Open Workbench

User Guide

v2.0.00

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Chapter 1: Get Started with Open Workbench

This section contains the following topics:

Introduction to Open Workbench

Open Workbench is an application for project scheduling and management. It conforms to and supports the underlying ideas of project management while presenting information in an intuitive and easy to learn format.

Using Open Workbench, you can create projects, populate them with tasks, create dependencies on tasks that are internal or external to the project, and assign resources. You can also import data, such as tasks, from other projects. You can display project data in a variety of ways, including in spreadsheet views that include Gantt charts and in Critical Path Method (CPM) Network views. Open Workbench provides standard views that you can use as is or modify to meet your needs.

Additionally, Open Workbench allows you to save and share projects when Open Workbench is connected to CA Clarity Project & Portfolio Manager (CA Clarity PPM).

Note: See the *Project Management User Guide* for more information.

How to Set Up Open Workbench

You can specify the default Open Workbench program preferences and project default options. Program preferences determine how Open Workbench behaves each time you start it, while project default options impact project settings, such as default directory locations and the default dependency type automatically assigned when you create dependency relationships. Every Open Workbench project you create uses these defaults unless you specify otherwise.

Use the tabs on the Options dialog box define your preferences. To open the Options dialog box, select the application menu in the top left corner, then "Preferences".

Note: Some Open Workbench dialog boxes allow you to override the default settings you define on the Defaults tab and general settings you define on the General tab. The changes you make in dialog boxes are automatically saved with your project and override the program defaults when you open the project.

Use the following process to specify program and project default preferences and you are setting up Open Workbench for the first time:

1. Define the general options (see page 13):
    a. If you are using Open Workbench with CA Clarity PPM, specify the Log on to Server option (see page 14).
    b. Define the currency used in calculations (see page 15).
    c. Define the first week of the year (see page 16).
2. Define the default options (see page 16):
    a. Define the assignment options (see page 17).
    b. Define the dependency options (see page 18).
    c. Define the percent complete value.
3. Define the file location options (see page 19).
4. Define the WBS level labels (see page 20).
5. Define the view display colors (see page 21).
6. Define the time scales (see page 22).

Define Open Workbench General Options

You can define default Open Workbench behavior, such as how window components are displayed and the location where you save files using the General tab on the Options dialog box.

Note: In most cases, you can override these defaults as needed for individual projects.

To define Open Workbench's general options

1. Select "Preferences" from the application menu at the top left.

   The General tab on the Options dialog box opens.

2. Complete the following fields:

   Show Tips at Startup

   Defines whether to show Open Workbench tips each time you start Open Workbench in the Tip of the Day dialog box.

   Default: Not selected

   Note: You can turn this feature off from the Tip of the Day dialog box.

   Display Status Bar

   Defines whether to display the status bar. The status bar displays at the bottom of the Open Workbench window. Messages regarding the commands you select or information you enter displays in the bar.

   Default: Selected

   View Shortcut Bar

   Defines whether to display the shortcut bar ("Library") in the Open Workbench window.

   Default: Selected

   Recent Project File List Contains

   Defines the number of recently-opened file names you want to appear in the list when you select File.

   Default: 4

Default Project Format

Defines the project format for your Open Workbench project.

Default: *.RMP

Options:

- *.RMP. Defines the default project format as Open Workbench .rmp files.
- *.XML. Defines the default project format as XML files.
- CA Clarity PPM. Defines the default project format as CA Clarity PPM project files.

Guideline URL

Defines the default Uniform Resource Locator (URL) or the directory path where guidelines for your organization are located.

Default: Cleared

3. Define note categories (see page 117).
4. Define the currency used in calculations (see page 15).
5. Define the first week of the year (see page 16).
6. If you are using Open Workbench with CA Clarity PPM, specify that you want the Log on to CA Clarity PPM dialog box to appear each time you start Open Workbench (see page 14).
7. Click OK.

   The general options are saved and the Options dialog box closes.

Set the Log on to Server Option

If you are using Open Workbench with CA Clarity PPM, you must specify that you want the *Log on to CA Clarity PPM* dialog box to open each time you start Open Workbench. This dialog box allows you to specify whether or not you want to log on to CA Clarity PPM during an Open Workbench session.

To set the option to be prompted to log on to the CA Clarity PPM server each time you start an Open Workbench session

1. Select "Preferences" from the application menu at the top left.

   The General tab on the Options dialog box opens.

2. Complete the following fields:

   Log on to server

   Specifies whether you will be prompted to log on the CA Clarity PPM each time you start Open Workbench.

   Default: Cleared

3. Click OK.

Define the Currency Used in Calculations

Use the General tab on the Options dialog box to define the default currency that is used in your calculations.

Note: You can convert any Euro-based currency entry to the equivalent amount in another Euro-based currency. When you change from one base currency to another, the entries in Open Workbench do not convert. Conversions only occur for display purposes.

To set the currency options

1. Select "Preferences" from the application menu at the top left.

   The General tab on the Options dialog box opens.

2. Complete the following fields:

   Default Currency

   Defines the currency code used in calculations.

   Default: USD

   Note: When using USD (United States Dollars), you cannot convert the currency entries to another currency.

   Warn When Reading or Writing Different Currencies

   Defines whether a warning will appear when you open a project that uses different currency settings from the base currency.

   Default: Selected

3. Click OK.

Define the First Week of the Year

Use the General tab on the Options dialog box to define the first week of the year that is used in your calculations. Week 1 is the first week on the year. For selections other than User Locale, you must view your project in a timescaled view that has a scale set to weekly and select Show Week Number to display the week number in the heading for each time period.

To set the first week of the year

1. Select "Preferences" from the application menu at the top left.

   The General tab on the Options dialog box opens.

2. Choose the first week of the year in the First Week of Year drop-down.

   Default: User Locale

   Options:

   - User Locale. This is the default selection.
   - First Week Contains 1/1. This selection includes January 1st in Week 1.
   - First Full Week After 1/1. This selection does not include January 1st in Week 1, but starts the following week.
   - ISO. Based on the ISO calendar, this selection displays 53 weeks in a year, instead of the default 52 weeks.

3. Click OK.

Define Open Workbench Default Options

Use the Defaults tab on the Options dialog box to define Open Workbench's default project-scheduling behavior, such as the loading pattern, units, and whether or not projects are fixed duration.

To define Open Workbench's default options

1. Select "Preferences" from the application menu at the top left corner of the window.

   The General tab on the Options dialog box opens.

2. Click the Defaults tab.

   The general default options displays.

3. Define the default assignment options (see page 17).
4. Define the default dependency options (see page 18).
5. Click OK.

   The default options are saved and the Options dialog box closes.

Define the Default Assignment Options

Use the Defaults tab on the Options dialog box to define Open Workbench's default assignment options for projects and tasks, such as loading pattern, duration type, and unit of measure.

To set the default assignment options

1. Select "Preferences" from the application menu at the top left.

   The General tab on the Options dialog box opens.

2. Click the Defaults tab.

   The general default options display.

3. In the Assignments section, complete the following fields, and click OK:

   Loading Pattern

   Defines the loading pattern that is used when assigning resources to tasks.

   Default: Front

   Options: Fixed, Contour, Front, or Back.

   Fixed Duration

   Specifies whether the resource's duration type is fixed or variable.

   Default Unit

   Specifies how the resource value is measured.

   Default: Hours

   Options: Days or Hours.

   The Options dialog box closes.

Define the Default Dependency Options

Use the Defaults tab on the Options dialog box to define Open Workbench's default dependency options, such as dependency type, lag, and lag type.

To set the default dependency options

1. Select "Preferences" from the application menu at the top left.

   The Options dialog box opens.

2. Select the Defaults tab.

   The default dependency options display.

3. In the Dependencies section, complete the following fields, and click OK:

   Type

   Defines the dependency type.

   Options: Finish-Start, Start-Start, Finish-Finish, or Start-Finish

   Default: Finish-Start

   Lag

   Defines the number of days (daily lag type) after the predecessor task's constraining date, or percent complete (percent lag type), that the successor task's constraining date begins.

   Lag is the predetermined amount of time between the start and/or finish time of two tasks in a project plan.

   Lag Type

   Defines the lag type.

   Options: Daily or Percent

   Default: Daily

   The Options dialog box closes.

Define Open Workbench File Location Options

Use the Locations tab on the Options dialog box to define the default locations for libraries and other files, and to define a global file location for global settings, such as calendars, note categories, highlights, and to easily access your resource pool. This tab displays a list of file locations that you can select and edit. You can review the path and file name for the listed locations and browse to define a new location.

Use this tab to also define the default view file location. If you do not specify a default view file location, when you open a project, it displays minimum information.

To define the Open Workbench default file location options

1. Select "Preferences" from the application menu at the top left.

   The General tab on the Options dialog box opens.

2. Click the Locations tab.

   The location options display.

3. Select the name of a library, file, view, or dictionary from the Description column, and click Browse to search for and select the default location.

   The Browse for Folder dialog box opens.

4. Select the folder you want to use as the location, and click OK.

   The Browse for Folder dialog box closes. The selected location is added in Location column next to the library, file, view, or dictionary description.

5. Click OK.

   The Options dialog box closes.

Define Open Workbench WBS Level Labels

Use the WBS tab on the Options dialog box to define the default Work Breakdown Structure (WBS) level labels to conform with your organization's naming conventions. You can define any number of WBS levels.

Consider the following rules when defining WBS levels:

- WBS level names must be unique.
- When deleting levels, at least four levels are retained in the WBS.

How WBS Levels are Displayed

Some dialogs boxes in Open Workbench use icons to represent WBS levels. When you change WBS level names, equivalent icons are displayed. You can view WBS items in your master project WBS list. For example, inside a master project, subprojects appear with a Subproject icon on the proxy task's header button to indicate it is a task inside an inserted subproject. Following is a list of WBS icons that you may see in Open Workbench:

 **Subproject**

The *Subproject* icon specifies a proxy task inside an inserted (entire) subproject, as viewed from the master project.

 **Task in Subproject**

The *Task in Subproject* icon specifies a task inside an inserted (entire) subproject, as viewed from the master project.

 **Subproject Task**

The *Subproject Task* icon specifies an individually-inserted subproject task, as viewed from the master project. Instead of inserting the entire subproject, you inserted only the subproject task.

To define the WBS Level Labels

1. Select "Preferences" from the application menu at the top left.

   The General tab on the Options dialog box opens.

2. Click the WBS tab.

   The WBS options display.

3. Complete the following fields, and click OK:

   Milestone Label

   Defines the label that is used for milestones.

Default: Milestone

Task Label

Defines the label that is used for project tasks.

Default: Task

Summary Levels Label

Displays a list of the WBS levels in the order they appear in the WBS.

Default: Phase, Activity

The Options dialog box closes.

Define Open Workbench View Display Colors

Use the Display tab on the Options dialog box to turn horizontal and vertical line display on or off, select line and background colors from the color palette, and add new colors to the palette. When you customize view display colors, all open views use those colors.

Define Time Scales

Use the Time Scale dialog box to define the time periods and the type of time scale information displayed in views containing Gantt charts or tabulated views.

To define a time scale

1. In a spreadsheet view that displays a Gantt chart, double-click the column heading that displays dates.

   The Time Scale dialog box appears.

2. Define the following:

   Start Date

   Defines the start date for the time scale.

   Note: To edit this date, you must select User Defined Date from the First Date Displayed drop-down.

   First Date Displayed

   Specifies the first day to display on the time scale.

   Default: Project Start

   Values:

   - Project Start. The start date of the first task in the project.
   - Today's Date. The current system date.
   - Project Committed Actuals Start. The date of the first committed actuals on the first task.
   - Next Pending Start. The start date of the next task estimated to start.
   - Project As-of Date. The date of the last change made to the project or the last time it was saved.
   - Pending Actuals Start. The first date of the currently-collected uncommitted actuals.
   - Project Fiscal Start. The start of the current fiscal period.
   - User Defined Date. Allows you to enter a start date.

   Finish Date

   Defines the finish date for the time scale.

   Note: To edit this date, you must select User Defined Date from the Period Finish Date drop-down.

   Period Finish Date

   Specifies the finish date for the time scale.

   Default: Cleared

To activate this field, you must:

- Add one or more tabulated fields to the view's definition.
- Select the Tabulate check box in the Formatting Options dialog box for at least one of the view's tabulated fields.
- Choose Customized from the Scale drop-down.

Note: You cannot use user-defined dates with a view that displays a Gantt chart. For Gantt time scales, Customized is not a Scale option and the Period Finish Date field is unavailable. However, you can use user-defined dates with views that display tabulated fields.

Number of Periods

Enter the number of time scale periods. This feature is unavailable if you select Customized Scale from the drop-down list.

Scale

Select the time period increments you want to display in the Gantt chart heading columns. You can display one customized or user-defined period for each field name.

Default: Weekly

Values: Weekly, Daily, Monthly, Quarterly, Semi-annually, Annually, or Customized

Show Week Number

Select this check box to display the week number in the heading for each time period. Week numbers begin at the start of the fiscal year. This option is enabled when you select Weekly from the Scale drop-down list.

Note: Week 1 includes January 1, a standard in the U.S. and the U.K.

3. Click OK.

The Time Scale dialog box closes.

How to Set Up Open Workbench with CA Clarity PPM

Use the following process if you are using Open Workbench with CA Clarity PPM and are setting up Open Workbench for the first time:

1. Set up CA Clarity PPM project management options (see page 24).

   Note: See the *Administration Guide* for more information.

2. Install Open Workbench and CA PPM Schedule Connect (see page 25).
3. Set up your browser. Do one of the following:
   - Set Internet Explorer Web browser options (see page 25).
   - Set Netscape Navigator Web browser options (see page 26).
4. Set the Log on to Server Open Workbench general option (see page 14).

Set CA Clarity PPM Project Management Options

If you are using Open Workbench with CA Clarity PPM, you must set the CA Clarity PPM project management options to help with project scheduling in Open Workbench before using Open Workbench with CA Clarity PPM. The following settings must be set in CA Clarity PPM:

Allow Edit of Allocations when replacing Role

Allows you to edit resource allocation while a project is locked in CA Clarity PPM.

Only Export Current Baseline When Opening Projects in a Scheduler

Allows you to export only the current baseline to Open Workbench when multiple baselines exist.

Note: See the *Administration Guide* for more information.

Install Open Workbench and CA Clarity PPM Schedule Connect

If you have existing installations of Open Workbench and CA Clarity PPM Schedule Connect, you must uninstall the programs before installing newer versions.

You must install <CAPPM Schedule Connect to enable communication between CA Clarity PPM and Open Workbench. If you already have Open Workbench installed, you need only to install CA Clarity PPM Schedule Connect.

You can download Open Workbench and CA Clarity PPM Schedule Connect from the CA Clarity PPM DVD or from CA Clarity PPM. To download from the DVD, navigate to Clients\OpenWorkbench and click owbsetup.exe. To download from CA Clarity PPM, select the Open Workbench Download link from the *Account Setting: Software Downloads* page. The executable file name downloaded from CA Clarity PPM is wbsetup.exe. Run the executable to install the software.

Note: See the CA Clarity PPM *Common Features and Personal Options User Guide* for more information on how to download software from CA Clarity PPM, including installing Open Workbench and CA Clarity PPM Schedule Connect.

Set Microsoft Internet Explorer Web Browser Options

If you are using Open Workbench with CA Clarity PPM, you can prevent the File Download window from opening when Internet Explorer encounters an encrypted page.

Best Practices: Set the option to save secured information, such as encrypted pages, in your Temporary Internet Files folder. Clear the *Do not save encrypted pages to disk* option.

Note: See Microsoft Internet Explorer Web browser Help for more information on setting Microsoft Internet Explorer Web browser options.

Set Netscape Navigator Web Browser Options

If you are using Open Workbench with CA Clarity PPM, when you open a project from CA Clarity PPM into Open Workbench, the Download Manager window may appear. You can close this window without taking any further action or you can prevent the Download Manager window from opening when Netscape Navigator encounters an encrypted page.

Best Practices: Set the following browser options when you are connecting Open Workbench to CA Clarity PPM using CA Clarity PPM Schedule Connect.

Note: See Netscape Navigator Web browser Help for more information on setting Netscape Navigator Web browser options.

To set Netscape Navigator web browser options

1. With a Netscape Navigator Web browser window open, select Edit, Preferences.

   The Preferences dialog box opens.

2. Select Navigator, Downloads.

   The Downloads dialog box opens.

3. Change the download option as desired, and select Navigator, Help Applications.

   The Help Applications dialog box opens.

4. Click New.

5. Complete the following fields:

   Description

   Enter CA Clarity PPM Schedule Connect.

   Extension

   Enter nikusl.

   Open It Using The Default Application

   Select the check box.

6. Click OK.

Uninstall Open Workbench and CA Clarity PPM Schedule Connect

Best Practices: If you are using Open Workbench with CA Clarity PPM, before you upgrade to a newer version of Open Workbench and CA Clarity PPM Schedule Connect, first uninstall the programs.

To uninstall Open Workbench and CA Clarity PPM Schedule Connect

1. Select Start, Settings, Control Panel, Add or Remove Programs.

   The Windows Add or Remove Programs dialog box opens.

2. Remove the following programs:
   - Open Workbench
   - CA Clarity PPM Schedule Connect
3. Delete the CA Clarity PPM Schedule Connect folder.

   Note: If you accepted the defaults during the installation, this folder is located in CA\Clarity folder of your Program Files directory.

Open Workbench Navigation Basics

You can use menus, toolbars, and views to navigate Open Workbench.

About the File Menu

The following commands are available from the Application menu:

New (Ctrl+N)

Select New to create a new project.

Open (Ctrl+O)

Select Open to open an existing project from the Open dialog box.

Close

Select Close to close the project you have open in Open Workbench. You are prompted to save changes prior to closing if you have made unsaved changes to the project.

Save (Ctrl+S)

Select Save to save the active project.

In Open Workbench you can save projects as records in the repository or as Open Workbench .rmp project files.

Save As

Select Save As to display the Save As dialog box. Use this dialog box to save the active project to a different location or with a new file name. If you are using Open Workbench with CA Clarity PPM, you can save projects as records in CA Clarity PPM or as Open Workbench .rmp project files.

Print Setup

Use this to select a printer and print layout options.

Page Setup

Use this to select page layout options.

Print Preview

Use this to display the active view as it will appear when printed.

Print (Ctrl+P)

Select File, Print to select criteria for printing the active view.

Quick Print

Prints the active view with the last-used settings.

Properties

Use this dialog to enter description, schedule, resource, key task, and note properties.

Preferences

Shows the options dialog for Open Workbench.

Recent File list

Select File, Recent File list to select and open a recently-opened project file.

Exit

Select File, Exit to close all open program windows and project files and exit Open Workbench.

About the Ribbon Bar

In this section, you will find the description for the Open Workbench ribbon menu.

About the Tasks Ribbon

The following commands are available in the Tasks ribbon menu.

In the Clipboard group:

Copy (Ctrl+C)

Select Copy to copy the selected information to the clipboard for use elsewhere.

Paste (Ctrl+V)

Select Paste to insert clipboard contents at a selected location.

Cut (Ctrl+X)

Select Cut to remove the selected information from the project and place it on the clipboard for use elsewhere.

If you select and cut data from an individual cell, the data is deleted. If you select and cut an entire object, the selected object is highlighted by a marquee; the data is not actually deleted and removed from view until you insert the clipboard contents to a selected location.

In the Edit group:

Delete (Delete)

Select Delete to delete the selected information from the project.

Modify (F8)

Select Modify to edit information for a selected object.

To edit a task, select the task and select Edit, Modify. To edit a resource, select the resource and select Edit, Modify.

Insert (Insert)

Select Insert to insert a row in a spreadsheet view.

Phase

Change the type of the currently marked task into a phase task. The indentation level of the phase is determined by its parent task.

Milestone

Change the type of the currently marked task into a milestone.

Task

Change the type of the currently marked task into a work task.

Indent

Change the indentation level of the currently marked phase task by indenting it one level further. I.e. after marking a Phase and pressing "Indent", the task will be an Activity.

Outdent

Change the indentation level of the currently marked phase task by indenting it one level less. I.e. after marking an Activity and pressing "Outdent", the task will be a Phase.

Undo (Ctrl+Z)

Select Undo to reverse most actions.

Note: If your most recent action is irreversible, the Undo command is disabled.

Redo (Ctrl+Y)

Select Redo to reverse a previous undo, if that is possible.

Note: If your most recent undo action is irreversible, the Redo command is disabled.

In the Search group:

Quick Search

The Quick Search allows you to quickly find tasks by name. Simply type part of the name you are searching for into the text entry field. The currently active view will instantaneously reflect the results of the filtering.

Extended Find (Ctrl+F)

Select Extended Find to construct search criteria from one or more field names.

Find Next (F4)

Select Find Next to find the next occurrence of the search criteria you specified in the Find dialog box.

In the Quickfilter group:

Quick Filter by Resource

Use the Resource drop down in the Quickfilter group to quickly filter the view by a selected resource or all resources.

Quick Filter by Type

In the Zoom group:

In

Out

About the Project Ribbon

The following commands are available from the Project ribbon menu:

In the Schedule group:

Autoplan

Select Autoplan to specify scheduling criteria (see page 85) for automatically scheduling the project.

Critical Path

Select Critical Path to automatically calculate the critical path (see page 94) of a project.

Recalculate

Select Recalculate to recalculate the duration (see page 74) of selected tasks.

Pending Estimates

Select Pending Estimates to accept (see page 162) or reject (see page 163) pending work estimates proposed by staff members.

In the Baselines group:

Define Baselines

Select Define to set (see page 77) or clear (see page 82) a baseline for the active project, view, or selected tasks.

Manage Baselines

Select Manage to display all available baselines and select the one that will be used to calculate display information.

In the External group:

External Subprojects

Select Subprojects to see a list of subprojects in the current project (see page 112), insert (see page 110) a new subproject, or delete (see page 114) a subproject.

External Dependencies

Select External Dependencies to view (see page 138) a list of external dependencies, create (see page 138), or delete (see page 140) external dependencies.

In the Assignments group:

Transfer

Select Transfer to transfer assignments on the currently marked task from one resource to another.

In the View group:

New

Displays the View Definition dialog box where you can create a new view.

New Filter

Displays the Filter Definition dialog box where you can create a new filter.

New Sort

Displays the Sort Definition dialog box where you can create a new sort.

Save

After changing the current view or creating a new view, Select Save View to display the Save View Definition dialog box where you can name the file and choose a directory and library group, where you want to save the active view.

Refresh (F5)

Select Refresh to update the data in the current view.

Manage Library

Select View, Library to view, add, and remove groups and the views, sorts, and filters they contain.

Colors and Shapes

Select Colors and Shapes to review and edit the highlights currently in use.

In the Clarity group:

Update

Select File, Update to update the current project with specified data from CA Clarity PPM.

Calendars

Specifies whether to refresh your project's current calendar with any changes made to the calendar in the CA Clarity PPM project.

Note: Calendars are not specific to a resource.

System Options

Specifies whether to update your project's options, such as roles, and customized data mapping, with any changes made to the system options in CA Clarity PPM.

Important! Selecting this option can change your working copy's default options.

New Notes

Specifies whether to include only the task notes created since the project was opened or last refreshed in the update.

Example: Another user added a note to an unplanned task on their CA Clarity PPM timesheet while the project was locked in Open Workbench.

Note: You must have the project open in read/write mode to select or clear this check box.

Resources

Refreshes all attributes for resources assigned to the project. Updates the project with revisions to resource data, such as updates to resource calendars. Assignment revisions, such as a change in the assignment estimate to complete (ETC), are not updated.

Note: You must have the project open in read/write mode to select or clear this check box.

Status

Specifies whether to include changes to Actual Usage, Actual Thru, Pending Actuals, and Pending Estimates for assignments of the project in the update.

Note: You must have the project open in read/write mode to select or clear this check box.

New Tasks and Assignments

Specifies whether to include new tasks and assignments that have been created since the project was opened or last refreshed in the update.

Note: You must have the project open in read/write mode to select or clear this check box.

Team Members

Specifies whether to include changes to existing team members and bring in new team members that were added while you had the project locked in Open Workbench.

Example: Another user added a new team member or updated an existing team member allocation, start date, or finish date while the project was locked in Open Workbench.

Note: You must have the project open in read/write mode to select or clear this check box.

In the Calendar group:

Edit Calendar

Select Calendar to choose the calendar (see page 43) you want to apply to every project you open in Open Workbench. You can also create, edit, or delete user-defined calendars.

About Views and the View Library

The views that you can apply to projects display in the view Library. When you click a view, the displayed project view is replaced with that view. You can simultaneously display project data in different views.

The view Library can display up to 32 groups of views, each of which can contain views, sorts, and filters. When you choose a group, the View Library displays icons representing views, sorts, and filters, which you can then click and apply to a project.

Reposition the View Shortcut Bar

By default, the View Library displays on the left side of the page. You can change this location. To reposition the Library, click the top of the bar and drag it to another location in the window.

Hide the View Shortcut Bar

By default, the View Library displays on the left side of the page. Use the General tab on the Options dialog box to hide the Library.

To hide the View Library

1. Select "Preferences" from the application menu at the top left corner of the window.

   The General tab on the Options dialog box opens.

2. Clear the View Shortcut Bar check box, and click OK.

   The Options dialog box closes. The view Library no longer displays on the Open Workbench page.

Restore the Hidden View Shortcut Bar

By default, the view Library displays on the left side of the Open Workbench page. You can also hide this Library. If the Library is hidden, you can restore it so that it again displays on the left side of the page.

To restore the hidden view Library

1. Select "Preferences" from the application menu at the top left corner of the window.

   The General tab on the Options dialog box opens.

2. Select the View Shortcut Bar check box, and click OK.

   The Options dialog box closes. The view Library displays on the Open Workbench page.

About Grid Columns and Rows

You can change the width of columns in views, on some grids that appear in dialog boxes and, in some cases, you can insert and delete columns. These features let you determine the amount of data displayed in a column, the order of its display and, sometimes, the sort order of rows.

Insert and Delete Grid Columns

Use the View Definition dialog box to insert and delete columns, even when they contain cells populated with field names. To insert a column, click the top of a column to select it, and then press the Insert key on your keyboard. A new column is added to the left of the selected column. To delete a column, click the top of a column to select it, and then press the Delete key on your keyboard.

Resize Grid Columns

In some dialog boxes and most views, you can resize columns to see more or less data.

To resize a grid column's width

1. Place your cursor over the column line at the top of the grid.

   The cursor changes to a double-headed arrow.

2. Click and hold the left mouse button, and then drag the column line to the left or right.

   The column is resized.

Insert and Delete Rows in Grid Columns

You can insert and delete rows that appear in most views and in many dialog boxes that display a grid. To insert a row, select a row's header button, and press Insert on your keyboard. To delete a row, select a row's header button, and press the Delete key on your keyboard.

Note: Not all grids support these actions.

About Cutting and Copying Project Data

When you cut, copy, and paste tasks and resources, you change the placement of cells in a view or add cells to a view. This allows you to paste task data from one view location to another, from one project file to another, and from Open Workbench to a Microsoft Windows application, such as Microsoft Word or Microsoft Excel. When you copy and cut data from a project, Open Workbench puts it on the clipboard, the Microsoft Windows utility for transporting data between applications. This information remains on the clipboard until you cut or copy other information, or until you clear the clipboard.

You can use the following data formats with cutting and copying:

- Tab-separated text. A common format supported by many spreadsheet and word processing programs. If you cut a range of text in Open Workbench, you can paste it to any other application that supports tab-separated text.
- Open Workbench proprietary format. Open Workbench uses its own internal data format for cutting and pasting information inside Open Workbench projects.
- Objects. In Open Workbench, an object is a task (summary or detail) or a resource. To select an object in a spreadsheet view, click its row header.
- Gantt chart. You can only copy and paste in Gantt chart data formats. You can copy and paste text and graphics in a Windows application.

Copy and Paste Tasks or Resource

Use the following procedure to copy and paste tasks or resources.

To copy and paste tasks or resources

1. In a view that displays the resource detail pane or the task detail pane, select the task or resource cells you want to copy, and select Edit, Copy.

   The selected project data is copied to the clipboard.

2. Insert a blank row(s) in which to paste the task or resource.

   A new task or resource row displays above the selected row.

3. Select Paste from the Tasks ribbon.

   The copied task or resource data is pasted in the new task or resource row.

Cut and Paste Tasks or Resources

Use the following procedure to cut and paste tasks or resources. The elements of a task or resource that you cut vary. When you cut more than one task or resource, all relationships between them are also cut.

To cut and paste tasks or resources

1. From a view that displays the task detail pane or the resource detail pane, select the task or resource cells you want to cut, and select Edit, Cut.

   The selected project data is copied to the clipboard.

2. Insert a blank row(s) in which to paste the task or resource.

   A new task or resource row displays above the selected row.

3. Select Paste from the Tasks ribbon.

   The cut task or resource data is pasted in the new task or resource row.

Copy and Paste Gantt Charts

When you copy and paste a Gantt chart and its associated tasks, the following data is included:

- Column headings.
- The entire Gantt chart timescale as it is configured, even if it extends beyond what displays on the screen.
- Gantt chart colors.
- Subproject data and icons.
- Hidden columns, the data displayed in each column, and its column heading.

  Note: Once you paste the data, this data no longer displays as hidden.
- Dependency lines if dependency relationships are displayed in the Gantt, and if the dependency lines begin and end within the area you selected.

To copy and paste a Gantt chart

1. Select the entire view, a task, or a series of tasks and the corresponding Gantt.

   Note: Although you cannot select column headings, this data gets copied.
2. Right-click and select Copy from the shortcut menu.

   This information is temporarily stored on the clipboard.
3. Select a location in which to paste the Gantt chart, and select Edit, Paste.

About the Copy and Paste Commands

When you use the Copy command to copy data from a project, Open Workbench temporarily stores it on the clipboard-the Microsoft Windows utility for transporting data between applications. This information remains on the clipboard until you copy or cut other information, or until you clear the clipboard.

This enables you to use the paste command to paste text and graphics from a project in Open Workbench, including the Gantt chart, from one view location to another, from one project file to another, and from Open Workbench to another Microsoft Windows application, such as Microsoft Word or Microsoft Excel.

About the Paste Special Command

Use Paste Special for precise control over copying and pasting tasks and resources. The Paste Special command behaves like the Paste command, but provides you with capabilities beyond the default paste behavior. Use the Paste Special dialog box to use Paste Special.

Note: The options available on the Paste Special dialog box depend on the object you choose to copy and paste. Only options that pertain to your copy selection are active on the Paste Special dialog box.

Note: To copy and paste interproject dependencies, you must first save the original and target project.

To use Paste Special

1. In the project from which you want to copy data, right-click the object(s) you want to copy and select Copy from the shortcut menu.

   The data is copied to the clipboard.

2. In the target project, place the cursor at the point where you want to paste the copied object(s), and right-click and select Paste Special from the shortcut menu.

   The Paste Special dialog box opens.

3. Select the appropriate options and click OK.

   The Paste Special dialog box closes.

About Copy Content

When you select Edit, Copy Content and you insert the data individually, only subproject tasks are affected. These copied tasks normally appear in your project, and are copied and pasted, by reference only. When you paste the copied information, you are pasting content, rather than references, to such information. To copy and paste data into a project where you want actual data, use Copy Content.

To use Copy Content

1. In a view that displays the task detail pane, select a subproject task, and select Edit, Copy Content.

   The copied data is sent to the clipboard.

2. Paste the data.

   The data is pasted.

About Cutting and Copying Cells

When you cut and copy data from views, you cut and copy the cells as text. The following rules are used when cutting, copying, and pasting cells:

- You can only cut, copy, and paste data in spreadsheet views.
- When you paste cells, the clipboard content is inserted at the selected location in the project. If you select a cell in the spreadsheet to which you want to paste, the selected cell's content is replaced with the copied data from the clipboard. To avoid this, before you paste clipboard content, insert a blank row in the spreadsheet.
- When you cut and then paste or copy and then paste cell text containing a task, the task's dependencies and resource assignments are not pasted.
- If you cut and then paste or copy and then paste a phase-level task that does not have a WBS level displayed, a new task is created because there was no WBS data in the cell.

The exceptions to the rules are:

- If you only select tasks to copy, all of the task's associated resources are copied.
- You can paste dependencies.
- Open Workbench handles sub-projects and their data components differently under different conditions, and the conditions of pasting these components varies accordingly:
  - Referenced project data. When you insert individual WBS items from another project into your project, either by selecting Tools, Subprojects, Insert or by right-clicking and selecting Insert Subproject from the shortcut menu, you paste only references to those items, not their actual data. To copy and then paste data, copy the content from the other project first and then paste it into your project.
  - Subproject (mixed) data. When you insert an entire subproject into a project, the subproject's tasks are added as actual data, even though the line representing the project itself is a reference. A more efficient way to copy and paste entire project data is to:
    - Insert the project as a subproject in Open Workbench.
    - Open the project by itself and copy all items in the standard way (to the clipboard), then open the target and paste the items in the standard way. (Use this method for pasting into Open Workbench or a third-party application, such as Microsoft Project.)
    - Import the project from a third-party application, such as Microsoft Project.

Monitor Process Progress

Use the Progress dialog box to review the approximate time it will take to complete the current process. Click Cancel to end the process before completion. When cancelled, the process is completely cancelled; it is not partially finished.

Start Open Workbench

You can start Open Workbench from the Programs menu. If you are using Open Workbench with CA Clarity PPM, you can open a project and start Open Workbench from CA Clarity PPM.

When you start Open Workbench, the Open Workbench window displays. It is the main window in Open Workbench. At the top left, the round button for the Application menu as well as the shortcut menu is displayed. Below that, the ribbon bar menu is displayed, where you can access all functions in Open Workbench. A Library that contains views which you can apply to projects displays at the left in this window. The view that you set as the default view is automatically displayed, even if you have not opened a project.

The *Log on to CA Clarity PPM* dialog box displays if you have CA Clarity PPM access or have the *Log on to server* check box selected. This check box is General option.

If you are logged in to CA Clarity PPM (it is running in an active browser window), but you start Open Workbench from the Programs menu instead of opening a project in Open Workbench from CA Clarity PPM, the *Log on to CA Clarity PPM* dialog box displays.

Note: See the *Common Features and Personal Options User Guide* for more information.

To start Open Workbench from your workstation

1. Select Start, Programs, Open Workbench.

   Open Workbench starts and the *Log on to CA Clarity PPM* dialog box displays.

2. Complete the following fields, and then click OK:

   User Name

   Defines your CA Clarity PPM user name.

   Password

   Defines your CA Clarity PPM password.

   Note: Your password appears in asterisks (*).

   Your user name and password are confirmed. Open Workbench is started.

Quick Filter by Resources

You can quickly filter a view by resource name to display only data pertinent to that resource by using the Quick Filter by Resource drop-down. This drop-down is available to you when you have resource-specific field names in a view or resource assignments in a project, and appears on your tool bar. All project resources are displayed in the list. Selecting a resource from the list changes data displayed in the view to show data pertinent to that resource.

The Gantt Chart view also takes advantage of tabulated data elements that give running totals in the resource detail section at the bottom of the view. When a modification is made to a view that contains a tabulated data element, the view recalculates dynamically.

Note: The Quick Filter by Resource drop-down is not available in CPM views.

To Quick Filter by Resource, from the Quick Filter by Resource drop-down, choose a resource. The view displays only data specific to the resource.

To clear the resource filter, from the Quick Filter by Resource drop-down, choose (All Resources). The view displays all resource data. You can also filter on resources using the Resource LOA check box.

About Calendars

Use the Calendars dialog box to choose the calendar you want to apply to every project you open in Open Workbench, to temporarily modify the work week schedules, and to assign common vacations, holidays, or other periods of zero availability. You can also create a new calendar or edit an existing calendar for use by all projects you open in Open Workbench.

Projects use a calendar to define work schedules and holidays. Open Workbench provides a standard calendar by default. An Open Workbench project (.rmp) file may also have other calendars associated with it if you created new calendars while working with the file.

If you have defined a global file location (see page 19), then your new calendars and edits to existing calendars are saved for future use when you exit Open Workbench.

If you are working on different projects that use different calendars with the same name and you open one or more .rmp files during an Open Workbench session, the calendar in the first opened project is the one used by all projects, even if those projects use calendars with the same name.

Choose Calendar to Apply to Projects

To apply a calendar other than the default calendar to all of the projects you have open during an Open Workbench session you must choose it from the list of calendars that are located in the System Options section of the Calendars dialog box. To view this dialog box, select Tools, Calendar. During an Open Workbench session you can switch calendars as often as you need to create new scenarios for your projects.

To apply a calendar to a project

1. Select Edit Calendar from the Project ribbon.

   The Calendars dialog box appears.

2. In the System Options section, choose the name of the calendar that you want to apply to all of the projects you have open from the Current Calendar drop-down, and click OK.

   The Calendars dialog box closes.

Edit Calendars

Use the Calendars dialog box to edit or delete the project calendar. The fields in the System Options section of the page apply to all projects you have open in an Open Workbench session. Use the fields in the Calendar Editing section of the page to create a new calendar and to select the calendar on which to base the new calendar. Use the calendar's scroll bar to scroll forward or backward through the months of the year.

You can save the changes you make to the calendar to use them later only if you have defined a global file location. You can make changes in any case, but when you save the project back to CA Clarity PPM, unless you have defined a global file location, the CA Clarity PPM calendar you edit reverts to their original settings.

Note: If you are using Open Workbench with CA Clarity PPM, the changes you make to CA Clarity PPM calendars are not saved back to CA Clarity PPM.

In the calendar grid, you can do the following:

- Select weekday column headings to select all the weekdays throughout all months and years of the calendar to apply your changes.
- Select single or multiple days to apply your changes.
- Click the scroll bar to move to next or previous month.
- Select a single day and click Workday to set the selected day to a workday (see page 46). Resources are expected to be available for use on this day.
- Select a day and click Holiday to set the selected day to a non-workday (see page 46). Resources are not expected to be available for use on this day.
- Remove individual holiday and non-standard workday exceptions and reset the selected days to their base calendar settings (see page 46).
- Remove all holiday and non-standard workday exceptions and reset the calendar to the base calendar settings (see page 46).

To edit a calendar

1. Select Edit Calendar from the Project ribbon.

   The Calendars dialog box appears.

2. In the System Options section, define the following fields:

   Hours per Day

   Displays the number of hours that can be worked per day.

   Hours per Week

   Displays the number of hours that can be worked per week.

   Week Start

   Specifies the day on which the normal work week begins.

Values: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday

Current Calendar

Specifies the name of the calendar that you want to apply to all projects.

Default: Standard

3. In the Calendar Editing section, define the following fields:

Name

Defines the name of the calendar.

Based On

Specifies the base calendar on which to base this calendar. If you are creating a new calendar, it inherits the settings of the base calendar.

4. Click OK.

The Calendars dialog box closes.

Create New Calendars

Use the Calendars dialog box to create new calendars that you can later edit and delete. When you create a new calendar, you can define a work schedule and holidays.

To create a calendar

1. Select Edit Calendar from the Project ribbon.

The Calendars dialog box appears.

2. In the Calendar Editing section of the page, do the following:

a. Click New.

A new calendar named New Calendar displays in the dialog box.

b. Enter a name for the new calendar in the Name field.

This name appears on the Name and Current Calendar drop-down.

c. Choose a calendar on which to base the new calendar from the Based On drop-down.

All of the base calendar holidays and other settings are inherited in the new calendar.

3. Click OK.

The Calendars dialog box closes.

Define Work Schedule and Holidays

Use the Calendars dialog box to choose which days are holidays and non-standard work days as well as define the work schedule. A new calendar assumes the work schedule and holidays defined in its base calendar. You can change these settings to meet the unique requirements of a new calendar. When you define the work schedule and holidays for a calendar, you choose which days of the week are work days, when the work week starts, and what the work hours will be.

To define the work schedule, holidays, and non-standard work days

1. Select Edit Calendar from the Project ribbon.

   The Calendars dialog box appears.

2. In the System Options section, do the following and click OK:

   - Choose the name of the new calendar from the Current Calendar drop-down.
   - Choose the other system options you want to apply to the calendar.

   The Calendars dialog box closes.

Reset Holidays and Non-standard Workdays

You can individually change the days you selected as holidays or non-standard workdays to their original settings, or you can reset the entire calendar to the base calendar settings. When you reset a user-defined calendar, it reverts to the default settings of its base calendar.

To reset holidays and non-standard workdays to their base calendar settings

1. Select Edit Calendar from the Project ribbon.

   The Calendars dialog box appears.

2. In the calendar grid, do one of the following, and click OK:

   - To reset individual holidays or non-standard work days, click a date and click Reset.
   - To reset the entire calendar, click Reset All.

   The Calendars dialog box closes.

Print Calendars

When you print a calendar, you print a snap shot of the month currently displayed in the Calendar grid on the Calendars dialog box. You can print one month at a time.

To print a calendar

1. Select Edit Calendar from the Project ribbon.

   The Calendars dialog box appears.

2. In the Calendar grid, choose the month you want to print.

   The month displays in the grid.

3. In the Calendar Editing section, click Print.

   The Print dialog box opens.

4. Choose a printer and click OK.

   The print job is sent to the printer and Print dialog box closes.

5. Click OK.

   The Calendars dialog box closes.

Delete Calendars

You can only delete the calendars you create in Open Workbench. If a calendar is displayed in the Current Calendar drop-down in the System Options section of the Calendars dialog box, and you currently have open projects, it is being used by those projects and you cannot delete it, even if it is a user-defined calendar. When you delete user-defined calendars, the default calendar is automatically applied to all open projects.

Note: You cannot delete the standard calendar that comes with Open Workbench and is used by Open Workbench (.rmp) project files.

To delete a calendar

1. Select Edit Calendar from the Project ribbon.

   The Calendars dialog box appears.

2. In the System Options section, choose the name of the calendar that you want to delete from the Current Calendar drop-down, and click Delete.

   The calendar is deleted.

3. Click OK.

   The Calendars dialog box closes.

Access Online Help

The Open Workbench online Help provides step-by-step instructions on how to use Open Workbench functionality. Introductory and conceptual information is provided where applicable.

You can access the Open Workbench online Help in the following ways:

- Get context-sensitive help specifically for the dialog box you have open. From any open dialog box, click Help. The Help page designed specifically for that dialog box opens.
- Open the Online Help to view all help topics.
  - Select the question mark icon from the top right of the ribbon bar or
  - Press F1 on your keyboard.

    The Online Help window opens. Use the Help Table of Contents or Index to locate the information you need.

Chapter 2: Create and Build Projects

This section contains the following topics:

Create Projects

A project is a related set of tasks performed to achieve a specific objective. Before planning a project, you should have a general idea of what it entails, who is responsible for managing and working on it, when it needs to be done, and how much it will cost. Once you create your project you will want to populate it with phases, activities, and tasks, and perform other important project management tasks, such as assign resources to tasks and create project schedules.

You can store the projects that you create as files on your computer, a server, or a network location. Use the Project Properties dialog box to define your new project. This dialog box consists of five tabs: Description, Scheduling, Resources, Key Tasks, Advanced, and Notes.

Note: If you are using Open Workbench with CA Clarity PPM, you can store projects directly to CA Clarity PPM. You must have CA Clarity On Demand Schedule Connect installed to do this.

To create a new project

1. Select File, New.

   A new project is created.

2. Select File, Properties.

   The Description tab on the *Project Properties* dialog appears.

3. Complete the following field:

   ID

   Defines the ID for the project.

4. Click OK.

   The project properties are saved.

5. Save your project.

Create Projects from a Command Line

You can create CA Clarity PPM projects using the command line. You can do this from the:

- DOS prompt
- Windows Run dialog box
- Properties definition for a Windows icon or Start menu item

Use the following command line arguments to create CA Clarity PPM projects:

The npWBench /r file.rmp + /rR CLARITY\[projectID] command creates a new master project with a Read-only project file and a Read-only CA Clarity PPM project.

This command has the following format:

`npWBench /r [file].rmp + /rR CLARITY\[projectID]`

file

Defines the name of the master project you want to create.

projectID

Defines the name of the CA Clarity PPM project you want to create.

The npWBench [file].rmp + /r CLARITY\[projectID file2].rmp /r repoName\[probED2] command creates a new master project in read/write mode and opens two CA Clarity PPM subprojects in read-only mode.

This command has the following format:

`npWBench [file].rmp + /r CLARITY\[projectID file2].rmp /r repoName\[probED2]`

file

Defines the name of the master project you want to create.

projectID file2

Defines the name of the first CA Clarity PPM subproject you want to create.

probED2

Defines the name of the second CA Clarity PPM project you want to create.

Create Resources

You can manually enter resources in the resource detail pane of a view, define their properties, and assign them to tasks. The resources that you create are automatically available for you to assign to tasks in your project.

Best Practices: If you are using Open Workbench with CA Clarity PPM, create the resources in CA Clarity PPM. Any new resources you create in Open Workbench must have matching resource IDs in CA Clarity PPM in order to save the project to CA Clarity PPM.

You can define resources by categories for reporting and analysis, as groups of more than one, or as roles, such as "Business Analyst." Resources can use different units of measure. Once you create a resource, you define its properties in the Resource Properties dialog box. You can access the Resource Properties dialog box from views that displays the resource detail pane.

To view usage for material and expense non-labor resources, you must set the view's format to cost. To view usage for expense non-labor resources, you must define the billing rate for resources.

To create a resource

1. In a view that displays the resource detail pane, such as the Gantt Chart view, right-click a resource and select Insert from the shortcut menu.

   A new empty resource row is added to the resource detail pane.

2. Right-click the empty resource row, and select Modify from the shortcut menu.

   The General tab on the Resource Properties dialog box opens.

3. Define the resource's general and advanced properties, and click OK.

   The Resource Properties dialog box closes.

Note: See the *Resource Management User Guide* for more information.

About Resources

Resources provide the necessary people needed to ensure projects are completed on time and within budget.

Global resources are those resources that are available to you to staff on projects when you are using Open Workbench with CA Clarity PPM. You can select a team of resources from a list of global resources and make them available to your project. The global list displays roles and resources to which you have booking rights.

About Labor and Non-Labor Resource Types

Staff can consist of labor, materials, equipment, and expense resource or role types. If you are using Open Workbench with CA Clarity PPM, you may want to include non-labor resources or roles in your CA Clarity PPM project if you want process financial transactions against them. For example, you may want to bill customers for the cost of traveling to customer sites.

You can add the following resource of role types to projects:

- Labor. Defines any person or role who works or completes tasks.
- Equipment. Defines any type of machinery used to perform a job, such as delivery trucks, printers, and computers.
- Material. Defines any type of material used to perform a job, such as training guides, chemicals, or fuel.
- Expense. Defines any costs associated with a resource or a role, such as the cost of traveling to a customer site.

Add Resources and Roles to Projects

You can add staff to your project by manually inserting a resource line item and entering the resource details directly in the resource detail pane of a view, such as the Gantt Chart view. To add a resource, right-click anywhere in the resource section and select Insert from the shortcut menu. You can also copy resources from another project you have open in Open Workbench and paste them into your project.

If you are using Open Workbench with CA Clarity PPM, you can add resources or roles to your project from:

- CA Clarity PPM. You can allocate a single role to the same project more than once. Accordingly, a role may appear more than once on the project staff in CA Clarity PPM. Each additional occurrence of the same role is appended by a number (for example, Programmer 1, Programmer 2, and Programmer 3), so that you can tell them apart.

  Note: See the *Project Management User Guide* for more information.

- Open Workbench. You can add resources and roles to a project by browsing from a list of available CA Clarity PPM resources. Use the Resources tab on the Project Properties dialog box to add resources to your project. When you add resources to your project, they are allocated at 100%. *Global resources* are those resources that are available to you to staff on projects when you are using Open Workbench with CA Clarity PPM. You can select a team of resources from a list of global resources and make them available to your project. The global list displays roles and resources to which you have booking rights.

Note: You can also add a resource to a project by creating a new resource in Open Workbench and then adding the resource to CA Clarity PPM.

To add resources or roles to a project using Open Workbench

1. Select Project Properties from the application menu at the top right corner of the window.

   The Description tab on the *Project Properties* dialog box opens.

2. Click the Resources tab.

   The Resources page opens.

3. Choose to view the Global Resource list by category or by role:

   - Roles. When viewing the list by role, all resources assigned a role are listed under their role. Resources not associated with a role are listed in the No Role folder.
   - Category. When viewing the list by category, all resources linked to a category are listed under their category. Resources not associated with a category are listed in the No Category folder.

   Note: If you are using Open Workbench with CA Clarity PPM and you have not defined resource categories in CA Clarity PPM, roles is selected and the list box is unavailable.

4. In the Global Resources grid, do one of the following:

   - To select a role, expand the role folder and select the role name.

     Note: To view a list of roles and resources linked to the role, click the "+" sign or double-click the role folder.

      Role icon

   - To select individual resources, expand the role folder and select the resource name.

      Resource icon

   You can sort the list by clicking the column heading.

5. Click Add.

   The selected resources or roles are added to the Team Resources grid and are allocated to the project.

6. Click OK.

   The Project Properties dialog box closes.

Create Project Tasks

There are several methods you can use to create tasks on new and existing projects, move tasks around in projects, and delete tasks. At a minimum, you can add tasks and define some of their properties directly in a spreadsheet view, depending on the task-specific field names the view displays. Or, you can add tasks and define their properties in the Task Properties dialog box.

Use the Task Properties dialog box to define your new task's properties. This dialog box consists of the following five tabs: General, Scheduling, Dependencies, Advanced, and Notes. The tabs you can use in this dialog box depend on whether you are creating a phase or activity, a task, or a milestone.

You can add tasks to your project directly in a spreadsheet view, such as the Gantt Chart view.

To create a task

1. In a view that displays the task detail pane, right-click in a row above which you want to create your new task, and select Insert Task from the shortcut menu.

   A new task row is added to the view about the selected task.

2. Define the task by doing one of the following:

   - If the view displays task-specific columns, click in the new task's cells to enter task-related data, such as the task's name, or
   - Right-click the new task row and select Modify from the shortcut menu.

     The General Tab on the Task Properties dialog box opens.

About Tasks

Tasks constitute the work steps of your project. During the project planning process, you define the tasks that you need to complete in order to accomplish your project's objectives. In Open Workbench, project tasks are organized according to a Work Breakdown Structure (WBS). The default WBS for Open Workbench includes the following default hierarchical levels:

- Phase
- Activity
- Task/Milestone

Note: You can change the labels used to identify your WBS levels.

Phases are the major steps required to achieve the project's goal. Most well defined projects have multiple phases with specific objectives. Within each phase there are any number of activities leading to the completion of the phase's objectives. You can further divide each activity into tasks—the smallest identifiable project component—and milestones, which mark significant events or dates used to measure a project's progress.

The number of tasks you can add to a project or a WBS is limited only by the memory and disk space on your computer.

About Establishing Task and Resource Constraints

During the planning process, you can establish and fine tune task durations for all project tasks to obtain an acceptable total project duration. With Open Workbench, you can create tasks with either fixed or variable durations, sometimes referred to as time-constrained and resource-constrained tasks, respectively. Use the General tab on the Task Properties page to define a task's duration.

For example, a meeting task is time-constrained rather than resource-constrained.

The following task duration types are handled differently by Autoschedule:

- Fixed Duration. A *fixed duration* task is a constrained task that must finish in a specific amount of time. Fixed-duration tasks are constant and are not driven by resource assignments. A fixed-duration task is also called a time-constrained task. When you autoschedule, the task's length is not changed on the project.
- Variable Duration. A *Variable Duration* task is a constrained task that can change when you autoschedule your project. Variable-duration tasks depend on the availability and number of assigned resources. A variable-duration task is also called a resource-constrained task. When you autoschedule, the task's length is adjusted around the assigned resource's remaining availability, loading patterns, and maximum percent loading.

Assign Resources to Tasks

Use the Resources tab of the Task Properties dialog box to make and modify task assignments. You can also assign resources to tasks from a view that displays the resource detail pane. Use this tab to apply properties to more than one task (see Multiple Select Property Notes) from this tab.

Note: When you assign a resource to a key task, the Start and Finish date are determined by the resource's ETC.

To assign a resource to a task

1. In a view that displays the task detail pane, right-click a task and select Assignments from the shortcut menu.

   The Resources tab on the Task Properties dialog box opens.

2. From the Project Resources grid, select the resource you want to assign to your task, and click Assign.

   - To select a contiguous range of resources, press the Shift key on your keyboard and click a range of resources.
   - To select a non-contiguous range of resource, press the Ctrl key and individually click resources.

   The selected resource is assigned to the task and appears in the Assigned Resources grid.

3. Click OK.

   The Task Properties dialog box closes.

About Resource Loading Patterns

A *Loading Pattern* defines how work is spread across the duation of a task. A resource's loading pattern defines how resource assignments are used to complete tasks when you recalcuate task duration and autoschedule your project. There are five patterns available to best help replicate how team members work on tasks.

You can assign resources to tasks using any of five loading patterns: Uniform, Contour, Fixed, Front, or Back. When you use these loading patterns in conjunction with Autoschedule, you can automatically produce a workable schedule that allows for real-world variations in the way work is assigned and completed.

Uniform Loading Pattern

The Uniform loading pattern assigns resource time evenly across a task only on those days when the resource is available to meet the task requirements. For example, if a resource is scheduled to work four hours per day on a task, the resource will not be scheduled to work on that task on days when the resource is only available to work on the task for three hours. The maximum percentage and resource availability is taken into account when assigning resources to tasks using this loading pattern.

Note: To use this loading pattern, you must set the resource's maximum percentage on the task.

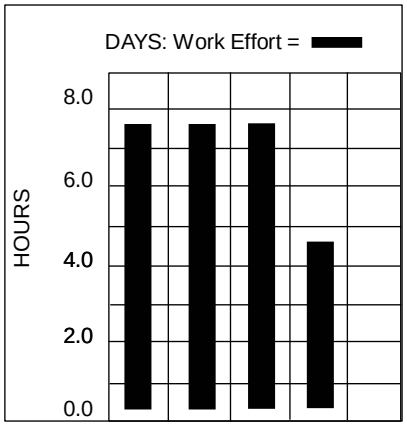
Graphically, this loading pattern can look like this:

Front Loading Pattern

The Front loading pattern allocates resource usage as early in the task as possible. Resources are assigned to get work done as early as their availability permits. The resource's maximum percentage on a task and resource availability are taken into account when assigning resources to tasks using this loading pattern.

Note: To use this loading pattern, you must set the resource's maximum percentage on the task.

Graphically, this loading pattern can look like this:

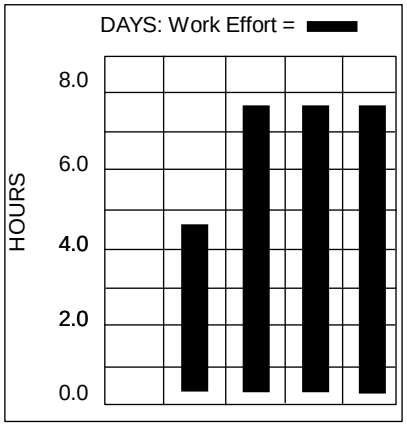


Back Loading Pattern

The Back loading pattern allocates resource usage as late as possible in the task. Resources are assigned to get work done as late as their availability permits. The Max % and resource availability is taken into account when assigning resources to tasks using this loading pattern.

Note: To use this loading pattern, you must set the resource's maximum percentage on the task.

Graphically, this loading pattern can look like this:

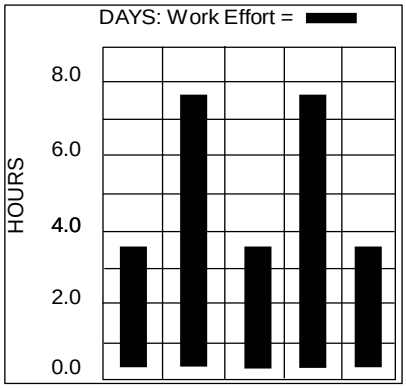


Fixed Loading Pattern

This Fixed loading pattern allocates resource usage to tasks according to your needs. Open Workbench automatically locks fixed resource assignments so that they are not changed when you autoschedule or when you recalculate task duration.

When you use this loading pattern, you can create a discontinuous task, or one that starts and stops, and then starts again. You can display the pattern in views where ETC is tabulated.

Graphically, this loading pattern can look like this:

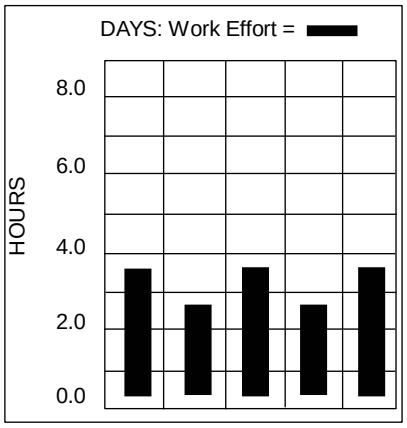


Contour Loading Pattern

The Contour loading pattern fits resource loading around the resource's remaining availability, smoothing out the peaks and valleys. It is a very flexible loading pattern; it can appear as the reverse or mirror image of overlapping task patterns.

If a task's duration, start date, or finish date changes, or if you autoschedule the task or enter new ETC values, this pattern assumes the characteristics of the Uniform loading pattern. The changes you make to the duration of a task after it is scheduled causes resource assignments for each period to even out across the duration of the task.

Graphically, this loading pattern can look like this:



Set Resource Loading Pattern

Use the Loading field on the Resources tab of the Task Properties dialog box to set a resources loading pattern on a task.

To set a resource's loading pattern

1. From a view that displays the task detail pane, right-click a task and select Assignments.

   The Resources tab on the Task Properties dialog box opens.

2. In the Assigned Resources grid, select the name of the resource for which you want to set the loading pattern.

3. Complete the following fields in the grid, and click OK:

   Loading

   Defines the pattern by which you want Open Workbench to load resource assignment data.

   Options: Uniform, Fixed, Front, Back, or Contour.

   Default: Front

   The resource detail section of the view is updated to reflect the resource's loading pattern.

Save Projects to Files

You can save projects as .xml or Open Workbench .rmp project files. Use the Save As dialog box to save your project. If you are using Open Workbench with CA Clarity PPM, you can save new projects to CA Clarity PPM using this dialog box.

To save a project to a file

1. Select Save As from the application menu at the top left corner of the window.

   The Save As dialog box opens.

2. Complete the following fields, and then click Save.

   Save in

   Displays the current folder when saving Open Workbench .rmp project files or XML files to your computer or network. Select a file location from the drop-down.

   File Name

   Displays the file name when saving Open Workbench .rmp project files or XML files to your computer or network. Choose the name of the file to which you want to save this project from the drop-down.

   Note: There is no limit to the number of times you can save local copies of your project with the same file name.

   Save as type

   Defines the type of file you want to save the project.

   Values:

   - Workbench files (*.rmp). Saves the project to your computer or network as an Open Workbench .rmp project file.
   - CA Clarity PPM Projects. Saves the project to CA Clarity PPM.
   - XML Files (*.xml). Saves the project to you computer or network as an XML file.

3. If you are saving the project record as an Open Workbench .rmp project file, complete the following field:

   Retain Lock

   Specifies whether or not to hold the lock or unlock the project when saving it to your computer or network.

   Note: This check box is displayed when you choose Open Workbench or XML from the Save Type As drop-down.

   Important! If you do not check this box, you can have issues saving your changes to CA Clarity PPM.

   The project is saved and the Save As dialog box closes.

How Project Data is Shared Globally Across Projects

Open Workbench shares certain types of project data globally across all of the projects you have open in Open Workbench. This information is retrieved from:

- CA Clarity PPM when you use Open Workbench with CA Clarity PPM.
- The global file when you have specified a global file location (see page 19).

The following project data is shared globally across all open projects:

- Week Start
- Base Calendar
- Guidelines URL

You must have administrator access rights to edit global project settings in CA Clarity PPM.

See the *Project Management User Guide* for more information.

Open Projects from a File

Open Workbench projects have an .rmp file extension and you can save them to your computer or a network location. When you open an Open Workbench project, they display in Open Workbench as windows with named tabs or with title bars, using the default view you specified on the Locations tab on the Options dialog box.

To open a project, use the same steps as you do for opening CA Clarity PPM projects in Open Workbench.

How to Open CA Clarity PPM Projects in Open Workbench

If you are using Open Workbench with CA Clarity PPM, you can open CA Clarity PPM projects from:

- CA Clarity PPM (see page 66).
- Open Workbench using CA Clarity PPM Schedule Connect.
- The command line (see page 69).
- Open Workbench (see page 66). Select File and open the file directly from the recently opened list.

Note: If you are using Netscape Navigator, the browser must be aware of the CA Clarity PPM Schedule Connect MIME type before you can open the project in Open Workbench.

Before opening CA Clarity PPM projects in Open Workbench:

- Ensure that the CA Clarity PPM project you want to open does not have the same project name as another project you have open in Open Workbench. Otherwise, the CA Clarity PPM project you open could replace the currently open project and any unsaved changes could be lost.
- Change the server settings in CA Clarity PPM Schedule Connect if you are attempting to open a CA Clarity PPM project from a different CA Clarity PPM server.

  If Open Workbench is running and Schedule Connect is already connected to a CA Clarity PPM server, Schedule Connect attempts to open a project with the same ID from the CA Clarity PPM server to which Schedule Connect is currently connected. If the project ID is not found, the project cannot open.

When you open a CA Clarity PPM project in Open Workbench:

- And you open it in read/write mode, a lock is placed on the project.
- All of the master project's subprojects are loaded.
- Dependent tasks from other projects are loaded, but not the entire dependent project.

All baseline data is loaded. To only load the current baseline, you must configure the project management settings in CA Clarity PPM and Open Workbench. You can open programs in Open Workbench using CA Clarity PPM in read-only mode.

Note: See the *Project Management User Guide* for more information.

Open Projects in Open Workbench using CA Clarity PPM

If you are using Open Workbench with CA Clarity PPM, you can open any project (active or inactive) that you have rights to view or edit in Open Workbench using CA Clarity PPM. To open projects from CA Clarity PPM, they must be formatted for Open Workbench.

If you can view or edit a project, you can choose to open the project in read-only or read/write mode. If you only can view a project or if the project is currently locked, you can open the project as read-only.

When you open a project from CA Clarity PPM, the following occurs:

- Your CA Clarity PPM login is sent automatically to Open Workbench. You do not need to log in to CA Clarity PPM Schedule Connect when you open a CA Clarity PPM project in Open Workbench.
- The project opens in Open Workbench. If Open Workbench is already running, that instance of the application is used. Any projects that you have open in Open Workbench remain open.

Note: See the *Project Management User Guide* for more information.

Open CA Clarity PPM Projects using Open Workbench

If you are using Open Workbench with CA Clarity PPM, you can open any CA Clarity PPM project you have rights to view or edit from Open Workbench using CA Clarity PPM Schedule Connect. Use the Open dialog box to open your project from Open Workbench.

When you view the list of projects in the Open dialog box, the following icons display next to the project ID:

You have *Project - Edit Management* access rights to the project.

You have *Project - Edit Management* access rights to the project.

Note: This icon displays if the project is a master project.

You have read-only access to the project.

You currently have the project open and locked.

The project is currently locked by another user.

Note: See the *Project Management User Guide* for more information.

To open a CA Clarity PPM project using Open Workbench

1. Select Open from the application menu at the top left corner of the window.

   The Open dialog box opens and a list of available projects is displayed.

2. Use the following fields to select the project you want to open:

   CA Clarity PPM Host

   Displays the CA Clarity PPM server that Open Workbench is currently connected to when opening projects from CA Clarity PPM.

    Click to see a list of available project names.

    (Default view) Click to see a detailed list of available projects.

    Click to open Open Workbench .rmp project files or XML files from your computer or network.

   Look in

   Displays the currently selected folder when opening Open Workbench .rmp project files or XML files from your computer or network.

    Click to open projects from CA Clarity PPM.

   You can filter the list by using the wildcard (*).

3. Complete the following fields, and click Open:

   Project

   Displays the unique identifier of the selected project.

   Files of type

   Defines the type of file you want to open.

   Values:

   - Workbench files (*.rmp). Select to display a list of Open Workbench .rmp project files from your computer or network.
   - CA Clarity PPM Projects. Select to display a list of CA Clarity PPM project files.
   - XML files (.xml). Select to display a list of XML files from the selected folder on your computer or network.
   - All files (*.*). Select to display all files in the current folder on your computer or network.

Open as read-only

Specifies whether you want to open the project in read-only mode.

Default: Cleared

Note: This check box is only available if you have edit rights to the selected project. If you have view rights to the project, this check box is selected and unavailable.

Create Subprojects

Specifies whether you want to open the selected project as a subproject in a new master project.

Default: Cleared

Note: You can save this new master project back to CA Clarity PPM.

The project opens in Open Workbench.

Open CA Clarity PPM Projects from a Command Line

You can open CA Clarity PPM projects using the command line. Use this method to open single and master projects without first starting Open Workbench. You can do this from the:

- DOS prompt
- Windows Run dialog box
- Properties definition for a Windows icon or Start menu item

Use the following command line arguments to create or open CA Clarity PPM projects:

The npWBench file.rmp /R CLARITY\[projectID] command opens one or more CA Clarity PPM projects. The project's subprojects are not opened.

This command has the following format:

`npWBench file.rmp /R CLARITY\[projectID]`

projectID

Defines the name of the CA Clarity PPM project you want to open.

To open projects using a command line

1. Do one of the following:
   - Select Start, Run.

     The Run dialog box opens.
   - If you are using Microsoft Windows 2000 or Microsoft Windows XP, select Start, Programs, Accessories, Command Prompt.

     The Command Prompt window opens.
   - If you are using Microsoft Windows NT, select Start, All Programs, Command Prompt.

     The Command Prompt window opens.
2. Enter the command line syntax and press the Enter key on your keyboard.

Chapter 3: Schedule Projects

When you finish creating a project plan and dependency relationships, you are ready to schedule tasks and the resources that work on tasks. If your project is large, scheduling can be a complex process that balances task relationships, resource availability, and task duration.

Because scheduling is an iterative process, it usually takes several steps to balance resources working on a project. This means that you may need to make several adjustments to your project plans. Adjustments can include changing resource availability, adjusting dependency links, and adding tasks.

To ease the burden of scheduling projects, Open Workbench uses an automated scheduling process called Autoschedule.

This section contains the following topics:

How to Develop Project Schedules

Following are some steps that you might use to develop a realistic schedule:

1. Adjust resource calendars (see page 46) to define work days and holidays for each resource.
2. Autoschedule the project (see page 83) without constraints on resource availability.
3. Autoschedule the project (see page 83) again with constraints on resource availability to eliminate resource overcommitment.
4. Prioritize phases, activities, and tasks.
5. Recalculate the duration (see page 74) of inherently overcommitted tasks, keeping in mind that you cannot recalculate the duration of tasks with fixed resource assignments.
6. Lock tasks (see page 145) that you do not want rescheduled.
7. Refine your use of resource loading patterns (see page 58).
8. Adjust task priority (see page 239).
9. Autoschedule the project (see page 83) again with constraints to resource availability.
10. If needed, do one of the following, and Autoschedule the project again:
    - Manually adjust the schedule by shifting tasks (see page 152).
    - Refine dependency relationships (see page 130).

How to Schedule Projects using Open Workbench

There are several scheduling techniques you can use to schedule your projects using Open Workbench. The scheduling process involves the following steps:

1. Determine one of the following:
   - The minimum length of time required to complete each task (task duration (see page 123))
   - The resource usage (see page 126) on each task (used to automatically determine durations)
2. Determine the ETC (see page 127) for each resource.
3. Determine each task's resource loading pattern (see page 58) from one of the available loading patterns. A *Loading Pattern* defines how work is spread across the duation of a task. A resource's loading pattern defines how resource assignments are used to complete tasks when you recalcuate task duration and autoschedule your project. There are five patterns available to best help replicate how team members work on tasks.
4. Autoschedule the project (see page 83).

Recalculate Task Duration

You can recalculate task duration so that Open Workbench computes the shortest possible task duration. To recalculate task duration, select one or more tasks from the current view, and select Tools, Recalculate.

To eliminate resource over commitment and to maximize resource use, Open Workbench recalculates task duration according to the ETC, total resource availability, and maximum percentage load. The following mathematical calculation is used for recalculating task duration:

```
Duration = actuals + ETC/(resource availability per day) x (max % availability
per day)
```

The recalculation process also maximizes resource use to shorten task duration whenever possible. If a task is inherently over committed, recalculating task duration can extend its duration to eliminate any inherent resource over commitment for that period. The exception to this is when the task is fixed.

When you assign multiple resources to a task and you recalculate the task's duration, Open Workbench computes the duration for each resource separately and selects the longest duration to determine the total task duration. All incomplete tasks in the selected range are adjusted, except for fixed tasks. If you recorded resource actual usage on the task, the ETC is modified.

Tasks with a Contour loading pattern are recalculated as Uniform. The recalculation process also replaces patterns created by Autoschedule, and computes duration based on total availability per task. Locked or completed tasks are not impacted by the recalculation process. Instead, if the task has an ETC, the incomplete portion of the task is modified.

Example 1

Resource availability is 8 hours per day and the maximum percentage is 50% (the resource can work on this task 4 hours per day). If usage is 12 days, when you recalculate the task duration, the task's duration computes to 24 business days.

Example 2

Resource availability is 4 hours per day and the maximum percentage is 50% (the resource can work on this task 2 hours per day). If usage is 12 days, when you recalculate the task duration, the task's duration computes to 48 days.

Baseline Projects

A baseline is a snapshot of the original project plan that you preserve for later comparison with the current plan. You can baseline to evaluate a project and compare it to an approved plan. Baselining preserves a version of the plan that does not change as work on the project progresses, unless you baseline the project again.

You can baseline a task, a selected range of tasks, all tasks in a view, or the entire project. When you create a baseline, you preserve information such as start dates, finish dates, and usage from that moment in time. You can then compare the current plan with the baseline plan to determine if the project is proceeding as expected.

The appropriate time for you to baseline a task or resource assignment data is after management approves the project plan and before the task starts and actuals are tracked. This gives you a reference against which to measure the project progress. If the plan goes through several review cycles, and management approves a new basis for measurement, you can rebaseline the task so that you can compare the revisions with the original plan.

Open Workbench supports multiple baselines so you can create new baselines as the project progresses.

Baselines and Earned Value Computations

Open Workbench factors in baseline information in many calculations performed in earned value analysis.

Earned Value Analysis (EVA) is a statistical operation that compares the project's present actuals against what was planned. For example, it may compare the length of time a task would take, according to a baseline budget plan, to the actual length of time it took. EVA is also called Performance Measurement.

Open Workbench includes fields containing the fundamental calculations used for earned value analysis. These fields are available as discrete items for reporting purposes and you can add them to any view. These fields are used primarily as variables by other calculated fields to produce variance values.

Earned value calculates the following values for every scheduled activity:

Budgeted Cost of Work Scheduled (BCWS)

The budgeted amount to be spent on the project in a given period of time.

Actual Cost of Work Performed (ACWP)

The total direct and indirect cost incurred in performing work during a given period of time.

Budgeted Cost of Work Performed (BCWP)

The percentage of the total budget equal to the percentage of the actual work performed.

These values are used together to determine if work is being performed as planned. The most frequently employed measures are:

- Cost Variance (CV), where CV is equal to BCWP minus ACWP.
- Schedule Variance (SV), where SV is equal to BCWP minus BCWS
- Cost Performance Index (CPI), where CPI is equal to BCWP divided by ACWP.

Use the EVA fields to track work performance to account for cost and schedule variances. For example, Open Workbench computes BCWS using the following formula:

```
BCWS = (cumulative baseline usage from the start date through the Project as-of
date) x (the resource billing rate)
```

Note: You must baseline your project to attain date or EAC variances.

Set Baselines

Use the Multiple Baselines dialog box to set baselines and to re-baseline your project. This dialog box lists the baselines that you have already set on the project. When you set a new baseline, its default name is Baseline1 and it is marked as the current baseline. If the project already has a baseline named Baseline1, then when you set a new baseline its name is Baseline2. You can edit the name after you capture the baseline.

You must select all levels of the WBS to re-baseline your project. When you re-baseline tasks that have changed—such as changes to a resource's ETC—the data is not rolled up to the summary task level. Data, however, is rolled down to a phase's tasks when you re-baseline at the summary task level.

To set a baseline

1. Select Tools, Baselines, Multiple Baselines.

   The Multiple Baselines dialog box opens.

2. Click New.

   A new baseline is set and is displayed in the list.

3. Click OK.

   The Baseline dialog box closes.

Display Baseline Data in Views

You can display one baseline in a view at a time. To view baseline information, you must first include the fields that display baseline data in one of your views. You can display the current baseline in a spreadsheet view, such as the Gantt Chart view, against the current status of the project. Special baseline markers on Gantt bars indicate the baseline information to differentiate the baseline information from the current schedule.

To include the fields that display baseline data in a view

1. In a view that displays the task detail pane, add the following fields:
   - Task Baseline Cost
   - Task Baseline Usage
   - Task Baseline Usage (aggregated)
   - Assignment Baseline Cost.
2. In the resource detail pane, add the Resource Baseline Cost field.

To display a baseline

1. Double-click the Gantt chart.

   The Gantt dialog box appears.
2. In the Gantt Bars group, select the Baseline check box.
3. Click OK.

   The baseline markers appear next to the Gantt bars on the Gantt chart.

Edit Baselines

Use the Multiple Baselines dialog box to edit a baseline's name, description, and code, and to set a baseline as the current baseline.

To edit a baseline

1. Select Manage from the Baselines group in the Project ribbon.

   The Multiple Baselines dialog box opens.
2. To set a baseline as the current baseline, select the Current check box next to the baseline you want to set as the current baseline.

   Note: You can select one baseline as the current version.
3. Click OK.

   The Baseline dialog box closes.

Rebaseline Projects

Use the Set Baseline dialog box to re-baseline your project. When you rebaseline your project, the current baseline is replaced with the new baseline data.

Note: When you choose to rebaseline the view or selected tasks, the project baseline values are not updated.

You must select all levels of the WBS to rebaseline your project, view, or selected tasks. When you rebaseline tasks that have changed—such as changes to a resource's ETC—the data is not rolled up to the summary task level. Data, however, is rolled down to a phase's tasks when you re-baseline at the summary task level.

When this is the case, you are asked to .

To rebaseline a project

1. Select Define from the Baselines group in the Project ribbon.

   The Baseline dialog box opens.

2. Do the following:

   - In the Scope section, select Project.
   - In the Baseline Settings section, select Set.
   - Click OK.
   - When prompted, click Yes to confirm that you want to overwrite the prior version of the baseline data with the new version.

   The current baseline is replaced with the new baseline data.

Multiple Baselines with Master Projects and Subprojects

When you set the baseline for a master project, you also set it for the project's subprojects. The master project's baseline data is an aggregation of its own baseline data and its subprojects. It is dynamically aggregated at the time you set the baseline. The master project's resource baseline data is an aggregation of the team baseline data.

When you open a master project that you have not baselined, but one of the subprojects has been baselined, the current baseline for that subproject is displayed in views. For example, if you have a master project with two subprojects, Subproject1 and Subproject2, and only Subproject1 has a current baseline, Baseline1, and you rename that baseline, and you baseline a selected task in Subproject2, then Subproject1's baseline is deleted and is replaced with Subproject2's baseline. Subproject2's baseline is marked as the current baseline.

If you are using Open Workbench with CA Clarity PPM and you create multiple baselines for a master project, a baseline (Baseline1) is created for the master project and its subprojects. When you save the master project back to CA Clarity PPM, the baseline data for the master includes the values from the subprojects. For example, if you have a master project that has a task with 5 hours of ETC, and its two subprojects have a task with 10 hours ETC each, then when you save the project back to CA Clarity PPM, the master project baseline usage is 25 hours.

If you open a master project that you have baselined, and then add a new subproject, the existing subproject's current baseline is saved. If you baseline the master project, the subproject's baseline is replaced by the new baseline. If the master project's subprojects have more then one baseline, the baseline that is marked as the current baseline displays in views.

Note: If you are using Open Workbench with CA Clarity PPM, to keep master project baselines in sync with subproject baselines, do not change which baselines are marked current without first changing them in CA Clarity PPM. When you open a CA Clarity PPM project in Open Workbench, all baseline data defined in CA Clarity PPM is loaded into Open Workbench.

Set Multiple Baselines

When you maintain multiple baseline versions, the current version is the version from which earned value analysis (EVA) is measured. You can change the current version any time.

If you are using Open Workbench with CA Clarity PPM, you can set multiple baselines and save the project back to CA Clarity PPM. By default, when you create a new baseline, it is selected as the current version. You can choose to select another baseline to be the current version.

When you create a new baseline, the name and code of the new baseline by default is baselineN, where N is an incremental number starting at 1. Double-click the cell to change the value.

To set multiple baselines

1. Select Manage from the Baselines group in the Project ribbon.

   The Multiple Baselines dialog box opens.

2. Click New.

   A new baseline is added to the grid and is selected as the current baseline version.

   Code

   Defines the code for the baseline.

   Name

   Defines the name of the baseline.

   Description

   Defines the description of the baseline.

3. Click OK.

   The Multiple Baselines dialog box closes.

About Analyzing Data in Multiple Baselines

You can create a baseline with which to analyze the impact of the additional work. When you select only a few of the project tasks and baseline, the baseline values are updated for those tasks. The summary level baseline information remains the same until you update the baseline for the selected summary task, or the entire project. Use the summary level baseline to analyze the changes that have occurred at that level, even though they do not show at the task level.

Clear Baseline Values

Use the Set Baseline dialog box to clear baseline values or to rebaseline. Clearing baseline values replaces existing baseline data that has been set for all of the tasks in a project, all of the tasks in the active view, or a selection of tasks.

If you are using Open Workbench with CA Clarity PPM, save the project to CA Clarity PPM after you clear the current baseline values.

To delete entire baselines, use the Multiple Baselines dialog box.

To clear baseline values

1. Select Define from the Baselines group in the Project ribbon.

   The Baseline dialog box opens.

2. Do one of the following in Scope section:

   - To clear the baseline of all the tasks in the current project, select Project.
   - To clear the baseline of the tasks in the active view, select View.
   - To clear the baseline of the selected tasks, select Selected Task(s).

3. In the Baseline Settings section, select Clear.

   An Open Workbench dialog box appears warning you that clearing the baseline replaces your existing baseline data.

4. Click Yes to accept the change.

   The baseline values are cleared.

Delete Baselines

Use the Multiple Baselines dialog box to delete a baseline or to edit your baseline. If you want to delete a previous baseline but that baseline is marked as current, clear the baseline's Current field before deleting. You can only delete the current baseline if it is the only baseline listed.

To delete a baseline

1. Select Manage from the Baselines group in the Project ribbon.

   The Multiple Baselines dialog box opens.

2. Select the baseline row you want to delete, and click Delete.

   The baseline is deleted. The baseline row no longer displays in the grid.

Autoschedule Projects

Autoschedule is an automated way for you to create project schedules. Autoschedule schedules tasks based on an internal set of rules that are set by the system. Each task is scheduled:

- To use availability as early in the project as possible
- To start at the earliest or latest possible time, subject to constraints
- To minimize the duration of the critical path.

Before scheduling, Autoschedule automatically calculates the project's critical path. Autoschedule does the following in this order:

1. Schedules work that has no flexibility, such as actual work, fixed assignments, and all work on locked tasks, and reduces the remaining availability accordingly.
2. Processes the remaining tasks in order of a calculated priority subject to task dependencies. As each task is processed, remaining availability is reduced accordingly.

Autoschedule uses the following factors to determine the order in which subproject tasks are scheduled, and are considered in this order:

1. The task has a Must Start On or Must Finish On scheduling constraint
2. The task's priority (lower values rank higher)
3. The task's float (lower values rank higher)
4. The task has started
5. The task's physical location in the WBS. Tasks located towards the top of the WBS rank higher

If two or more tasks have equaling factors, the next factor in the queue is taken into account. For example, if you have two tasks, both with no defined scheduling constraints and a priority of 5, and the first task's float is less than the second task's, the first task is scheduled before the second.

By default, Autoschedule operates on the entire project, but does not change tasks that:

- Start earlier than the date you enter for Ignore Tasks Starting Before
- Start later than the date you enter for Ignore Tasks Starting After
- Are marked as locked or completed

  Note: You can override the task lock.
- Have actuals, except for the time period between the last actuals thru date and the finish date

Autoschedule performs three passes of the project to create a schedule that satisfies all dependencies and does not overallocate selected resources. Each includes a forward pass and a backward pass. To develop a schedule, the following three passes are performed whether you schedule from the project start or finish date:

- During the first pass, Autoschedule creates a baseline schedule and performs a priority sort to resolve potential scheduling conflicts.
- During the second pass, the schedule is created. When Autoschedule considers resource constraints, Autoschedule first makes a pre-pass.
- During the third pass, Autoschedule recalculates the critical path based on the schedule developed in the second pass.

Important! You can set dependencies, constraints, and resource availability so that it is impossible for Autoschedule to produce a schedule free of dependency violations or resource over allocations.

Define Autoschedule Parameters

Use the Autoschedule dialog box to specify scheduling criteria and to begin scheduling tasks using Autoschedule. You can autoschedule an entire project or only tasks that occur between ranges of dates.

To define Autoschedule parameters and schedule your project

1. Select Autoplan from the Schedule group in the Project ribbon.

   The Autoschedule dialog box opens.

2. Complete the following fields on the page:

   Start Date

   Defines the date from which to begin scheduling tasks. If you are scheduling from the finish date, enter the date on or before which you want to begin scheduling tasks.

   Ignore Tasks Starting Before

   Defines the date before which you want tasks to be excluded.

   Example: If you enter 4/3/2008 as the Ignore Tasks Starting Before date, and you have a task that starts on 3/31/2008, this task will be excluded from the schedule.

   Ignore Tasks Starting After

   Defines the date after which you want tasks to be excluded.

   Example: If you enter 4/3/2008 as the Ignore Tasks Starting After date, and you have a task that starts on 4/10/2008, this task will be excluded from the schedule.

3. Choose from the following:

   Resource Constraints

   Specifies whether you want Autoschedule to consider resource availability when scheduling the project.

   Default: Selected

   Note: If you clear this check box, Autoschedule treats resources as if they have unlimited availability. Each task is scheduled against the resources total availability, not against the resources remaining availability which takes other task assignments into consideration. This results in the shortest possible schedule, but it may also cause resources to be overcommitted.

   Schedule from Finish Date

   Specifies whether you want Autoschedule to perform a backwards schedule from a defined deadline date.

   Default: Cleared

Note: If you choose to schedule from the finish date, the Start Date field toggles to the Finish Date field.

Honor Constraints on Started Tasks

Specifies whether you want Autoschedule to honor any constraints or dependencies you have on tasks with a status of "Started".

Default: Cleared

Note: If you choose to honor constraints on started tasks, you run the risk of overallocating resources or violating task dependencies.

Schedule Assignments on Locked Tasks

Specifies whether you want Autoschedule to move the assignment ETC within the scheduling Start Date and the task's Finish Date.

Default: Cleared

Start Successors on Next Day

Specifies whether you want Autoschedule to start successor tasks with zero lag the day after the predecessor task finishes. When cleared, successor tasks start the same day as the predecessor task finishes as long as the resource has availability left.

Default: Cleared

Note: This applies to variable-duration tasks only.

4. Click OK.

   The project or selected tasks are scheduled.

About Autoscheduling Master Projects

You can autoschedule a group of subprojects from the master project to show the best fit of all tasks in all projects.

Best Practices: Before autoscheduling your master project, create a project start milestone for each subproject and link it to the first task in the master project. You can then lock or define a Start No Earlier Than date constraint to the milestone to assist with the individual project time frame constraints.

The master project's resource list contains the names of the resources assigned work on the projects contained in the master projects, the subprojects.

Autoschedule Projects from a Start Date

When you schedule a project from its start date, Autoschedule attempts to schedule all project tasks to start as early as possible. When you run Autoschedule using a project's start date, it calculates the early start and early finish, moves the early start forward, checks for fixed loading pattern assignments, and adjusts the early start or early finish to make sure that fixed assignments are within the date range of the project.

When you autoschedule your project, the task start dates change to the date you enter or a later date, except in the following cases:

- The task has a status of "Started" or "Completed".
- The task has a Must Start On scheduling constraint.
- The task is marked as Locked for Scheduling.
- The task has resource assignments with fixed loading patterns before the entered start date.

To schedule your project from a start date

1. Select Autoplan from the Schedule group in the Project ribbon.

   The Autoschedule dialog box opens.

2. Enter the date on or after which you want to begin scheduling tasks in the Start Date field, make sure the Schedule from Finish Date field is cleared, and click OK.

   The project or selected tasks are scheduled.

Autoschedule Projects from a Finish Date

You can autoschedule projects from a finish date to help you find out on which date your project needs to start in order to meet a required finish date. When you choose to schedule your project based on its finish date, Autoschedule performs three traversals of the project. In the second and third traversals it goes over the tasks backward first and enforces finish constraints over start constraints so that the project is scheduled to start as late as possible.

When you run Autoschedule using a project's finish date, it does the following:

- Calculates the late finish and late start dates
- Moves the late finish date forward
- Checks for any fixed loading pattern assignments
- Adjusts the late start or late finish date to make sure the fixed assignments are within the project's date range

To autoschedule your project from a finish date

1. Select Autoplan from the Schedule group in the Project ribbon.

   The Autoschedule dialog box opens.

2. Select the Schedule from Finish Date check box to perform a backwards schedule from a defined deadline date.

   The Start Date field toggles to the Finish Date field. The current project finish date displays in the Finish Date field.

3. Enter the project's anticipated finish date in the Finish Date field, and click OK.

   The project or selected tasks are scheduled from the finish date.

Autoschedule by Task Priority

The *Task Priority* controls the order in which tasks are scheduled during autoschedule, subject to dependencies and task and resources constraints. Autoschedule, therefore, schedules tasks with higher priority ahead of tasks with lower priority. Use the General tab on the Task Properties dialog box to define a task's priority or priority inheritance. If you do not specify a task's priority, Autoschedule uses the priority of its parent task, or the next highest WBS level. If no priority is defined, Autoschedule uses the default value (10).

Autoschedule schedules task priority as follows:

- Numbers 0 through 9 are given the highest priority level.
- Numbers 11 through 36 are given the lowest priority level.

For example, if the task has a priority of 0 through 9, it is given the highest priority during scheduling. If the task has a priority of 11 through 36, it is given the lowest priority during scheduling.

In the case of dependencies, Autoschedule assumes that a predecessor task has a priority at least equal to its successor. In some cases, dependency relationships override individual task priority during the scheduling process.

Override Task Lock during Autoschedule

You can override the lock on tasks while autoscheduling. For example, if you have a task that is locked between February 25, 2008 and April 4, 2008, Autoschedule distributes the assignment's ETC to the task between the two dates. If you do not override the lock and Autoschedule changes the task's end date to April 25, 2008, the assignment's ETC remains between February 25, 2008 and April 4, 2008. However, if you choose not to override the lock, the assignment's ETC is distributed between February 25, 2008 and April 25, 2008, per the assignment's loading pattern.

When scheduling locked tasks using this option, Autoschedule adheres to the following rules:

- Assignments that have a fixed loading pattern set are not be scheduled (No change in behavior). Variable assignments that have Front, Back, or Uniform loading are scheduled.
- Variable assignments that have a loading pattern other than fixed on locked tasks are scheduled before any other assignments. If a variable assignment is on a fixed task, it is scheduled before any assignment on variable tasks.
- Variable assignments on locked tasks are scheduled without regard to the resource's work on other tasks, within the same project.
- The assignment does not get over allocated and the assignment’s loading pattern is honored.
- When forward scheduling, work is distributed between the task's Actuals Thru date or the Autoschedule date, whichever is later, and the task's finish date. If the Autoschedule date is later than the task’s finish date, all work is placed on the task’s Finish Date since the task duration can not be extended because the task is fixed.
- When backward scheduling, work is distributed between the task's Finish Date or the Autoschedule date, whichever is earlier, and the task's Start date or the Actuals Thru date. If the Autoschedule date is prior to the latter of the task Start date and the Actuals Thru date, all work is placed on the later date.
- When scheduling variable assignments on locked and fixed tasks, neither the task's start nor finish are changed.

To override the task lock during Autoschedule

1. Select Autoplan from the Schedule group in the Project ribbon.

   The Autoschedule dialog box opens.

2. Select the Schedule Assignments on Locked Tasks check box, and click OK.

   The project or selected tasks are scheduled and the lock on tasks is overridden.

Manually Schedule Projects

Use the Scheduling tab on the Project Properties dialog box to define the project's scheduling attributes, such as the project's start and finish dates. This data is used when scheduling the project. You should schedule all project tasks to begin and end during the project period.

Note: If you use Autoschedule, these dates may change according to resource assignments, task dependencies, and constraints.

To manually schedule a project

1. Select Project Properties from the application menu at the top left corner of the window.

   The Description tab on the *Project Properties* dialog box opens.

2. Click the Scheduling tab.

   The scheduling properties display.

3. In the Project section, complete the following:

   Start

   Defines the project's start date.

   Default: The current system date.

   Imposed (Start)

   Specifies whether or not you want to impose a start date for the project.

   Note: You must select this field if you later autoschedule your project from its start date. When selected, Autoschedule cannot change the project's start date to accommodate any changes it makes to the start and end dates of the project's tasks, no matter when the first task starts.

   Finish

   Defines the anticipated project completion date. The project's finish date must equal or be beyond the finish date of the last task. This date is used as the finish date for the last task in the CPM Network.

   Imposed (Finish)

   Specifies whether or not you want to impose a finish date for the project.

   Note: You must select this field if you later autoschedule your project from its finish date. When selected, Autoschedule cannot change the project's end date to accommodate any changes it makes to the start and end dates of the project's tasks, no matter when the last task finishes.

As-of

Defines the date that is used as a reference point when performing Earned Value Analysis (EVA) calculations. If you do not enter an as-of date, zero (0) displays in earned value fields such as Actual Cost of Work Performed (ACWP) and Budgeted Cost of Work Performed (BCWP).

Priority

Defines the order in which subprojects are scheduled within a master project. The priority amount you enter here is used as the default priority for summary tasks; any lower-level WBS tasks that have been marked as inheriting the priority of its parent assumes this priority amount.

Default: 10

Values: 0 through 36 (A lower number indicates a higher priority)

Example: If the project has a priority of 0 through 9, its tasks are given the highest priority during scheduling. If the project has a priority of 11 through 36, its tasks are given the lowest priority during scheduling.

4. In the Critical Path section, complete the following, and click OK:

Type

Defines on which dates to base the critical path during CPM calculations.

Default: Current

Values:

- Current. Open Workbench uses the project task's current start and end dates to determine the critical path.
- Baseline. Open Workbench uses the start and finish dates and durations from the current baseline to determine the critical path.

Subnets (All Projects)

Specifies whether you want CPM to calculate the project's critical path separately for each subnet. When cleared, one critical path is calculated for the entire project.

Default: Cleared

The Project Properties dialog box closes.

Schedule Subnets

Subnets are a set of tasks in a project that have dependencies among themselves. During Autoschedule, you can choose to calculate and display separate critical paths for each subnet and for each task that does not have dependencies. Otherwise, only one critical path—the longest path—is calculated for the project. Use the Subnets (All Projects) check box on the Scheduling tab to specify whether you want CPM to calculate the project's critical path separately for each subnet.

There are several key benefits to scheduling subnets:

- If you are working with a master project that contains multiple projects, you can calculate and display the critical path of each subproject and not just the longest critical path.
- If you are working with a project where you have structured the work breakdown structure to support multiple concurrent critical paths, you can display all critical paths.
- If you have a project that contains management tasks that span the project's life, you can display the management tasks and the true critical path.

To set up your project to calculate separate critical paths

1. Select File, Properties.

   The General tab on the Project Properties dialog box appears.

2. Click the Scheduling tab.

   A list of the project's scheduling properties display.

3. In the Critical Path section of the page, select the Subnets (All Projects) check box.

   Your project is set up to calculate separate critical paths.

4. Do one of the following:

   - Autoschedule your project
   - Calculate the critical path.

   Separate critical paths are calculated for your project.

Calculate Critical Path

Critical path is a set of tasks in a project for which any delay or expansion lengthens the project or causes project deadlines to slip. The critical path determines the project's earliest finish date.

Autoschedule uses the critical path value to determine the tasks that drive the project deadlines and constraints. The critical path is calculated using the dependency sequence and task duration. If you choose to schedule subnets, a separate critical path is calculated and displayed for each subnet and for each task that does not have dependencies.

To calculate the critical path, autoschedule your project or select Tools, Critical Path. You can view the project's critical path in a CPM Network view.

How Critical Path is Calculated

Open Workbench calculates a project's critical path using a two step process. The following rules govern how this two-step process is conducted:

- Tasks that are part of the longest duration chain are on the critical path.
- Fixed duration tasks are always on the critical path
- Project finish date is the sole reference date used to calculate both the early and late schedules.
- Float can be zero or greater than zero; it cannot be negative.
- Task status has no bearing on dependency violations or the critical path calculation.
- A task that is not on the dependency network cannot have an early schedule or late schedule; hence, it cannot be on the critical path.
- Resource constraints do not affect the critical path calculation.

To arrive at the critical path, Open Workbench performs two passes through the dependency network.

The First Pass

The first pass works forward through the network to determine the early start and early end dates for each task in the network, and calculates the longest duration path through the network. The project's reference end date is the project's defined finish date. If you did not define this date, the end date is the early end date of the last task in the network or, if there is more than one branch, the latest of the early end dates of the last task in each branch.

To calculate the early start date for the task's successor(s), Open Workbench starts with the first task in the network and adds the task's duration to the start date. Adjustments are made for gaps or overlaps by adding or subtracting from the duration. The early end date is calculated by adding the task's duration to the early start date. Open Workbench repeats this process for each task in the network.

Note: The successor of a Start-Start dependency has the same early start date as the predecessor. The successor of a Finish-Finish dependency has the same early end date as the predecessor.

The Second Pass

The second pass works backward through the network starting from the project finish date to determine each task's late start and late end date. The last task of each branch of the network has a late end date equal to the project finish date. To calculate the late end date for a task's predecessor(s), Open Workbench subtracts the task's duration from the project finish date. Adjustments are made for gaps or overlaps by adding or subtracting from the duration. The late start date is calculated by subtracting the task's duration from the late end date. Open Workbench repeats this process for each task in the network.

Note: The predecessor of a Start-Start dependency has the same late start date as the successor. The predecessor of a Finish-Finish dependency has the same late end date as the successor.

Calculate Float

Open Workbench calculates the float for each task by subtracting the early start date from the late start date. *Float* is the number of days that a task's initiation or completion can be delayed without adversely affecting the project finish date. Float is calculated using the following formula: Late Start - Early Start. Tasks with a float of zero (0) appear on the critical path.

Chapter 4: Manage Projects

This section contains the following topics:

Find Information in Projects

Use the Find dialog box to search for specific project information in views. You can construct search criteria from field names that appear in a view, to construct search statements on the many combinations of data that comprise your project plans. To find information in a view, open the Find dialog box and select field names as the basis for your search criteria.

Note: Searches begin at the cell in which your cursor is placed and works downward within the view.

You can combine And and Or arguments to refine your search. For example, if you have multiple search statements listed in the Criteria grid, the search starts at the top and looks for information in your project that matches the criteria. The last And/Or statement listed in the dialog box is ignored unless you add another statement.

Define Search Criteria to Find Data

To create search criteria to find data

1. Select Extended Fined from the Search group in the Tasks ribbon.

   The Find dialog box opens.

2. In the list of field names, do the following:

   1. Double-click icons to display field names.
   2. Drag field names to the Field column in the Criteria grid.

   The search fields display in the Criteria grid.

3. In the Compare column of the Criteria grid, select a comparison relationship for the field name from the drop-down.

   Default: Equal

   Values: Equal, Not Equal, Greater, Less, Not Less, and Not Greater

   Note: The choices available are dependent on the fields you have selected.

4. In the Value column of the Criteria grid, do one of the following for the field name:

   1. Click the cell and select a comparison relationship from the drop-down.
   2. Double-click the cell and enter a value.

      Important! The value you enter must be valid.

5. In the And/Or column of the Criteria grid, choose one of the following to define the link type:

   And

   Finds data that matches the current and following field names and comparison conditions you enter, and to link multiple search criteria.

   Or

   Finds data that matches either the current or following search criteria.

6. Click OK.

   The Find dialog box closes. The first occurrence of matching data displays in the project.

7. To search for other occurrences of matching data, select Edit, Find Next.

   Another search is performed and displays in the project.

Update Project Data

Use the Project Properties dialog box to specify a new project's properties. To view this dialog box, select File, Properties. This dialog box contains several tabs with fields that you can use to create and edit project data. These tabs include the Description, Scheduling, Resources, Key Tasks, Advanced, Subproject, and Notes.

Note: The Subproject tab only displays when you right-click a task in the view that is has been added to a master project as a subproject and select Modify.

Define Project Description Properties

Use the Description tab on the Project Properties dialog box to enter or edit project administrative details, such as the project name, ID, department, and budget information.

To define the project description properties

1. Select Project Properties from the application menu at the top left corner of the window.

   The Descriptions tab on the Project Properties dialog box opens.

2. Complete the following fields, and click OK:

   Name

   Defines the project name.

   ID

   Defines the ID for the project.

   Department

   Defines the department responsible for the project.

   Budget

   Defines the project estimated budgeted amount.

   Description

   Defines the project description.

% Complete Calculation Method

Specifies the method for calculating the percent complete value for the project and associated tasks.

Values:

- Manual. Use this method if you want to enter the percent complete value for the project and for tasks at any level in the work breakdown structure manually.
- Duration. Use this method if you track percent complete for the project and for summary tasks based on duration. Completed Duration is the percentage of the task duration that is considered to be complete. Completed Duration for a summary task is the sum of (% Complete * Duration) for all descendant detail tasks. Total Duration is the sum of the duration for all descendant detail tasks. You manually enter the percent complete value for detail tasks. The % complete is automatically calculated based on the following formula:

```
% Complete = Completed Duration / Total Duration
```

  Effort. Use this method to calculate the percent complete for all tasks automatically. Labor Actuals is the sum of all actuals posted for labor resources. Labor Estimates is the sum of all ETC for these resources. The percent complete is automatically based on the following formula:

```
% Complete = Labor Actuals / (Labor Estimates + Labor Actuals).
```

3. Click OK.

   The Project Properties dialog box closes.

Define Project Scheduling Properties

Use the Scheduling tab on the Project Properties dialog box to create or edit a project's scheduling properties, such as the project's start and finish date, as-of date, and priority. To view the Project Properties dialog box, select File, Properties.

Define Project Resources Properties

Resources are the people needed to make sure a project is completed on time. Resources are assigned to project tasks. Resources that you create are automatically available for use in your project. The resources that display in the Team Resources grid on the Resources tab are those resources that you have already added to the project.

Use the Resources tab on the Project Properties dialog box to do the following:

- Add (see page 53) or remove (see page 103) resources or roles to your project
- Define the project's resource's properties, such as the resource's ID, name, or category
- View a list of resources added to the project (see page 102)
- Choose your project's team form a list of global resources (see page **Error! Bookmark not defined.**).

You can manually enter resources (see page 53) in the resource detail pane of a view, define their properties, and assign them to tasks. Resource that you create in the Resource detail pane of a view display in the Team Resources grid on the Resources tab.

To define the project's resources properties

1. Select Project Properties from the application menu at the top left corner of the window.

   The Description tab on the Project Properties dialog box opens.

2. Select the Resources tab.

   The list of resources added to the project display in the Team Resources grid.

3. Complete the following fields in the Team Resources grid:

   ID

   Defines the resource's external ID.

   Name

   Defines the resource's name.

   Category

   Defines the category to which this resource is associated. Use *Categories* to select and filter different groups and classes of tasks, notes, or resources in the view.

4. To display resources by category or role hierarchy, choose a display type from the Display Resource By drop-down.

5. Click OK.

   The Project Properties dialog box closes.

View the List of Resources Staffed on Projects

You can view a list of the resources that are staffed on your project on the Resources tab on the Project Properties dialog box.

To view the list of resources staffed on a project

1. Select Project Properties from the application menu at the top left corner of the window.

   The Description tab on the Project Properties dialog box opens.

2. Select the Resources tab.

   The Resources page opens.

3. View the list of resources that are staffed on your project in the Team Resources grid. You can sort the list by clicking the column heading.

4. View the list of resources and roles to which you have booking rights in the Global Resources grid.

5. To view the Global Resource list by category or by role, choose one of the following from the Display Resources By drop-down:

   Roles

   When viewing the list by role, all resources assigned a role are listed under their role. Resources not associated with a role are listed in the No Role folder.

   Category

   When viewing the list by category, all resources associated to a category are displayed in a list under their associated category. Resources not associated with a category are listed in the No Category folder.

   Note: If no categories exist, role is selected and the drop-down list is unavailable.

6. Click OK.

Remove Resources or Roles from Projects

Use the Resources tab on the Project Properties dialog box to remove resources or roles from your project.

To remove resources or roles from a project

1. Select Project Properties from the application menu at the top left corner of the window.

   The Project Properties dialog box opens.

2. Select the Resources tab.

   A list of resources added to the project display in the Team Resources grid.

3. Select the resource record you want to remove from the project, and click Remove.

   The selected team resource record is removed from the project and the resource's record is removed from the Team Resource grid.

View Tasks Marked as Key Tasks

A *Key Task* is a task that you consider to be of key importance to the project. When you mark a task as a key task, its status does not impact any other Open Workbench behavior. Use the Key Tasks tab on the Project Properties dialog box to:

- View a list of key tasks on your project
- Revert key tasks to standard tasks (see page 105)

To edit a key task, edit the task's fields in a spreadsheet view, such as the Gantt Chart view.

To view a project's key tasks

1. Select Project Properties from the application menu at the top left corner of the window.

   The Description tab on the Project Properties dialog box opens.

2. Click the Key Tasks tab.

   A list of the project's key tasks display.

3. View the following key task data, and click OK:

   ID

   Defines the key task's external ID.

   Status

   Defines the key task's status.

   Choices: Not started, Started, or Completed

   Name

   Defines the key task's name.

   Project

   Defines the project name associated to the key task.

   Finish

   Defines the date the key task is scheduled to finish.

   Note: You can edit the finish date provided you have not assigned a resource to the task and the task is a fixed duration task.

   Baseline Finish

   Defines the date the key task is scheduled to finish based on the current baseline.

   The Project Properties dialog box closes.

Revert Key Tasks to Standard Tasks

You can change a key task into a standard project task. Use the Key Tasks tab on the Project Properties page to remove the key task designation. You can view the changes you make on the General tab on the Task Properties dialog box and in any view that displays the key task field name.

Note: When you remove key tasks from the grid on this tab, only the key task designation is removed from the task. The tasks is not removed from the project.

To remove the key task designation

1. Select Project Properties from the application menu at the top left corner of the window.

   The Project Properties dialog box opens.

2. Click the Key Tasks tab.

   The project's key tasks display.

3. Select the row for the key task you want to revert to a standard project task, and click Remove.

   The key task is removed from the Key Task list. The key task designation is removed from the task.

4. Click OK.

   The Project Properties dialog box closes.

Manage Multiple Projects

You can use Open Workbench to handle multiple projects for department-level management. Project teams typically work on large and small projects simultaneously. To manage departments and organizations, you may often have to manage and control several projects at once. Many of these projects may also share the same resources.

Open Workbench provides the following two methods for you to manage multiple projects:

- Create master project and subproject relationships (see page 106).

  Create links between one project (master project) to all or any sets of phases, activities, tasks, and milestones in another project (subproject). You can combine any number of subprojects in a master project.

- Create dependency relationships (see page 131) between tasks in the same project or to tasks in different projects.

  Use dependencies to manage the relative timing of tasks. Dependencies give you a greater understanding of your project's work flow, and helps to pinpoint weaknesses in project plans.

About Master Project and Subprojects

You can create a link between a project (master project) to a whole subproject or to parts of a subproject, such as a phase, activity, task, or milestone. You can associate any number of projects to a master project by inserting the subprojects into the master project. When you insert a whole subproject into the master project, you can choose to insert it in read/write or read-only mode. In contrast, when you insert a partial subproject into the master project, the subproject is always inserted in read-only mode.

The ability to establish subproject links means you can create plans and track and analyze an individual project in detail while viewing, summarizing, and analyzing the progress of several projects at a higher level. You can use the a master project with subprojects to perform top-down planning and to share resource availability across projects.

Keep the following in mind when working with master projects and subprojects:

- Each time you open the master project, Open Workbench retrieves all required subproject data from the appropriate subproject.
- If you autoschedule the master project, the dates for its read-only subprojects change, but only temporarily. When you save the master after autoscheduling, the changes you make are not saved in the subproject. Thus, you can autoschedule at the master-project level to do “what-if” scenarios on subprojects, and when you want to apply the changes, open the subproject and autoschedule it directly.

Resource and Role Availability in Master Projects

A resource's *availability* is the amount of time a resource is available and can be allocated to a project.

You can allocate resources to subprojects based on the resource's default availability. If you are using Open Workbench with CA Clarity PPM, you define a resource's default availability in CA Clarity PPM. The amount you set as the resource's default allocation to the project in CA Clarity PPM translates as the resource's default availability on the project in Open Workbench.

A resource's default availability on a master project is capped at the greatest default availability defined on the master's subprojects. When you autoschedule the master project, the resource is not scheduled on the master project over what they can work in a day. For example, if you allocate a resource that has a default availability of 8 hours at 100% to three subprojects, when you autoschedule the master project, the resource is allocated between the three subprojects for no more than 8 hours per day.

On the master project, a role's default availability is the sum of the role's default allocation on the master's subprojects. You define a role's default availability at the subproject level. For example, if you allocate a role that has a default availability of 8 hours at 100% to three subprojects, when you autoschedule the master project, the role is scheduled on the subprojects for 24 hours per day.

Note: See the *Resource Management User Guide* for more information.

Set Resource Allocation to Subprojects

To set a resource's allocation to a subproject, you must edit it at the subproject level. This field is inactive in the master project. There are two ways to set allocation on the subproject. If you are using Open Workbench with CA Clarity PPM, you can set allocation in CA Clarity PPM by creating allocation segments. You can also set a resource's allocation manually by editing the availability in the timescale section of the view. To do this, add the Availability field to a spreadsheet view, such as the Gantt Chart view.

Insert Subproject Tasks into Master Projects

Inserting subproject tasks into a master project allows you to pull out sections of projects and evaluate the work being done by your team across many projects from the master project.

You can insert a subproject task into your master project using the Open Subprojects dialog box. This dialog box is a version of the standard Windows Open dialog box.

If your master project is linked to an Open Workbench .rmp project file via a subproject association, you cannot save it back to CA Clarity PPM.

To insert a project task as a subproject task into a master project

1. From a view that displays the task detail pane, right-click the task and select Insert Subproject from the shortcut menu.

   The Open Subprojects dialog box opens.

2. Complete the following field:

   Files of type

   Defines the type of file you want to open.

   Values:

   - Workbench files (*.rmp). Select to display a list of Open Workbench .rmp project files from your computer or network.
   - CA Clarity PPM Projects. Select to display a list of CA Clarity PPM project files.
   - XML files (.xml). Select to display a list of XML files from the selected folder on your computer or network.
   - All files (*.*). Select to display all files in the current folder on your computer or network.

   Note: You cannot insert XML project files into master projects.

   A list of available projects display.

3. Click the name of the subproject from the Projects list, and then expand the summary level tasks to see and select the task you want to insert into the master project.

4. Complete the following fields, and click Select:

   Open as read-only

   Specifies whether you want to add the project, subproject, or subproject task in read-only mode in the master project. When you insert a subproject into a master project in read-only mode, any changes you make to the subproject from the master project are not saved.

   Default: Cleared

Note: This check box is only available if you have edit rights to the selected project, subproject, or subproject task. If you opened the master project in read-only mode, this check box is selected and is unavailable.

Create Subprojects

Specifies if you want the ability to create subprojects from the inserted subproject.

Default: Cleared

Note: If you are inserting a partial subproject, this check box is selected and unavailable.

Task

Displays the name of the selected task or summary task.

The selected subproject task is inserted into the master project.

Insert Subprojects into Master Projects

You can insert a whole subproject into your master project using the Open Subprojects dialog box. This dialog box is a version of the standard Windows Open dialog box. The projects listed in the dialog box are either listed by project ID or by file name, depending on the source of the project.

If you are using Open Workbench with CA Clarity PPM and are inserting a CA Clarity PPM project, the project ID displays. If you are inserting an Open Workbench .rmp project file, the file name displays.

By default, when you insert subprojects into master projects, they are inserted in read/write mode.

If your master project is linked to an Open Workbench .rmp project file via a subproject association, you cannot save it back to CA Clarity PPM. You cannot insert XML project files into master projects.

To insert a project as a subproject into a master project

1. Right-click anywhere in the view, and select Insert Subproject from the shortcut menu.

   The Open Subprojects dialog box opens.

2. Complete the following field:

   Files of type

   Defines the type of file you want to open.

   Values:

   - Workbench files (*.rmp). Select to display a list of Open Workbench .rmp project files from your computer or network.
   - CA Clarity PPM Projects. Select to display a list of CA Clarity PPM project files.
   - XML files (.xml). Select to display a list of XML files from the selected folder on your computer or network.
   - All files (*.*). Select to display all files in the current folder on your computer or network.

   Note: You cannot insert XML project files into master projects.

   A list of available projects display.

3. Click the name of the subproject you want to insert into the master project from the Projects list.

4. Complete the following fields, and click Select:

   Open as read-only

Specifies whether you want to add the project, subproject, or subproject task in read-only mode in the master project. When you insert a subproject into a master project in read-only mode, any changes you make to the subproject from the master project are not saved.

Default: Cleared

Note: This check box is only available if you have edit rights to the selected project, subproject, or subproject task. If you opened the master project in read-only mode, this check box is selected and is unavailable.

Create Subprojects

Specifies if you want the ability to create subprojects from the inserted subproject.

Default: Cleared

Note: If you are inserting a partial subproject, this check box is selected and unavailable.

The selected subproject is inserted into the master project.

Insert and Open Subprojects in New Master Project

You can open any project or a set of projects as subprojects in a new master project. Use the Open dialog box to do this. When you open the subprojects, the selected subprojects are inserted into a new unnamed master file. If you are using Open Workbench with CA Clarity PPM, you can save the new master project back to CA Clarity PPM.

To open a project as a subproject in a new master project

1. Select Open from the application menu at the top left corner of the window.

   The Open dialog box opens and a list of available projects appears.

2. Select the project you want to open as a subproject, complete the following fields, and click OK:

   Open as read-only

   Specifies whether to open the selected project without locking it.

   Note: This check box is available if you have edit rights for the selected project. If you have only view rights, the check box is selected by default and unavailable.

   Create Subprojects

   Specifies whether to open the selected project as a subproject in a new master project.

   The subproject opens in a new, unnamed master project.

Define Subproject Task Options

Use the Subprojects tab on the Task Properties dialog box for a selected subproject or external task to review or change the subproject options.

Keep the following in mind when editing subprojects and subproject tasks in a master project:

- The changes you make to subprojects are reflected at the master-project level when you open the master project next, unless you have both the master and subproject open simultaneously.
- If you inserted the subproject as read-only into your maser project, you can edit its option, but the changes you make cannot be saved.

To define a subproject's task options

1. Right-click a subproject task in the view and select Modify from the shortcut menu.

   The Task Properties dialog box opens.

2. Click the Subproject tab.

   The Subproject page opens.

3. Complete the following fields on the page, and click OK:

   Project

   Review the subproject's name.

   Read-only

   Select to display the subprojects as read-only in the master project.

   Note: This field displays as read-only and is unavailable if you inserted the subproject task as read-only.

   The Task Properties dialog box closes.

Identify Subprojects in Master Project WBS

You can identify which tasks in your master project's WBS list are subprojects by the type of icon that displays in the row header. Inside the master project, subprojects appear with a Subproject icon on the proxy task's header to indicate it is a task inside an inserted subproject.

The Subproject icon appears as follows:

 **Subproject**

The *Subproject* icon specifies a proxy task inside an inserted (entire) subproject, as viewed from the master project.

Edit Subproject Access in Master Projects

Use the Subproject tab on the Project Properties dialog box to change access to the subproject from read/write to read-only in a master project. When selected, any changes you make to the subproject from the master project are not saved when you close the master project.

Note: This tab only appears on the Project Properties dialog box for subprojects that were inserted as an entire project into a master project.

To modify subproject access in a master project

1. In a view that displays the task detail pane, right-click the subproject (proxy task) and select Modify from the shortcut menu.

   The Description tab on the Project Properties dialog box opens.

2. Click the Subproject tab.

   The subproject's name displays in the Project field.

3. Clear the Read-only check box, and click OK.

   The Project Properties dialog box closes.

Edit Subprojects from Master Project

If you are working with a master project that contains a subproject, you can edit the subproject's properties only if you inserted the entire project as a subproject into the master project and the subproject's access status is set to read/write.

Note: If the access status is set to read-only, you can make changes to the subproject from a master project but you cannot save those changes.

To edit the subproject's properties from the master project

1. In a view that displays the task detail pane, right-click the subproject (the proxy task), and select Modify from the shortcut menu.

   The General tab on the Task Properties dialog box opens.

2. Click the Subproject tab.

   The subproject' name displays in the Project field.

3. Click Project.

   The subproject's Project Properties dialog box opens.

4. Edit the subproject, and click OK when finished.

   The subproject's Project Properties dialog box closes and the Subproject tab on the Task Properties dialog box displays.

5. Click OK.

   The dialog box closes.

Print a List of Subprojects from Master Project

Use the Subprojects dialog box to print a list of subprojects. You can also use this dialog box to review, add, or remove subprojects. To view this page, select Tools, Subprojects.

Delete Subprojects or Subproject Tasks from Master Projects

When you remove a subproject relationship from a master project, you do not delete the subproject. Instead, you delete the link between the projects. You can view a list of existing subprojects and subproject tasks that are associated to the master project in the dialog box.

Use the Subprojects dialog box to delete subprojects or subproject tasks from master projects. This dialog box lists the names of the subprojects (proxy tasks) or subproject task in the Subprojects list. When you select a task in the Subprojects list, the corresponding subproject name displays in the Project field and the task name in the Task field.

To delete a subproject or subproject task from a master project

1. Select Subprojects from the External group in the Project ribbon.

   The Subprojects dialog box opens.

2. Do one of the following:

   - To delete a subproject task, expand the summary level tasks to see and select the subproject task you want to delete from the Tasks list.
   - To delete the entire subproject, select the subproject (proxy task) you want to delete from the Subprojects list.

3. Click Delete.

   The subproject or subproject task is removed from the master project and no longer displays in the Subprojects list.

4. Click OK.

   The Subprojects dialog box closes.

About Multiple Projects and Subnets

If you are working with multiple projects and they are open, you can calculate separate critical paths for each project and not just for the project that has the longest critical path. To view the critical paths, use the CPM Network view.

Define Project Advanced Properties

Use the Advanced tab in the Project Properties dialog box to define a project's advanced management information. The Advanced tab provides a central location from which you can set or change project-related values. All project attributes display on this tab.

This tab displays a Fields grid that contains two columns: The Field column displays a list of all the advanced properties you can specify, and the Value column displays cells, where you can enter or select values for the field.

The field values you can enter depend on the field you have selected. You can:

- Select displayed check boxes.
- Enter numeric values, currency, or dates.
- Enter words or phrases.
- Choose options from drop-down lists.

You can manually edit the project % Complete value provided you have set the percent complete calculation method (on the Description tab of the Project Properties dialog box) to Manual. Add the % Complete field to a view to edit the value from a view.

Note: The fields that are available for editing are dependent on your access rights. If a field is not available for selection or editing, it is disabled (by default).

To define project advanced properties

1. Select Project Properties from the application menu at the top left corner of the window.

   The Description tab on the Project Properties dialog box opens.

2. Click the Advanced tab.

   The project advanced properties display.

3. In the fields grid, click a cell in the Value column and enter a value for the field, and click OK.

   The project advanced properties are defined and the Project Properties dialog box closes.

Add Notes

Notes let you record project-specific information for yourself or for other staff members. Use the Notes tab on the Project Properties, Task Properties, and the Resource Properties dialog boxes to record the information. You can view, add, edit, and remove notes. You can also change the notes categories, as well as see historical comments. Before adding a note, you can check it for spelling errors.

To add a note

1. From the Project Properties, Task Properties, or the Resource Properties dialog box, click the Notes tab.

   The Notes tab displays.

2. Do the following:

   a. Enter the note in the text box.

   b. Enter or select a category to which the note is associated from the Category drop-down.

      Note: If you add a new notes category, you must specify a global file location (see page 19) to make it available for future use.

   c. Click Add.

   The note appears as the last item in the History grid.

3. Click OK.

   The dialog box closes.

View a List of Notes

Use the Notes tab on the Project Properties, Task Properties, and Resource Properties dialog boxes to view a list of the notes that you have added to the project, task, or resource. The list of notes display in the History grid.

Edit Notes

Use the Notes tab on the Project Properties, Task Properties, and Resource Properties dialog boxes to edit notes.

To edit a note

1. From the Project Properties, Task Properties, or the Resource Properties dialog box, click the Notes tab.

   The Notes tab displays.

2. Select the note you want to modify from the History grid, do one of the following, and click Modify:

   - To change the content of the note, change the data in the text field, and click Modify.
   - To change the note's category, enter or choose a category from the Category drop-down.

   Your changes are saved.

3. Click OK.

   The dialog box closes.

Define Note Categories

Use the General tab on the Options dialog box to define the note categories that you use to group project and task notes.

To define a new note category

1. Select Preferences from the application menu at the top left corner of the window.

   The General tab on the Options dialog box opens.

2. Enter the new note category to which you will associate notes in the Note Category field.

3. Click OK.

Associate Notes to Note Categories

Use the Notes tab on the Project Properties, Task Properties, and Resource Properties dialog boxes to associate a project note to a note category. Use *Categories* to select and filter different groups and classes of tasks, notes, or resources in the view.

You can enter new categories to the Category drop-down or you can use the categories already listed. The categories listed are those you added as an Open Workbench general option (see page 13).

To associate a note to a note category

1. From the Project Properties, Task Properties, or the Resource Properties dialog box, click the Notes tab.

   The Notes tab displays.

2. Do one of the following:

   - Add a note (see page 116) in the text box.
   - Select a note in the History grid.

3. Enter or select a category to which the note is associated from the Category drop-down.

   Note: If you add a new notes category, you must specify a global file location (see page 19) to make it globally available for use.

4. Click Add.

   The note appears as the last item in the History grid.

5. Click OK.

   The dialog box closes.

Delete Notes

Use the Notes tab on the Project Properties, Task Properties, and Resource Properties dialog boxes to delete a note.

To delete a note

1. From the Project Properties, Task Properties, or the Resource Properties dialog box, click the Notes tab.

   The Notes tab displays.

2. Select the note you want to delete from the History grid and click Delete.

   The note is deleted from the History grid.

3. Click OK.

   The dialog box closes.

Update Task Data

Use the Task Properties dialog box to define and edit task properties. To view this dialog box, double-click the header button to the left of the task you want to update.

This dialog box contains several tabs with fields that you can use to the create and edit data that you may not find available in a view. These tabs include the General, Resources, Dependencies, Advanced, and Notes.

The availability and display of tabs in this dialog box depends on the type of task you have selected in the view:

- If you select a phase or activity that is part of a master project or a subproject, only the General, Advanced, and Notes tabs display.
- If you select a task or milestone that is part of a master project or a subproject, all tabs except the Subprojects tab display.
- If you select a single task that was inserted into a master project as a subproject, all of the tabs display, including the Subprojects tab.

You can also update a task by right-clicking it in a spreadsheet view to access the shortcut menu which displays a list of task-related commands.

You can edit subproject task properties if you have Read/Write access or are saving a master project as an Open Workbench project (.rmp) file. You can also select multiple tasks and use one dialog box to edit the properties that they have in common or to define common properties. Use the Task Properties - Multiple Selections dialog box to do this.

Define Task General Properties

Use the General tab on the Task Properties dialog box to define the basic attributes of a task, such as the task name, ID, and type, and to identify the task as a key task on the project. You can also use this tab to apply properties to more than one task.

The following task schedules are displayed on this tab:

- Current. The values displayed are the current values when calculating the critical path.
- Baseline. The values displayed are automatically generated during project baselining and are read-only.
- Early. The values displayed are automatically generated when you autoschedule your project and are read-only. An early schedule indicates the earliest a task can be completed, based on all the dependencies and constraints.
- Late. The values displayed are automatically generated when you autoschedule your project and are read-only. A late schedule indicates the latest a task can be completed, based on all the dependencies and constraints.

To define task general properties

1. From a view that displays the task detail pane, right-click the task you want to define, and select Modify from the shortcut menu.

   The General tab on the Task Properties dialog box opens.

2. Complete the following fields, and click OK:

   Name

   Defines the name of the task.

   Category

   Defines the name of the group or class to which this task belongs.

   ID

   Defines the unique identification code for this task.

   Type

   Defines the task type.

   Values: Milestone, Task, Phase, or Activity

   Default: Task

   Key Task (Type)

   Specifies whether the task is essential to the project and is a key task.

Duration

If this task is fixed, defines the length of time, in number of business days, that this task takes to complete.

Values: 1 through 20,863.

Fixed (Duration)

Specifies whether the task duration is fixed or variable.

Default: Cleared (Variable)

Priority

Defines the task priority or priority inheritance if the task does not inherit the priority from parent or any higher WBS level.

Default: 10 if the parent task priority (or any higher WBS level) has not been set.

Values: 0 through 36. The lower the number, the higher the priority.

Example: If the task has a priority of 0 through 9, it is given the highest priority during scheduling. If the task has a priority of 11 through 36, it is given the lowest priority during scheduling.

Inherited (Priority)

Specifies whether you want this task to assume the priority of its parent task, or the next highest WBS level. When selected, the Priority field is not available.

Default: Selected

3. In the Schedule grid, define the following fields and click OK.

Start

Defines the task start date for the current schedule.

Default: Today's date or the next business date after today's date

Finish

Defines the task finish date for the current schedule.

Note: If you do not enter a finish date, Open Workbench calculates the date based on the tasks duration and start date.

Status

Defines the task completion status.

Values: Not Started, Started, or Completed

Default: Started

% Complete

Defines the progress of the task as a percentage. Regardless of the setting for the percent complete calculation method (on the Description tab of the Project Properties dialog box), you can always edit the percent complete value for milestone tasks. This value can also be used in earned value calculations.

- If the percent complete calculation method is set to Manual, you can edit this field for the project and for all summary and detail tasks.
- If the percent complete calculation method is set to Effort, the value in this field is automatically calculated for the project and all summary and detail tasks.
- If the percent complete calculation method is set to Duration, the value in this field is automatically calculated for the project and summary tasks based on the values manually entered for the detail tasks.

Values: 0 through 100.

Define Tasks as Key Tasks

Use the General tab on the Task Properties dialog box to mark tasks as key tasks. When you mark a task as a key task, the task is listed on the Key Tasks tab on the Project Properties dialog box. You can always revert tasks to standard tasks.

To define a task as a key task

1. Right-click the task you want to define as a key task, and select Modify from the shortcut menu.

   The General tab on the Task Properties dialog box opens.

2. Select the Key Task check box, and click OK.

   The task is marked as a key task and the Task Properties dialog box closes.

Define Task Duration

Use the General tab on the Task Properties dialog box to enter or edit the task's duration. When you add tasks to a project, the task's default start date is today's date, or the next working date after today's date if today is a holiday or non-work day.

The maximum duration you can define can extend from present day to June 3, 2079.The duration for variable-duration tasks is automatically calculated. For fixed-duration tasks, Open Workbench automatically calculates the task's finish date. If the task is fixed and you change the finish date, the duration is automatically calculated.

During autoschedule, the duration is not changed for fixed-duration tasks, except when you enter an autoschedule start date that is greater then the task finish date. In this case, ETC is moved for resources and roles to start from the autoschedule start date and spread to the task finish date, depending on the loading pattern. If the autoschedule start date is greater than the task finish date, then the finish date is moved to the Autoschedule start date, and all ETC is placed on that date.

To define a task's duration

1. Right-click the task you want to define duration, and select Modify from the shortcut menu.

   The General tab on the Task Properties dialog box opens.

2. Complete the following field, and click OK:

   Duration

   Defines the number of business days for this task if this task's duration is fixed.

   Values: 1 through 20,863.

   Fixed (Duration)

   Specifies whether the task's duration is fixed.

   The Task Properties dialog box closes.

Edit Task Duration

Duration is the length of time, in business days, a task requires from conception to completion, including the start and finish dates. There are several ways you can change task duration. You can edit it directly on the desired position on the timescale in a spreadsheet view, such as the Gantt view, by using your mouse to click and drag the left or right side of the Gantt bar to the desired position on the timescale. You can also use the General tab on the Task Properties dialog box to edit task duration.

Note: For fixed-duration tasks, Open Workbench automatically calculates the task’s finish date. If the task is fixed and you change the finish date, the duration is automatically calculated.

Define Task Priority

The *Task Priority* controls the order in which tasks are scheduled during autoschedule, subject to dependencies and task and resources constraints. Autoschedule, therefore, schedules tasks with higher priority ahead of tasks with lower priority. Use the General tab on the Task Properties dialog box to define a task's priority. The priority value you enter in the Priority field is used when scheduling task.

If you do not define the task's priority but instead select the Inherited (Priority) check box on this tab, the priority is inherited from its parent task or the next highest WBS level. By default, this check box is selected.

To define a task's priority

1. From a view that displays the task detail pane, right-click the task you want to define priority, and select Modify from the shortcut menu.

   The General tab on the Task Properties dialog box opens.

2. Enter the task's priority in the Priority field.

   Default: 10

   Values: 0 through 36. The lower the number, the higher the priority.

3. Click OK.

   The Task Properties dialog box closes.

Task Status and Percent Complete

You can update the status of a task by setting the values in the Status and % Complete fields in the task properties. Depending on the setting for the percent complete calculation method (on the Description tab of the Project Properties dialog box), you can edit or automatically populate the % Complete field.

You can also define the task status by editing the task in a view that has the following data elements on its layout: Status, Start, Finish, and Percent (%) Complete.

When updating the task status, the following rules apply:

- You can enter 100 as the percent complete value for tasks with a status of "Started".
- You can only mark tasks as "Completed" if the resource assigned to the task has no remaining ETC on the task.
- If you change the status of the task to "Completed", the % Complete field automatically updates to 100. If you then reduce the percent complete value, the status changes to "Started".
- If the task is a milestone, you can select a status of "Completed" or "Not Started".
- If the task has an ETC greater than zero or has actuals but it has not started, you cannot change the status to "Not Started" unless you first remove the ETC and actuals from the task.
- If the task has an ETC greater than zero, you cannot select a status of "Completed".

About Defining Task Resources Properties

Use the Resources tab on the Task Properties dialog box to define the assigned resource's actual usage, ETC, and maximum percentage on tasks. To view this tab, in a view that displays the task detail pane, right-click the task and select Assignments from the shortcut menu.

Define Resource Actual Usage on Tasks

If you previously recorded a resource's periodic actual usage, you cannot change the total actual usage directly in a view. Use the Resources tab on the Task Properties dialog box to enter a resource's actual usage on a task.

To record a resource's total actual usage

1. From a view that displays the task detail pane, right-click a task and select Assignments.

   The Resources tab on the Task Properties dialog box opens.

2. In the Assigned Resources grid, select the name of the resource for which you want to record total actual usage, complete the following fields in the grid, and click OK:

   Actual

   Defines the cumulative actual usage.

   Act Thru

   Defines the last date through which actuals have been captured on the task for the resource.

   The resource detail section of the view is updated to reflect the resource's actual usage on the task.

Define Resource Estimate to Complete on Tasks

Use the Resources tab on the Task Properties dialog box to enter a resource's ETC on a task. You can also define a resource's ETC on a task from the Schedule spreadsheet view. Enter hour or day ETC values depending on the Default Unit setting you defined on the Defaults tab on the Options dialog box. If a task has an ETC value that exceeds zero, you cannot set the task's status to "Completed".

Note: If the resource's loading pattern is set to fixed you can only enter ETC in a tabulated view.

You can also remove a resource's ETC on a task using this tab. If you are using Open Workbench with CA Clarity PPM and you need to remove ETC that you have posted to a task that has not started, you must do this in CA Clarity PPM by adjusting your posted timesheet.

If you are using Open Workbench with CA Clarity PPM, you must define a billing rate for cost-based resources in CA Clarity PPM. If the resource does not have a defined billing rate, in CA Clarity PPM, add an entry to the resource's rate matrix (see page 171) and run the Rate Matrix Extraction job (see page 171).

Note: See the *Administration Guide* for more information.

To define a resource's ETC on a task

1. In a view that displays the task detail pane, right-click a task and select Assignments from the shortcut menu.

   The Resources tab on the Task Properties dialog box opens.

2. In the Assigned Resources grid, enter the ETC in the resource's Estimate field, and click OK.

   The Task Properties dialog box closes.

To define a resource's ETC on a task from a view

1. Select the Schedule view.

   The project schedule is displayed in a spreadsheet view.

2. Change the time scale data, if necessary, and do one of the following:

   - To enter a total ETC value, enter the ETC in the non-time scaled ETC column.
   - To enter ETC in a specific time period, enter the ETC in the time scaled ETC column.

3. For cost-based resources, such as expense resources, change the ETC format from Hours\Days to Cost, and save the project.

   The resource's ETC on a task is changed.

Define Resource Maximum Percentage on Tasks

Use the Resources tab on the Task Properties dialog box to enter a resource's maximum percentage on a task.

To define a resource's maximum percentage on a task

1. In a view that displays the task detail pane, right-click a task and select Assignments from the shortcut menu.

   The Resources tab on the Task Properties dialog box opens.

2. In the Assigned Resources grid, enter the maximum percentage amount in the resource's Max % field, and click OK.

   Note: If necessary, use the scroll bar to view this field.

   The Task Properties dialog box closes.

Release Resources from Task Assignments

Use the Resources tab on the Task Properties dialog box to release resources from task assignments. When you release a resource from a task assignment, the resource is still available for assignment to other tasks in the project.

To release a resource from a task assignment

1. Right-click a task and select Modify from the shortcut menu.

   The Task Properties dialog box opens.

2. Select the Resources tab.

   A list of the task's resource assignments displays.

3. In the Assigned Resource grid, select the resource assignment you want to remove, and click Release.

   The resource name is removed from the Assigned Resource grid.

4. Click OK.

Transfer Task Assignments between Resources

When you have resources of the same type assigned to work in your project, you can transfer those tasks from one resource to another on the project. You can choose to transfer all assigned work or specific tasks to a new resource.

When you transfer assignments:

- If the resource from which you are transferring the assignment has not posted actuals on the task, the resource is removed from the task.
- If the resource from which you are transferring the assignment has posted actuals on the task, the resource remains assigned to the task and the remaining ETC is transferred to the new resource.

To transfer task assignments between resources

1. Select Transfer from the Assignments group in the Project ribbon.

   The Transfer Assignments dialog box opens.

2. Select the name of the resource from which to transfer the assignment from the Transfer assignments from this resource drop-down.

   The resource's task grid populates with a list of all the tasks assigned to that resource.

3. In the task grid, select the task to transfer to the new resource.

4. Select the name of the resource to which to transfer the assignment from the to this resource drop-down.

   The resource's task grid populates with a list of all the tasks assigned to that resource.

5. Do one of the following:

   - Click the right arrow button (>) to transfer the selected task from the assigned resource to the new resource.
   - Click the All right arrow button (All >) to transfer all listed assignments from the assigned resource to the new resource.
   - Click the left arrow button (<) to transfer assignments from the resource listed in the to this resource drop-down to the resource listed in the Transfer assignments for this resource drop-down.
   - Click the All left arrow button (All <) to transfer all assignments from the resource listed in the to this resource drop-down to the resource listed in the Transfer assignments for this resource drop-down.

6. Click OK.

   The Transfer Assignments dialog box closes.

About Task Dependencies Properties

Use the Dependencies tab on the Task Properties dialog box to add or remove task dependencies. To view this tab, in a view that displays the task detail pane, right-click the task and select Dependencies from the shortcut menu.

This tab displays a hierarchical list of existing dependencies between the task you have selected and other tasks on the project. Use this tab to create, modify, or delete dependency relationships, and to review the task's name, relationship, dependency type, and the amount of lag. You can also apply dependencies to more than one task using this tab.

The tab's Dependencies grid displays the following icons that you can use to identify the task's dependency relationships:

 **Predecessor**

The *predecessor* icon indicates the task is a predecessor to the selected task.

 **Successor**

The *successor* icon indicates the task is a successor to the selected task.

About Dependency Relationships

A dependency provides you with a means of ordering the relationship, timing, and logical sequence between a task within the same project (internal dependency) or between a task in your project and a task that is external to the project (external dependency). When you create an external dependency, you add the subproject task to your master project. Creating dependencies does not automatically adjust your project plan; you must autoschedule your project.

A dependency links one task to another where the start or finish date of the second task (the successor) is constrained by the start or finish date of the first task (the predecessor). Define dependency relationships to ensure that you can evaluate the cascading impact of changes to tasks when autoscheduling. If a task is isolated and is not needed by or is not dependent on another task, it can be independent.

You can create the following types of dependencies to establish the relationship between the start and finish dates of dependent tasks:

- Finish-Start. The predecessor task's finish date determines the successor task's earliest possible start date. With this dependency type, the successor task cannot start until its predecessor task finishes.
- Finish-Finish. The predecessor task's finish date determines the successor task's earliest possible finish date. With this dependency type, the successor task cannot finish until its predecessor task finishes.
- Start-Start. The predecessor task's start date determines the successor task's earliest possible start date. With this dependency type, the successor task cannot start until its predecessor task starts.
- Start-Finish. The predecessor task's start date determines the successor task's earliest possible finish date. With this dependency type, the successor task cannot finish until its predecessor task starts.

The dependency type that is used when creating dependency links is the default dependency type you defined on the Defaults tab on the Options dialog box. Open Workbench's default dependency type is Finish-Start. Once you create the dependency, you can edit the dependency type.

About Lag and Negative Lag in Dependency Relationships

You can define the lag between tasks as positive or negative. *Lag* is the predetermined amount of time between the start and/or finish time of two tasks in a project plan. *Negative Lag* is the amount of time or percentage of task duration in which two tasks can be simultaneously in process in a project plan. You define lag or negative lag on the Dependencies tab of the Task Properties dialog box.

Example - Positive Lag

You have two tasks in your project, Task A and Task B, and you want Task B to start three days after Task A finishes. Define the dependency type as Finish-Start type and enter 3.00 as the lag.

Example - Negative Lag

You have two tasks in your project, Task A and Task B, and you want Task A to start two days before Task B ends. Define the dependency type as Finish-Start and enter -2.00 as the lag.

About Internal Dependencies

An internal dependency is a dependency relationships you create between two or more tasks in the same project.

Create Internal Task Dependencies

There are many ways to create and edit dependency relationships between tasks. You can create dependencies between tasks in the same project using the Dependencies tab on the Task Properties dialog box, on Gantt charts, in spreadsheet views, and from a CPM network view to create internal task dependencies.

Note: To create predecessor or successor dependency relationships in a spreadsheet view, you must do this in a view that displays the task detail pane.

To create an internal task dependency

1. In a view that displays the task detail pane, right-click the task for which you want to create a dependency relationship and select Dependencies from the shortcut menu.

   The Dependencies tab on the Task Properties dialog box opens.

2. In the Project Tasks grid, click the task to which you want to create the dependency.

   A hierarchical list of tasks display in the WBS on the grid.

3. Select the task from the hierarchy:

   - To select a contiguous range of tasks, press the Shift key on your keyboard and click a range of tasks.
   - To select a noncontiguous range of tasks, press and hold the Ctrl key on your keyboard and click the tasks.

4. Do one of the following to add the task to the Dependencies grid:

   - Double-click the task.
   - Select a task and drag your selection into the Dependencies grid.
   - Select a task and click Add Predecessor or Add Successor.
   - Right-click a task and choose Add Predecessor(s) or Add Successor(s) from the shortcut menu.

   The selected task is added as a dependency.

5. Click OK.

   The Task Properties page closes.

Create Multiple Dependencies

You can create multiple dependencies between project tasks. You can add multiple predecessors for successors for a task or milestone or you can create a chain of dependencies.

Create Dependency Chains

As an alternative to individually creating dependency relationships, you can select multiple tasks simultaneously and create a chain of predecessor-to-successor relationships. You can do this in any spreadsheet view that displays the task detail pane.

Note: You must have two or more tasks in a view to create a dependency chain.

To create a dependency chain

1. Select the task you want to designate as the predecessor.

   The predecessor task is selected.

2. Press the Ctrl key on your keyboard and click each task that you want to make a successor.

   The successor tasks are selected.

3. Right-click one of the selected tasks, and choose Make Chain from the shortcut menu.

   The chain is created.

To create multiple predecessors for a task or milestone

1. In a view that displays the task detail pane, select the tasks you want to add as predecessor tasks.

   - To select a contiguous range of tasks, press the Shift key on your keyboard and click a range of tasks.
   - To select a non-contiguous range of tasks, press the Ctrl key and individually click tasks.

2. Right-click the successor task, and select Make Successor from the shortcut menu.

   The selected tasks are added as predecessors to the successor task.

3. To verify your selection, right-click the successor task, and select Dependencies from the shortcut menu.

   The Dependencies tab on the Task Properties dialog box opens. The predecessor tasks are listed in the Dependencies grid.

To create multiple successors for a task or milestone

1. In a view that displays the task detail pane, select the tasks you want to add as successor tasks.

- To select a contiguous range of tasks, press the Shift key on your keyboard and click a range of tasks.
- To select a non-contiguous range of tasks, press the Ctrl key and individually click tasks.

2. Right-click the predecessor task, and select Make Predecessor from the shortcut menu.

   The selected tasks are added as successors to the predecessor task.

3. To verify your selection, right-click the predecessor task, and select Dependencies from the shortcut menu.

   The Dependencies tab on the Task Properties dialog box opens. The successor tasks are listed in the Dependencies grid.

Edit Internal Task Dependencies

The Dependencies tab on the Task Properties dialog box displays dependency relationships for the selected task, including internal and external dependencies. You can use this tab to edit the dependency relationship and to add new dependency relationships.

Note: If you specify percent as the lag type and Finish-Finish as the constraint type, you are specifying a percentage of the successor's duration. If you specify percent for any other constraint type, you are specifying a percentage of the predecessor's duration.

Overlap Tasks

If you want two tasks to be scheduled on the same day because the resource has remaining availability on that day, enter -1.00 as the lag to overlap the tasks.

Zero Lag

To schedule two dependent tasks, this first on one day and the next on the following day, enter zero as the lag amount.

To modify an internal task dependency

1. Right-click the task from the view and select Dependencies.

   The Dependencies tab on the Task Properties dialog box opens.

2. Select the task you want to modify from the Project Tasks list, and modify the following:

   Pred/Succ

   Specifies the task's dependency relationship.

   Default: Successor

   Options: Successor or Predecessor

   Type

   Specifies the constraint type to be placed on the task's start or finish date.

   Default: Finish-Start

   Options: Start-Start, Start-Finish, Finish-Start, or Finish-Finish

   Lag

   Defines the number that represents the days or percent to indicate the amount or time between, or overlapping, the task start or finish dates.

   Note: The constraint type used is the type you specify.

   Lag Type

   Specifies the lag type.

Default: Daily

Options: Daily or Percent

3. Click OK.

   The internal task dependency is modified.

Delete Internal Task Dependencies

When you remove an internal dependency relationship, you do not delete any tasks from the project. Instead, you delete the dependency link between the tasks. After removing the dependency, you can change the project's scheduling and run Autoschedule.

Use the Dependencies tab on the Task Properties dialog box to delete internal task dependencies.

To delete an internal task dependency

1. In a view that displays the task detail pane, right-click the task and select Dependencies from the shortcut menu.

   The Dependencies tab on the Task Properties dialog box opens.

2. Select the task you want to delete from the Project Tasks list, and click Delete.

   The task is removed from the Project Tasks list.

3. Click OK.

   The internal task dependency is deleted.

About External Project Dependencies

An external dependency is a constraint you set outside of your project, such as a task on another project, that defines when a task is completed. External dependencies are either predecessor or successor tasks on other projects.

If you are using Open Workbench with CA Clarity PPM, you can insert CA Clarity PPM project tasks as external dependencies into a project you have open in Open Workbench.

Create External Task Dependencies

Use the External Dependencies dialog box to review or create an external dependency relationship to an external project task. When you create an external task dependency, the external task is inserted as a read-only (non-editable) task; the relationship appears in both projects. Only the external task is linked to the master project, not the entire subproject or project.

The Dependencies grid displays fields that define each external dependency. Use this grid to view external dependency details such as the external task name, whether it is a predecessor or successor task, the dependency type, the lag type, and external project name. The Project field displays the selected dependency task's project name. The Task field displays the selected dependency's task name.

To create an external dependency

1. In a spreadsheet view that displays the task detail pane, right-click the task to which you want to insert an external dependency, and select Insert External Dependency.

   The Open External Dependencies dialog box opens. A list of available projects displays.

2. Locate and select the project, locate and select the task to which you want to create the dependency from the WBS on the right pane, and click Select.

   The Open External Dependencies dialog box closes. The external dependency displays in the view.

View a List of External Dependencies

You can view a list of external dependencies on the External Dependencies page. To view this page, select Tools, External Dependencies. The externally linked project (via the external task dependency) lists the linked task on its project plan.

You can also view externally linked dependencies in your project WBS list. Dependencies appear below the linked task with a Linked Task icon on the task's the header button to indicate it is an external task. The Linked Task icon appears as follows:

 **Linked Task**

The linked task icon indicates that the task is an externally linked task.

Save Projects with External Dependencies

When you save a project, a copy of the external dependency data is also automatically added to the file. When you make changes to a task which impacts an external dependency, it is not updated in the project on which the task is dependent.

Edit External Task Dependencies

You can edit dependency relationships for external dependencies using the Dependencies tab on the Task Properties dialog box or using the External Dependencies dialog box. You cannot move the dates on external tasks or modify it within your project; the externally linked task's properties are read-only and do not include resource or dependency information.

Note: You can only access the Dependencies tab on the Task Properties dialog box if the externally dependent task has a predecessor relationship with the task in your project.

To edit an external dependency

1. Select Dependencies from the External group in the Projects ribbon.

   The External Dependencies dialog box opens.

2. Locate the external dependency task you want to modify, and complete the following fields:

   Pred/Succ

   Specifies the task's dependency relationship.

   Default: Successor

   Options: Successor or Predecessor

   Type

   Specifies the constraint type to be placed on the task's start or finish date.

   Default: Finish-Start

   Options: Start-Start, Start-Finish, Finish-Start, or Finish-Finish

   Lag

   Defines the number that represents the days or percent to indicate the amount or time between, or overlapping, the task start or finish dates.

   Note: The constraint type used is the type you specify.

   Lag Type

   Specifies the lag type.

   Default: Daily

   Options: Daily or Percent

3. Click OK.

   The external task dependency is modified.

Delete External Task Dependencies

Use the External Dependencies dialog box to delete external dependencies. When you delete an external dependency relationship, you do not delete the task from the project. Instead, you delete the dependency link between the tasks. After removing the dependency, you can change the project's scheduling and run Autoschedule after removing the dependency.

If you delete an external task from its originating project, which is an external dependency in a sub-project, the external dependency is removed from all of its related task records in all other projects.

To delete an external task dependency

1. Select Dependencies from the External group in the Project ribbon.

   The External Dependencies dialog box opens.

2. Select the externally dependent task you want to delete, and click Delete.

   The selected external dependency is removed from the grid and project.

Print Task Dependencies

You can print a list of all task dependencies associated with your project. Use the CPM Network view or a spreadsheet view that displays a Gantt chart to print dependency relationships.

To print a list of task dependencies

1. Select Print Preview from the Print section in the application menu at the top left corner of the window.

   The Print dialog box opens.

2. Specify the printing options, and click OK.

   The task dependencies are printed.

Display Dependency Relationships

You can display dependency relationships on the Dependencies grid in the Dependencies tab on the Task Properties page or from a Gantt chart view.

Before you can create dependency relationships from a Gantt chart view, you should first be able to view the relationship in the Gantt chart. When you show dependencies, the Gantt chart area of the view displays connecting arrows between tasks that have dependency relationships.

Note: To display the dependency, first add the Task Name or Task ID field name to the view definition and place the fields in a column preceding the Type, Lag, Lag Type, and Project columns.

To display dependency relationships in a Gantt chart

1. Double-click anywhere on the Gantt chart.

   The Gantt dialog box appears.

2. Select the Show Dependencies check box, and click OK.

   The Gantt dialog box closes. The established dependency relationships display in the view.

Dependency Relationships Between Master Projects and Subprojects

If you work with master projects and sub-projects, you can create dependency relationships between them. The method for creating dependencies between a master project and its sub-project tasks is the same as that for creating dependencies between tasks in the same project. These relationships are reflected in the master project and the sub-project's original project.

Define Task Advanced Properties

Use the Advanced tab in the Task Properties dialog box to define a task's advanced management details, such as defining, removing, or editing task scheduling constraints. The Advanced tab provides a central location from which you can set or change task-related values. All of the task's attributes display on this tab.

This tab displays a Fields grid that contains two columns: the Field columns displays a list of all the advanced properties you can specify, and the Value column displays cells, where you can enter or select values for the field.

The field values you can enter depend on the field you have selected. You can:

- Select displayed check boxes.
- Enter numeric values, currency, or dates.
- Enter words or phrases.
- Choose options from drop-down lists.

Note: The fields that are available for editing are dependent on your access rights. If a field is not available for selection or editing, it is disabled (by default).

To define a task's advanced properties

1. From a view that displays the task detail pane, right-click a task and select Modify from the shortcut menu.

   The Task Properties dialog box opens.

2. Click the Advanced tab.

   The task's advanced properties display.

3. In the Fields grid, click a cell in the Value column and enter a value for the following fields:

   Note: The value you can enter depends on the field you have selected.

   % Complete

   Enter a value between 0 and 99 to identify the percentage of work that has been completed for a task. When the tasks are 100% complete, Open Workbench automatically inserts 100 into this field.

   Actual % Spent

   Indicates the completeness of a task out of 100%.

   ACWP

   Defines the actual cost of work performed, which is the cost of the completed portion of assignments to a task based on the actual usage.

   AV

Defines the difference between the Budgeted Cost of Work Scheduled (BCWS) and the Actual Cost of Work Performed (ACWP).

BAC

Defines the budget at completion, which is the budgeted cost of resource usage for the baseline plan.

Baseline Fixed Duration?

Defines whether the baseline is set for a fixed duration

BCWP

Defines the budget cost of work performed. BCWP is the cost of the completed portion of a task based on baseline total usage. BCWP is also an earned value calculation.

BCWS

Defines the budget cost of work scheduled, which is the cost of baseline total usage through the Project As-of date.

Category

Defines the name of the group or class to which this task belongs.

EAC

Defines the estimate at completion, which totals the cost incurred to date and the expected costs for incomplete tasks to give a projected figure.

Unplanned?

Defines whether the task is unplanned.

4. Click OK.

The task's advanced properties are defined and the Task Properties dialog box closes.

Define Task Scheduling Constraints

You can set the task scheduling constraints that impact Autoschedule using the Advanced tab on the Task Properties dialog box. Constraining tasks allows you to indicate when a task should start or finish during autoscheduling. Scheduling constraints can override priority during Autoschedule but cannot override tasks that are locked for scheduling.

When defining task scheduling constraints, the Start constraint date indicates that the task starts at the beginning of the work day, and the Finish constraint date indicates that the task finishes at the end of the work day. Keep the following in mind when constraining tasks:

- If a task's status is "Started", the Start constraint date is read-only and you cannot edit it.
- If a task's status is "Completed", all constraint dates are read-only and you cannot edit them.
- If a task is a summary task that constrains detail tasks, you cannot add the summary task constraints.

Note: If a row in a column is gray, you cannot enter a value.

To define a task's scheduling constraints

1. From a view that displays the task detail pane, right-click the task you want to define scheduling constraints, and select Modify from the shortcut menu.

   The General tab on the Task Properties dialog box opens.

2. Click the Advanced tab.

   A list of task-related values displays.

3. In the Constraints grid, define the dates for the following constraint types, and click OK:

   Must Start On

   Defines the exact date on which the task must start. This date is always respected unless the task is locked to other dates or it causes a resource overload.

   Note: This constraint overrides the Start No Earlier Than and the Start No Later Than constraint dates.

   Start No Earlier Than

   Defines the date after which the task must start.

   Start No Later Than

   Defines the date before which the task must start.

   Must Finish On

Defines the exact date on which the task must finish. This date is always respected unless the task is locked to other dates or it causes a resource overload.

Note: This constraint overrides the Finish No Earlier Than and the Finish No Later Than constraint dates.

Finish No Earlier Than

Defines the date on or after which the task must finish.

Finish No Later Than

Defines the date on or before which the task must finish.

The Task Properties dialog box closes. The task scheduling constraint is added.

Lock Tasks in Place

You may want to lock certain tasks or milestones in place to prevent scheduling functions, such as Recalculate or Autoschedule, from moving the task. Use the Advanced tab of the Task Properties dialog box to lock a task. You can still shift a locked task's start date, finish date, or both dates in views that display a Gantt chart, such as the Gantt Chart view.

When you lock a task and you autoschedule your project, Autoschedule does not move the ETC. If you have roles assigned to locked tasks, the ETC does not move and the ETC is in the past. The same is true for a resource that has not tracked current timesheets; the ETC spreads from the task's Start Date to the task's Finish Date, depending on the loading pattern.

Note: You can override this lock by autoscheduling your project.

To lock a task in place

1. In a view that displays the task detail pane, right-click the task and select Modify.

   The General Tab on the Task Properties dialog box opens.

2. Select the Advanced tab.

   A list of task-related values displays.

3. Scroll down the Fields list and select the Lock for Scheduling? check box, and click OK.

   That task is locked in place. The Task Properties dialog box closes.

View Task Percent Expended Amount

You can view a task's percent expended amount on the Advanced tab on the Task Properties dialog box. Unlike percent complete, percent expended is a calculated field that represents the percentage of resource usage expended on a task. Because percent expended is calculated and can be more precise than percent complete, which is a user-defined value and is limited to 2 decimal places, earned value calculations such as BCWP may produce different results depending on which percent complete value you select.

Add Notes

Notes let you record project-specific information for yourself or for other staff members. Use the Notes tab on the Project Properties, Task Properties, and the Resource Properties dialog boxes to record the information. You can view, add, edit, and remove notes. You can also change the notes categories, as well as see historical comments. Before adding a note, you can check it for spelling errors.

To add a note

1. From the Project Properties, Task Properties, or the Resource Properties dialog box, click the Notes tab.

   The Notes tab displays.

2. Do the following:

   a. Enter the note in the text box.

   b. Enter or select a category to which the note is associated from the Category drop-down.

      Note: If you add a new notes category, you must specify a global file location (see page 19) to make it available for future use.

   c. Click Add.

   The note appears as the last item in the History grid.

3. Click OK.

   The dialog box closes.

View a List of Notes

Use the Notes tab on the Project Properties, Task Properties, and Resource Properties dialog boxes to view a list of the notes that you have added to the project, task, or resource. The list of notes display in the History grid.

Edit Notes

Use the Notes tab on the Project Properties, Task Properties, and Resource Properties dialog boxes to edit notes.

To edit a note

1. From the Project Properties, Task Properties, or the Resource Properties dialog box, click the Notes tab.

   The Notes tab displays.

2. Select the note you want to modify from the History grid, do one of the following, and click Modify:

   - To change the content of the note, change the data in the text field, and click Modify.
   - To change the note's category, enter or choose a category from the Category drop-down.

   Your changes are saved.

3. Click OK.

   The dialog box closes.

Associate Notes to Note Categories

Use the Notes tab on the Project Properties, Task Properties, and Resource Properties dialog boxes to associate a project note to a note category. Use *Categories* to select and filter different groups and classes of tasks, notes, or resources in the view.

You can enter new categories to the Category drop-down or you can use the categories already listed. The categories listed are those you added as an Open Workbench general option (see page 13).

To associate a note to a note category

1. From the Project Properties, Task Properties, or the Resource Properties dialog box, click the Notes tab.

   The Notes tab displays.

2. Do one of the following:

   - Add a note (see page 116) in the text box.
   - Select a note in the History grid.

3. Enter or select a category to which the note is associated from the Category drop-down.

   Note: If you add a new notes category, you must specify a global file location (see page 19) to make it globally available for use.

4. Click Add.

   The note appears as the last item in the History grid.

5. Click OK.

   The dialog box closes.

Delete Notes

Use the Notes tab on the Project Properties, Task Properties, and Resource Properties dialog boxes to delete a note.

To delete a note

1. From the Project Properties, Task Properties, or the Resource Properties dialog box, click the Notes tab.

   The Notes tab displays.

2. Select the note you want to delete from the History grid and click Delete.

   The note is deleted from the History grid.

3. Click OK.

   The dialog box closes.

Edit Multiple Tasks

You can select more than one task or resource to edit properties as a group. This allows you to simultaneously apply common properties or change properties for a selected group of tasks, without having to open each task and edit properties.

Use the Task Properties - Multiple Selections dialog box to edit multiple tasks. To view this dialog box, from a view that displays the task detail pane, select the tasks you want to edit, right-click and select Modify.

The properties that are displayed on the tabs on the Task Properties - Multiple Selections dialog box are those that have the same entry or setting for all of the tasks you have selected. If a field is editable but the selected tasks do not have the same entry or setting, the field displays blank. When you enter values in blank fields, the values for that field changes for all of the selected tasks. Non-editable fields are disabled. Check boxes appear disabled and selected if the selected tasks have different settings.

The tabs and fields on this dialog box are the same as those on the Task Properties dialog box, except the changes you make apply to all of the selected tasks.

The following rules are applied when editing multiple tasks:

- You cannot insert new tasks from this dialog box.
- If any of the selected tasks are subproject tasks, you cannot change task properties.
- If you select detailed tasks and summary tasks together, those tabs not applicable to summary tasks—such as the Dependencies and Resources tabs—do not display.
- When entering a value in a field for which the value must be unique, the first selected task assumes the entered value, and subsequent tasks assume unique incremental numbers. For example, if you enter an ID of ENG while editing a group of three tasks, Task 1 is given ENG as its ID , Task 2 an ID of ENG-0, and Task 3 an ID of ENG-1.
- Some advanced properties are disabled because the value is not common to all selected tasks.

To select multiple tasks

1. In a view that displays the task detail pane, do one of the following:
   - To select a contiguous range of tasks, press the Shift key on your keyboard and click a range of tasks.
   - To select a noncontiguous range of tasks, press the Ctrl key on your keyboard and individually click tasks.

   The tasks are selected.
2. Right-click one of the tasks and select Modify from the shortcut menu.

   The General tab on the Task Properties - Multiple Selections dialog box opens.

Change Task Location in Project WBS

After you create a project task, you can change its position in a spreadsheet view that displays the task detail pane, such as the Gantt Chart view.

Note: If you move a task to an empty location that is within a sub-project or after the last line of a sub-project, the task becomes part of that sub-project.

To change the location of a task

1. Click the header button for the task you want to change location to select the task, and then click the selected row and hold the mouse button.

   The task is selected and is ready to be moved to its new location on the WBS.

2. Drag the task to a the new location in the view, and release the mouse button.

   The task is placed in its new location on the WBS.

Shift Tasks

You can manually change a task's schedule by dragging its Gantt bars to a new position. When you move Gantt bars, a pop-up window displays the new dates. The task's start and finish dates change to reflect its new position in the Gantt. Changes you make to start and finish dates automatically update the task's start and finish dates. To view this information, open the General tab on the Task Properties dialog box.

You can also shift task start and finish dates interactively on the Gantt chart in either of the following ways:

- You can shift start or finish dates, extending the task duration relative to the surrounding time frame.
- You can shift the entire task to a new position relative to the surrounding time frame, keeping the task duration intact.

When shifting tasks, keep the following in mind:

- Dependency relationships may impact your ability to change task start and finish dates, and their duration.
- You can shift only one task at a time.
- You cannot:
  - Shift tasks if you have selected the Freeze Gantt Bars check box in the Gantt dialog box.
  - Move completed tasks.
  - Set the start dates of tasks to begin after the start date of their resource assignments. A task's start date can only be before or on the assignment start date.
  - Set the finish date of tasks to end before the finish date of their resource assignments. A task's finish date can only be on or after the last assignment date.
  - Change the end date of a variable-duration task to a date later than the end date of the last end date of the assignments, regardless of the loading pattern. You can, however, change the end date on fixed-duration tasks.
  - Change the start and finish dates of variable-duration tasks that have resource assignments with ETC. Instead, you can move these tasks.
  - Change the start date of tasks that have actuals entered against them, unless the task is of a fixed duration and the start date is earlier than the earliest actuals entered.
  - Set task durations longer than the recalculated duration if the variable tasks have resource assignments with ETC. However, you can drag Gantt bars to new positions on the Gantt chart, changing task start and finish dates.

Delete Tasks

You can delete a task from your project manually in the view, such as the Gantt Chart view. To delete the task, right-click the task and select Delete Task from the shortcut menu.

Update Resource Data

If you are using Open Workbench with CA Clarity PPM, CA Clarity PPM controls all resource data. You can edit the data in Open Workbench, but when you save the changes back to CA Clarity PPM, only the Availability, From, and To data on the General tab of the Resource Properties dialog box are saved; any other property changes, such as calendar changes, are discarded. To make other changes, edit the resource's properties in CA Clarity PPM.

Use the Resource Properties dialog box to define resources and to update resource data. This dialog box is available when you use a view with resource-specific fields or when you use a view with a resource detail pane. The dialog box contains several tabs where you create or edit properties specific to a resource.

Define Resource or Role General Properties and Availability

Use the General tab on the Resource Properties dialog box to review or set basic resource or role attributes, such as the resource's tracking, billing, and availability data. When you define resource or role availability, it applies to all time periods except those explicitly specified to be different. If you assign usage to a resource which exceeds the resource's availability for a specific time period, the resource become over committed.

Note: Resource IDs are held in memory during a given Open Workbench session. For example, if you create or open a project with a resource with the ID of jdoe on project A, and create the same resource on project B, the ID for the resource on project B is jdoe-0. To avoid this, create the resource record in project A, then copy and paste it into project B.

To define a resource or role's general properties

1. From a view that displays the resource detail pane, right-click the resource and select Modify from the shortcut menu.

   The General tab on the Resource Properties dialog box opens.

2. Complete the following fields:

   Name

   Defines the name of the resource.

   Category

   Defines the resource category. Use categories for selecting and filtering different groups and classes of resources in the view.

   ID

   Defines the unique ID for the resource.

   Rate

   Defines the resource's billing rate applicable today. If the resource has a variable rate over time, enter the variable rate in a time scaled view.

   Note: If you are using Open Workbench with CA Clarity PPM, you can enter a zero billing rate.

   Default: 1.0

   Type

   Defines the resource's type.

   Default: Labor

   Values: Labor, Equipment, Material, or Expense.

3. In the Availability section of the page complete the following fields, and click OK:

   Availability

   Defines the resource's default availability in hours per day.

Note: If you are using Open Workbench with CA Clarity PPM, zero (0) availability is supported.

Default: The amount defined on the calendar, typically 8.0

Limits: > 0

From

Enter the first date the resource is available to work on projects.

To

Enter the last date the resource is available to work on projects.

The Resource Properties dialog box closes.

Edit Resource Periodic Availability

A resource's availability can vary during a project. Any resource that has scheduled holidays (other than weekends) or vacations has variable availability. You can change the availability for a resource for any given period by editing the resource calendar.

For example, a resource is available 8 hours per day for the first 20 days of a project, but for the next 10 days, the resource has a scheduled holiday. You can change a resource's periodic availability using the Availability field in a view, or by scheduling holidays in the resource's calendar.

Define Resource Advanced Properties

Use the Advanced tab in the Resource Properties dialog box to define a resource's advanced management details, such as defining, removing, or editing resource scheduling constraints. The Advanced tab provides a central location from which you can set or change resource-related values. All of the resource's attributes display on this tab.

This tab displays a Fields grid that contains two columns: the Field columns displays a list of all the advanced properties you can specify, and the Value column displays cells, where you can enter or select values for the field.

The field values you can enter depend on the field you have selected. You can:

- Select displayed check boxes.
- Enter numeric values, currency, or dates.
- Enter words or phrases.
- Choose options from drop-down lists.

Note: The fields that are available for editing are dependent on your access rights. If a field is not available for selection or editing, it is disabled (by default).

To define a resource's advanced properties

1. From a view that displays the resource detail pane, right-click a resource and select Modify from the shortcut menu.

   The General tab on the Resource Properties dialog box opens.

2. Click the Advanced tab.

   The resource's advanced properties display.

3. In the fields grid, click a cell in the Value column and enter a value for the field, and click OK.

   The resource's advanced properties are defined and the Resource Properties dialog box closes.

Define Resource Calendar

Use the Calendar tab on the Resource Properties dialog box to assign a resource's vacations, holidays, or other periods of non-availability. If you are using Open Workbench with CA Clarity PPM, use this calendar only to perform what-if scenarios.

Note: Set all days as either work days or holidays.

To define a resource's calendar data

1. From a view that displays the resource detail pane, right-click the resource and select Modify from the shortcut menu.

   The General tab on the Resource Properties dialog box opens.

2. Click the Calendar tab.

   The resource's calendar data display.

3. Select a calendar from the Based On pull-down.

   The resource calendar inherits this calendar's working days, holidays, and shift settings.

   Options: USA, United States, or United Kingdom

   Default: USA

4. Do one of the following:

   - To select a day, click the date.

     The selected day is highlighted.

   - To select a day of the week throughout all months and years of the calendar, click the header for the day of the week.

     All days for the selected day of the week are highlighted.

5. Do one of the following:

   - Click Workday to set the selected day to a work day.

     The resource is available according to its availability setting.

   - Click Holiday to set the selected day to a non work day.

     The resource is unavailable to work on the selected dates.

   - Click Reset to remove holiday and workday exceptions and return the selected day to the base calendar settings.

   - Click Reset All to remove all holiday and workday exceptions and return the calendar to its base calendar settings.

6. Click OK.

   The Resource Properties dialog box closes.

Add Notes

Notes let you record project-specific information for yourself or for other staff members. Use the Notes tab on the Project Properties, Task Properties, and the Resource Properties dialog boxes to record the information. You can view, add, edit, and remove notes. You can also change the notes categories, as well as see historical comments. Before adding a note, you can check it for spelling errors.

To add a note

1. From the Project Properties, Task Properties, or the Resource Properties dialog box, click the Notes tab.

   The Notes tab displays.

2. Do the following:

   a. Enter the note in the text box.

   b. Enter or select a category to which the note is associated from the Category drop-down.

      Note: If you add a new notes category, you must specify a global file location (see page 19) to make it available for future use.

   c. Click Add.

   The note appears as the last item in the History grid.

3. Click OK.

   The dialog box closes.

View a List of Notes

Use the Notes tab on the Project Properties, Task Properties, and Resource Properties dialog boxes to view a list of the notes that you have added to the project, task, or resource. The list of notes display in the History grid.

Edit Notes

Use the Notes tab on the Project Properties, Task Properties, and Resource Properties dialog boxes to edit notes.

To edit a note

1. From the Project Properties, Task Properties, or the Resource Properties dialog box, click the Notes tab.

   The Notes tab displays.

2. Select the note you want to modify from the History grid, do one of the following, and click Modify:

   - To change the content of the note, change the data in the text field, and click Modify.
   - To change the note's category, enter or choose a category from the Category drop-down.

   Your changes are saved.

3. Click OK.

   The dialog box closes.

Associate Notes to Note Categories

Use the Notes tab on the Project Properties, Task Properties, and Resource Properties dialog boxes to associate a project note to a note category. Use *Categories* to select and filter different groups and classes of tasks, notes, or resources in the view.

You can enter new categories to the Category drop-down or you can use the categories already listed. The categories listed are those you added as an Open Workbench general option (see page 13).

To associate a note to a note category

1. From the Project Properties, Task Properties, or the Resource Properties dialog box, click the Notes tab.

   The Notes tab displays.

2. Do one of the following:

   - Add a note (see page 116) in the text box.
   - Select a note in the History grid.

3. Enter or select a category to which the note is associated from the Category drop-down.

   Note: If you add a new notes category, you must specify a global file location (see page 19) to make it globally available for use.

4. Click Add.

   The note appears as the last item in the History grid.

5. Click OK.

   The dialog box closes.

Delete Notes

Use the Notes tab on the Project Properties, Task Properties, and Resource Properties dialog boxes to delete a note.

To delete a note

1. From the Project Properties, Task Properties, or the Resource Properties dialog box, click the Notes tab.

   The Notes tab displays.

2. Select the note you want to delete from the History grid and click Delete.

   The note is deleted from the History grid.

3. Click OK.

   The dialog box closes.

How to Enter Pending Estimates

A *pending estimate* is the pending state of ETC until a resource's project manager accepts or rejects the new value. You can edit the ETC, though you should only change it if you complete the assignment ahead of schedule or if you need more hours. Resources enter pending ETC on their CA Clarity PPM timesheet to reflect their completion of the task or to indicate the remaining ETC, and sends this information to the project manager by posting the timesheet. The project manager can accept or reject ETC using Open Workbench or using CA Clarity PPM.

Use the following process to enter pending estimates:

1. The resource creates a CA Clarity PPM timesheet.
2. The resource enters actuals (pending actuals) into their timesheet and edits ETC to pending ETC when appropriate.
3. The resource posts the timesheet.

   Note: See the *Common Features and Personal Options User Guide* for more information.

4. The project manager accepts (see page 162) or rejects (see page 163) the pending ETC.

   Note: See the *Project Management User Guide* for more information.

5. The project manager autoschedules the project (see page 83).

Display Pending Estimates Data in Views

To view pending estimates in a spreadsheet view, such as the Gantt Chart view, you must first create a new view that includes the fields that display pending estimate data.

Add the following fields to the task detail pane:

- Task Estimate to Complete
- Task Pending Estimates
- Task Pending Estimate Override?
- Task Pending Actuals
- Task Pending Actuals?

Accept Pending Estimates

Use the Pending Estimates dialog box to accept the pending estimates for the entire project, for the tasks displayed in a view, or for selected tasks. When you accept pending estimates, Open Workbench adds the pending estimates and the pending actuals amounts and saves this value as the resource's pending ETC in the pending estimate. Open Workbench also flags the pending estimate to change in the resource's CA Clarity PPM timesheet.

Note: The Pending Estimates command is disabled if you are viewing a read-only copy of a project or if the project does not include pending estimates. Pending estimates are not updated if you have not saved changes to the current pending estimates.

To accept pending estimates

1. To accept pending estimates for selected tasks only, open the project and select the tasks you want to accept estimates. Otherwise start with step 2.
2. Select Pending Estimates from the Schedule group in the Project ribbon.

   The Pending Estimates dialog box opens.
3. Define the scope for pending estimates by selecting project, view, or selected task(s), and select Accept Pending Estimates.
4. Click OK.

   The Pending Estimates dialog box closes.

Reject Pending Estimates

Use the Pending Estimates dialog box to reject the pending estimates for the entire project, for the tasks displayed in a view, or for selected tasks. When you reject pending estimates, Open Workbench removes the pending estimates and the pending actuals amounts. The resource's pending ETC remain the same.

To reject pending estimates

1. To reject pending estimates for selected tasks only, open the project and select the tasks you want to reject estimates. Otherwise start with step 2.
2. Select Pending Estimates from the Schedule group in the Project ribbon.

   Note: This selection is disabled if you are viewing a read-only copy of a project or if there are no pending estimates. Pending estimates are not updated if you have not saved changes to the current pending estimates.

   The Pending Estimates dialog box opens.
3. Define the scope for pending estimates by selecting project, view, or selected task(s), and select Reject Pending Estimates.

   The pending estimate is rejected.
4. Click OK.

   The Pending Estimates dialog box closes.

Remove Resource Actual Usage on Tasks

Use the following procedure to remove actuals for a specific resource assigned to a task. You can also use this procedure if you are using Open Workbench with CA Clarity PPM and the resource's track mode—the method of time capture—is set to none in CA Clarity PPM.

Note: See the *Resource Management User Guide* for more information.

You can remove actuals or you can convert any actual usage that has been recorded after the date back to ETC usage.

To remove a resource's actuals by converting them to ETC

1. Right-click a task in the view and click Assignments.

   The Resources tab on the Task Properties dialog box opens.

2. In the Assigned Resources grid, do one of the following:

   - Clear the Act Thru date to remove all actuals.
   - Change the Act Thru date to an earlier date to convert any actual usage that has been recorded after the date back to ETC usage.

3. Click OK.

   The Task Properties dialog box closes.

About Editing Multiple Resources

You can select more than one resource to edit properties as a group. Use the Multiple Selections dialog box to edit multiple resources. To view this dialog box, select the resources you want to edit from the resource detail pane, right-click and select Modify.

The following rules are applied when editing multiple resources:

- You cannot insert a new resource from the Multiple Selections dialog box.
- Values are displayed if all the selected resources have the same entry or setting for that field. If a field is editable and the selected resources do not have the same entry or setting, the fields appear empty. Non-editable fields are disabled.
- When changing fields for which the value must be unique, a series of entries is created. For example, if you assign an ID of 12345 to a group of three resources, the entries for each task are 12345, 12345-0, and 12345-1. The unique field appears empty after the field no longer has the same entry.
- If the selected resources have different settings, check boxes can appear disabled and selected.
- On the Advanced tab of the Multiple Selections dialog box, groups of options can appear shaded. You can select them to reset their attributes for all the selected resources.

Manage CA Clarity PPM Projects using Open Workbench

Refresh Project Data

If you are using Open Workbench with CA Clarity PPM, it is possible for other users to update information in CA Clarity PPM that affects the project you have open and locked in Open Workbench. To verify that you have the latest information, you can refresh certain types of information from your project open in Open Workbench with any updates made in CA Clarity PPM. You can refresh:

- Global information, such as calendar and guidelines URL. You do not need to have a project open in Open Workbench to refresh global information.

Project-specific information. To update all project data, you must have your project open in CA Clarity PPM in read/write mode. The options in the Options for [Project] section of the Update dialog box are unavailable if you open the project from CA Clarity PPM. Use the Update dialog box to determine what data you want to pull from CA Clarity PPM into your project in Open Workbench.

To refresh project information

1. Select Update from the Clarity group in the Project ribbon.

   The Update dialog box appears.

2. Select or clear the following check boxes:

   Calendars

   Specifies whether to refresh your project's current calendar with any changes made to the calendar in the CA Clarity PPM project.

   Note: Calendars are not specific to a resource.

   System Options

   Specifies whether to update your project's options, such as roles, and customized data mapping, with any changes made to the system options in CA Clarity PPM.

   Important! Selecting this option can change your working copy's default options.

3. Select or clear the following check boxes in the Options For [Project] section:

   Note: You must have the project open in read/write mode to select or clear check boxes in this section.

New Notes

Specifies whether to include only the task notes created since the project was opened or last refreshed in the update.

Example: Another user added a note to an unplanned task on their CA Clarity PPM timesheet while the project was locked in Open Workbench.

Resources

Refreshes all attributes for resources assigned to the project. Updates the project with revisions to resource data, such as updates to resource calendars. Assignment revisions, such as a change in the assignment estimate to complete (ETC), are not updated.

Status

Specifies whether to include changes to Actual Usage, Actual Thru, Pending Actuals, and Pending Estimates for assignments of the project in the update.

New Tasks and Assignments

Specifies whether to include new tasks and assignments that have been created since the project was opened or last refreshed in the update.

Team Members

Specifies whether to include changes to existing team members and bring in new team members that were added while you had the project locked in Open Workbench.

Example: Another user added a new team member or updated an existing team member allocation, start date, or finish date while the project was locked in Open Workbench.

4. Click OK.

The Update dialog box closes and the information you selected is refreshed in your local copy of the project.

About Resource Role Assignments

You can assign multiple roles to a resource in a single project. *Roles* are generic resources that represent the job responsibilities of the resources assigned to a project. A role defines the work function while a resource identifies the individual who performs that role. Examples of roles include project manager, programmer, and business analyst. The following types of resource roles are available:

- Primary. The default role assigned to a resource. You cannot save changes to the primary role back to CA Clarity PPM.
- Project-level. A role assigned to a resource for a specific project. Changes are saved back to CA Clarity PPM.
- Assignment-level. A role assigned to a resource for a specific task. Changes are saved back to CA Clarity PPM.

To view or edit the roles assigned to resources, you must edit the view in Open Workbench and add the Assignment Role field to the task detail pane. You can optionally add the Primary Role and Project Role fields to the resource detail pane.

Edit Resource Roles at the Project Level

Use the Advanced tab on the Resource Properties dialog box to edit the resource's role. You can also edit resource roles from the resource details pane if you have added the Primary Role and Project Role fields to the pane.

To edit a resource's role at the project level

1. From a view that displays the resource detail pane, right-click the name of the resource whose role you want to change and select Modify from the shortcut menu.

   The General tab on the Resource Properties dialog box opens.

2. Select the Advanced tab.

   The resource's advanced properties display.

3. Do one of the following:
   - To edit the resource's primary role, scroll to the Primary Role field.
   - To edit the resource's role on the project, scroll to the Project Role field.

Note: If you are using Open Workbench with CA Clarity PPM, the project roles that are listed are all the resource roles defined in CA CLARITY PPMCA Clarity PPMe from the drop-down, and click OK.

   The selected resource role is applied to the resource. The Resource Properties dialog box closes.

Edit Resource Roles at the Assignment Level

Important! Before you can edit resource roles from the task detail pane, make sure you have added the Assignment Role field to the pane.

To edit a resource's role at the assignment level, from a view that displays the task detail pane, in the resource row for which you want to change the role, select the role from the Assignment Role drop-down.

Note: All CA Clarity PPM roles display in the list.

Cost Rate and Currency Data

If you are using Open Workbench with CA Clarity PPM, cost rate and currency data is retrieved from the CA Clarity PPM rate matrix (see page 171).

Cost Rates

Cost rates (also known as billing rates) determine the cost associated with a resource assigned to a task in a project. The cost rates shown in Open Workbench are retrieved from the Actual Cost field in the CA Clarity PPM rate matrix when you open the project. These costs are generally shown over time by task and at the project level.

Open Workbench supports time-varying and project-specific cost rates. The changes you make from Open Workbench to the cost rates are for what-if purposes only and cannot be saved to CA Clarity PPM.

Note: You cannot enter a zero (0) billing rate in Open Workbench. If you encounter a zero billing rate for a resource on your project, make sure that you have defined a row for the resource on the CA Clarity PPM Rate Matrix and run the *Rate Matrix Extraction* job.

Currencies

Monetary values in Open Workbench are displayed in the home currency you set in the project. Monetary values of a project include actual, estimated, and baseline amounts for expense resource assignments, project budgets, custom field values, and resource cost rates. No conversion is required for expense resource assignments, project budgets, or custom fields values. Open Workbench converts resource rates since the home currency of the resource may not be the same as the home currency of the project.

Open Workbench uses a single, session-wide currency. If the Actual Cost field in the CA Clarity PPM Rate Matrix (see page 171) contains multiple currencies, they are converted to the currency specified in the project. If you have specified a global file location, the session currency is used when Open Workbench is started. If you have not specified a global file location, Open Workbench uses the 3-character ISO code of the home currency set in the project.

If you have not set the conversion between the resource's rate and the project's home currency in CA Clarity PPM, the conversion may fail. A message appears letting you know that the system was unable to convert the resource's cost rate to the source currency of the target currency. When different currencies are loaded in Open Workbench, a message appears if the project loaded does not use the system currency. You can set Open Workbench to show messages when loading projects with different currencies.

Note: Contact your administrator or see the CA Clarity PPM *Administration Guide* for more information.

About the CA Clarity PPM Rate Matrix

If you are using Open Workbench with CA Clarity PPM, cost and rate matrices are used in CA Clarity PPM to determine costs and billing or charge rates during financial processing. You can create cost and rate matrices for labor, materials, equipment, and expense resource types.

The cost/rate matrix is composed of columns that you can assign to identify the criteria used to match the billing rates and costs to transactions. You can establish default matrices at the system level, entity level, and the investment level. During financial processing matrices determine cost and rates of transactions. CA Clarity PPM looks for and applies matrices first at the investment level, then at the entity-level, and lastly at the system level. You can set default rate locations at either the entity-level or system level.

You must financially enable any resource that is involved with financial transactions. When a resource is financially enabled, that resource can be linked to CA Clarity PPM rate matrix. You must also financially enable your project in order to process financial transactions on them.

Note: See the *Resource Management User Guide* for more information.

About the CA Clarity PPM Rate Matrix Extraction Job

The CA Clarity PPM Rate Matrix Extraction job extracts rate matrix information and is run in CA Clarity PPM. You can run this job each time the rate matrix has changed, when the financial properties of a project have changed, or when resources have been added to an investment.

You can set this job to generate resource rates and costs for a project that includes rates for the time spanning the project's start and finish date or for a wider range that includes the time prior to the project start and after the project finish dates. The parameter is Extract Cost and Rate Information. When selected, a wider range of rates and costs are generated, and allows Open Workbench to have access to valid rates outside the project's start and finish date.

You can set this job to refresh the rate matrix with the most recent rate information and avoid inaccessibility to the rate matrix which can lead to resources having a rate of zero. The parameters are Prepare Rate Matrix Data and Update Rate Matrix Data. When selected, the Prepare Rate Matrix Data updates a copy of the rate matrix with the most recent rate information. When selected, the Update Rate Matrix Data copies the contents of the rate matrix copy to the rate matrix.

Note: See the *Administration Guide* for more information.

Display Resource Billing Rates in Views

You can view resource billing rates in a view. If you want to view this information in a view, you must first create new view and add the Billing Rate field to the view. This field displays resource billing rate data.

Vary Resource Billing Rates

You can vary a resource's billing rate to more accurately show the total cost a resource has on your project. For example, you may want to show a varying billing rate if a resource gets a pay raise mid-project. You can update a resource's billing rate using:

- CA Clarity PPM (If you are using Open Workbench with CA Clarity PPM).
- Open Workbench for performing what-if scenarios on your project.

  You can save the changes you make to the resource's billing rate to an Open Workbench .rmp project file but you cannot save these changes back to CA Clarity PPM.

Example

Suppose that a resource's billing rate is based on the following rate matrices:

- 2006 Rate Matrix. $50 billing rate for all resources and roles from January 2006 to December 2006.
- 2007 Rate Matrix. $55 billing rate for all resources and roles from January 2007 to December 2007.
- Network Administrator Rate Matrix. $65 billing rate for resources who are network administrators from January 10, 2006 to January 28, 2006.

To vary a resource's billing rate, in a view that displays resource billing rate data, double-click the resource's Billing Rate cell and enter the new rate. To change altered billing rates back to a single rate for a resource, open the General tab on the Resource Properties dialog box and edit the rate.

Note: See the *Project Management User Guide* for more information.

About Multiple Baselines

If you are using Open Workbench with CA Clarity PPM, you can create multiple baselines to track the progress of your projects from:

- CA Clarity PPM.

  Note: The project must be unlocked to create a new baseline.

- Open Workbench.

Baseline data is stored at the summary-task and project level. Cost data is stored with the baseline. If you make subsequent changes to rates, they do not retroactively modify baseline costs.

If you are using Open Workbench with CA Clarity PPM and you rebaseline the master project, only the data you enter directly in the master project is captured and not the data you enter in the subprojects.

From Open Workbench you can:

- Set a baseline to save a range of tasks, all tasks in a view, or all tasks in a project to a baseline.
- Create multiple baselines to maintain historical versions.
- View or edit project baseline properties.

To save a baseline in CA Clarity PPM, you must have the access rights to modify baselines for the project.

Note: See the *Project Management User Guide* for more information.

How to Save Projects back to CA Clarity PPM

If you are using Open Workbench with CA Clarity PPM, you can save projects to CA Clarity PPM using CA Clarity PPM Schedule Connect. You can:

- Save an existing project to CA Clarity PPM (see page 174).
- Save a new project created in Open Workbench back to CA Clarity PPM (see page 175).
- Save a copy of an existing project as a new project (see page 177).

When you save a project updated in Open Workbench back to CA Clarity PPM:

- The saved project in CA Clarity PPM reflects updated schedules. The save process does not modify other project information, such as collaboration or financial information.
- The project remains open yet still locked in Open Workbench which allows you to continue updating the project if necessary. You must explicitly close the project to unlock it.

Important! If you save a CA Clarity PPM project as an Open Workbench .rmp project file while the Retain Locks check box is selected and continue to edit it, and then save the project file again, a message appears letting you know that you are saving a non-working copy. If you continue, you will be unable to save the project back to CA Clarity PPM as the original copy. You can only save a copy of the project as a new project with its own unique project ID.

Save Existing Projects back to CA Clarity PPM

If you are using Open Workbench with CA Clarity PPM, you can save an existing project back to CA Clarity PPM. To do this, you must have edit rights and you must have a lock on the project.

When you save an existing project back to CA Clarity PPM:

- And the project is locked, the project is saved but remains open in the view and locked.
- And the project is unlocked, a message appears letting you know you cannot save a read-only project.
- Once you save an existing project back to CA Clarity PPM, you can save the project as a new project.

To save an existing project back to CA Clarity PPM

1. Select Save from the application menu at the top left corner of the window.

   The project is saved to CA Clarity PPM but remains open and locked.

2. Click Save As.

   The Save As dialog box appears.

Save New Projects to CA Clarity PPM

If you are using Open Workbench with CA Clarity PPM, you can create a new Open Workbench .rmp project file and then save it to CA Clarity PPM if:

- You have the access rights to create projects in CA Clarity PPM.
- The resources or charge codes referenced in the project exist in CA Clarity PPM.

When you save the project to CA Clarity PPM, the following occurs automatically:

- You become the project manager in CA Clarity PPM with access rights to view and edit the project.
- The project is locked in CA Clarity PPM with your user name.

Note: If you save an Open Workbench file as a CA Clarity PPM project record, then its External ID is the default ID you entered in the Project field in CA Clarity PPM. If it matches an existing project record's External ID, you cannot save the project to CA Clarity PPM. You can save a project over an existing project if you save the project using an existing CA Clarity PPM project ID. If you save over an existing project, the new project information replaces the existing project information.

To save a new project to CA Clarity PPM

1. Select Save As from the application menu at the top left corner of the window.

   The Save As dialog box appears with a list of projects that you have rights to view or edit.

   CA Clarity PPM Host

   Displays the CA Clarity PPM server that Open Workbench is currently connected to when opening projects from CA Clarity PPM.

    Click to see a list of available project names.

    (Default view) Click to see a detailed list of available projects.

    Click to open Open Workbench .rmp project files or XML files from your computer or network.

    Click to save the project to CA Clarity PPM and to display available projects from CA Clarity PPM.

   Save in

   Displays the current folder when saving Open Workbench .rmp project files or XML files to your computer or network.

   You can filter the list by using the wildcard (*).

2. In the Project or File Name field, enter any set of characters in any case.

   Example

   If you enter a*, only projects starting with the letter a or A are displayed.

   (For the CA Clarity PPM project detail view only)

   You can sort the list by clicking column headings. Columns displayed include:

   - Project ID. The unique project ID for the project.
   - Name. Defines the name of the project.
   - Locked By. The user name of a resource who is currently editing the project.
   - Manager. The user name identified in CA Clarity PPM as the project manager for the project.

   Project

   Displays the project ID when saving the project to CA Clarity PPM. If the project ID is unique in CA Clarity PPM, a new project is saved to CA Clarity PPM. If the project ID exists in CA Clarity PPM, a confirmation message appears letting you know the ID already exists. Click Yes to replace the existing project with the new project information.

   File Name

   Displays the file name when saving Open Workbench .rmp project files or XML files to your computer or network. Enter the Open Workbench project name or enter the XML file name (.XML).

   Save as type

   Defines the type of file you want to save the project.

   Values:

   - Workbench files (*.rmp). Saves the project to your computer or network as an Open Workbench .rmp project file.
   - CA Clarity PPM Projects. Saves the project to CA Clarity PPM.
   - XML Files (*.xml). Saves the project to you computer or network as an XML file.

   Retain Lock

   Specifies whether or not to hold the lock or unlock the project when saving it to your computer or network.

   Note: This check box is displayed when you choose Open Workbench or XML from the Save Type As drop-down.

3. Click Save.

   The project is saved to CA Clarity PPM.

Save Copies of Projects as New Projects in CA Clarity PPM

If you are using Open Workbench with CA Clarity PPM, you can save a copy of an existing CA Clarity PPM project as a new project in CA Clarity PPM using Open Workbench. When you save a copy as a new project, all project information is copied to the new project. Both projects exist independently of each other. No file sharing occurs.

To save a copy of a project as a new project in CA Clarity PPM

1. Log on to CA Clarity PPM, and open the project in Open Workbench.

   The project opens in Open Workbench.

2. Select Save As from the application menu at the top left corner of the window.

   The Save As dialog box appears.

3. Enter a new, unique CA Clarity PPM project ID, and click Save.

   A message appears asking if you want to unlock the original copy in CA Clarity PPM and remove the working copy from your computer or network.

4. Do one of the following:

   - Click Yes to unlock original and remove the working copy.
   - Click No to hold the lock on the original without removing the working copy.

   A copy of the project is saved. The project is locked and open in Open Workbench.

   Note: See the *Project Management User Guide* for more information.

About CA Clarity PPM Project Locks

If you are using Open Workbench with CA Clarity PPM and you open a project from CA Clarity PPM in Open Workbench, you can choose to open it in read-only or in read/write mode.

When you open a project in:

- Read-only mode, a lock is not placed on the project. When you do not lock a project, other users can edit the project locally, but cannot save changes to CA Clarity PPM.
- Read/write mode, a lock is placed on the project. Project locks prevent others from updating the project and potentially overriding any changes while you are making changes to the project.

When the project is locked:

- You hold the lock until you close the project. You can update and save the project, and continue updating the project without losing the lock. When you hold the lock, you can update the project locally for extended periods of time. You can also share updated project information with other users as you continue to make changes.
- Other users can open the project in read-only mode. Users can make changes locally, but they cannot save the changes to the project in CA Clarity PPM. If users make changes, they can save the project as a new project. If users try to save a project they have open in read-only mode, a message appears notifying them that they cannot save the project but that they can save the file as a new project.

Note: See the *Project Management User Guide* for more information.

Close Projects and Hold the Lock

If you are using Open Workbench with CA Clarity PPM, you can hold a lock when saving a project by saving it as a new project. You can also hold a lock by closing the project without saving it to CA Clarity PPM, and saving it locally as an Open Workbench file.

You can close the project and hold the lock using the Save As dialog box. The name of the CA Clarity PPM server that hosts the project displays in the *CA Clarity PPM Host* field.

To close the project and hold the lock

1. With the project open in Open Workbench, select Save As from the application menu at the top left corner of the window.

   The Save As dialog box opens.

2. Complete the following fields, and click Save:

   Save as type

   Defines the type of file you want to save the project.

   Values:

   - Workbench files (*.rmp). Saves the project to your computer or network as an Open Workbench .rmp project file.
   - CA Clarity PPM Projects. Saves the project to CA Clarity PPM.
   - XML Files (*.xml). Saves the project to you computer or network as an XML file.

   Select Workbench Files (*.rmp).

   Retain Lock

   Specifies whether or not to hold the lock or unlock the project when saving it to your computer or network.

   Note: This check box is displayed when you choose Open Workbench or XML from the Save Type As drop-down.

   Select this box.

   The Save As dialog box closes.

3. Select File, Close.

   The project closes without saving changes to CA Clarity PPM.

Close and Unlock CA Clarity PPM Projects using Open Workbench

If you are using Open Workbench with CA Clarity PPM and you open a project in read/write mode from CA Clarity PPM, a lock is placed on the project. You can unlock the project so that it can be edited by others by saving the project back to CA Clarity PPM and then closing it in Open Workbench without saving the project file to your computer or network.

In general, projects are unlocked when you close them in Open Workbench, including when you exit Open Workbench with projects still open in CA Clarity PPM. If you have CA Clarity PPM administrator access rights, you can also unlock projects from CA Clarity PPM.

Note: See the *Project Management User Guide* for more information.

Unlock and Open Projects from CA Clarity PPM

If you are using Open Workbench with CA Clarity PPM, you can unlock and open a project directly from CA Clarity PPM. You can unlock the project locks to which you hold, and with administrator access rights, you can drop another user's lock. When the user whose lock you drop tries to save the project back to CA Clarity PPM, a message appears letting the user know the project is not locked.

Note: See the *Project Management User Guide* for more information.

About Printing Project Data

Some dialog boxes provide you with direct access to printing project information. When you click Print in a dialog box, the Print dialog box appears. Use this dialog box to specify printing options and to print the contents of the dialog box.

Select Printer and Print Layout Options

The Print Setup dialog box is a standard Windows dialog box where you can select a printer and print layout options. The printers listed in this dialog box are those installed from either Windows Setup or the Windows Control Panel.

Use the Print Setup dialog box to view the details of a selected printer. You can view:

- Status. Displays the status of the selected printer, such as Ready, Offline, or In Use.
- Type. Displays the type of printer selected.
- Where. Displays where the printer is located on the network.
- Comment. Displays additional information about the selected printer, such as physical location or type information.

To select printer and print layout options

1. Select Print Setup from the Print section in the application menu at the top left corner of the window.

   The Print Setup dialog box opens.

2. In the Printer section of the page, specify the name of the Windows printer in the Name field.
3. To specify options for the selected printer, click Properties.

   The Windows Printer Document Properties dialog box opens.

   Note: The options available vary depending on the printer you have selected.

4. In the Paper section of the page, complete the following fields:

   Size

   Select the paper size, such as Letter or A4.

   Source

   Select the source (such as a paper tray) in the printer.

5. In the Orientation section of the page, complete the following fields:

   Portrait

   Select to have the document oriented 8 ½ " wide by 11" tall.

   Landscape

   Select to have the document oriented 11" wide by 8 ½ " tall.

6. To connect to a network printer, click Network.

   The Windows Connect to Printer dialog box opens.

7. Click OK.

   Your print selection is printed.

Prepare Pages for Printing

Use the Page Setup dialog box to prepare pages when you want to print views.

To prepare the view's pages for printing

1. Select Page Setup from the Print section in the application menu at the top left corner of the window.

   The Page Setup dialog box

2. In the Margins section, complete the following fields:

   Left

   Indicates the number for the distance the print should appear from the left edge of the paper. The default setting is 1 inch (2.5 centimeters).

   Right

   Indicates the number for the distance the print should appear from the right edge of the paper. The default setting is 1 inch (2.5 centimeters).

   Top

   Indicates a number for the distance the print should appear from the top edge of the paper. The default setting is 1.5 inches (3.75 centimeters).

   Bottom

   Indicates a number for the distance the print should appear from the bottom edge of the paper. The default setting is 1.5 inches (3.75 centimeters).

   Note: The margins may not be exact. Laser printers cannot print to the edge of the paper, so a margin set to zero will start at 0.25”. This unprintable area varies depending on the printer.

3. In the Page Order section, select the following options:

   Rows First, then Columns

   Prints the rows first and then the columns when multiple pages are required to print the entire view.

   Columns First, then Rows

   Prints the columns first and then the rows when multiple pages are required to print the entire view.

4. In the Center on Page section, select the following options:

   Vertical

   Specifies whether to center the text top-to-bottom on the printed page.

   Horizontal

   Specifies whether to center the text side-to-side on the printed page.

5. Click Save Settings as Default.

The selected settings are saved as the default settings.

Preview Project in a View Before Printing

You can see how your project will print before you print it. To preview the project, open the project and select Print Preview from the Print section in the application menu at the top left corner of the window. This option is unavailable when you are printing from a dialog box.

You can do the following when the project is in print preview mode:

- To send print the project, click Print.
- To see the next page, click Next Page.
- To see the previous page, click Prev Page.
- To see two pages display side by side, click Two Page.
- To look more closely at an area of the print preview, click Zoom In.
- To get an overview of the print preview page, click Zoom Out.
- To close the print preview without printing, click Close.

Print Projects from Views

You can print a project to which a view is applied. Use the Print dialog box to print one or more copies of a project data from a view and to select special printer settings.

You can print from spreadsheet and CPM network views. Set print margins to at least 0.75". When you print views with top and bottom print margins set very small (less than 0.75" in the Page Setup dialog box), view data may overwrite the headers and footers.

To print project from Views

1. Select Print from the application menu at the top left corner of the window.

   The Print dialog box opens.

2. In the Printer section of the page, complete the following fields:

   Note: The fields that display depend on the printer you have selected.

   Name

   Defines the name of the printer.

   Print to file

   Specifies whether to print to file.

   Note: This option is unavailable when printing graphical views such as the Gantt Chart or CPM views.

3. In the Print Range section of the page, complete the following fields:

   All

   Defines whether you want to print the entire view.

   Default: Selected

   Pages

   Specifies whether you want to enter a range of pages to print. Define the start and end pages in the From and To boxes to print a range of pages.

4. In the Copies section of the page, complete the following fields:

   Number of Copies

   Defines the number of copies you want to print.

   Collate

   When printing more than one copy of a document with more than one page, defines whether to print each document set in page order.

5. Click OK.

   The print job is sent to the printer and the Print dialog box closes.

Chapter 5: Track and Analyze Projects

This section contains the following topics:

Tracking and Analysis Overview

Tracking is the process for measuring project status and comparing it to the project plan to identify variances and take corrective actions. This process is repeated over the course of a project, allowing you to control and monitor project progress and cost. You can also use tracking information to generate project status reports. Tracking consists of reviewing information on actuals, such as the actual start and finish dates, the actual duration of tasks, the actual time worked by resources, and the actual cost of the project. Tracking also provides information about tasks in progress and those that have been completed.

To ensure efficient monitoring of a project, make the lowest level of the Work Breakdown Structure (WBS) represent small amounts of work. Use milestones to indicate significant events and mark progress. To closely monitor a project, you must be able to spot problems and trends that develop during the project's life cycle in time to do something about them. Periodic evaluations of your project data can help you pinpoint problems as they arise, letting you initiate the necessary corrective actions to bring the project back on target. In instances where the word “analysis” is used, it signifies the review, examination, investigation, and evaluation of project data to:

- Identify deviations
- Determine causes of deviations
- Determine the importance of deviations
- Decide on corrective actions

Deviations are differences between expectations and actuality, including variances traditionally used by project managers to compare planned and actual performance. Open Workbench incorporates a number of field names that you can use in views to produce the analysis project managers need to track work performance, spot trouble areas, and account for cost and schedule variances.

The list of field names in the View Definition dialog box contains many calculated variance elements and performance indices, and several field names that you can use in an analysis to signal potential trouble (for example, “Critically Late?”). Use these fields in views to directly identify tasks with deviations.

How to Track Projects

Because projects vary in size and complexity, no single tracking method is appropriate for all projects. Open Workbench uses several methods to track the progress of a project. In designing a tracking system for your project, you should determine which tracking method is best suited to your needs.

The tracking methods you use depend on the size and complexity of the project. You can apply the method you choose to individual projects and those that have master project and sub-project relationships. Following are several methods you use to track projects in Open Workbench.

You can:

- Track total actual usage (see page 186)
- Track periodic actual usage (see page 187)
- Track task status (see page 187)
- Track baseline status

Track Projects by Total Actual Usage

Use the total actual usage tracking method to track projects based on actuals, pending actuals, and estimate to complete (ETC) entered in Open Workbench for each resource assigned to a task.

If you are using Open Workbench with CA Clarity PPM, as resources enter hours on their CA Clarity PPM timesheets, you can view pending actual hours in the Open Workbench project plan.

Track Projects by Periodic Actual Usage

Use the periodic actual usage tracking method to periodically enter resource actuals in tabulated views as well as ETC usage for each resource assigned to a task.

Periodic recording of resource usage for every task to which a resource is assigned is the most comprehensive and accurate way to keep track of your project. The actual usage is the timesheet recording method where the actual time each resource spends on a tasks is recorded at the end of a specific time period.

You can use the Gantt Chart view to track resource usage for all tasks to which a single resource is assigned. Use this view to track usage data for one resource across an entire project or group. When you use this view in conjunction with the Quick Filter by Resource drop-down, you can display data for one resource at a time.

Note: When tracking periodic actual usage, it is helpful to select the Resource LOA option on the Description tab of the View Definition dialog box.

Track Projects by Task Status

Use the task status tracking method to monitor the status of tasks ("Started", "Not Started", or "Completed"), to change the start and finish dates, and to enter the percent complete values. You can set the task status on the General tab of the Task Properties dialog box.

Tracking a project's task status is the easiest way for you to track a project, requiring only that you establish a periodic review cycle to update your project plan. For small to medium sized projects, it may be enough for you to record only task status information. When you start a task, the status of "Started" is recorded in the Status drop-down list on the General tab of the Task Properties dialog box, or in any view which includes status data. When a task is completed, you must change its status to "Completed".

Additionally, when you Autoschedule a project, tasks that have a status of "Started" or "Completed" are unaffected by changes you make to the autoschedule start date.

How to Track Resources

Open Workbench uses several methods to track the progress of a resource. Following are several methods you can use to track resources using Open Workbench.

You can:

- Track total actual usage (see page 188)
- Track periodic actual usage (see page 188)
- Track resource actual cost (see page 188)

Track Resources by Total Actual Usage

You can record periodic actual usage using the Resources tab on the Task Properties dialog box or by editing a view that displays the Actual field name.

To record total actual usage in a view

1. From a view that displays the task detail pane, select a task and click in the cell displaying total actual usage.
2. Enter the total actual usage for each applicable cell on the timescale.

Track Resources by Periodic Actual Usage

Periodic recording of resource usage for every task to which a resource is assigned is the most comprehensive and accurate way to keep track of your project. Resources record actual usage by completing CA Clarity PPM timesheets where the actual time each resource spends on a tasks is recorded at the end of a specific time period.

You can use the Gantt Chart view to track resource usage for all tasks to which a single resource is assigned. Use this view to track usage data for one resource across an entire project or group. When you use this view in conjunction with the Quick Filter by Resource drop-down, you can display data for one resource at a time.

Actual Cost of Resource Task Assignments

You can display the total actual cost data for resource task assignments in views. You must first add the Actual Cost field to your view layout. In the view definition, this field is available in the Assignment To Tasks and All subfolders of the Resource Information folder. You can format the Actual Cost field to display a single value or multiple time-scaled values.

The actual cost of a task assignment is used to determine the Actual Cost of Work Performed (ACWP) for a task, and is used to baseline costs for tasks and task assignments.

If you are using Open Workbench with CA Clarity PPM, the actual cost of a task assignment in Open Workbench is the total actual cost of the task assignment from CA Clarity PPM. This value is based on the actual work units posted against a resource assignment using Timesheets, financial transactions, external schedulers, or XOG.

When building what-if scenarios using Actual Usage, the Actual Cost is calculated using the resource rate instead of actual work units. The following formula is used:

```
Actual Cost = Actual Usage * resource rate
```

Analyze Projects

You can examine all or any part of your project at whatever level of detail you need using Open Workbench. The analysis you may want to perform on a periodic basis includes:

- Situational: Getting the project summary.
- Problem Solving: Determining what has gone wrong with the project and why.
- Potential Problem Spotting: Determining what might happen if you make a particular change.

How to Determine When and What to Analyze

Project analysis minimizes or eliminates surprises by providing early warnings of trends and situations in a project. In a sense, periodic evaluations of your project serve as checks of your project's health. The frequency and extent of your analysis is up to you. Analyze too frequently, and you quickly find you have little time for anything else. Analyze too infrequently, and problems may not be noticed early enough to avoid an impact on the overall project success.

Project analysis is a means of answering business questions regarding the project. The following questions serve as a guideline for producing useful project health checks:

- Have you defined enough information for each task?

  Ask this question during initial project planning. Use the Gantt Chart view to perform the analysis.

- Who are the key resources?

  Ask this question while scheduling (or rescheduling). Use the Resource Assignment view to perform the analysis.

- On which tasks are these resources working?

  Ask this question while scheduling (or rescheduling). Use the Resource Assignment view to perform the analysis.

- Is everything on schedule?

  Ask this question periodically during the project life cycle. Use the Variance Analysis view to perform the analysis.

- How did actual effort compare with the project plan?

  Ask this question periodically throughout the project and when the project is finished. Use the Variance Analysis view to perform the analysis.

Validate Project Plan Data

Before you analyze project plan data, make sure that its quality is reliable. The data is valid when you have determined that it is complete, up to date, and consistent. You can solve problems with the data by entering corrections directly in views.

Determine the Completion of Plan Data

How you intend to use your project plan data determines how complete the data needs to be. If you want to use the plan to track and control the project, you need more detailed data than if you are simply sketching out a high-level proposal.

For project plan data to be complete:

- All tasks should have assigned resources (see page 57).
- All task dependencies should be defined (see page 130).
- All tasks should have nonzero estimates (see page 127).

Determine the Accuracy of Plan Data

For accurate analysis, all of the plan data undergoing analysis should be correct and complete up to the same date. This means that:

- All tasks set to start or finish before the reference date have been tracked correctly.
- Actuals have been entered for all resources up to the reference date.

Note: See the *Common Features and Personal Options User Guide* for more information.

Determine the Consistency of Plan Data

To be consistent, project plan data should not contain:

- Dependency violations
- Overcommitted resources

Analyze Projects with Earned Value Variances

The deviations between planned and actual performance in a project can be described mathematically as variances. In general, there are two types of variances to watch for: cost variances and schedule variances. Both variances can help you discern the differences between the baseline plan estimates and the actual project performance, and are expressed as actual values.

Open Workbench uses the cost and schedule variances to calculate performance and percent complete indices. These indices provide you with a useful indication of the extent to which your project is ahead or behind cost or schedule. It is important that you review these variances and indices throughout a project's lifetime to monitor ongoing performance and pinpoint problem areas.

Open Workbench includes fields containing the fundamental calculations used for earned value analysis. These fields are available as discrete items for reporting purposes and you can add them to any view. These fields are used primarily as variables by other calculated fields to produce variance values.

Earned value calculates the following values for every scheduled activity:

Budgeted Cost of Work Scheduled (BCWS)

The budgeted amount to be spent on the project in a given period of time.

Actual Cost of Work Performed (ACWP)

The total direct and indirect cost incurred in performing work during a given period of time.

Budgeted Cost of Work Performed (BCWP)

The percentage of the total budget equal to the percentage of the actual work performed.

These values are used together to determine if work is being performed as planned. The most frequently employed measures are:

- Cost Variance (CV), where CV is equal to BCWP minus ACWP.
- Schedule Variance (SV), where SV is equal to BCWP minus BCWS

Cost Performance Index (CPI), where CPI is equal to BCWP divided by ACWP.

Data Required for Earned Value Analysis

To perform optimal earned value analysis, you must enter valid project data. Certain variance formulas compare current data against baseline data. You can add EVA fields to a spreadsheet view to ensure the accuracy of the data. Use the View Definition dialog box to add EVA fields and columns to a view. You can add the Assignment Actuals field to the spreadsheet view to define a resource's actuals.

Note: Open Workbench can only compute these variances if you have set a baseline of task data.

Enter the following earned value data in your project:

- Project's as-of date
- Resource's actuals

  Note: If you are using Open Workbench with CA Clarity PPM, record the resource's actuals in CA Clarity PPM.
- Resource's ETC
- Resource's billing rate

  Note: If you are using Open Workbench with CA Clarity PPM, define the resource's billing rate in the rate matrix.
- Task's percent complete

Variance Analysis Indices

Use the variance analysis fields to calculate the deviations between actual and planned performance. These fields automatically compare current plan data against the baseline to quantify cost and schedule variations. Examples of variance analysis fields include Schedule Variance (SV), Cost Variance (CV), and Variance at Completion (VAC).

To view this data, you must first add the fields to a view.

Performance Indices

Variance analysis fields are also used to calculate a range of indices that provide a useful guide to evaluating project and resource performance. Examples of performance index fields are Schedule Performance Index (SPI), Cost Performance Index (CPI), and Schedule Variance Index (SVI).

To view this data, you must first add the fields to the view.

Percent Complete Indices

Use the % Complete Calculation Method field (on the Description tab of the Project Properties dialog box) to specify how Open Workbench computes the percent complete value. Earned value data is used against the Budget at Completion (BAC) to calculate the percent complete indices.

The percent complete value is used in earned value calculations such as the following:

- Budgeted Cost of Work Performed (BCWP)
- Cost Variance (CV)
- Cost Variance Index (CVI)
- Schedule Variance (SV)
- Schedule Variance Index (SVI)
- Schedule Variance Performed (SVP)
- Cost Performance Index (CPI)
- Budgeted Cost of Work Scheduled (BCWS)
- Actual Cost of Work Performed (ACWP) as a percent of the baseline budget

Periodic reviews of these measures can help you uncover trends over time as your project progresses. Examples of percent complete index fields include Perform % Complete, Schedule % Complete, and Actual % Spent.

To view this data, first add the field to a view.

About Analyzing Projects with Current Baseline

When you have multiple baselines, you can analyze project data by altering which baseline is the current baseline. You can display the current baseline in a Gantt chart view against the current status of the project.

Chapter 6: Manage Filters and Sorts

This section contains the following topics:

Create and Edit Filter Files

When you create a new filter, you can save it to the Open Workbench Library as an .rwf filter file and apply it later to any view. Use the Filter Definition dialog box to create or edit filters that are part of and apply to a single view (not saved as .rwf filter files). To view this dialog box, select View, Compose, Filter.

Note: You can also access the Filter Definition dialog box from the Libraries dialog box.

To create or edit a filter file

1. Select New from the View group in the Project ribbon, or press F3, or right-click the view headings in the main window and choose modify, or select Manage Library from the View group in the Project ribbon, select a view and press Edit.

   The Filter Definition dialog box opens.

2. Enter a name for the filter you are creating or editing in the Name field.
3. In the list of field names, click item icons to display field names associated with the current view. Drag field names to the Field column to create or edit a filter.
4. Complete the following in the Filter grid, and click Save:

   Field

   Drag a field name to this column.

   Value

   Select or enter the defining criteria.

   Compare

   Select appropriate relationships such as Equal or Greater.

And/Or

Select And or Or to add another row to the filter.

Note: The data type of the value must correspond to the field name. For example, if the field name is numeric, the value must also be numeric. You can use wildcard characters (* for any number of characters or ? for single characters) to search for substrings within field names.

The Filter Definition dialog box closes and the Save Filter Definition dialog box opens.

5. To save the filter as a new filter, complete the following fields, and click Save:

Save in

Defines the folder or subfolder.

Files list

Defines the name of the file to which the existing file will be overwritten.

File name

Defines the file name.

Save as type

Specifies the default file type.

Note: You must use the default extension to add the filter or sort to a library file.

Library Group

Defines the filter file's library group from which you will access the filter.

Values: Favorites, Planning, Executing, Controlling, Filters & Sorts, or other group names.

A confirmation dialog box appears if you are saving an edited filter.

Create New Filters from Existing Filter Files

If the filter you are modifying is not part of a view definition, you can save it as a new filter file. Use the following procedure to create a filter based on an existing filter.

To create a new filter file from one that exists

1. Open and edit the filter, and click Save.

   The Save Filter Definition dialog box appears.

2. Save the filter (see page 195) as a new filter file with a different name.

Create and Edit Sort Files

When you create a new sort, you can save it to the Open Workbench Library as an .rws sort file and apply it later to any view. Use the Sort Definition dialog box to create or edit sort files. These sorts are duplicates of their base views (the view that was current when the sort version was created).

You can apply sorts to views that include the sorting criteria and that are not CPM views. To create or edit sorts and apply them to a single view (not saved as .rws sort files), use the Sort tab on the View Definition dialog box.

To create or edit a separate sort view

1. Select New Sort from the View group in the Project ribbon, or select Manage Library from the View group in the Project ribbon, select a sort and press Edit.

   The Sort Definition dialog box opens.

2. In the Name field, enter a name for the sort you are creating or editing.
3. In the list of field names, click item icons to display field names associated with the current view. Drag field names to the Field column to create or edit a sort.
4. Complete the following in the Sort grid, and click Save:

   Field

   Drag a field name to this column.

   Sort Length

   Enter the number of sort characters.

   Start Column

   Enter the column number at which to start the sort.

   Sequence

   Select Ascending or Descending.

   The Save Sort Definition dialog box opens.

5. To apply the sort to an appropriate view click its name in the Library or select it in the Libraries dialog box and click Apply.

   The sort is applied to the view.

Create New Sorts from Existing Sort Files

You can modify an existing sort and save it as a new sort file. Use the following procedure to create a sort based on an existing sort.

To create a new sort file from one that exists

1. Open and edit the non view-specific sort, and click Save.

   The Save Sort Definition dialog box appears.

2. Save the sort (see page 197) as a new sort file with a different name.

Add View, Filter, or Sort Files to Library Groups

Use the *Open* dialog box to add new views, filters, or sorts to a library group. Sort and filter files are views with sorting or filtering criteria specified. You can also define sorting and filtering criteria within a view definition as part of the view definition file.

To open a view, filter, or sort file

1. In the Libraries dialog box, select a group and click Add.

   The Open dialog box opens.

2. Select the file type from the Files of type drop-down list:

   View Definition (*.rwv)

   Adds a new view to the group.

   Sort Definition Files (*.rws)

   Adds a new sort to the group.

   Filter Definition Files (*.rwf)

   Adds a new filter to the group.

3. Select a path and file name and click Open.

Chapter 7: Display Project Plan Data Using Views

This section contains the following topics:

About Views

Views are the means by which you display a project plan and other project data. You can use views to enter project data, add or delete tasks, and otherwise modify a project plan. Open Workbench provides standard views, sorts, filters, and highlights to display, enter, and organize project information.

You can apply views, sorts, filters, and highlights to see different aspects of your project and access specific project information. The Open Workbench window displays a Library that contains views which you can apply to projects. The view that is set as the default view is automatically displayed in this window, even if you have not opened a project. If you have not set your default view, this window is blank.

Project data is displayed in views that take the form of spreadsheets, which can use Gantt charts to graphically display project status and task relationships, or Critical Path Method (CPM) Network views, which display task relationships and the project's critical path. Most of the predefined views in Open Workbench are spreadsheet views. CPM Network views display in an organizational chart format, with the boxes representing task dependencies rather than organizations.

Both types of views use field names in their definitions to determine what data they display, and both are created in the View Definition dialog box. Each type displays project information in a different format.

About Spreadsheet Views

Spreadsheet views display project data in variety of ways. These views can appear as spreadsheets with editable cells, and can also display a Gantt chart that depicts the project's schedule and the timing and relationships between tasks.

Depending on the field names used to define the view, spreadsheet views may contain several panes that display different types of project data. For example, a spreadsheet view may display any combination of the following:

- A task detail pane containing editable project data on tasks
- A pane displaying a Gantt chart and a time scale
- A resource detail pane containing editable data on resources that are available for task assignments or that are assigned to tasks

The default Gantt Chart view is available from the Favorites library group.

About CPM Network Views

Critical Path Method (CPM) Network views display data as a graphical model of tasks and their relationships. Each task is portrayed in a cell which may be linked to other cells in order of precedence. Unlike spreadsheet views, you cannot enter, sort, or filter data directly in CPM Network views. However, you can create dependency relationships in a CPM Network view and you can edit task properties by opening the Task Properties dialog box from the view.

The default CPM Network view is available from the Favorites library group.

View the CPM Network View from the Overview Window

Use the Overview window to view a specific area of a CPM Network view. You can also select Zoom In from the shortcut menu to make objects in the current view larger, or Zoom Out to make the current view hold and display more data.

Note: The Windows System Font does not scale and may be rendered unreadable by zooming out. One way to solve this is to change the Windows System Font to a scalable one, such as Arial. Another way is to zoom back in and manipulate your window on the CPM display.

To view the CPM Network view from the Overview Window

1. Open the CPM Network view, and right-click and select Panning Overview from the shortcut menu.

   The Overview window displays.

2. Drag the dotted square over the miniature CPM cells.

   The area within the cell scrolls into view in the current window.

About the Open Workbench Library

The Open Workbench Library stores all of Open Workbench's predefined views, highlights, filters, and sorts, as well as those that you create in library groups. Library groups define the group, or folder, in the Library where you access views. The changes you make in the library affect the Library.

You can use the library to:

- Edit (see page 223) the properties and display attributes of existing views.
- Add (see page 203) new library groups and views.
- Create and edit filters (see page 195) and sorts (see page 197).
- Apply filters and sorts to any view (see page 204).

The following library groups are available by default:

- Favorites. This library group contains the Gantt Chart, CPM Network, and Phase Level Gantt standard views.
- Planning. This library group contains the WBS Definition, Dependency Definition, and Resource Assignment standard views.
- Executing. This library group contains the Schedule and Dependency Status standard views.
- Controlling. This library group contains the Status Update, Unused Availability, Variance Analysis, Revise Schedule standard views.
- Filters & Sorts. This library group contains the Clear Filters, Clear Sorts, Key Tasks, Sort by Resource, and Pending ETC standard views.

Add New Library Groups

An Open Workbench *library* is a .rwl library file that stores view Library data, including the names of library groups that categorize views, sorts, and filters. Libraries also store the paths to and names of views, sorts, and filters that appear in the library groups. Up to 32 Groups can display on the shortcut barLibrary. When you open a group, all of its associated views, sorts, and filters appear.

Use the Libraries dialog box to view the Library's folder layout. You can also add new library groups from this dialog box.

To create new library groups

1. Select Manage Library from the View group in the Project ribbon.

   The Libraries dialog box opens.

2. Select the Groups folder and click Add.

   A new group folder is added to the library.

3. Click OK.

Change Items in Library Groups

Use the Libraries dialog box to create new groups and add views and filters to them. Changes you make in the library affect the Library after you close the Library dialog box.

Note: You must have appropriate user rights to change items in the Corporate View Library. Changes to the Corporate View Library affect all of its users.

To change items in library groups

1. Select Manage Library from the View group in the Project ribbon.

   The Libraries dialog box opens.

2. Make the following changes to the library:

   Groups list

   Select groups or expand a group and select a view, sort, or filter.

   Location

   Displays the directory path and file name for the selected view, filter, or sort.

Apply Views, Filters, Sorts to Library Groups

To apply views, filters, sorts to a library group

1. Select Manage Library from the View group in the Project ribbon.

   The Libraries dialog box opens.

2. Select groups or expand a group and select a view, sort, or filter.
3. Click Apply.

   The selected view, filter, or sort is applied to the current window.

4. Click OK.

Define Views in Library Groups

To define views in a library group

1. Select Manage Library from the View group in the Project ribbon.

   The Libraries dialog box opens.

2. Select a view, filter, or sort and click Edit.

   The View Definition dialog box opens.

3. Edit the view, filter, or sort, and click OK.

Add Views to Library Groups

To add a view to a library

1. Select Manage Library from the View group in the Project ribbon.

   The Libraries dialog box opens.

2. Select the groups or expand a group and select the view you want to add to the library and click Add.

   The selected group is added to the group folder.

3. Click OK.

Remove Views from Library Groups

To remove views from a library group

1. Select Manage Library from the View group in the Project ribbon.

   The Libraries dialog box opens.

2. Select groups or expand a group and click Remove.

   The selected group, view, filter, or sort is removed from the list.

3. Click OK.

Configure Gantt Charts

For the Percent Complete to display correctly when rolled up to the activity or phase levels, you must first set a baseline. You must select the Pct Complete option from the % Displayed drop-down list in the Gantt dialog box. You must also assign Billing rates to the resources in the Resource Properties dialog box.

All dates displayed in the Gantt chart are equally distributed along its width.

To see baseline data and otherwise modify the Gantt chart

1. In a view that displays a Gantt chart, double-click the Gantt chart.

   The Gantt dialog box opens.

2. In the Gantt Bars section, complete the following fields:

   % Displayed

   To display a bar that indicates a percent of the work.

   Values:

   - Pct Expend. Display the percentage of work expended on the task versus the estimated amount of work.
   - No Pct. Do not display any percentages.
   - Pct Complete. Display the percentage of work that has been completed to date.
   - Act Thru. Display the percentage of actuals posted against a task to date, versus the estimated actuals.

   Baseline

   Specifies whether to display baseline bars beside the task progress bars. When selected, the Stacked check box is enabled.

Float

Specifies whether to display bars indicating the amount of float in tasks. *Float* is the number of days that a task's initiation or completion can be delayed without adversely affecting the project finish date. Float is calculated using the following formula: Late Start - Early Start.

Stacked

Specifies whether to superimpose baseline data on the existing project data.

Show Dependencies

Specifies whether to display dependencies. When selected, you can view and edit dependency relationships directly in a Gantt chart.

Freeze Gantt Bars

Specifies whether to prevent users from manually extending or shortening Gantt bars on the Gantt chart.

Show Summary Task Progress

Specifies whether to show summary task progress,

Discontinuous

Select to display bars indicating breaks in task-related work, such as holidays and weekends.

Filter segments less than

Defines the maximum number of days to filter segments.

3. In the Display Dates section, complete the following fields, and click OK:

Width

Defines the Gantt chart's width in display pixels.

Today's Date

Specifies whether to use the current system date as the Gantt chart's display date.

Project Start

Specifies whether to use the start date of the first task in the project as the Gantt chart's display date.

As-of Date

Specifies whether to use the As-of date as the Gantt chart's display date.

Note: Enter this date on the Advanced tab on the Project Properties dialog box (see page 115).

Project Finish

Specifies whether to use the finish date of the last task in the project as the Gantt chart's display date.

Holiday

Specifies whether to use non-work days as the Gantt chart's display date.

Pending Finish

Specifies whether to use the end of the current time period as the Gantt chart's display date.

The Gantt dialog box closes.

Create Views

Use the Layout tab on the View Definition dialog box to create new views. This page contains two grids. The list of field names from which you can create your view displays in the grid on the left. The layout selection grid displays columns for each field name added to the view. You can insert and remove columns as needed. You can also format the cells in a column, such as defining the cells character width and alignment.

The view's name displays at the top of the view after the project name, and on the header when you print the view. The view status displays at the bottom of the view if you have the Display Status Bar option selected on the General tab on the Options dialog box.

To create a view, first define the view's layout and then describe the view. The views you create are saved as .rwv view files.

View Definition Dialog Box

Use the *View Definition* dialog box to create and edit the view layout, define the view, define the view's sort data, and to define the view's filters. You can add fields and columns that help you better analyze or track project data.

Use the following tabs on this dialog box:

- Layout. Use this tab to define the view's layout.
- Description. Use this tab to define the view.
- Sort. Use this tab to define sorts for the view.
- Filter. Use this tab to define filters for the view.

Define View's Layout

The Layout tab on the *View Definition* dialog box displays a list of fields that appear as columns in a view. You can insert, remove, and format columns using this tab.

You can do the following on this tab:

- Insert a column. Select the column in front of where you want the new column to appear and press the Insert key on your keyboard.
- Remove a column. Select the column and press the Delete key on your keyboard.
- Format the cells in a column. Click one of the cells in the column and click Format Cell.

  The Formatting Options dialog box opens, where you can describe the view (see page 215).

To define a view's layout

1. Select New View from the View group in the Project ribbon.

   The Layout tab on the View Definition dialog box opens.

2. In the list of field names, double-click item icons to expand the folder and display field names, and drag them to a cell in the layout selection grid.

   For example, you can expand the Task Information folder, expand the Description subfolder, and drag a task field name such as Short Name to a cell in the grid. To replace an existing field cell, drag the field to that cell. To add the field as a new cell in the grid, drag it to an empty cell.

Define View's Description

Use the Description tab on the *View Definition* dialog box to define the view.

Note: You cannot sort or filter Critical Path Method (CPM) Network views. However, you can zoom in, zoom out, and use the Panning Overview option to focus on a smaller window of dependencies. The Panning Overview option appears when you right-click on a dependency box in a CPM view.

To define the view description properties

1. Select Manage Library from the View group in the Project ribbon.

   The View library dialog opens.

2. Select the view from the library dialog and press Edit.

   The Layout tab on the View Definition dialog box opens.

3. Click the Description tab.

   The view description properties display.

4. Complete the following fields:

View Type

Defines the view type.

Values:

- Spreadsheet. Displays data in a table format.
- CPM. Displays data as a graphical model of tasks and their relationships.

Default: Spreadsheet

Level of Analysis

Specifies the WBS Level that you want to display in the view. Data rolls up from the task level to the level selected.

Values: Task, Project, Phase, Activity, and WBS Level

Example: If you select Activity, the view contains the activity and phases, but not tasks and milestones.

Resource LOA

Indicates whether you can see consolidated data on resources. This field is used with the filter tool. If you filter a view for a specific resource and select this check box, you can see only information for that resource in the view. If you clear this check box and filter on resources, only the associated tasks are filtered out and not the assignments.

Name

Defines the name the view.

Note: If you do not name your view, the view name defaults to the file name.

Author

Defines the name or the resource designing the view or managing the project.

Default: CA Clarity PPM

View Status 1

Defines the status of the current view.

View Status 2

Defines the status of the current view.

Notes

Enter any notes related to the view definition, such as situations in which the view can be useful, or suggestions on how to modify the view for further analysis.

5. Click OK.

The view is created and the View Definition dialog box closes.

Set Up Filters for Views

You can create filters as part of a view, or as separate elements that you can apply to the current view. The filters you create as part of a view are saved and applied with the view. If you create a filter file, you can add it to your library file and apply it to any window.

To create or edit a filter for the current view

1. Select Manage Library from the View group in the Project ribbon.

   The View library dialog opens.

2. Select the view from the library dialog and press Edit.

   The Layout tab on the View Definition dialog box opens.

3. Select the Filter tab.

   The Filter tab appears.

4. In the list of field names, double-click item icons to display field names associated with the current view, and drag field names to the Field column to create or edit a filter.

5. Complete the following fields in the Filter grid section:

   Field

   Drag a field name to this column.

   Value

   Select or enter the defining criteria.

   Compare

   Select from appropriate relationships such as Equal to or Greater.

   And/Or

   Select from And or Or to add another row to the filter.

   Note: The data type of the value must correspond to the field name. For example, if the field name is numeric, the value must also be numeric. You can use wildcard characters (* for any number of characters or ? for single characters) to search for substrings within field names.

6. Click OK.

   The View Definition dialog box closes.

Set Up Sorts for Views

You can create sorts as part of a view, or as separate elements that you can apply to the current view. The sorts you create as part of a view are saved and applied with the view. If you create a sort file, you can add it to your library file and apply it to any window.

To create or edit a sort for the current view

1. Select Manage Library from the View group in the Project ribbon.

   The View library dialog opens.

2. Select the view from the library dialog and press Edit.

   The Layout tab on the View Definition dialog box opens.

3. Select the Sort tab.

   The view's sort properties display.

4. Complete the following fields:

   List of field names

   Double-click item icons to display field names associated with the current view. Drag field names to the Field column to create or edit a sort.

5. Complete the following in the Sort grid section:

   Field

   Drag a field name to this column.

   Sort Length

   Enter the number of sort characters.

   Start Column

   Enter the column number at which to start the sort.

   Sequence

   Select Ascending or Descending.

6. Click OK.

   The View Definition dialog box closes.

About Field Names on Views

Field names are the building blocks of views, sorts, filters, and highlights. They represent either distinct data fields or calculated values used in Open Workbench. When you add field names to a view definition, you define what project data is displayed in the view and how the view is constructed.

Field names are listed by category in a list on the left side of the Layout, Sort, and Filter tabs on the View Definition dialog box, and on the left side of the Sort Definition, Filter Definition, View Highlights, and Find dialog boxes. To view the View Definition dialog box, select View, Edit View.

Icons appearing on the list match rows on the grids of each dialog box. In many cases, when you open a folder you can match field names to their section on the grid.

Add Field Names to Views

Use the Layout tab on the View Definition dialog box to assign a field name to a view. The fields that are displayed in bold are those that are available for you to add to the view. When you click on an unavailable field or folder, the Add Fields Feedback status bar at the bottom of the View Definition dialog box provides an explanation. Additionally, in cases where you can drag a field name onto a cell, when a cell is selected, fields allowed in that location display in bold text.

The Information folder displays a list of all of the available fields you can add to views. You can choose from the following groups of field names:

Project folder

This folder contains project-specific field names.

Task Detail folder

This folder contains field names that comprise the body of the view; they displayed in the task detail pane.

Note: Column headings are automatically entered when you add the Task and Resource Detail field names to the grid. You can change a heading name by editing it in the column.

Resource Detail folder

This folder contains resource-specific field names and summary information by resource that displays in the resource detail pane or the task detail pane.

Highlight Information folder

This folder contains highlighting options that you can use to highlight field names used in a view.

To add a field name to a view

1. Select Manage Library from the View group in the Project ribbon.

   The View library dialog opens.

2. Select the view from the library dialog and press Edit.

   The Layout tab on the View Definition dialog box opens.

3. In the list on the left side of the dialog box, double-click a field name icon.

   The list expands to display folders that categorize and contain available field names.

4. Do one of the following:

   - Select field names and drag them onto cells in the grid.
   - Enter a field name in a grid cell. The field name must be preceded by “=”.
   - Place the cursor in a cell, and double-click a field name.

- Place the cursor in a cell, and then select a field name and press the Insert key on your keyboard.

Note: When you add a field to a blank column, a new column automatically appears to the right of that column.

5. Click OK.

   The View Definition dialog box closes.

Remove Field Names or Columns from Views

To remove field names and columns from the current view

1. Select Manage Library from the View group in the Project ribbon.

   The View library dialog opens.

2. Select the view from the library dialog and press Edit.

   The Layout tab on the View Definition dialog box opens.

3. To delete a column, select it and press the Delete key on your keyboard.
4. To remove a field from a column, select it and press the Delete key on your keyboard.
5. Click OK.

   Your changes are applied to the view.

6. When prompted, you can:
   - Override the old view with your changes, or
   - Save your changes as a new file that you can apply later to other views.

Apply Formats to Cells in Views

Use the Formatting Options dialog box to apply formats to a cell in a view.

To format a cell in a view

1. Select Manage Library from the View group in the Project ribbon.

   The View library dialog opens.

2. Select the view from the library dialog and press Edit.

   The Layout tab on the View Definition dialog box opens.

3. Select a cell to format and click Format Cell.

   The Formatting Options dialog box opens.

4. Define the following:

   Note: Settings and options that do not apply to the data in the selected cell are disabled.

   Width

   Defines the numeric value for the width of the column (in pixels). The default width varies with each field name. You can change the column width in the view by dragging a column divider left or right.

   Decimals

   Specifies the number of decimal places for data in the cell.

   Values: 0, 1, or 2

   Alignment

   Specifies the alignment of data in the cell.

   Values: Left, Center, or Right

   Units/Format

   Defines the unit/format for the data in the cell.

   Values: Days, Hours, Percent (of total availability), or As Is

   Note: The As Is option allows you to report mixed units of measure in a view.

   Period Unit

   Defines the period unit for the data in the cell. You can set the default period unit from the Defaults tab on the Options dialog box and selecting an option for Unit of Measure.

   Values: Per Day, Percent, or Per Period (for tabulated elements only).

5. Define the following options in the Options section:

   Protect

Defines whether to make the field display-only and prevent other users from changing the data. Some cells are always protected.

Default: Cleared

Blank if Zero

Defines whether to make the field appear blank if its value is zero.

Default: Cleared

Column Totals

Defines whether to show the total for all the values in a column in a separate pane. Date totals represent the earliest or latest date in the range, depending on the field; for example, the total for Start date is the earliest date in the range.

Default: Cleared

Tabulate

Defines whether to arrange data in a tabular format.

Default: Cleared

Note: The default is cleared unless there is another tabulated field name in the same column.

WBS Indent

Defines whether to indent tasks based on Work Breakdown Structure levels.

Default: Cleared

6. To specify how time scales appear in a view, click Time Scale.

   The Time Scale dialog box opens.

7. Click OK.

   The View Definition dialog box closes.

Apply Filters to Views

You can refine the content of a view by selecting and applying filtering criteria that defines what project, task, or resource information to display. The remaining project information is hidden so that you see only the project data you want to see. You can apply filters to any spreadsheet view, but not to a CPM view.

You can create filters that are part of a view definition or applied separately from a view. When you define a filter in the *View Definition* dialog box, it is considered to be part of the view's definition and is applied to projects every time you apply the view. If you create a separate filter, you can add it to your library and apply it to any open project. Later, you can remove these filters from the view.

You can apply filters to views that include the filtering criteria and that are not CPM views.

To apply a filter to a view

1. Select Manage Library from the View group in the Project ribbon.

   The Libraries dialog box opens.

2. In the Favorites folder, select your filter, and click Apply.

   The filter is applied to the view.

Apply Views to Projects

There are a two ways you can apply views to a project. You can:

- Display a single view of the project by applying a view that replaces the current view.

  To display one view of a project, from the Library, open a group and click a view.

- Display multiple views of a project simultaneously. When you open a new view for a project, a separate window for each view appears. This is helpful when you want to see different aspects of the same project and want to easily switch between views.

To display multiple views of the same project

In the Library, right-click a view icon and choose New Window from the context menu.

1.

Insert and Delete Rows in Views

Inserting a row in a view provides you with a way to add data to a specific place in a project. However, when you delete rows from a view, make sure they do not contain data you will need later in the project. To insert a row, select a row header button, and then press Insert on your keyboard. To delete a row, select a row header button, and then press the Delete key on your keyboard.

Important! If you delete a row you did not intend to delete, you can recover it by choosing Undo from the Edit menu.

About Changing View Display Colors

You can change the colors used to separate data appearing in spreadsheet views. Specifically, you can change the colors of spreadsheet view horizontal and vertical separation lines, and the background colors of rows appearing in views. This feature does not affect any highlight settings you may use to display data in views.

Changes you make to the view display colors affect all open views and are applied to all projects you open during subsequent Open Workbench sessions. A view can display horizontal and vertical lines in color, or not at all, and display rows with background colors alternating line-by-line or object-by-object. Also, when choosing view display colors, you can use a standard color palette or create a custom color palette.

You can redefine the colors used to display views any number of times. However, when you edit and apply a new view color definition, you lose the previous color definition.

Customize Colors

When you customize view display colors, all open views use those colors. Use the Display tab of the Options dialog box to turn horizontal and vertical line display on or off, select line and background colors from the color palette, and add new colors to the palette.

To customize view display colors

1. Select Preferences from the application menu at the top left corner of the window.

   The General tab on the Options dialog box opens.

2. Click the Display tab.

   The display options display.

3. Choose color options from the Horizontal Lines, Vertical Lines, Background Color 1, or Background Color 2 pull-downs.

4. Click OK.

Add Colors to the Color Palette

The colors you add to the color palette are available for use by all groups. Use the Display tab of the Options dialog box to add colors to the color palette.

To add colors to the color palette

1. Select Preferences from the application menu at the top left corner of the window.

   The General tab on the Options dialog box opens.

2. Click the Display tab.

   The display options display.

3. Select a group and then click the down arrow next to the Color box.

4. Click Other.

   The Color dialog box opens.

5. Do the following:

   - Select a color from the Basic Colors palette.
   - Select a color from the Basic Colors palette, and then use the color matrix on the right side of the dialog box to edit the color.
   - Click Define Custom Color to create an entirely new color, and then use the color matrix on the right side of the dialog box to edit the color.

     Note: This button is disabled if you are already viewing custom colors.

6. Click Add to Custom Colors.

   The color is added to the color palette.

7. Click OK.

   The Color dialog box closes.

8. Click OK.

Apply Colors from the Color Palette

To apply colors from the color palette

1. Select Preferences from the application menu at the top left corner of the window.

   The General tab on the Options dialog box opens.

2. Click the Display tab.

   The display options display.

3. Select a group and then click the down arrow next to the Color box.
4. Do one of the following:
   - Select a color from the palette.
   - Click None to turn off horizontal or vertical line display.
5. Click the up arrow to close the drop-down list and apply your selection.
6. Click OK.

Define View Display Colors

You can define the view display colors for groups and for horizontal and vertical lines. For each group, select a color from the color palette. For horizontal and vertical lines, select a color from the color palette, or click None if you do not want lines to display.

To define the view display colors

1. Select Preferences from the application menu at the top left corner of the window.

   The General tab on the Options dialog box opens.

2. Click the Display tab.

   The display options display.

3. In the Horizontal Lines section, click the down arrow next to the color to select the horizontal line color in Open Workbench views, or select None to turn off horizontal lines.

   Default: Light Grey

   Values: Basic Colors, None, or Other.

4. In the Vertical Lines section, click the down arrow next to the color to select the vertical line color in Open Workbench views, or select None to turn off vertical lines.

   Default: Dark Grey

   Values: Basic Colors, None, or Other.

5. In the Background 1 section, click the down arrow next to the color to select the background color in Open Workbench views, or select None to turn off Background 1.

   Default: White

   Values: Basic Colors, None, or Other.

6. In the Background 2 section, click the down arrow next to the color to select the background color in Open Workbench views, or select None to turn off Background 2.

   Default: White

   Values: Basic Colors, None, or Other.

7. In the Alternate Colors By section, do one of the following, and click OK:

   - Select Object if you want row colors to alternate object-by-object. Depending on a view's definition, an object can contain many rows of information. For example, a task may display its name and list all of its resource assignments.
   - Select Line if you want background colors to alternate line-by-line.

   The Options dialog box closes.

Save Views

Use the Save View Definition dialog box to specify the name of the view, its directory, and the library file where you want to save the active view. You can save the modifications you make to a view as a new view, or you can replace the current view with your modified view.

To save a view

1. Open and edit the current view.
2. Select Save from the View group in the Project ribbon.

   The View Definition Save Query dialog box opens.
3. Click one of the following:

   Create

   Creates a new view without altering the existing view.

   The Save View Definition dialog box opens.

   Replace

   Replaces the view with your changes.

   The view is saved and the View Definition Save Query dialog box closes.
4. If you are creating a new view, complete the following fields:

   Save In

   Select the directory in which you want to save the current view.

   File name

   Defines the name of the view file.

   Files list

   Displays the name of the view file to which you want to save.

   Save as type

   Defines the type of file you want to save the view.

   Note: When you save a view, a file name is assigned to the view using the following convention:

   `filename.rwv`

   Library Group

   Defines the name of the group in which you want the view to appear. This determines the view's placement on the Library.
5. Click OK.

   A new view file is created and saved. The Save View Definition dialog box closes.

Edit Views

Use the Layout and Description tab on the View Definition dialog box to edit the fields and columns in an existing view. After you have edited the view, you can overwrite the previous view settings or save your changes as a new view.

Saving new or edited views so that you can use them again. While you can save a view to any library group, you can save it to the Favorites library group if you will use it often.

To edit a view

1. Select Manage Library from the View group in the Project ribbon.

   The View library dialog opens.

2. Select the view from the library dialog and press Edit.

   The Layout tab on the View Definition dialog box opens.

3. Add (see page 213) or remove field names or columns (see page 214) to the view.

4. Click the Description tab.

   The view's description fields display.

5. Complete the following fields, and click OK:

   View Type

   Select Spreadsheet or CPM. Spreadsheet views display data in a table format.

   Note: You cannot sort or filter CPM views. However, you can zoom in, zoom out, and use the Panning Overview option to focus on a smaller window of dependencies. The Panning Overview option appears when you right-click on a dependency box in a CPM view.

   Level of Analysis

   Select the WBS Level that you want to display in the view. Data rolls up from the task level to the level selected. For example, if you set the Level of Analysis to Activity, the view will contains the activity and phases, but not tasks and milestones.

   Resource LOA

   Select this check box to see consolidated data on resources. This field is used in conjunction with the filter tool. If you filter a view for a specific resource and select this check box, you will see only information for that resource in the view. If you unselect this check box and filter on resources, only the associated tasks are filtered out and not the assignments.

   Name

   Name the view, if desired. The name displays at the top of the view after the project name, and on the header when printing the view. If you create a new view, and do not populate the name field, the name field will automatically populate with the file name when you save it.

Author

Enter your name or the name of the person designing the view or managing the project, if desired.

View Status 1

Enter a note about the status of the current view, if desired.

View Status 2

Enter a note about the status of the current view, if desired.

Note: The status fields display at the bottom of the view if you have the Display Status Bar option selected on the General tab in the Options dialog box.

Notes

Enter any notes related to the view definition, such as situations in which the view might be particularly useful, or suggestions on how to modify the view to further aid the analysis.

The View Definition dialog box closes.

Chapter 8: Highlights

This section contains the following topics:

About Highlights

Highlights are the fonts, colors, symbols, and patterns you can define for highlighting project data. Open Workbench offers a variety of highlights that you can use to make views and printed reports easier to read, analyze, and understand. You can define highlights for:

- Cells in CPM views
- Data appearing in spreadsheet views
- Gantt chart bars and symbols

There is no limit to the number of highlights and highlight conditions you can create. You can create duplicate highlight conditions. Open Workbench applies highlights in the order listed in the Highlight Condition dialog box. When duplicate highlight conditions exist, the last condition entered is the one applied to the view.

While you can create and save many highlight files, you can apply only one (the default highlight file) to open projects. If you create multiple highlight files, you can specify which one to use by changing the default location and file name of the highlight file.

Create Highlights

When inserting field names in the Type of Element column, insert them into a cell on a row that already displays a highlight format you want applied. You can insert the same field name multiple times into different rows in the Type of Element column. Each occurrence of a field name appears differently when you display a project, depending on which highlight condition applies.

To highlight project data, you must first select field names to highlight.

To create a highlight

1. Select Colors and Shapes from the View group in the Project ribbon.

   The View Highlights dialog box opens.

2. Select the field names that are part of the highlighting criteria. To do this, insert field names into cells in the Type of Element column.
3. Define the conditions (see page 229) under which you want to see the highlight applied to this information.
4. Define how you want this information to look (see page 228).

Define Highlight Settings

Use the View Highlights dialog box to define or edit the view's highlights properties.

Tip: To apply new highlights to a project, set the path and file name of the new .RWH file on the Locations tab in the Options dialog box.

To define a view's highlight settings

1. Select Colors and Shapes from the View group in the Project ribbon.

   The View Highlights dialog box opens.

2. Define the following:

   List of field names

   Double-click item icons to display object names. Select a field or object to see the highlights associated with it.

3. View the following highlight settings in the following columns

   Type of Element

   Defines the element to which the highlight is applied.

   Sample

   A graphic display of the highlight applied to the data. Double-click to select font attributes including color, or if it is a Gantt field, to display the Gantt Symbol and Color Settings dialog box.

   Conditions

   Defines the conditions in which the highlight is applied to the element. Double-click to define the conditions in the Highlight Condition dialog box.

4. Click Save.

   The Save As dialog box opens.

5. Do one of the following:

   - Save the current highlights (.rwh) file.
   - Save the modified settings in a new highlights file.

   The View Highlights dialog box closes.

Define Highlight Conditions

Use the Highlight Conditions dialog box to specify the possible conditions for a field name and highlight combination.

To define the conditions for a view's element

1. Select Colors and Shapes from the View group in the Project ribbon.

   The View Highlights dialog box opens.

2. In the list on the left side of the dialog box, double-click the Task, Resource, and Project Information folders.

   The list expands to display available fields in each folder.

3. Double-click the field name for which you want to change highlights.

   Your cursor moves to the corresponding Type of Element cell in the Conditions column.

4. Double-click a field name's condition cell or the empty entry.

   The Highlight Condition dialog box opens.

5. Complete the following fields:

   List of field names

   Double-click item icons to display field names associated with the current view. Select a field to see the highlights associated with it. Drag field names to the Field column to begin creating or editing a view highlight.

6. Complete the following in the Highlight grid:

   Field

   Drag a field name to this column. This can be a different field from the element type.

   Value

   Enter a value or select a value from a drop-down list.

   Compare

   Specify if the field name is equal or not equal to the value you select or enter in the Value column.

   And/Or

   Select And or Or to add additional conditions in subsequent lines.

7. Click OK.

   The Highlight Condition dialog box closes.

Define Highlight Formats

When you define highlight conditions, it is important to define the highlight's appearance. Format highlights when you want information displayed using specific fonts, styles, or colors, or when you want to assign a color to cells that display project data.

You can apply custom colors (see page 220) to fonts, Gantt symbols, and CPM highlights. If you use text-based field names in a highlight, you can choose how the fonts are displayed. To do this, use the Font dialog box. A Preview box displays to show you how the text will appear when the highlight applies.

Change the Appearance of Fonts in Highlights

To change the appearance of fonts in highlights

1. Double-click the Sample cell adjacent to a field name that uses text.

   The Font dialog box appears.

2. Use settings in the Font dialog box to define the appearance of fonts in the highlight.

3. From the Color palette, do one of the following:

   - Select a color
   - Click Other.

     The Color dialog box opens where you can add a custom color (see page 219) to the palette.

4. Click OK.

   The View Highlights dialog box appears.

Change Gantt Symbol and Color Settings

If you use Gantt field names in a highlight, you can choose how the Gantt bars are displayed. Use the Gantt Symbol and Color Settings dialog box to determine how bars, lines, column heading blocks, and other design objects appear in a Gantt chart view.

A Preview box displays to show you how the Gantt bar will appear when the highlight applies. When defining Gantt bar symbols and color settings, you can define them to match a highlight condition, and then override the settings with other symbols and color settings for the bar when a different condition is met.

To change Gantt symbol and color settings

1. Select Colors and Shapes from the View group in the Project ribbon.

   The View Highlights dialog box opens.

2. In the list of field names, expand the Highlight Information list and select a Gantt view.

3. Scroll to find a Gantt element, and double-click a Gantt element sample, such as a bar.

   The Gantt Symbol and Color Settings dialog box opens.

4. Do the following:

   a. From the Left Endpoint group, select the symbol, pattern, and color to use to display the left endpoint of the Gantt bar.

   b. From the Center Bar group, select the symbol, pattern, and color to use to display the body of the Gantt bar. If you want the Gantt bar to have a border, select the Draw Border check box.

   c. In the Right Endpoint group, select the symbol, pattern, and color to use to display the right endpoint of the Gantt bar.

   d. Select the Default Color check box to apply the default color (black) to the selected end point or Gantt bar color when the highlight condition is met.

5. Select the Black Border check box to draw a black border around a Gantt bar or endpoint.

6. Select the Draw Border check box to draw a color border around the Gantt bar.

   Click OK to save your changes.

Define Highlight Font Settings

Use the Font dialog box to set font and background attributes for a particular highlight.

To define the highlights font setting for a view's element

1. Select Colors and Shapes from the View group in the Project ribbon.

   The View Highlights dialog box opens.

2. In the Sample column, double-click an element's sample entry.

   The Font dialog box opens.

3. Complete the following fields:

   Font

   Select the typeface to use.

   Size

   Enter or select a font size. The default size is the same point size used for the Windows system font.

   Bold

   Select to display text in boldface. The default setting is off.

   Italic

   Select to display italic text. The default setting is off.

   Underline

   Select to underline text. The default setting is off.

Color

Foreground

Select to set the foreground (text) color of the highlight.

Default

Select to use the default font color for the foreground (text) of the highlight. The default is the foreground color used for window text in your Windows desktop color scheme. To change your color scheme, see your Microsoft Windows User's Guide.

Background

Select to set the background color of the highlight.

Default

Select to use the default background color for the highlight. The default is the background color used for window text in your Windows desktop color scheme.

Preview

Review the effect of your current selections.

Edit CPM Symbol and Color Settings

Use the CPM Highlight Symbol dialog box to determine how bars, lines, column heading blocks, and other design objects appear in a selected CPM view.

To make design settings for CPM view objects

1. Select Colors and Shapes from the View group in the Project ribbon.

   The View Highlights dialog box opens.

2. Complete the following fields:

   List of field names

   Expand the Highlight Information list and select a CPM View.

   Attributes:

   Type of Element

   Scroll to find a CPM element.

   Sample

   Double-click a CPM object (not a text sample) such as a box.

3. In the CPM Highlight Symbol dialog box:

   Pattern

   Select the highlight pattern to apply to the CPM box.

   Color

   Select the highlight color.

   Preview

   Displays the selected pattern and color highlight as it will appear in CPM views.

Save Highlights

Use the Save As dialog box to save Open Workbench .rwh highlights files. To create a new highlights file, change the name of the file you edited.

To save a highlights file

1. Select Colors and Shapes from the View group in the Project ribbon.

   The View Highlights dialog box opens.

2. Click Save.

   The Save As dialog box opens.

3. Complete the following fields on the page, and click Save:

   Save in

   Defines the folder or subfolder to which to save the file.

   Files list

   Displays a list of existing file names.

   File name

   Defines the name of the file.

   Save as type

   Defines the type of file you want to save.

   Default: .rwh

   Your highlights file is saved.

Remove Highlights

If you do not want to highlight any project data, clear the default highlight file location. The default highlight file and location is set on the Locations tab of the Options dialog box.

Delete Highlights

To delete a highlight

1. Select Colors and Shapes from the View group in the Project ribbon.

   The View Highlights dialog box opens.

2. Select the row for the highlight you want to delete, and press the Delete key on your keyboard.

   The highlight is deleted.

3. Click Save.

   The Save As dialog box opens.

4. Save your changes (see page 233).

Glossary

Availability

A resource's *availability* is the amount of time a resource is available and can be allocated to a project.

Baseline

A *baseline* is a snapshot of the project schedule taken earlier in the project that you can later use to measure project progress against earlier estimates of project progress.

Category

Use *Categories* to select and filter different groups and classes of tasks, notes, or resources in the view.

Critical Path

Critical path is a set of tasks in a project for which any delay or expansion lengthens the project or causes project deadlines to slip. The critical path determines the project's earliest finish date.

Autoschedule uses the critical path value to determine the tasks that drive the project deadlines and constraints.

Critical Task

Critical tasks have a float of zero or less; therefore, when a critical task is delayed, the project finish date or other deadlines are affected.

Dependency

A dependency provides you with a means of ordering the relationship, timing, and logical sequence between a task within the same project (internal dependency) or between a task in your project and a task that is external to the project (external dependency).

Dependency Type

Dependency Type is the constraint you place on the detail task or milestone's start or finish date.

You can create the following types of dependencies to establish the relationship between the start and finish dates of dependent tasks:

- Finish-Start. The predecessor task's finish date determines the successor task's earliest possible start date. With this dependency type, the successor task cannot start until its predecessor task finishes.
- Finish-Finish. The predecessor task's finish date determines the successor task's earliest possible finish date. With this dependency type, the successor task cannot finish until its predecessor task finishes.
- Start-Start. The predecessor task's start date determines the successor task's earliest possible start date. With this dependency type, the successor task cannot start until its predecessor task starts.
- Start-Finish. The predecessor task's start date determines the successor task's earliest possible finish date. With this dependency type, the successor task cannot finish until its predecessor task starts.

Dependency Violation

A *dependency violation* is a dependency link that has been improperly set.

Duration

Duration is the length of time, in business days, a task requires from conception to completion, including the start and finish dates.

Earned Value Analysis (EVA)

Earned Value Analysis (EVA) is a statistical operation that compares the project's present actuals against what was planned. For example, it may compare the length of time a task would take, according to a baseline budget plan, to the actual length of time it took. EVA is also called Performance Measurement.

Estimate To Complete (ETC)

Estimate To Complete (ETC) is the estimated time for a resource to complete an assignment.

Fixed Duration

A *fixed duration* task is a constrained task that must finish in a specific amount of time. Fixed-duration tasks are constant and are not driven by resource assignments. A fixed-duration task is also called a time-constrained task.

Float

Float is the number of days that a task's initiation or completion can be delayed without adversely affecting the project finish date. Float is calculated using the following formula: Late Start - Early Start

Global File

The *Global File* is the default location of global settings, such as calendars, resource files, and note categories.

Global Resources

Global resources are those resources that are available to you to staff on projects when you are using Open Workbench with CA Clarity PPM. You can select a team of resources from a list of global resources and make them available to your project. The global list displays roles and resources to which you have booking rights.

Highlights

Highlights are the fonts, colors, symbols, and patterns you can define for highlighting project data.

Key Task

A *Key Task* is a task that you consider to be of key importance to the project. When you mark a task as a key task, its status does not impact any other Open Workbench behavior.

Lag

Lag is the predetermined amount of time between the start and/or finish time of two tasks in a project plan.

Lag Type

Lag Type is the unit of measure for the value you enter for lag. You can specify lag in terms of time or percent. Choices are Daily or Percent.

Percentage of duration is usually based on the length of the predecessor task. However, if you specify the dependency type as Finish-Finish, the percentage of duration is based on the length of the successor task.

Library

An Open Workbench *library* is a .rwl library file that stores view Library data, including the names of library groups that categorize views, sorts, and filters. Libraries also store the paths to and names of views, sorts, and filters that appear in the library groups.

Loading Pattern

A *Loading Pattern* defines how work is spread across the duation of a task. A resource's loading pattern defines how resource assignments are used to complete tasks when you recalcuate task duration and autoschedule your project. There are five patterns available to best help replicate how team members work on tasks.

Negative Lag

Negative Lag is the amount of time or percentage of task duration in which two tasks can be simultaneously in process in a project plan.

Notes

Notes let you record project-specific information for yourself or for other staff members.

Pending Estimate

A *pending estimate* is the pending state of ETC until a resource's project manager accepts or rejects the new value. You can edit the ETC, though you should only change it if you complete the assignment ahead of schedule or if you need more hours.

Project Status

A *project status* shows the results compared to the project plan. Status is determined in terms of costs, resources, deliverables, and whether the project is started, not started, or complete. In Open Workbench, a status indicator reflects the status of a project, or for a program, the status of its component projects.

Resources

Resources are the people needed to make sure a project is completed on time. Resources are assigned to project tasks.

Roles

Roles are generic resources that represent the job responsibilities of the resources assigned to a project. A role defines the work function while a resource identifies the individual who performs that role. Examples of roles include project manager, programmer, and business analyst.

Subnets

Subnets are a set of tasks in a project that have dependencies among themselves. During Autoschedule, you can choose to calculate and display separate critical paths for each subnet and for each task that does not have dependencies.

Task Priority

The *Task Priority* controls the order in which tasks are scheduled during autoschedule, subject to dependencies and task and resources constraints. Autoschedule, therefore, schedules tasks with higher priority ahead of tasks with lower priority.

Variable Duration

A *Variable Duration* task is a constrained task that can change when you autoschedule your project. Variable-duration tasks depend on the availability and number of assigned resources. A variable-duration task is also called a resource-constrained task.

Views

Views are the means by which you display a project plan and other project data.

Global Resources

Global resources are those resources that are available to you to staff on projects when you are using Open Workbench with CA Clarity PPM. You can select a team of resources from a list of global resources and make them available to your project. The global list displays roles and resources to which you have booking rights.

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