Columns Log window opens.
4) Click **New**. The Column Definition window opens.
5) In the **Datasource** drop-down list, select the data element to use. The list includes the data elements found on the level form.
6) For **Entry Method**, choose how information is entered in the column. The choices depend on the data source selected.
7) For **Data Format**, select the format for numeric columns. The options are:
   ▶ **Show as Percentage**: Displays data in percentage. For example, if 0.25 is entered, it displays as 25%.
   ▶ **Decimal Places**: Select the number of decimal places to display.
   ▶ **Use 1000 Separator (,)**: Data is formatted using separators. For example, one thousand is displayed as 1,000 with a comma, not 1000.
   ▶ **Negative Number Format**: Select how negative values are displayed: with a negative sign or in parentheses.
8) For **Display Mode**, select **Hide** to make the column invisible to users or **Show** to display it.
9) For **Total**, select what is shown in the bottom summary row for each column. The options are:
   ▶ **Blank**: Summary row is blank.
   ▶ **Sum of All Rows**: Displays the sum total of all row values for this column.
   ▶ **User Formula Definition**: Displays the result of the formula entered in the Formula field.
10) For **Average**, select **Blank** or the average of all rows.
11) For **Column Position After**, select a column from the list to specify its position on the sheet.
12) Click **OK**.

Exporting and Importing CSV Files (Standard View)

To export a sheet
1) In User Mode, in the shell, select **Space Manager** > **Levels Sheet**.

2) Select a sheet, and click **Export**. See Exporting and Importing CSV Level Templates and Records to export and modify the template.

To import a CSV file

For instructions on importing a CSV file, see Exporting and Importing CSV Level Templates and Records

Working with Stack Plans

A stack plan is a two-dimensional graphical display of facility or building data. Usually, these graphs display area calculations by different attributes (for example, rented, leased, vacant, occupied by a tenant). The y-axis lists levels, and the x-axis lists areas. Stack plans allow you to view area information across all building levels or floors based on defined attributes. Stack plans display only space records. If you have permission, you can create and modify stack plans.

Creating a Stack Plan

▶ *To create a stack plan:*

1) In User Mode, select **<shell>** > **Space Manager** > **Stack Plans**.
2) Click **New**. The Properties window opens.
3) Complete the **General** tab as described in the first table below.
4) Click the **Options** tab and complete as shown in the second table below.
5) Click **Apply** to save changes, or **OK** to save and exit.

In this field:	Do this:
Name	Enter the stack plan name.
Description	Enter an optional description.
Include: ▶ All levels ▶ Levels with statuses	Select to specify that all levels be included in the stack plan, or that only levels of selected status be included in the stack plan.

In this field:	Do this:
Space Types	Select a space type.
Stack By: ▶ Space Type ▶ Data Element	Select whether to stack by selected space type or by a data element.
Stacking View	Select to specify standard stacking or 100% stacking.
Sort Floors By:	Select to sort floors by a selected data element from the Level Attribute form.
Show Legend	Select to display a legend for the stack chart.

Conditions	Add a condition to filter the number of space records included in the stack plan calculation. The stack plan calculation logic sums up the values from the uuu_area data element used on the space-type detail form.

Viewing a Stack Plan

▶ *To view a stack plan:*

1) In User Mode, select **<shell>** > **Space Manager** > **Stack Plans**.

2) Select a stack plan from the log.

3) Click **Open**. If your stack plan contains no data, you will see a gray box. Your stack plan must contain data in order to display. You can scroll up and down the stack plan if there are numerous records listed.

Modifying a Stack Plasn Display Mode

You can change the display mode of the Stack Plans to display a standard view (Stack Plans - Current View) or display the bars in the graph as proportional percentages of varying length.

To change the display mode for a stack plan

1) Go to your shell > **User** mode > **Space Manager** > Stack Plans.

2) Select a stack plan from the log.

3) Click **Open**.

4) Select the **Explicit Value** or **Percent** radio buttons to modify the stack plan view.

Printing a Stack Plan

▶ *To print a stack plan:*

1) In User Mode, select **<shell>** > **Space Manager** > **Stack Plans**.

2) Select a stack plan from the log.

3) Click **Open**.

4) Click the print icon. The displayed area is printed. Scroll down the stack plan and click the print icon again to print more of the stack plan records.

Working with the uCAD Plugin

Unifier uCAD is an AutoCAD® plug-in (a desktop client application) that allows Space Manager to graphically define levels/floors and spaces based on customer-specific space definitions and details.

Unifier uCAD works in conjunction with Unifier Space Manager module (you can upload drawing files for use with Space Manager) and provides a seamless integration between AutoCAD® and Unifier.

Installing and configuring uCAD provides the following capabilities:

- ▶ Dynamic level and space data creation and updates between Unifier and AutoCAD®.
- ▶ Ability to integrate with multiple Unifier environments by leveraging the connections created under uClient Configurator.
- ▶ Link uCAD space objects and polylines with Unifier's Space Manager Levels and Space records.
- ▶ Ability to associate attributes to drawing objects to designate their space location.
- ▶ Ability to publish AutoCAD® drawings with uCAD Space information to Unifier, and ability for Unifier users to view these drawings without the need for the native AutoCAD® application on your desktop.
- ▶ Ability to keep uCAD's Space and Level attribute form designs in synchronize with Unifier via an Auto Synchronize feature.

In addition, your desktop system must have one of the following supported AutoCAD® versions:

- ▶ 2011
- ▶ 2012
- ▶ 2013
- ▶ 2014
- ▶ 2015
- ▶ 2016
- ▶ 2017

> **Note**: The uCAD Application and uClient Configurator are installed locally and run as client-side applications on your local system. If you access Unifier from a different computer where you have not installed these applications, and attempt to upload, download or attach files, you will be presented with an error. You must install uCAD and uClient Configurator on each computer on which you intend to use the functionality.

About the uCAD Plug-In

Users can integrate the Unifier Space Manager with AutoCAD® using the uCAD plug-in application, which can be downloaded from Unifier. uCAD enables:

- ▶ Authoring of space objects in AutoCAD®
- ▶ Identifying spaces on a floor drawing and link them to Unifier space objects
- ▶ Associating a drawing file to a level record
- ▶ Transferring changes to level and space records between the Space Manager and AutoCAD®

Installing the uCAD Plug-In

Refer to the *Unifier uCAD Installation Guide* for details on how to install the uCAD plug-in.

Configuring uCAD

After installing uCAD, you can configure it. This consists of the following:

▶ View uCAD connections. These connections are maintained in the uClient Configurator.

▶ You can optionally configure uCAD to automatically synchronize with your AutoCAD® designs.

To open the uCAD Configurator window

From the Windows Start button, click **Start** > **uClient** > **uCAD** > **uCAD Configurator**. The uCAD Configurator window opens, listing the connections and import options for your implementation.

About the Connections

uCAD connects to Unifier to download level-type and space-type design definitions (the properties of which correspond to the attribute forms that were designed in uDesigner for the Space type and Level type records). These designs must be imported into Unifier before uCAD can take advantage of them.

The connections between uCAD and Unifier are set up in the uClient Configurator.

To view connection details follow these steps:

1) Open the uCAD Configurator window.
2) Click on each connection listed in the window. This displays the connection name and details, and the last date designs were imported.

    These connections are created and maintained in the uClient Configurator.

To access uClient Configurator and create connections follow these steps:

1) If you have not already done so, you must create the connections in uClient that will be used by uCAD. From the Windows **Start** button, click **Programs**, **Oracle**, **Primavera-Unifier**, **uClient**. The uClient Configurator window opens.
2) For details about setting up connections in the uClient Configurator, see topic "Setting Up Primavera uClient Configurator" in the *Unifier uCAD Installation Guide* for details.

Enabling Auto-Synchronization

uCAD enables you to integrate your AutoCAD® drawings with Unifier's Space Manager. In order to do this, you must first import Space Manager designs into uCAD. These designs include level type, space types, and the data elements on the Space Manager attribute forms that have been enabled for uCAD Integration in uDesigner.

This import process can be done manually, or you can choose the uCAD Auto Synchronization option. When this option is enabled, uCAD will check for any new space types that have been imported into Unifier from uDesigner, or any changes to the data elements enabled for uCAD Integration in existing level or space types.

With Auto Synchronization is enabled, uCAD tries to connect to Unifier when you open a drawing file that was previously set up with a connection to check if there have been any changes to the design. This is done in the background. If the application detects changes, you are asked if you want to import them into Unifier. If you ignore the message, you can continue working with the drawing file. If you accept the changes, close the drawing file so that uCAD can rebuild the menu structure and map data to the new imported design.

If you choose not to enable Auto Synchronization, you must manually import any new designs.

To enable auto synchronization of drawing file changes between AutoCAD® and Unifier follow these steps:

1) Open the uCAD Configurator window, and select the **Connections** node.
2) Click the **Edit** button.
3) Select **Auto Synchronize Design** and click **OK**.

To manually import Space Manager design for the Levels and Space types follow these steps:

1) Open the uCAD Configurator window.
2) Click on a connection listed in the **Connections** node.
3) Click the **Import** button.

Working in AutoCAD with the uCAD Plugin

The following is an overview of how uCAD integrates your AutoCAD® drawings with Unifier Space Manager.

a) Before you can use the uCAD plug-in with AutoCAD, the Space Manager attribute forms for the Level definition (as well as Space types) must have been designed in uDesigner and imported into Unifier.

In uDesigner, you create one Level type form, and any number of Space type forms.

As part of the design process, you also specify which data elements to use to integrate with uCAD (this is done in the Integration > uCAD node in uDesigner).

Examples

For Level integration, at a minimum, you must include the Level name and Status.

For Spaces, you must include Space Name, Area, and Level Picker. Refer to the *Unifier uDesigner User Guide* to learn more about Space Manager designs.

b) Install the uCAD plugin, for AutoCAD®, and establish connections in uClient. A Unifier menu will be available from your AutoCAD® menu bar.

c) Import the attribute forms into Unifier.

d) Activate the attribute forms in the Configuration. Refer to the *Unifier Administration Guide* to learn more about Space Manager setup.

e) Open the drawing file in AutoCAD®.

In Space Manager each drawing file, when imported into Unifier, represents, corresponds, and is associated with a Level record in Unifier.

Example

Each floor of a building corresponds to a Level-type record in Unifier.

f) Import the Unifier designs into uCAD.

You can do this manually, or choose to enable automatic synchronization.

This process imports level and space type details into uCAD.

Note: The level and space type details refer to the level type, all space types, and the data elements that have been enabled for uCAD integration, in uDesigner, for the corresponding level and space types.

g) Set up a new AutoCAD® drawing for use with uCAD.

This needs to be done only once for each drawing.

h) Work with uCAD to create level and space objects on the drawing.

i) Link them to uCAD.

j) Import the drawing file into Unifier Space Manager.

The level or space objects linked to uCAD will create level and space records in Unifier. Refer to the *Unifier User Guide* and *Unifier Administration Guide* for information about working with the Space Manager.

Note: If the system displays a message, proceed by adding the installation location to the Trusted Locations option (Tools > Options > System).

Importing or Auto-Synchronizing Level and Space Forms

The first step is to synchronize the Level and Space types attribute form designs from Unifier to uCAD. You can do this manually, or by auto synchronization.

See *Enabling Auto-Synchronization* (on page 702) for details on enabling auto synchronization. If the Auto Synchronization is enabled, then uCAD will attempt to create a connection to Unifier and automatically import Space Manager design information.

To manually import Space Manager designs for the Levels and Space types, follow these steps:

1) Open the uCAD Configurator window.
2) Click on a connection listed in the **Connections** node.
3) Click the **Import** button.

Setting Up an AutoCAD Drawing for Use with uCAD

For each new drawing that you want to use with uCAD, you must choose which connection to use for that drawing. (These are the connections you added in uClient.) This setup only needs to be done once per drawing.

To set up an AutoCAD® drawing for use with uCAD, follow these steps:

1) Start AutoCAD® and open the drawing file that you want to use with the Space Manager.
2) On the AutoCAD® menu bar, click the **Unifier** menu, and select **Setup uCAD**.
3) In the Setup window, select a connection. The URL and company name associated with the connection name are populated.
4) Click **OK**.

The following additional options are now available under the Unifier menu:

▶ **Create or Modify <Level type>**: Allows you to associate a drawing with a Space Manager level. In the above example, Floors was the name given in uDesigner to define the level type.

▶ **Create Spaces**: Allows you to create a new space object. The sub-menu lists all of the available space types as defined in uDesigner.

▶ **Establish Link**: Allows you to link existing AutoCAD® polylines to uCAD space records.

▶ **View or Modify Spaces**: Allows you to list or modify all spaces defined on this drawing.

▶ Outlines: Allows you to turn on or turn off the outlines around spaces in a drawing in uCAD.

▶ Fill: Allows you to turn on or turn off fill colors in the various spaces in the drawing. These fill colors were configured for the space type by the Administrator.

▶ Text: Allows you to turn on or turn off fill colors in the various spaces in the drawing. These fill colors were configured for the space type by the Administrator.

▶ Generate uCAD Files: Allows you to publish your drawing.

The levels type and space types displayed under the Unifier menu are based on the Space Manager designs created in uDesigner, imported into a Unifier environment, and associated with the connection selected in the Setup uCAD window.

Associating a Drawing File with a Level

Any drawing file that will be used with Unifier's Space Manager needs to be associated with a Level record. Each Level record in the Space Manager is eventually associated with an AutoCAD® drawing file.

To associate a drawing file with a level record follow these steps:

1) In AutoCAD®, select **Unifier** > **Create or Modify <level>**. The <level> form opens. In this example, the level name that was designed in uDesigner is Floors.

2) The data elements displayed on this Level form are controlled by the data elements added to the uCAD integration interface design in uDesigner. This form and its content is based on the selected connection (that is, the Unifier environment from which the designs were imported) while setting up this drawing file.

> **Note**: If a picker data element has been added to uCAD integration, it will display on the form as a text entry field. You must enter a valid value. For example, if you have a Level Picker field, you must type the level name exactly as it appears in the space record form.

3) After completing the form, click **OK**. The drawing file is now ready to be associated with a level record. This level record will either be created new, if never created before, or updated with new data if this level and associated drawing has not yet been imported into the Space Manager in Unifier.

Creating New Space Objects or Link Existing Spaces

The next step is to create space objects. You can create spaces in AutoCAD® using uCAD. Each space object is dynamically linked to an AutoCAD® polyline entity during creation. You can also link existing AutoCAD® polylines to uCAD space objects. For example, if you have a space type called Common Areas, you might define individual spaces for each restroom, hallway, or reception area. You will then associate each of these spaces with the Common Areas space type, and give each space a unique name.

Linking a uCAD space object to a polyline provides these benefits:

▶ The area of the polyline is automatically calculated, and the space object associated with it is updated.
▶ Once a drawing file has been imported into Unifier's Space Manager, the system can dynamically create new space records that are associated with the uCAD space object or update existing spaces with new space data.
▶ In Unifier, spaces can be viewed or highlighted in Unifier's Space Manager when searching or selecting a space record.

When you import the drawing file into Unifier, these become space records. You control the information to capture with that space record, such as the space name, the area, the unit of measure (such as square feet). These are based on the attributes that were designed in uDesigner for each space type.

To create space objects, you can create a new object in AutoCAD® using polylines, or you can link existing polylines to uCAD.

Creating a new space object using polylines

To create a new space object using polylines follow these steps:

With this procedure, you are create a new space object on the drawing using polylines (conference room, office, or hallway, for example). These new spaces will create new space records automatically in Unifier for the corresponding level.

1) In AutoCAD®, open the drawing that you want to add spaces to. Be sure that the drawing has already been set up to work with uCAD (see the instructions above).
2) Select **Unifier** > **Create Space** > **<space type>**.
3) Select a space type.

   Common Spaces, Gross Building Area, Gross Measured Area, Major Vertical Penetration, or Usable Areas.
4) Draw the boundaries of your space. When you have defined the space boundaries and completed the space by closing the polyline or by pressing Enter, the space form opens.
5) Complete the form.

   The data elements displayed on this space form are those that were added to the uCAD integration design in uDesigner. This form and its content is based on the selected connection (that is, the Unifier environment from which the designs were imported) while setting up this drawing file.

In the example shown above, the Usable Areas space type form is show. Notice that the Area for this Usable Area space is pre-calculated based on the space boundaries defined on the drawing.

> **Note**: If a picker data element has been added to uCAD integration, it will display on the form as a text entry field. You must enter a valid value. For example, if you have a Level Picker field, you must type the level name exactly as it appears in the space record form.

6) Click **OK**.

The space polyline is now created and linked to the uCAD space object.

Notice the space tag that has been placed in the middle of the space on the drawing reflecting the space Name, Type, and Area. These data elements are defined for the space type (Edit Studio window, Options tab; refer to the *Unifier uDesigner User Guide*).

Linking an existing space to an existing polyline

You can also dynamically link an existing space (that already exists as a space record in Unifier) to a polyline on the drawing.

1) In AutoCAD®, open the drawing.
2) Click the Unifier menu and select **Establish Link** > **space type**. In this example, the space type is Major Vertical Penetration.
3) Double-click a polyline space in the drawing. You can select only one polyline. The Space Type window opens, listing all the space objects of the selected type.
4) Select a space object from the list and click **Link**. If the space object already has a link, a message displays telling you to first unlink the object before establishing a new link.
5) When the link is established, click **OK**.

Adding a new space object to an existing polyline

You can also create a new Unifier space record by linking to an existing polyline.

1) In AutoCAD®, open the drawing.
2) Click the Unifier menu and select **Establish Link** > **space type**.
3) Double-click a polyline space on the drawing. You can select only one polyline. The Space Type window opens, listing all the space objects of the selected type.
4) Click **New** to create a new space object. The Space form opens.
5) Enter the data for the new space object.
6) Select the new space object from the list and click **Link**.
7) When the link is established, click **OK**.

Working with Space Objects in a Drawing

You can view and work with all space objects that are available in uCAD.

Viewing a space object that is linked to a polyline

To view a space object that is linked to a polyline on a drawing follow these steps:

1) In AutoCAD®, open the drawing.
2) Click the **Unifier** menu and select **View** > **space type**. The Space Type window opens, listing the space objects for the selected space type.
3) Select one or more space objects from the list.
4) Click **Show on Drawing**. The linked polylines are highlighted in the drawing. The Space Type window remains open, so you can look for other space objects in the drawing. The drawing pans to show multiple polylines.

Opening a space object

This opens the space object so that you can make changes to the data element fields.

To open a space object:

1) In AutoCAD®, open the drawing.
2) Click the **Unifier** menu and select **View** > **space type**. The Space Type window opens, listing the space objects for the selected space type.
3) Select a space object from the list and click **Open**. The Space Object window opens.
4) You can view or modify the data for the space object.
5) Click **OK**.

Deleting a space object

This procedure will remove the link between a polyline and the Unifier space record, and remove the space object from the drawing. You can also optionally remove the polyline. This procedure will not delete space records from Unifier.

> **Note**: Space records and logs can include the field Polyline Deleted (or a similarly named field) that indicates whether a polyline that was linked to a space record has been deleted in uCAD. The field is blank if there is no linked polyline provided in uCAD, or if the polyline exists and is not deleted. If there was a linked polyline, and it has been deleted, this field will contain the value "Deleted". This indicates that the space record can be linked to another polyline. This field is always read-only. The space record in Unifier is not deleted.

To delete a space object:

1) In AutoCAD®, open the drawing.
2) Click the **Unifier** menu and select **View** > **space type**. The Space Type window opens, listing the space objects for the selected space type.
3) Select a space object from the list and click **Delete**.
4) Choose one of the following:
   ‣ **Space Record and Polylines**: Deletes the space record and the polyline from the drawing.
   ‣ **Space Record Only**: Deletes the space record from the drawing but leaves the polyline.
5) Click **OK**.

De-linking a space object

You can de-link a space object record from a polyline.

To de-link a space object:

1) In AutoCAD®, open the drawing.
2) Click the Unifier menu and select **View** > **space type**. The Space Type window opens, listing the space objects for the selected space type.
3) Select a space object from the list and click **Delink**.
4) Click **Yes** to confirm.

Filtering space records to access a subset of those records

You can filter a long list of space records to quickly access records that meet certain filtering criteria. For example, you might want to see only those records for which Department is Human Resources and Occupancy is Vacant. You can filter by using the fields available to the space record (that are not based on constants) from the Space Detail form designed in uDesigner.

To filter a list of space records:

1) In AutoCAD®, open the drawing.
2) Click the Unifier menu and select View > space type. The Space Type window opens, listing the space objects for the selected space type.
3) Click Filter. The Filter window displays.
4) Select the filtering criteria.
5) Click OK. The list of records is refreshed to show the records that meet the filtering criteria.
6) You can click Show on Drawing to show highlighting (dashed lines) around the polylines that are found using the search criteria. Click Cancel Highlighting to turn off the highlighting.
7) Click Remove Filter to return to the original list of space records.

Working with Options Under Unifier Menu

If configured by your administrator, you can turn on or turn off space outlines, fill colors, and fill text. The outlines, colors, and text display support visual analysis of the drawings and facilitate space planning. For example, you might want to see a floor plan with each space type on that plan highlighted in a different color based on the department using that space. Or, you might want to outline all common areas, or all usable space, or both types of spaces.

Try turning on and off outlines, color fills, and text fills to gain insight into the various aspects of the drawings you are working with. The outlines and fill settings do not change any data and do not persist. Each time you view the drawing, you can turn these setting on and off to emphasize different aspects of the drawing.

To turn on or turn off space outlines follow these steps:

1) In AutoCAD®, open the drawing.
2) Choose **Unifier** > **Outlines**. The Outlines window opens.

3) Select **All** to view all outlines around all spaces in the drawing, or select space types to view outlines around specific space types.

4) Click **OK**.

To turn on or turn off space color fills follow these steps:

1) In AutoCAD®, open the drawing.

2) Choose **Unifier** > **Fill**. The Fill window opens.

3) Select **All Space Types** to show color fills for all space types in the drawing, or choose a space type from the **Space Type** drop-down list, and any associated data elements.

4) Click **OK**.

To turn on or turn off space text fills follow these steps:

1) In AutoCAD®, open the drawing.

2) Choose **Unifier** > **Text** > **<space type>**. The Text window opens.

3) Select **All Space Types** to view all text fills in spaces in the drawing, or choose the specific text that you want to display on the spaces.

4) Click **OK**.

Generating uCAD Files

The **Generate uCAD Files** option allows you to publish your drawing. Once you save your drawing file in AutoCAD, use the Generate uCAD Files option to publish your drawing file, which can later be imported into Unifier.

> **Note:** Ensure that you save your drawing file in AutoCAD prior to using the Generate uCAD Files option. This is to ensure that the drawing file and the published file are in synch.

Accessing User-Defined Reports (UDRs)

User-defined reports (UDRs) are set up and run in **User** mode.

You can run UDRs at:

▶ Project-level
▶ Shell-level
▶ Program-level
▶ Company-level

When you are running a report based on a permission-aware Document Manager data source, Unifier allows you to see the report only if you have permission to see the data source, in case of:

▶ Document Manager - Company
▶ Document Manager - Project/Shell

To access a **project-level** user-defined reports

In **User** mode, open a project or shell. Navigate to **Reports** > **User-Defined**. The **User-Defined Reports** log opens.

To access a **shell-level** user-defined reports

In **User** mode, open a project or shell. Navigate to **Reports** > **User-Defined**. The **User-Defined Reports** log opens.

To access a **program-level** user-defined reports

In **User** mode, open a program. Navigate to **Reports** > **User-Defined**. The **User-Defined Reports** log opens.

To access a **company-level** user-defined reports

In **User** mode, open the company (**User** mode). Navigate to **Reports** > **User-Defined**. The **User-Defined Reports** log opens.

The following describes the **User-Defined Reports** log elements, for the **Company Workspace** tab (**Admin** mode) > **Templates** > **Project (Standard)** > **All** > click a [project] to open > **Reports** > **User-Defined Reports**.

User-Defined Reports log menu options:

File	Enables you to perform the following actions:
	 ▶ **New**
	 ▶ **Copy**
	     ▸ **Report**
	     ▸ **Template**
	 ▶ **Open**
	 ▶ **Update Projects**
	     ▸ **Projects**
	     ▸ **All Projects**
	     ▸ **History**
	 ▶ **Import**

Edit	Enables you to edit or **Delete** a report.
View	Enables you to perform the following actions: ▶ **All** ▶ **Find** ▶ **Saved Results** ▶ **Audit Log**
Help	Enables you to access: ▶ **Unifier Help** ▶ **Unifier Library** ▶ **User Productivity Kit** ▶ **About Unifier**

User-Defined Reports log toolbar options:

New	Enables you open the **Create a new report** (**Create User-defined Report**) window and set up the following fields:
	▶ **Data Type**
	▶ **Element**
	▶ **Report Type**
	▶ **Access Type**
Copy	Enables you to copy a:
	▶ **Report**
	▶ **Template**
Open	Enables you to open a record.
Edit	Enables you to edit a report.
Delete	Enables you to delete a report.
Find	Enables you to find a report on the log.
Saved Results	Enables you to see the saved results.
Update Projects	Enables you to access:
	▶ **Projects**
	▶ **All Projects**
	▶ **History**
Import	Enables you to import a report.

User-Defined Reports log columns:

The columns provide the following details about each UDR.

▶ **Name**
▶ **Description**
▶ **Data Type**
▶ **Access Type**
▶ **Report Type**
▶ **Owner**
▶ **Creation Date**
▶ **Last Modified By**
▶ **Last Modified Date**
▶ **Scheduled**
▶ **Last Run Date**

Working with Drawing Files

You can import drawing files into Unifier from a level log or from a level record. You can download drawing files as well.

If a level drawing has reference files, you must put all polylines and space objects on the base level drawing file and not on the reference files. Unifier Space Manager cannot process reference files for space objects.

When a drawing file is set up with an uCAD connection, the system creates a data file with .unf extension under a location managed by the uCAD desktop application. The .unf file contains following information:

▸ Connection that is associated with the drawing file during setup step.
▸ Level related information. Information that is entered by user on level detail form
▸ Space related information. Information that is entered by user on space detail form.
▸ Link between space object and polyline.

There is a one-to-one relationship between:

▸ Drawing file and setup
▸ Connection and .unf file

Importing Drawing Files into Unifier

You can import drawing files (.dwg files) into Unifier from the *level records log* or from the *level record*.

> **Note**: The uCAD plug-in must be installed on the machine from which you import the drawing files. If uCAD is not installed, you receive a message to install it.

To import drawing files into Unifier from *level records log*:

1) From the toolbar click **Import** and select **Drawing Files** to open the **Upload Files** window.

> **Notes**:
> - The File Upload window enables the user to upload the .unf and .dwf files in addition to the .dwg files and after a successful upload, the level processing window is displayed.
> - The .dwf and .unf files, associated with each drawing file, must be uploaded.
> - The default paths for Windows OS are:
>   - .dwf file: `C:\Program Files (x86)\Oracle\Primavera-Unifier\uCAD\data\dwf`
>   - .unf file: `C:\Program Files (x86)\Oracle\Primavera-Unifier\uCAD\data\unf`

2) Click **Browse** and select the drawing file and the corresponding .unf and .dwf files.
3) Click **Upload** to upload the files to Unifier.

4) When the level processing window displays, click the star symbol on the upper left-hand corner, and then click **Process** to process the drawing file.

   If multiple files are available and you want to process all the files, click **Upload** from the bottom right-hand portion of the window.

   > **Note**: You can click **Remove** to remove one or more drawing files from the list.

   You receive a confirmation message that the files are being processed, and you will be notified, by email, when the processing is complete.

You can upload multiple drawing files to either create or update the levels and spaces.

To get the most recent import information:

After the drawing files are uploaded, Unifier generates a drawing processing log.

1) In User Mode in **Unifier**, select **<shell>** > **Space Manager** > **Levels**.
2) Select **View** > **Last Import Log**. The Last Import Log window opens, listing who performed the import, the date and time of the import, and the drawings that were imported. This log is always updated to show the last import. It does not contain history of imports over time.

To import drawing files into Unifier from *level record*:

You can import a drawing file from a level record if you have create permission on the Levels log. You can import one drawing file per level. You cannot import when the record is still in Draft mode.

Processing a drawing file from a level record is similar to processing files from level records log.

Downloading Drawing Files

You can download drawing files from the *level records log* window, only.

To download drawing files:

1) In **User** mode in Unifier, select **<shell>** > **Space Manager** > **Levels**.
2) Select one or more level records from the *level records log* window and click **Download**.

   A zip file (containing the .dwg and .unf files) will be downloaded, which contains the path, for example: `C:\Program Files\Oracle\Primavera-Unifier\uCAD\data\unf location`

Filling a Space with Color

This feature in Unifier works the same way it does in AutoCAD. The colors you can choose from for a space are dictated by the space type you are working with.

   > **Note**: Anytime the administrator changes the fill space colors, you will have to send the drawing back to AutoCAD and re-import it into Unifier in order to acquire the new colors.

1) In Unifier, open the drawing. Unifier displays the drawing and a mini-log of spaces below the drawing.

2) On the toolbar above the mini-log, click the **Fill By** button (or choose Fill By from the View menu).

3) From the list that appears, choose the fill you want to see on the drawing.

The drawing will change to show the color you selected.

> **Note**: When you save the drawing, Unifier will save it with the current fill settings. These are the settings you will see the next time you open the drawing.

Displaying Text for a Space

This feature in Unifier works the same way it does in AutoCAD. The text types you can choose from for a space are dictated by the space type you are working with.

> **Note**: Anytime the administrator changes the display text, you will have to send the drawing back to AutoCAD and re-import it into Unifier in order to acquire the new text.

1) In Unifier, open the drawing.

Unifier displays the drawing and a mini-log of spaces below the drawing.

2) On the toolbar above the mini-log, click the **Text By** button (or choose **Text By** from the **View** menu).

3) From the list that appears, choose the text you want to see on the drawing.

The drawing will change to show the text type you selected.

> **Note**: When you save the drawing, Unifier will save it with the current text settings. These are the settings you will see the next time you open the drawing.

Print a Space Manager Form

You can print a copy of a Space Manager form. When printing Level or Space attribute forms, you can choose PDF, HTML or Custom print formats and select one of the following options:

▸ Save a copy of the form as a PDF file and print the file

▸ Print an HTML view

▸ Print from a Word file if a custom print layout has been created for the form

The Custom Print formats include the BI Publisher custom print templates designed in the **Custom Templates** node. If custom print layouts have been created for the Planning Manager, the form will print according to the layout that you select. See the following Custom Format Print Options for details. See the following *Printing Options - Custom Format* for details.

To preview and print an Space Manager form:

1) Open the Space Manager record that you want to print.

2) From the **File** menu, choose **Print Preview**, then choose one of the following:

   ▸ **HTML** to view the form in the browser which can then be printed.

> ▸ **PDF** to open the form in Adobe Reader, which can be saved or emailed as a PDF file, or printed process, you are asked to save the changes to the form.
>
> ▸ **Custom** to select the BI Publisher, Microsoft Word, and PDF custom print templates from the same place as the current custom prints. See the following *Printing Options - Custom Format* for details.

The Print Options window opens. This window displays the record information that can be printed.

3) Select the check boxes for the information that you want to print.

4) To select all the checkboxes, click the **Select All** checkbox. To deselect all, uncheck the **Select All** checkbox. If you deselect all checkboxes, only the header and footer will print.

5) Click **OK**. The preview form opens in an HTML or PDF (Adobe Acrobat or Reader) window, from which you can print.

   If you chose PDF, you can save a copy by clicking the **Save a Copy** button, or print. To print from HTML format, click on the **Print** icon in the upper right corner.

Print Options for Space Manager Form

Following is a summary of the print options for a Space Form.

Print option	What it prints
Line Item List	Selected by default. This prints the information present on the tabs displayed on the Space.
Detail Form	This prints the information entered on the form. Depreciation details in the line items are not printed.
General Comments	The general comment text and create details are printed.
Record Attachments	File attachments to the record are listed alphabetically by file name, and also include the file title, issue date, revision number, and file size.
Record Attachments > Comments	Prints comments associated with file attachments to the record. "Record Attachments" must also be selected to select this option.

To print an Space Manager form with a custom print layout:

1) Open the Space Manager form that you want to print. Be sure it is in a view mode.

2) From the File menu, choose **Print Preview**, then choose **Custom** to select the BI Publisher, Microsoft Word, or PDF custom print templates from the same place as the current custom prints (Custom Format Print selection window).

3) Select a layout and click **OK**. The File Download window opens.

4) Choose to **Open** or **Save** the file, which is a Microsoft Word DOC file.

5) Open the file in Microsoft Word and print. This feature can be used with Microsoft Word 2003 and 2007.

Printing Options - Custom Format

The Custom Format Print window has two sections:

- Select a custom print template
- Select a template and format to print

Both sections facilitate custom print template and format selections.

Select a custom print template

Lists all the custom print templates, including the custom print templates created in the **Custom Templates** node and the custom print templates. For example, the list may include BI Publisher custom print templates, Word, and PDF custom print templates.

If there are multiple custom print templates, all the published templates are listed in this section.

The "Select a template and format to print" is populated by the selection made in the "Select a custom print template" section.

Select a template and format to print

- If you select a BI Publisher custom print, then you can select the desired template and format from the drop-down lists.
- Template drop-down displays all the available templates for the selected format.
- Format drop-down displays the available formats for the selected template.
- If the custom print template was created using PDF or Word, then the "Select a template and format to print" is disabled.

Default template and format

- If a BI Publisher print template is selected, then the default values in the drop-down lists are set based on the default in the custom print template.
- When a BI Publisher print template is selected in the "Select a custom print template" section, the template and format are populated based on the default value selected at the time of designing the print template.