CA Clarity™ PPM

Project Management User Guide

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ca technologies

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Contents

Chapter 3: Project Scheduling

85

Chapter 4: Teams   123

Chapter 6: Timesheets 177

Chapter 7: Microsoft Project Desktop Scheduler 183

Chapter 8: Risks, Issues, Change Requests, and Action Items   215

Chapter 9: Programs   257

Chapter 10: Setup 279

Appendix A: Portlets and Reports 301

Appendix B: Access Rights 309

Appendix C: Microsoft Project Field Mappings 319

Chapter 1: Project Management Overview

This section contains the following topics:

About Project Management

Projects are sets of activities designed to achieve a specific objective. Their key elements are tasks that define project work and staff members - the resources who perform them. Time and budget constraints guide projects. The constraints estimate and determine how long each task and, therefore, the entire project take and how much it costs.

Use CA Clarity PPM projects to define and track each aspect of your project from tasks and staff to budgets, actuals, and risks. In addition, you can create master projects that group related subprojects. The master projects let you view and analyze the combined costs, estimates, and actuals of their sub projects.

Projects are used as the example investment. Project functionality and components apply to all investments that are based on the project, such as proposals.

Project Components

Project managers can define and manage a wide range of project elements such as staffing the project, recording risks and issues, and activating processes.

Projects consist of the following components:

- Properties. Define project basics, such as the project name, schedule, and so on, that capture snapshots of the project at various stages in its lifecycle.

- Team. You can build a team that includes the staff who perform the tasks and participants who assist staff by communicating information, suggestions, and concerns.

- Tasks. Create tasks and define a work breakdown structure (WBS). You can also associate risks and issues with tasks to help monitor trouble spots.

- Financial Plans. Define a financial summary, or perform detailed financial planning.

- Risks/Issues/Changes. You can identify and track the risks, issues, and change requests that can affect the project.

- Processes. You can start, monitor, and cancel project-related processes.

- Audit. Record your project-related activity.

- Dashboard. View a summary of project labor and team utilization information in lists and charts.

- Reporting and Analysis. Use dashboards to track and analyze project activities and progress.

Advance Project Planning

To create a project, verify that you have a general idea of its scope, the tasks that resources perform, and a timeframe to complete them. Advance project planning makes the initial field entry and set-up easier for you. Once you enter the project with tasks and resources, keep it accurate and up to date. A regularly maintained detailed project plan is the most effective way to measure performance and status. The project plan also helps to get work done.

The more detailed and accurate your project plan, the more useful it is. For example, use system-generated work estimates, or create your own. Estimates (ETC) help to plan task and project duration, and also for comparison with actuals once the project is under way. Baselines are another useful tool to help you measure progress. Though creating estimates and baselines can take a little more time, the long-term benefits to you and your team can be enormous.

How to Create and Manage Projects

If you are new to CA Clarity PPM projects, consider using the following process when creating and managing new projects:

1. Create the project.

2. Define project properties (see page 49).

3. Create the tasks and milestones.

4. View the allocation of the resources to add to the project (see page 162).

5. Assign resources to tasks.

6. If necessary, create time-varying ETC segments (see page 148).

7. Create a baseline (see page 70).

8. The resource assignment records time spent on the tasks on their timesheet.

9. The project manager tracks and compares the actuals to the estimates.

10. Automatically schedule the tasks using Autoschedule (see page 169).

11. Compare actuals to estimates.

12. Modify the current schedule by creating a tentative schedule. Then, review and publish the changes to the current schedule (see page 171).

Task Cost Metrics

You can display cost metrics in the Gantt view without creating a current baseline.

The fields do not display, by default, on the page - requires personalizing the page. Alternatively, let your CA Clarity PPM administrator configure the Gantt list column view for the task object at the system level to display the columns.

The following cost metrics are available:

ACWP

Displays the system-calculated value of Actual Cost of Work Performed (ACWP). This value is the total direct cost (based on posted actuals) that is incurred in performing work during a specified period. The cost calculation includes all actuals posted up until the as-of date or the system date (if no as-of date is provided).

ACWP is calculated at the following levels:

- Assignment. Actual cost is calculated as part of the posting process for actuals that are based on the financial cost matrix.

- Detail-task. The calculation is based on the following formula:
  ACWP = Sum of Actual Cost for all the assignments on the task

- Summary-task. The calculation is based on the following formula:
  ACWP = Sum of ACWP for all detail tasks in project

- Project. The calculation is based on the following formula:
  ACWP = Sum of ACWP for all summary tasks in project

Current Baseline Required: No

ETC (Cost)

Displays the system-calculated value of Estimate To Completion (ETC), and is calculated based on the following formula:
ETC (Cost) = remaining labor cost + remaining non-labor cost

Current Baseline Required: No

EAC (T)

Displays the system-calculated value of Estimate At Completion (EAC). This calculation is most often used when current variances are seen as typical of future variances. The calculation is based on the following formula:
EAC (T) = ACWP + ETC

Current Baseline Required: No

Jobs

The following jobs can influence information or performance in projects:

- Autoschedule Investment
- Cost Matrix Extraction
- Clean User Session
- Setup and Update Data Used by Reports
- Delete Investments
- Import Financial Actuals
- Index Contents and Documents for Searches
- Post Timesheets
- Post Transactions
- Cost Matrix Extraction
- Time Slicing
- Update Aggregated Data
- Update Earned Value History
- Update Earned Value Totals
- Update % Complete

Project Access Groups

Access groups are associated with certain access rights, which allow group members access to secured pages, portlets, reports, and queries.

The following are the project access groups:

- Executive
- Project Manager - Standard
- Project Manager - Advanced
- Proposal Manager - Standard
- Team Member

Chapter 2: Managing Projects

This section contains the following topics:

How to Work with Projects

The projects list page displays a list of the existing projects. The list page is a gateway to manage project details and define the various attributes of the project.

To access the projects list page, open Home, and from Portfolio Management, click Projects.

You can do the following:

- Create a project.

- Create a project from a project template.

- Edit project properties (see page 49).

- Add a project to the overview page (see page 22).

- Remove a project from the overview page (see page 22).

- Mark a project for deletion (see page 83).

- Cancel a project marked for deletion (see page 83).

- Edit the project name, project ID, and status indicator.

- Click the Gantt icon on the projects list page, or My Projects portlet to open a project in the Gantt editor.

My Projects Portlet

The My Projects portlet on the Overview page displays a list of projects you have added to the My Projects list. Use this portlet to view the latest status of the projects you want to track. For example, if you are managing the HR System Migration project, add it to the My Projects portlet.to view the latest risk and business alignment status of the project from the portlet.

In addition, the portlet lets you complete the following tasks:

- Create new projects or use a template.

- Open a project in the Gantt view.

- Access and view any documents that are attached to a project.

- Collaborate on a project using documents, action items, or discussions.

- Open the properties of a project.

By default, projects that are created from the portlet do not display in this list. Projects display only if you add them to the portlet by selecting the Add to My Projects option from the Actions menu in the project properties. You can remove projects from the My Projects list by selecting the Remove from My Projects option from the Actions menu.

How to Set Up a CA Clarity PPM Project

A project is the most common work plan, and is typically derived from ideas, proposals, unapproved projects, your backlog, or service requests. You prioritize and approve projects based on a number of key factors, including the following items:

- Business strategic plans

- Budget, time, and resource constraints

- IT strategy and governance

- IT architecture guidelines and standards

- IT risk management

- Current and planned workloads

Projects are the core investment in the application. Understanding how to create projects enables you to properly manage them. Creating projects is the first step in the project management process.

The following diagram describes how a project manager sets up a CA Clarity PPM project.

How to Set Up a Clarity PPM Project
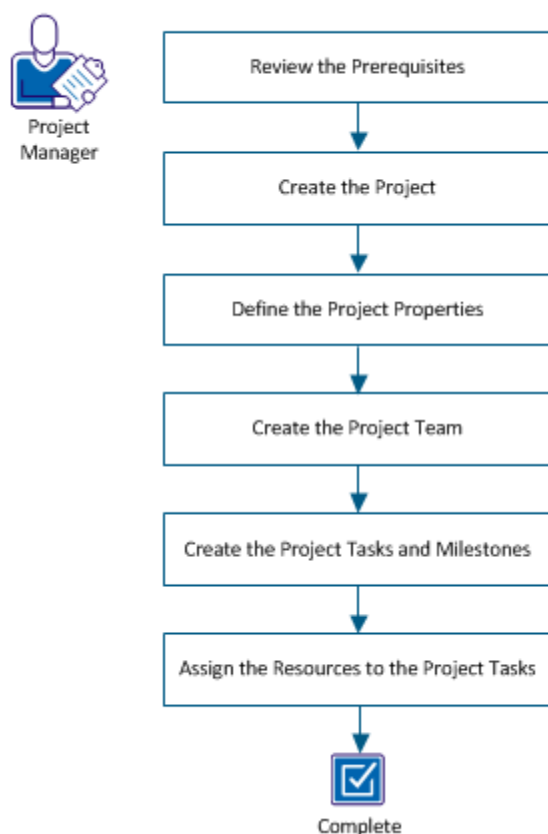
To set up a CA Clarity PPM project, perform these steps:

1. Review the prerequisites (see page 24).

2. Create the project (see page 25):

   ■ Create the project from a template. (see page 25)

   ■ Create the project manually (see page 28).

3. Define the project properties (see page 30):

   ■ Define the scheduling properties (see page 32).

- Define the risk properties (see page 35).

- Define the budget properties (see page 35).

- Define the project dependencies (see page 36).

4. Create the project team (see page 37):

   - Add the resources or roles (see page 37).

   - Define the resource allocation (see page 37).

5. Create the project tasks. (see page 38)

6. Assign resources to the project tasks (see page 42).

Note: This scenario does not include all of the terminology that is involved in setting up a CA Clarity PPM project.

Review the Prerequisites

To complete all tasks in this scenario, consider the following information:

Initial Project Planning

- Have a general idea of the project scope, the tasks that resources perform, and a time frame to complete the tasks. This planning makes the initial field entry and setup easier.

- Provide accurate and detailed information in your project plan. For example, use system-generated work estimates, or create your own. Estimates (ETC) assist you when planning task and project duration, and allow for comparison with actuals after the project starts.

- Consider measuring progress using baselines. Creating the baselines takes some time, but the long-term benefits are substantial.

Resources and roles

All resources who participate in the project are defined. All the roles in the project are defined.

Departments

A department is created for the project.

Access Rights

You need specific access rights to set up a project.

Create the Project

As a project manager, you create the project to track the work plan for your investments. For example, you have a new development project that has been approved for the upcoming fiscal year.

To create the project, follow one of these methods:

- Create the project from a template (see page 25).

- Create the project manually (see page 28).

Note: You can also create the project using XOG, by converting an idea to a project, using Open Workbench, and using Microsoft Project. This scenario does not explain these methods.

Create the Project from a Template

As a project manager, you can create the project from a template. Templates help enforce consistency and improve efficiency when creating projects.

You can create a project and save it as a template. Others can use this template to create a project.

When you create a project from a template, the following information is copied from the template to the new project:

- General project attributes and custom fields.

- Staff, participants, and participant groups.

- Work breakdown structure.

- Task assignments.

- Organizational Breakdown Structures (OBS) unit associations.

- Resource % Allocation and Allocation field values, so that the ETC lines up with these amounts.

- Cost and benefit plans.

Note: Start and finish dates, baseline information, and financial properties are not copied from templates to new projects. If hard-booked resources are defined in the project template, the resources are copied as soft-booked.

Follow these steps:

1. Open Home, and from Portfolio Management, click Projects.

2. Click New from Template.

3. Filter to select a template and click Next.

4. Complete the fields in the General section. The following fields require explanation:

% Complete Calculation Method

Specifies the method to calculate the % Complete value for the project and tasks.

Values:

■ Manual. Use this method to enter the % Complete for the project, summary, and detail tasks manually. Also, select this calculation method if you are using CA Clarity PPM with Microsoft Project, or if you are using an external job to calculate % Complete. The % Complete field appears on the task properties page. When using the manual method, the status of a task does not change automatically. The task status changes only when you manually update the % Complete value or the status.

■ Duration. Use this method to track the % Complete based on the duration. The duration is a measure of the total span of active working time for a task: from the start date to the finish date of a task. The % Complete for summary tasks is automatically calculated based on the following formula:

```
Summary Task % Complete = Total Detail Task Duration Complete / Total Detail
Task Duration
```

■ Effort. Use this method to calculate the % Complete for summary and detail tasks, automatically, based on the work units that are completed by resource assignments. If you assign a nonlabor resource to a task, the effort and actuals for that resource are ignored in the calculation. The calculations are based on the following formulas.

```
Summary Task % Complete = Sum of Detail Task resource assignment Actuals /
Sum of Detail Task resource assignment Effort
Detail Task % Complete = Sum of resource assignment Actuals / Sum of resource
assignment Effort
```

Default: Manual

Note: Set the % Complete Calculation Method at the beginning of your project and do not change this value.

Assignment Pool

Specifies the pool of resources that is allowed when assigning resources to tasks.

Values:

■ Team Only. Allow only staff members.

■ Resource Pool. Allow team staff members and resources for whom you have access rights to book to a project. With this option, when you assign a resource to a task, the resource is also added as a team staff member.

Default: Resource Pool

Set Planned Cost Dates

Specifies if the planned cost dates are synchronized with the investment dates. Selecting the option for a detailed financial plan does not affect the planned cost dates.

Default: Selected

5. Complete the fields in the Organizational Breakdown Structures section. This information defines the OBS to associate with the project for security, organizational, or reporting purposes.

6. Complete the fields in the Copy Template Project Options section. The following fields require explanation:

Scale Work By

Defines the percentage by which the work estimate on each task is required to be increased or decreased for the new project. The scaling is relative to the template.

Values: 0-100 (where zero means no change)

Default: Zero

Scale Budget By

Defines the percentage (positive or negative) as the scaling factor for the dollar amounts defined in the project cost plans and benefit plans.

Values: 0-100 (where zero means no change)

Default: Zero

Example: The template project from 1/1/2012 to 12/31/2012 allocates $10,000 for planned cost and $20,000 for planned benefit for the project duration. If a Scale Budget By value of 20 percent is defined, the plans copy over to the new project as follows. Assume that the project duration is same as the template project:

- The planned cost shows $12,000 (scaled up by an extra 20 percent of the original value).

- The planned benefit shows $24,000 (scaled up by an extra 20 percent of the original value).

Convert resources to roles

Specifies to replace the resources in the new project with the primary roles, or team roles of the named resources on the project template. If a named resource has no primary role or team role, the named resource is retained on the new project. This setting overrides the default project management setting on the settings page.

For example, a cost plan uses a resource as a grouping attribute. When you select this check box, the cost plan from the template is copied. However, the resource values are not converted to roles. The resource value can be the only value that differentiates one line item detail row from another. In the absence of the value, duplicate detail rows can result in the cost plan.

Default: Cleared

7. Save your changes.

Create the Project Manually

As a project manager, you can create the project manually, if you do not want to use an existing template.

Follow these steps:

1. Open Home, and from Portfolio Management, click Projects.

2. Click New.

3. Complete the fields in the General section. The following fields require explanation:

% Complete Calculation Method

Specifies the method to calculate the % Complete value for the project and tasks.

Values:

- Manual. Use this method to enter the % Complete for the project, summary, and detail tasks manually. Also, select this calculation method if you are using CA Clarity PPM with Microsoft Project, or if you are using an external job to calculate % Complete. The % Complete field appears on the task properties page. When using the manual method, the status of a task does not change automatically. The task status changes only when you manually update the % Complete value or the status.

- Duration. Use this method to track the % Complete based on the duration. The duration is a measure of the total span of active working time for a task: from the start date to the finish date of a task. The % Complete for summary tasks is automatically calculated based on the following formula:

```
Summary Task % Complete = Total Detail Task Duration Complete / Total Detail
Task Duration
```

- Effort. Use this method to calculate the % Complete for summary and detail tasks, automatically, based on the work units that are completed by resource assignments. If you assign a nonlabor resource to a task, the effort and actuals for that resource are ignored in the calculation. The calculations are based on the following formulas.

```
Summary Task % Complete = Sum of Detail Task resource assignment Actuals /
Sum of Detail Task resource assignment Effort
Detail Task % Complete = Sum of resource assignment Actuals / Sum of resource
assignment Effort
```

Default: Manual

Note: Set the % Complete Calculation Method at the beginning of your project and do not change this value.

Assignment Pool

Specifies the pool of resources that is allowed when assigning resources to tasks.

Values:

- Team Only. Allow only staff members.

- Resource Pool. Allow team staff members and resources for whom you have access rights to book to a project. With this option, when you assign a resource to a task, the resource is also added as a team staff member.

Default: Resource Pool

Set Planned Cost Dates

Specifies if the planned cost dates are synchronized with the investment dates. Selecting the option for a detailed financial plan does not affect the planned cost dates.

Default: **Selected**

4. Complete the fields in the Organizational Breakdown Structures section. This information defines the OBS to associate with the project for security, organizational, or reporting purposes.

5. Save your changes.

Define the Project Properties

After you create a project with the basic information, define the project properties. Project properties include the following:

- A set of characteristics to manage and organize financial information.

- Risk factors that can occur over the course of the project.

- A baseline of project costs and work effort at various stages in the project lifecycle.

To define the project properties, complete the following tasks:

- Define the general properties (see page 31).

- Define the scheduling properties (see page 32).

- Define the risk properties (see page 35).

- Define financial processing details.

- Define the subprojects.

- Define the budget properties (see page 35).

- Define the project dependencies (see page 36).

- Define a baseline.

- Define estimating rules.

Define the General Properties

Specifying the general properties of a project help identify it and define its characteristics.

Follow these steps:

1. Open the project.

2. Complete the fields in the General section. The following fields require explanation:

   Manager

   Specifies the resource who created the project. If necessary, you can update this field.

   Note: The list of participants that appear on the team participant page also depends on the value that you select for the Administration, Project Management, Settings, Automatically Add Staff Members As Investment Participant option.

   ■ The Manager becomes the Collaboration Manager under the Participants list.

   ■ All the team members become participants.

   Page Layout

   Specifies the page layout to view project information. The available layouts are company-specific and depend on the values set by your CA Clarity PPM administrator. Layouts also depend on whether an add-in is installed. If other layouts are not available, the field is read-only.

   Default: Project Default Layout

   Risk

   Specifies the risk level of the project as defined by the severity levels you select for the predefined list of risk factors from the main risk page.

   Goal

   Specifies the purpose or business case for the project.

   Values: Cost Avoidance, Cost Reduction, Grow the Business, Infrastructure Improvement, and Maintain the Business

   Alignment

   Specifies the alignment with corporate objectives. Displays a stoplight that indicates the project alignment status.

   Values:

   ■ 66 - 100 (Green) = Aligned

   ■ 33 - 65 (Yellow) = Alignment at risk

   ■ 0 - 32 (Red) = Out of alignment

Status

Indicates the status of the investment.

Values: Approved, Rejected, Unapproved

Default: Unapproved

Active

Specifies if the investment is active. Activate the investment to enable the posting of transactions and to view the investment in capacity planning portlets.

Default: Selected

Program

Specifies that you want to use a program to create projects.

Default: Cleared

Template

Specifies that you want to use the project as a project template to create other projects.

Default: Cleared

Required

Specifies to pin this investment when added to a portfolio. This field is used during scenario generation.

Default: Cleared

Define the Scheduling Properties

You define scheduling properties for the following reasons:

- Open or close the project for time tracking.

- Auto-schedule your project.

- Define the default staffing options.

- Set the project-level default earned value calculation method.

■   Associate the project to an earned value reporting period.

■   Override the earned value.

Follow these steps:

1. Open the project.

2. Open the Properties menu, and from Properties, click Schedule.

3. Complete the fields in the Schedule section. The following fields require explanation:

    As Of Date

    Defines the date to include data in time and budget estimates. This date is used in Earned Value Analysis (EVA) calculations, such as Budgeted Cost of Work Scheduled (BCWS) and drives the calculations for costs. ETC for a project is not scheduled on or before the As of Date.

    % Complete

    Defines the percent of work that has been completed on the project, based on the percentage of completion of the tasks and subprojects. This field is displayed only if the % Complete Calculation Method is set to Duration or Effort.

    Default: 0

    Values: 0 through 100

    % Complete Calculation Method

    Specifies the method to calculate the % Complete value for the project and tasks.

    Values:

    ■   Manual. Use this method to enter the % Complete for the project, summary, and detail tasks manually. Also, select this calculation method if you are using CA Clarity PPM with Microsoft Project, or if you are using an external job to calculate % Complete. The % Complete field appears on the task properties page. When using the manual method, the status of a task does not change automatically. The task status changes only when you manually update the % Complete value or the status.

    ■   Duration. Use this method to track the % Complete based on the duration. The duration is a measure of the total span of active working time for a task: from the start date to the finish date of a task. The % Complete for summary tasks is automatically calculated based on the following formula:

    ```
    Summary Task % Complete = Total Detail Task Duration Complete / Total Detail
    Task Duration
    ```

■   Effort. Use this method to calculate the % Complete for summary and detail tasks, automatically, based on the work units that are completed by resource assignments. If you assign a nonlabor resource to a task, the effort and actuals for that resource are ignored in the calculation. The calculations are based on the following formulas.

```
Summary Task % Complete = Sum of Detail Task resource assignment Actuals /
Sum of Detail Task resource assignment Effort
Detail Task % Complete = Sum of resource assignment Actuals / Sum of resource
assignment Effort
```

Default: Manual

Note: Set the % Complete Calculation Method at the beginning of your project and do not change this value.

Important! Verify that the start and finish dates of tasks and assignments are the same or within the start and finish dates of the project. Else, the start and end dates of the project are automatically redefined as per the start and end dates of the tasks and assignments.

4. Complete the fields in the Tracking section. The following fields require explanation:

Track Mode

Indicates the tracking method that is used by resource assignments to enter time spent on project tasks.

Values:

■   Clarity. Resource assignments enter time against their assigned tasks using timesheets.

■   None. Resources other than labor resources track actuals from financial transaction records or through a desktop scheduler, such as Open Workbench and Microsoft Project.

■   Other. Actuals are imported from a third-party application.

Default: Clarity

Charge Code

Defines the charge code against which transactions for the project are charged. If you also define task-level charge codes on timesheets, then the task charge codes override this code.

5. Select the Prevent Unassigned Timesheet Tasks check box if you do not want to allow users to add unassigned timesheet tasks to the project.

6. Complete the fields in the Staffing section. The following fields require explanation:

Default Staff OBS Unit

Defines the set default OBS unit that is used when you add team staff members to this project. This OBS unit describes a staffing requirement, and can be a resource pool, a specific location, or a department. By mapping roles with OBS units and resource managers, the roles can be filled more accurately. The default staff OBS unit is used during capacity planning for analyzing demand against your capacity using the staff OBS as filter criteria.

Example:

Use the OBS to find out if you have enough capacity for programmers in Atlanta to fulfill the demand for programmers in that location.

7. Save your changes.

Define the Risk Properties

You can rate the risk for a project from a predefined list of risk factors by severity level.

Follow these steps:

1. Open the project, and from Properties, click Risk.

2. Rate the project risk by selecting the options for the Contributing Factors.

3. Save your changes.

Define the Budget Properties

Budget information is essential in managing and analyzing portfolios. Correctly defining and recording planned cost and benefit information help to assess and analyze projects.

Note: To see all data from an investment to a portfolio, your CA Clarity PPM administrator must run the Synchronize Portfolio Investment job.

With a budget, you can define metrics, such as the Net Present Value (NPV) of the project, Return on Investment (ROI), and breakeven information. You can also define project planned and budgeted costs and benefits over a specified time period.

Alternatively, you can define a detailed financial plan to budget costs and benefits over multiple periods. If you create a detailed financial plan, information from the detailed plan is automatically populated in the budget properties page.

Follow these steps:

1. Open the project.

2. Open the Properties menu, and from Properties, click Budget.

3. Complete the fields in the Budget Properties page. The following fields require explanation:

    Budget Equals Planned Values

    Indicates whether you want the budget cost and benefit values to be equal to the planned cost and budget values. If you clear this check box, you can manually define the budget values.

4. Save your changes.

Define Project Dependencies

Dependency relationships can exist between one investment and another in your portfolio. Use the *Properties: Dependencies* page for the investment to identify this relationship.

Dependencies can occur between the start and completion of conflicting work effort, or from budget overruns. From this page, you can do the following tasks:

■   Add investments with dependency constraints.

■   Indicate if these investments are dependent on your investment or if your investment is dependent on them.

Follow these steps:

1. Open the project.

2. Open the Properties menu, and from Properties, click Dependencies.

3. Select a mode to view or add the following:

    ■   Investments that depend on this one.

    ■   Investments this one depends on.

4. Click Add to add more dependencies to your investment.

5. Select an investment type from the Type drop-down, select an investment, and click Add.

Create the Project Team

Project members and tasks are the core elements of a project. Both are essential to meeting project objectives. You can build a project team with the following members:

Team Staff

The resources that the project manager assigns to tasks and performs the work. Team staff members are allocated to the project. A team staff member can consist of labor, materials, equipment, and expense resource or role types. You can include resources other than labor resources or roles to process financial transactions against them.

Participants

The resources that the project manager adds to the project. Participants can view the project properties, generate ideas, and monitor progress. By default, team staff members become automatic participants. However, you can also add resources that are not team staff members as participants on the project. The value selected for the Automatically Add Staff Members As Investment Participant option determines whether the team staff member automatically becomes a participant.

Participant Groups

A group of resources who are project participants.

Add Resources or Roles

When necessary, add resources or roles to your project as team staff members. You can add resources or roles to a project automatically when you assign them to a project task in the work breakdown structure (WBS) in the Gantt view.

Follow these steps:

1. Open the project and click Team.

2. Click Add.

3. Select the resources or roles to add to the project staff, and click Add.

4. Save your changes.

Define the Resource Allocation

When necessary, define the resource allocations for the resources that you have staffed to the project. The Project Team Staff page lists the booking status for all the investments to which the resource is allocated. In addition, you can see the number of hours the resource is allocated to each investment and displays a list of planned and committed allocation for the project. This information helps you determine the resource availability for a project, or to determine when a resource is overbooked or under-booked and by how much. Unless you change the booking dates, the resource is automatically staffed to the project for the duration of the project.

Use the time-scaled column in the list to change most of the time-related values for the resources on the project. Allocation by resource, allocation, and time period is displayed in this column. You can edit information such as the time cells for each resource. Changing the time cells changes the way that planned and committed allocation is presented in the time-scaled column.

Follow these steps:

1. Open the project and click Team.

2. Complete the fields in the Project Team Staff page for the required team members. The following fields require explanation:

   Booking Status

   Defines the booking status for the resource.

   Values:

   - Soft. The resource is tentatively scheduled to work on the investment.

   - Hard. The resource is committed to work on the investment.

   - Mixed. The resource is both soft and hard allocated to the investment, or the soft allocation for the resource does not match the hard allocation.

   Default: Soft

   % Allocation

   Defines the expected percentage of time for the resource to work (as tentative or committed) on the investment. The product assumes that each team staff member is assigned to the project and to each task at 100 percent of their available time. This assumption is true if the resource is not allocated to other tasks on other projects.

3. Save your changes.

Create Project Tasks

A project includes multiple tasks, which are activities that begin and end on defined dates.

You can create tasks using the following methods:

- Insert a task to a specific WBS location (see page 39).

- Insert a new task by using a keyboard shortcut key.

- Copy a task from a project template (see page 40).

- Use XOG.

Note: This scenario does not explain all of the methods to create a task.

You can create the following types of project tasks:

Milestone

A milestone task indicates a critical point in a project, such as the completion of the first phase of the execution.

Specifies a major event or activity in a project and it indicates the phase completion or major deliverables or any significant achievement of your project during the execution of the project.

In the project plan, any task with zero duration is a milestone. That is, the Start date and Finish dates are the same for milestone tasks. Once saved, the Start field on the task properties page is locked.

Key Task

Specifies whether you want to identify a task as a key task. A key task is significant for other tasks. For example, the start date of other tasks can depend on the key task.

Example: If a task is one in which the completion is essential to the start date of other tasks, then mark this task as a key task.

Default: Selected

Fixed Duration

Specifies the fixed length of working time between the start and finish of a task. The duration for the task remains at the value you enter and the application recalculates the resource units as you change assignments.

Before building your work breakdown structure (WBS), plan the tasks and structure to help ensure effective use.

Note: For new projects, a new empty row (task) appears, by default, in the WBS. When you configure the Gantt view to not display all of the required fields, an initial blank task for projects without tasks does not appear. In addition, you cannot perform inline edits.

A summary task includes subtasks and summaries of those subtasks. For example, a project can have the creation of a new division as a summary task and the training of new staff as a subtask. Dependencies can be among, and outside, tasks in the projects.

Insert a Task to a Specific WBS Location

When necessary, insert a task to a specific location in the work breakdown structure (WBS) in the Gantt view.

Follow these steps:

1. Open the project.

2. Open the Tasks menu and click Gantt.

3. Select the check box against the project name, or click anywhere on the task row to insert the new task row below it. Then, perform one of these actions:

   ■ Use the keyboard shortcut key:

      – Windows: Press Insert.

      – Macintosh: Press Ctrl+I.

   ■ Click the Create New Task icon on the Gantt view.

4. Complete the fields in the Create Tasks page. The following fields require explanation:

   % Complete

   Defines the percent of work that has been completed when the task is partially completed.

   Values:

   ■ Zero. The task is not started.

   ■ 1 through 99. The task has ETC or actuals posted and the task is not started.

   ■ 100. The task is complete.

   Default: 0

5. Perform one of the following actions:

   ■ Click the Save icon on the Gantt view toolbar.

   ■ To enter a new task below and as a peer to this task, press Enter.

   ■ Press Tab to move to the next field.

Copy a Task from a Project Template

You can copy predefined tasks from a project template into your project. The process copies all the estimating, risk, and issue information that is associated with the tasks.

Follow these steps:

1. Open the project.

2. Open the Tasks menu and click Gantt.

3. Click the down arrow for the Create New Task icon on the Gantt view, and click Copy Task from Template.

4. Select the project template containing the tasks and click Next.

5. Select the tasks to copy into your project.

6. Click Copy.

Manage Resource Utilization

Resource utilization is the amount of resource effort it takes, or is expected to take, to complete a task. Using the Project: Tasks: Resource Utilization page, you can do the following tasks:

- View and edit each task calculated total effort, based on the following formula:

  Total Effort = Actuals + Remaining ETC

- Autoschedule the project.

By default, the Gantt chart displays total effort by task by week for all of the resources assigned to that task. You can change the chart configuration to display different variations of task and resource information.

Important! Assign staff to tasks before viewing resource utilization.

Follow these steps:

1. Open the project.

2. Open the Tasks menu and click Resource Utilization.

3. Edit the following fields:

   Task

   Defines the task name. Click the task name to open the task properties page.

   ID

   Defines the task unique identifier (up to 16 characters).

   Start

   Defines the date to start working on the task.

   Default: Current date

   Note: Work on a task cannot start before the project start date. If the task has already started or finished, this field is not available.

   Finish

   Defines the date for completing the task.

   Default: Current date

   Note: Work on a task cannot finish after the project finish date. If the task has already started or finished, the field is not available.

4. Save your changes.

Assign Resources

Assign labor resources to tasks so that they can perform work and record the work time in their timesheets.

You can also assign expense, material, and equipment resources to tasks. These types of resources can also be tracked using timesheets, and can have actuals that are logged through transactions.

Note: You cannot assign resources to milestone or summary tasks.

Assign Resources to the Project Tasks

Using the task assignments page, you can view a list of resources that are assigned to a task.

Follow these steps:

1. Open the project and click Tasks.

2. Open the Tasks menu and click Assignments.

3. Perform one of the following actions from the Task Assignments page:

    a. Replace resources that are assigned to a task.

    b. Remove resources that are assigned to a task.

    c. Assign resources to a task from the Gantt view.

Assign Resources from the Gantt View

You can assign resources to detail tasks from the work breakdown structure (WBS) in the Gantt view using one of the following methods:

- **By editing In line**. Click in the Assigned Resources field next to the task and start entering the name of the resource. Autosuggest displays a list of matching resources from which you can select and assign.

    To remove an assigned resource, click Remove in the Assigned Resources column. The resource is removed from the task when you save. If posted actuals exist for the resource, the resource is added back to the task when you save.

- **Using the Gantt toolbar**. Select a task and click the Assign Resources icon on the toolbar.

- **Using the Task properties**. Click a task name link to open the task properties. From the task properties, assign resources to the task.

Note: You can only assign resources to detail tasks.

The assignment pool setting for the project determines the resources that you can assign to a task. The product supports the following assignment pool settings:

Resource Pool

Select from a general list of resources accessible to you. When you assign a resource from outside the project team, the resource is added to the project team as a staff member.

Team Only

Select from the available resources on the project team. The team members must be in the project staff before you can assign a task to them.

Use Project Templates

You can create projects from project templates based on standard task and role assignments based on a project type. Templates help ensure consistency and efficiency in creating projects.

Use a project template to copy the contents of the template into a new project instead of creating a project from scratch. You can also scale the overall project work estimate and budget. To scale, you require using a specified percentage rather than copying the contents of a template project as is. You can modify any of the information in the new project that is copied from the template.

You can change project templates to suit the needs of your organization. You can also duplicate templates to create new ones for each project type.

Designate Projects as Templates

To make project creation more efficient, as a project owner, designate a project as a project template. Then, use the template to create new projects.

Before designating a project as a project template, verify that the following conditions are true:

- The project contains no time entries with a value greater than zero.

- The project is financially closed.

- The project is not associated with transactions (posted or not).

Follow these steps:

1. Open the project.

2. Complete the following field:

Template

Specifies using the project as a project template to create other projects.

Default: Cleared

Required: No

Select the check box.

3. Save the changes.

Populate Projects from a Template

To populate a new project, copy the information from an existing template. For example, you can copy the following types of information:

■   Tasks and task estimates (ETC)

■   Staff assignments

■   Cost and benefit plans

Follow these steps:

1. Open the project.

2. Open the Actions menu on the top right side of the page, and click Copy Project from Template.

   The select project template page appears.

3. Select the button next to the project template, and click Next.

   The copy template options page appears.

4. Complete the following fields:

   Template Name

   Displays the name of the project template from which data is used to populate the new project. Use a template to create a project with the following types of information predefined:

   ■   Project roles

   ■   Work breakdown structure

   ■   Financial plans

   ■   Project documents

   A template enables you to implement projects with common elements throughout the organization.

Scale Work By

> Defines the percentage by which the work estimate on each task is required to be increased or decreased for the new project. The scaling is relative to the template.

> **Values:** 0-100 (where zero means no change)

> **Default:** Zero

Scale Budget By

> Defines the percentage (positive or negative) as the scaling factor for the dollar amounts defined in the project cost plans and benefit plans.

> **Values:** 0-100 (where zero means no change)

> **Default:** Zero

> **Example:** The template project from 1/1/2012 to 12/31/2012 allocates $10,000 for planned cost and $20,000 for planned benefit for the project duration. If a Scale Budget By value of 20 percent is defined, the plans copy over to the new project as follows. Assume that the project duration is same as the template project:

> ■ The planned cost shows $12,000 (scaled up by an extra 20 percent of the original value).

> ■ The planned benefit shows $24,000 (scaled up by an extra 20 percent of the original value).

Convert resources to roles

> Specifies to replace the resources in the new project with the primary roles, or team roles of the named resources on the project template. If a named resource has no primary role or team role, the named resource is retained on the new project. This setting overrides the default project management setting on the settings page.

> For example, a cost plan uses a resource as a grouping attribute. When you select this check box, the cost plan from the template is copied. However, the resource values are not converted to roles. The resource value can be the only value that differentiates one line item detail row from another. In the absence of the value, duplicate detail rows can result in the cost plan.

> **Default:** Cleared

5. Click Copy.

Rules for Copying Financial Plans from Project Templates

The following rules apply when you copy financial plans from a template to a new or existing project:

- The entity associated with the template requires matching the entity associated with the new project. If not, the plans are not copied over.

- The ID for a financial plan in the template not to match with the ID for a financial plan in the new project. Otherwise, the financial plan from the template is copied over to the new project and the plan ID is suffixed.

- If the project to which you are copying (the target) and the template both have a cost plan of record (POR), then the target project retains its POR. The POR from the template is copied to the target project as a cost plan that is not the POR. The start and end periods for this cost plan are based on the start and end dates of the target project.

- Active processes cannot run on the template. Otherwise, the financial plan does not copy.

- The template cannot include submitted, approved, or rejected budget plans. Otherwise, the plans do not copy.

Project Fields Used for Copying Financial Plans

When copying financial plans from a project template, some of the fields from your first-created project are used. The following fields in the template project affect how the financial plans are copied over to a new project:

Start Date

The time periods on the financial plans that are copied over from the project template shift in the new project according to this start date. The End Date field value in the project template is not relevant to financial plans. The end date is automatically calculated for each financial plan based on their original plan durations in the template and their new start dates.

Set Planned Cost Dates

This field is only considered when no budget plans exist in the project template. Selecting the option retains the same dates for planned cost and planned benefit on the budget properties page as the project start and end dates. If unselected, the dates for planned cost and planned benefit are shifted. The shifting is based on the difference between the template project start date and the new project start date.

Department

The following rules apply to the department OBS:

- If a Department OBS is defined in the project template, this value is copied to the new project.

- Suppose, you select the same department or a different one belonging to the same entity associated with the project template. The financial plans copy to the new project.

- Suppose, you select a different department belonging to a different entity other than the one associated with the project template. The financial plans do not copy to the new project. However, the budget properties get copied.

Scale Budget By

Defines the percentage (positive or negative) as the scaling factor for the dollar amounts defined in the project cost plans and benefit plans.

Values: 0-100 (where zero means no change)

Default: Zero

Example: The template project from 1/1/2012 to 12/31/2012 allocates $10,000 for planned cost and $20,000 for planned benefit for the project duration. If a Scale Budget By value of 20 percent is defined, the plans copy over to the new project as follows. Assume that the project duration is same as the template project:

- The planned cost shows $12,000 (scaled up by an extra 20 percent of the original value).

- The planned benefit shows $24,000 (scaled up by an extra 20 percent of the original value).

How Start Dates of Financial Plans are Copied Over

This example shows how the start and end time periods are set for financial plans that you create by copying from a template project.

The template project with a start date in December 2010 includes the following financial plans:

- Cost Plan A is POR and spans two years from Jan 2011-Dec 2012.
- Cost Plan B spans two years from June 2011-June 2013.

- Benefit Plan C (associated with Cost Plan A) spans three years from Jan 2013 – Dec 2016.

- Benefit Plan D (associated with Cost Plan B) spans four years from July 2013 – July 2017.

- Benefit Plan E (not associated with any cost plan) spans four years from June 2013 – June 2017.

When you copy the template information into a new project with a start date in December 2011, the financial plans shift. Financial plans shift according to the new start date. But the plans maintain the same time lapse between the start and end dates originally defined in the template.

The financial plans now have the following new start and end time periods:

- Cost plan A is POR and spans two years from Jan 2012 – Dec 2013. Maintains the one month lapse with the project start date as before.

- Cost plan B still spans two years from June 2012 – June 2014. Maintains the six months lapse with the project start date as before.

- Benefit plan C still spans three years from Jan 2014 – Dec 2017. Maintains the two years and one month lapse with the project start date as before.

- Benefit plan D still spans four years from July 2014 – July 2018. Maintains the two years and seven-month lapse with the project start date as before.

- Benefit plan E still spans four years from June 2014 – June 2018. Maintains the two years and six-month lapse with the project start date as before.

How to Copy Financial Plans from Project Templates

Use the following process to copy financial plans from project templates:

1. Create the fiscal time periods that include the start dates of the template and target projects.

2. Do one of the following:

    - Create a project using a template.

    - Populate an existing project from a template (see page 44).

    - Create a process that copies financial information from a template into an existing project.

BCL--Define Project Properties

Project properties comprise the following:

- A financial summary.

- Risk factors that can occur over the course of the project.

- A baseline of project costs and work effort at various stages in the project lifecycle.

With the project open, access the links to define project characteristics.

You can:

- Define the general properties (see page 49).

- Define the scheduling properties.

- Define the risk properties.

- Define the budget properties.

- Define the financial properties.

- Define status update records.

- Define document records.

- Define business alignment records.

- Define project dependencies.

- Create a baseline (see page 70).

Define General Properties

Edit the general properties of any project to which you have access.

Follow these steps:

1. Open the project.

2. Complete the following fields in the General section:

Assignment Pool

Specifies the pool of resources that is allowed when assigning resources to tasks.

Values:

- Team Only. Allow only staff members.

- Resource Pool. Allow team staff members and resources for whom you have access rights to book to a project. With this option, when you assign a resource to a task, the resource is also added as a team staff member.

Default: Resource Pool

Manager

Specifies the name of the resource that is responsible for managing the project. The manager of a project automatically receives certain rights for the project.

The project manager is not the same as the collaboration manager. The person creating the project becomes the collaboration manager for the project by default.

Default: The resource creating the project. If you are creating a project that someone else can manage, change the default to another resource.

Required: No

Page Layout

Specifies the page layout to view project information. Available layouts are company-specific and dependent on the values set by your CA Clarity PPM administrator. Layouts also depend on whether an add-in is installed. If other layouts are not available, the field is display only.

Default: Project Default Layout

Required: Yes

Risk

Displays the project risk status in the form of a stoplight. The stoplight colors are based on your selections on the main risk page. If you have detailed risks defined, the colors are derived from the risks page.

Values:

- Green = Low Risk

- Yellow = Medium Risk

Red = High Risk

Goal

Specifies the purpose or business case for this project.

Values: Cost Avoidance, Cost Reduction, Grow the Business, Infrastructure Improvement, and Maintain the Business

Required: No

Alignment

Specifies the alignment with corporate objectives. Displays a stoplight that indicates the project alignment status.

Values:

- 66 - 100 (Green) = Aligned

- 33 - 65 (Yellow) = Alignment at risk

- 0 - 32 (Red) = Out of alignment

- **Required:** No

Active

Specifies if the investment is active. Activate the investment to enable posting transactions. Also, to view the investment in capacity planning portlets.

Default: Selected

Program

Specifies using a program to create projects.

Default: Cleared

Required: No

Template

Specifies using the project as a project template to create other projects.

Default: Cleared

Required: No

Required

Specifies to pin this investment when added to a portfolio. This field is used during scenario generation.

Default: Cleared

Required: No

3. In the Organizational Breakdown Structures section, define the OBS to associate with the project for security, organizational, or reporting purposes.

Organizational

Defines the lines of business for your organization that is responsible for the proposal.

Department

Defines the department that is used during transaction processing of chargebacks to charge or credit departments for costs. The department can also be used to match the investment with Cost/Rate matrices. The field is auto-populated if a department is selected on the general properties page.

This OBS is listed last if more than one OBS exists.

Location

Defines the location that is used to match the investment with debit and credit rules for transaction processing of chargebacks. The investment location can be used as a match in the Cost/Rate matrix. If the investment does not have a location, use the entity default location. However, if the entity default location is not available, use the system default location value.

4. Save the changes.

BCL--Financially Enable Projects (Investments)

You can process financial transactions for your project. But, before processing financial transactions, enable your project to set up financial transaction defaults, such as specifying the project and cost matrices. The selections automatically populate transaction entries upon selecting the project.

To enable a project for financial processing, set up the following:

■ Define financial departments

■ Define financial locations

■ Associate departments to locations

■ Financially enable the projects

Financially Close Project

Financially closing a project helps ensure that additional funds are not assigned to the project.

Follow these steps:

1. Open the project.Open the Properties menu, and from Properties, click Financial.

   The financial page appears.

2. Complete the following field:

   Financial Status

   Specifies the status that determines how financial transactions entered against the project are handled.

   Values:

   ■   Open. All transactions that are entered against the project can be fully processed.

   ■   Hold. No new transactions can accumulate on the project.

   Closed. No new transactions can accumulate on the project. When you mark the financial status as "Closed", it is no longer open for financial processing.

3. Save the changes.

How to Set Up Projects for Tracking Costs

Use the following process to set up projects for tracking costs:

1. Create and define one or more financial cost matrices.

   For more information, see *How to Set up a Cost/Rate Matrix*.

2. Create a project (see page 16).

3. Financially enable the project.

4. Set the project earned value (EV) calculation method (see page 288).

5. Associate the cost matrix to the project resource types (see page 54).

6. Assign staff to project tasks.

7. Create a cost plan using the team allocations.

   For more information, see *Populate a Cost Plan Automatically*.

8. Schedule the Cost/Rate Matrix Extraction job to run periodically.

   Contact your CA Clarity PPM administrator or see *Run or Schedule a Job to Run.*

9. Baseline the project (see page 70).

10. Calculate and record earned value information (see page 79).

About the Financial Cost/Rate Matrix

The financial cost/rate matrix is used for tracking purposes. You can associate the matrix to your project so that budgeted cost of work performed (BCWP) and earned value (EV) information is calculated. You can associate the financial cost matrix at the project level for labor, material, and equipment resources, and for expenses incurred against your projects.

The financial cost matrix is also used when you generate reports containing certain project cost information. To enable the values to calculate, assign resources or roles to tasks. Also, have your CA Clarity PPM administrator schedule the Rate Matrix Extraction job to run periodically.

For more information, contact your CA Clarity PPM administrator or search *Jobs*.

If you do not associate the financial cost, or rate matrix to the project, your finance manager requires specifying a cost when creating transactions.

Associate the Cost/Rate Matrix to Projects

Use this procedure to associate the financial cost matrix to a project resource type. The financial cost matrix is used to calculate project rates.

Important! Before you can associate the financial cost matrix to your project, create the matrix. See *How to Set Up a Cost/Rate Matrix*.

Follow these steps:

1. Open the project.

2. Open the Properties menu, and from Properties, click Financial.

    The financial properties page appears.

3. In the Labor Transaction Rates, Material Transaction Rates, Equipment Transaction Rates, and Expense Transaction Rates sections, enter the following cost information:

    Rate Source

    Defines the cost or rate matrix used for calculating the benefit amount of the transaction entry.

    Cost Source

    Defines the cost or rate matrix used for calculating the cost amount of the transaction entry.

    Exchange Rate Type

    Displayed only when multiple currencies are available. Defines the exchange rate type that is used for transactions entered against the project. When the project is approved, you cannot modify the exchange rate type.

Values:

- ■ Average. The blended derived rate over time, typically weekly or monthly.

- ■ Fixed. The fixed rate that does not change over a defined period.

- ■ Spot. The variable rate that changes over the course of a day.

4. Save the changes.

Control Access to Projects

Use the Access to This Project pages to view, grant, and edit the instance-level access rights to your project. You can view access rights on the full view page. You can also edit and grant access rights on the resource, group, and OBS unit pages.

Estimate to Complete (ETC)

The Estimate to Complete (ETC) is the estimated time for a resource to complete an assignment. The value is important for both project planning and revenue recognition. In the short run, estimates help project managers more effectively allocate work hours. In the end, project managers can compare estimates to actuals, which can help produce more accurate forecasting and planning.

The estimating properties display the current and new ETC values. To view the page, open the project, click the Properties menu, and click Estimating.

You can do the following from this page:

- ■ Define project estimates (see page 55).
- ■ Modify ETC (see page 56).

How to Define Project Estimates (ETC)

The following process outlines how to define the estimates for a project:

1. Assign resources to the tasks.

2. Generate the estimates (see page 56).

3. Define estimates:

    - ■ At the project level (see page 56).
    - ■ At the task level (see page 113).

4. Define allocations by individual resource.

How ETC is Calculated

When you assign a resource to a task, the estimate to complete (ETC) for the task is automatically calculated. Allocation (percent) and availability (Hours) for a resource assignment determines the ETC for the task based on the assignment start and finish dates. The calculation is based on the following formula:

```
ETC = the number of working days the resource is assigned to work on the task *
      the number of hours each day that the resource is available for work
```

The calendar and daily availability for a resource is used to determine the total availability for the resource. Unless you specify a different number in the resource profile, eight hours of work time are available daily, by default, for each resource is assumed.

Example 1

You allocate Aaron Connors 100 percent to a project and assign him to a task for 5 days with 8 hours availability. The ETC for Aaron is 40 hours. You allocate Patty Chen 50 percent to a project and assign her to the same task for 5 days. The ETC for Patty is 20 hours.

Example 2

You schedule a task between 6/30/11 and 7/30/11. The task contains 22 working days and has one resource assigned to it for 8 hours a day for all 22 days. The ETC for the task is calculated at 176 hours (22 days * 8 hours each day). You assign two resources to the task, each with a total daily availability of 8 hours. One resource for 50 percent of the available time and the other resource for 100 percent. The combined ETC calculates to 264.

How to Modify ETC

You can change the project-level ETC in the following ways:

- Apply new estimates across project tasks (see page 56).

- Apply the ETC (see page 57).

- Apply the estimating rules (see page 115).

Important! Assign staff to tasks before you can view and edit ETC.

Apply New ETC Across Tasks

You can apply estimates (ETC) across all tasks by editing and applying the ETC at the project level. Applying ETC at the project level distributes the ETC value across all the project tasks according to task duration, resource availability, and resource allocation. The current ETC assumes the new value.

Follow these steps:

1. Open the project.

2. Open the Properties menu and click Estimating.

   The estimating properties page appears.

3. Complete the following field:

   New ETC

   Defines the new estimate to apply across all the tasks in the project.

4. Click Apply.

   The new ETC is applied.

Apply Top-Down Estimating

Use this procedure to view and edit the combined ETC of all the tasks in the project and to apply ETC. The estimating page displays a breakdown of project ETC by phase or task grouping. You can expand the list to view the ETC for each task in the phase or group. Once a project or task is underway, ETC reflects the number of remaining hours estimated to complete the project.

To apply top-down estimating, enter the percentage share of the top-down estimate distributed for each task.

Follow these steps:

1. Open the project.

2. Open the Properties menu and click Estimating.

   The estimating properties page appears.

3. Complete the following fields:

   Mode

   Specifies the mode for estimating.

   Values:

   - Top-Down Estimating. Use this mode to specify a percentage of the estimates for tasks.

   - Estimating Rules. Use this mode to estimate rules for applying estimates to tasks.

   Default: Top-Down Estimating

   Current ETC

   Displays the current estimate to complete (ETC) for the project. The value for this field is derived from the Current ETC on the estimating properties page.

   Required: No

New ETC

Defines the new estimate to apply across all the tasks in the project.

4. Click Preview.

    The list of tasks display.

5. View the following fields:

    Task

    Defines the name of the task. Clicking the plus sign or summary task name displays subtasks below the summary task.

    ID

    Displays the unique identifier for the task.

    Current ETC

    Displays the total Estimate To Complete (ETC) for the task. The value for this field is derived from the ETC field on the task estimating properties page.

    Top-down %

    Displays the percentage of the top-down estimate from the project that is distributed to the task.

    New ETC

    Displays the new estimate to apply to the task.

6. Click Apply.

    The ETC is distributed to the tasks set up to receive the top-down distribution.

Subprojects

Use sub projects to group related projects under one master project for scheduling purposes. Establishing sub project associations lets you create plans and track and analyze an individual project in detail. The associations also help viewing, summarizing, and analyzing the progress of several projects at the master project level. You can use master projects with subprojects to perform top-down planning and to share resource availability across projects.

Subprojects are allocated at 100 percent to the master project, and participate in the master project baseline and earned value metrics. You cannot change the allocation percentages.

You can associate any number of projects together. Information is not shared between the subprojects and the master project, or between the subprojects themselves.

Example

You create a master project named Database Reconstruction which contains three subprojects: Oracle, Sybase, and FoxPro.

Add Subprojects to Master Projects

Use the following procedure to add an existing subproject to a master project. You can add an unlimited number of subprojects to a master project.

Use the properties page, or Gantt view to add a project as a subproject. You can open a subproject from the master project and modify it.

Follow these steps:

1. Open the project to create subprojects under it.

2. Open the Properties menu, and from Main, click Subprojects.

   The subprojects properties page appears.

3. Select the check box next to the project to add as a subproject, and click Add.

Follow these steps:

1. Open the project.

2. Open the Tasks menu and click Gantt.

   The Gantt view appears.

3. Click the Add Existing Subproject icon in the Gantt view.

   The select subprojects page appears.

4. Select the check box next to the project to add as a subproject, and click Add.

Create Subprojects from Project Templates

Use this procedure to create a subproject using a project template. The default field values, defined in the project template, vary depending on the selections made in the template.

Follow these steps:

1. Open the project.

2. Open the Tasks menu and click Gantt.

   The Gantt view appears.

3. Click the down arrow for the Add Existing SubProject icon in the Gantt view, and click Create New Project From Template.

   The available project templates appear.

4. Select a project template and click Next.

5. Complete the requested information. The following fields require explanation:

   Assignment Pool

   Specifies the pool of resources that is allowed when assigning resources to tasks.

   Values:

   ■ Team Only. Allow only staff members.

   ■ Resource Pool. Allow team staff members and resources for whom you have access rights to book to a project. With this option, when you assign a resource to a task, the resource is also added as a team staff member.

   Default: Resource Pool

   Manager

   Specifies the name of the resource that is responsible for managing the project. The manager of a project automatically receives certain rights for the project.

   The project manager is not the same as the collaboration manager. The person creating the project becomes the collaboration manager for the project by default.

   Default: The resource creating the project. If you are creating a project that someone else can manage, change the default to another resource.

   Required: No

   Page Layout

   Specifies the page layout to view project information. Available layouts are company-specific and dependent on the values set by your CA Clarity PPM administrator. Layouts also depend on whether an add-in is installed. If other layouts are not available, the field is display only.

   Default: Project Default Layout

   Required: Yes

Start Date

Defines the initial start date for a project. As you create tasks and assignments, this date is auto-calculated to match the first date that a task is scheduled to start. At that point, to edit this date, adjust the following dates:

- Start date of the first task of the project.

- Start date of the resource assignments and allocations on the project.

Important! Verify that the start dates of tasks and assignments are the same or later than the start date of the project. Else, the start date of the project is automatically redefined as per the start dates of the tasks and assignments.

Default: Current date

Required: Yes

Finish Date

Defines the initial finish date for a project. As you create tasks and assignments, this date is auto-calculated to match the last date that a task is scheduled to finish. At that point, to edit this date, adjust the following dates:

- End date of the first task of the project.

- End date of the resource assignments and allocations on the project.

Important! Verify that the finish dates of tasks and assignments are the same or before the finish date of the project. Else, the end date of the project is automatically redefined as per the end dates of the tasks and assignments.

Default: Current date

Set Planned Cost Dates

Specifies if the planned cost dates are synchronized with the investment dates. Selecting the option for a detailed financial plan does not affect the planned cost dates.

Default: Selected

Stage

Defines the stage in the investment lifecycle. The list of choices is company-specific and depends on the values that your administrator sets.

The metric is used in portfolio analysis when you use comparable stage criteria across all portfolio investments.

Goal

Specifies the purpose or business case for this project.

Values: Cost Avoidance, Cost Reduction, Grow the Business, Infrastructure Improvement, and Maintain the Business

Required: No

Priority

Defines the relative importance of this investment in relation to all other investments. The priority controls the order in which tasks are scheduled during autoscheduling. The priority is subject to dependency constraints.

Values: 0 - 36 (where zero is the highest importance)

Default: 10

Required: No

Progress

Indicates the level of work that is completed on the tasks.

Values:

- Completed (100 percent)

- Started (1 - 99 percent)

- Not Started (0 percent)

Default: Not Started

Required: Yes

Required

Specifies to pin this investment when added to a portfolio. This field is used during scenario generation.

Default: Cleared

Required: No

% Complete Calculation Method

Specifies the method to calculate the % Complete value for the project and tasks.

Values:

■   Manual. Use this method to enter the % Complete for the project, summary, and detail tasks manually. Also, select this calculation method if you are using CA Clarity PPM with Microsoft Project, or if you are using an external job to calculate % Complete. The % Complete field appears on the task properties page. When using the manual method, the status of a task does not change automatically. The task status changes only when you manually update the % Complete value or the status.

■   Duration. Use this method to track the % Complete based on the duration. The duration is a measure of the total span of active working time for a task: from the start date to the finish date of a task. The % Complete for summary tasks is automatically calculated based on the following formula:

```
Summary Task % Complete = Total Detail Task Duration Complete / Total Detail
Task Duration
```

■   Effort. Use this method to calculate the % Complete for summary and detail tasks, automatically, based on the work units that are completed by resource assignments. If you assign a nonlabor resource to a task, the effort and actuals for that resource are ignored in the calculation. The calculations are based on the following formulas.

```
Summary Task % Complete = Sum of Detail Task resource assignment Actuals /
Sum of Detail Task resource assignment Effort
Detail Task % Complete = Sum of resource assignment Actuals / Sum of resource
assignment Effort
```

Default: Manual

Note: Set the % Complete Calculation Method at the beginning of your project and do not change this value.

Department

Defines the department OBS for the project.

Location

Defines the location OBS for the project.

Template Name

Displays the name of the project template from which data is used to populate the new project. Use a template to create a project with the following types of information predefined:

- Project roles

- Work breakdown structure

- Financial plans

- Project documents

A template enables you to implement projects with common elements throughout the organization.

Scale Work By

Defines the percentage by which the work estimate on each task is required to be increased or decreased for the new project. The scaling is relative to the template.

Values: 0-100 (where zero means no change)

Default: Zero

Scale Budget By

Defines the percentage (positive or negative) as the scaling factor for the dollar amounts defined in the project cost plans and benefit plans.

Values: 0-100 (where zero means no change)

Default: Zero

Example: The template project from 1/1/2012 to 12/31/2012 allocates $10,000 for planned cost and $20,000 for planned benefit for the project duration. If a Scale Budget By value of 20 percent is defined, the plans copy over to the new project as follows. Assume that the project duration is same as the template project:

- The planned cost shows $12,000 (scaled up by an extra 20 percent of the original value).

The planned benefit shows $24,000 (scaled up by an extra 20 percent of the original value).

Convert resources to roles

Specifies to replace the resources in the new project with the primary roles, or team roles of the named resources on the project template. If a named resource has no primary role or team role, the named resource is retained on the new project. This setting overrides the default project management setting on the settings page.

For example, a cost plan uses a resource as a grouping attribute. When you select this check box, the cost plan from the template is copied. However, the resource values are not converted to roles. The resource value can be the only value that differentiates one line item detail row from another. In the absence of the value, duplicate detail rows can result in the cost plan.

Default: Cleared

6. Save the changes.

Create Subprojects from Project WBS

Use this procedure to create a subproject from the work breakdown structure of the master projects.

Follow these steps:

1. Open the project.

2. Open the Tasks menu and click Gantt.

   The Gantt view appears.

3. Click the down arrow for the Add Existing Subproject icon in the Gantt view, and click Create New Project.

4. Complete the requested information. The following fields require explanation:

   Assignment Pool

   Specifies the pool of resources that is allowed when assigning resources to tasks.

   Values:

   ■   Team Only. Allow only staff members.

   ■   Resource Pool. Allow team staff members and resources for whom you have access rights to book to a project. With this option, when you assign a resource to a task, the resource is also added as a team staff member.

   Default: Resource Pool

Manager

Specifies the name of the resource that is responsible for managing the project. The manager of a project automatically receives certain rights for the project.

The project manager is not the same as the collaboration manager. The person creating the project becomes the collaboration manager for the project by default.

Default: The resource creating the project. If you are creating a project that someone else can manage, change the default to another resource.

Required: No

Page Layout

Specifies the page layout to view project information. Available layouts are company-specific and dependent on the values set by your CA Clarity PPM administrator. Layouts also depend on whether an add-in is installed. If other layouts are not available, the field is display only.

Default: Project Default Layout

Required: Yes

Start Date

Defines the initial start date for a project. As you create tasks and assignments, this date is auto-calculated to match the first date that a task is scheduled to start. At that point, to edit this date, adjust the following dates:

■ Start date of the first task of the project.

■ Start date of the resource assignments and allocations on the project.

Important! Verify that the start dates of tasks and assignments are the same or later than the start date of the project. Else, the start date of the project is automatically redefined as per the start dates of the tasks and assignments.

Default: Current date

Required: Yes

Finish Date

Defines the initial finish date for a project. As you create tasks and assignments, this date is auto-calculated to match the last date that a task is scheduled to finish. At that point, to edit this date, adjust the following dates:

■ End date of the first task of the project.

■ End date of the resource assignments and allocations on the project.

Important! Verify that the finish dates of tasks and assignments are the same or before the finish date of the project. Else, the end date of the project is automatically redefined as per the end dates of the tasks and assignments.

Default: Current date

Set Planned Cost Dates

Specifies if the planned cost dates are synchronized with the investment dates. Selecting the option for a detailed financial plan does not affect the planned cost dates.

Default: Selected

Stage

Defines the stage in the investment lifecycle. The list of choices is company-specific and depends on the values that your administrator sets.

The metric is used in portfolio analysis when you use comparable stage criteria across all portfolio investments.

Goal

Specifies the purpose or business case for this project.

Values: Cost Avoidance, Cost Reduction, Grow the Business, Infrastructure Improvement, and Maintain the Business

Required: No

Priority

Defines the relative importance of this investment in relation to all other investments. The priority controls the order in which tasks are scheduled during autoscheduling. The priority is subject to dependency constraints.

Values: 0 - 36 (where zero is the highest importance)

Default: 10

Required: No

Progress

Indicates the level of work that is completed on the tasks.

Values:

- Completed (100 percent)
- Started (1 - 99 percent)
- Not Started (0 percent)

Default: Not Started

Required: Yes

Required

Specifies to pin this investment when added to a portfolio. This field is used during scenario generation.

Default: Cleared

Required: No

% Complete Calculation Method

Specifies the method to calculate the % Complete value for the project and tasks.

Values:

■ Manual. Use this method to enter the % Complete for the project, summary, and detail tasks manually. Also, select this calculation method if you are using CA Clarity PPM with Microsoft Project, or if you are using an external job to calculate % Complete. The % Complete field appears on the task properties page. When using the manual method, the status of a task does not change automatically. The task status changes only when you manually update the % Complete value or the status.

■ Duration. Use this method to track the % Complete based on the duration. The duration is a measure of the total span of active working time for a task: from the start date to the finish date of a task. The % Complete for summary tasks is automatically calculated based on the following formula:

```
Summary Task % Complete = Total Detail Task Duration Complete / Total Detail
Task Duration
```

■ Effort. Use this method to calculate the % Complete for summary and detail tasks, automatically, based on the work units that are completed by resource assignments. If you assign a nonlabor resource to a task, the effort and actuals for that resource are ignored in the calculation. The calculations are based on the following formulas.

```
Summary Task % Complete = Sum of Detail Task resource assignment Actuals /
Sum of Detail Task resource assignment Effort
Detail Task % Complete = Sum of resource assignment Actuals / Sum of resource
assignment Effort
```

Default: Manual

Note: Set the % Complete Calculation Method at the beginning of your project and do not change this value.

5. In the Organizational Breakdown Structures section, define the OBS to associate with this project for security, organizational, or reporting purposes.

6. Save the changes.

View Combined Subproject Actuals and Estimates (projects)

You can view combined subproject actuals and estimates for all the master project subprojects using the properties page of subprojects.

The following list describes the columns and data that display on this page:

Project

Displays the project name and links to the project properties.

ID

Displays the project ID that is typically autonumbered.

Count

Indicates the number of subprojects for a subproject (or for a program, a project).

Actuals

Displays the actuals that are posted for the tasks in each subproject. The value in the Total cell reflects the combined actuals for all the project subprojects.

ETC

Displays the subproject estimate to complete. The Estimate to Complete (ETC) is the estimated time for a resource to complete an assignment. The value in the Total cell reflects the combined ETC for all the subprojects.

Total Effort

Displays the subproject total effort based on the following formula:
`Total Effort = Actuals + Remaining ETC`

The value in the Total cell reflects the combined effort for all the project subprojects.

Percent Expended

Displays the percentage of resource usage expended on the subproject. The value in the Total cell reflects the combined percentage for all the project subprojects.

Baseline

Displays the subproject usage value for the most current baseline based on the following formula:
`Usage = Total Effort (Actuals + Remaining ETC) to date`

Total

Displays a stoplight indicator with the subproject overall approval status.

Read Only

Specifies if the subproject is accessible to project participants as read-only.

Control Access to Subprojects

By default, all project participants have read/write access to any subproject added to the project. However, you can change the access settings of individual subprojects to read-only. You can also change the ones set to read-only back to read/write.

Follow these steps:

1. Open the project.

2. Open the Properties menu and click Subprojects.

3. Select the check box next to the subproject to limit access, and click Set Read-Only.

    The subproject is now only accessible to project participants as read-only. A check appears in the Read Only column for that subproject.

Follow these steps:

1. Open the project to set access to the subproject.

2. Open the Properties menu and click Subprojects.

3. Select the check box next to the subproject, and click Set Read/Write.

    The subproject is now accessible to project participants as read/write. A check disappears from the Read Only column for that subproject.

Baselines

Baselines are snapshots of the total actual and planned effort and total actual and planned cost estimates for a project at the moment of capture. They are static. The changes you make to your project after you create your baseline do not affect the current baseline. You explicitly update a baseline to reflect changes to project scope or cost.

You can view baseline cost and work allocation information. Also, you can view other information, such as earned value (EV) and project performance that is most relevant to your project and organization. View the information about the baseline properties page and on the baseline revision properties page.

Create Baselines

You can create baselines for the entire project from the baseline properties page, or from the work breakdown structure (WBS) page. This procedure details how to create a baseline from the baselines page.

You can create an unlimited number of project baselines. Create an initial baseline before resources enter time on a project. After the initial baseline, you can create additional ones at various intervals. You can create a baseline midway through the project, when different phases complete, or at the end of the project.

The project must be unlocked before you can create a baseline. To perform detailed baselining, open the project in a desktop scheduler, such as Open Workbench or Microsoft Project.

Follow these steps:

1. Open the project.

2. Open the Properties menu, and from Main, click Baseline.

   The baseline properties page appears.

3. Click New.

   The baseline revision properties page appears.

4. Complete the requested information. The following fields require explanation:

   Revision Name

   Defines the name of the baseline revision.

   Example:

   Initial Baseline, Mid-Term Baseline, or Final Baseline.

   Required: Yes

   Revision ID

   Defines the unique identifier for the baseline revision.

   Example:

   The baseline version number, such as v1 or v5.

   Required: Yes

   Current Revision

   Defines a baseline revision as the current baseline. The field is display only if a baseline revision exists. By default, the baseline you create last becomes the current project baseline. If you have defined only one baseline, that becomes the current baseline.

   Default: Selected

5. Save the changes.

Edit Baselines

Edit baselines from the baseline properties page. You can edit the revision name, revision ID, and description. You can also delete baselines. If you delete the current baseline and another baseline revision exists, the remaining baseline becomes the current revision.

Follow these steps:

1. Open the project.

2. Open the Properties menu, and from Main, click Baseline.

    The baseline properties page appears.

3. Click the name of the baseline revision.

    The baseline revision properties page appears.

4. Complete the requested information. The following fields require explanation:

    Current Revision

    > Defines a baseline revision as the current baseline. The field is display only if a baseline revision exists. By default, the baseline you create last becomes the current project baseline. If you have defined only one baseline, that becomes the current baseline.

    > **Default:** Selected

    Revision Name

    > Defines the name of the baseline revision.

    > **Example:**

    > Initial Baseline, Mid-Term Baseline, or Final Baseline.

    > **Required:** Yes

    Revision ID

    > Defines the unique identifier for the baseline revision.

    > **Example:**

    > The baseline version number, such as v1 or v5.

    > **Required:** Yes

    Start

    > Displays the project or task start date at the time you create the baseline. The value for the field is taken from the start date field on the scheduling properties page.

    Finish

    > Displays the project or task finish date at the time you take the baseline. The value for the field is taken from the finish date field on the scheduling properties page.

Usage

Displays the system-generated usage at the time you take for baselining using the following formula:

`Usage = Total of Actuals + ETC`
`In lists and in portlets, the usage field displays the value from baseline`
`usage field on the revision properties page.`

BCWP

Displays the system-calculated value of Budgeted Cost of Work Performed (BCWP). The value is calculated and recorded when you baseline a project, or when you update earned value totals. BCWP is also referred to as the earned value (EV). BCWP represents the amount of the budgeted cost (BAC) completed based on performance as measured using the Task EV Calculation method.

Calculations are made based on the level at which the calculation is made. BCWP is calculated at the following levels:

■   Task. BCWP is based on the selected EV calculation method.

■   Project. BCWP is the sum of BCWP for all WBS Level 1 tasks in the project.

Current Baseline Required: Yes

5.   Save the changes.

Update Project Baselines

Use this procedure to update master project and subproject baselines. You can update existing project baselines to reflect changes to task assignments and other information, such as recently posted actuals. When you update a baseline, it becomes the current baseline revision.

When you update a project baseline, the changes to task assignments, estimates, and the financial summary from the last update get included. Updating a baseline changes its values accordingly.

Follow these steps:

1.   Open the project.

2.   Open the Properties menu, and from Main, click Baseline.

The baseline properties page appears.

3.   Select the check box next to the baseline to update, and from the Actions menu, click Update Baseline.

4.   Click Yes on the confirmation page.

Update Task Baselines

Use this procedure to update the current baseline for a specific task. You can select an unlimited number of tasks from the list. When you update the task baseline, the changes to assignments and estimates from the last baseline update get included. Financial summary changes are not included.

Follow these steps:

1. Open the project and click Tasks.

2. Open the Tasks menu and click Gantt.

   The Gantt view appears.

3. Select the check box next to the task to update. Click the down arrow for the Create Baseline icon in the Gantt view, and click Update Task Baseline.

4. Click Yes to confirm.

How Master Project and Subproject Baselines Work

The master project baseline information is an aggregation of its own baseline information and subprojects. The baseline is dynamically aggregated at the time you set the baseline. The master project resource baseline information is an aggregation of the team baseline information.

When you open a baselined master project and add a new subproject, the current baseline for the subproject is saved. When you baseline the master project, the new baseline replaces the subproject baseline. The baseline becomes the current baseline for the master project. The subproject information is aggregated and rolled up to the master project baseline.

If subprojects of the master project have more than one baseline, the current baseline displays in views. The subproject baseline inherits the name and the ID of the master project baseline. If the subproject already has a baseline with the same ID, that baseline is updated and a new baseline is not created. The link between the master project baseline and the subproject baseline is created based on the baseline ID. The baseline ID is shared between the two baselines.

When you delete a master baseline, the subproject baseline is also deleted.

Update and Display of Master Project Baselines

When you update the baseline for a master project, the baselines for each subproject are also updated. The baseline becomes the current baseline for the master project and its subprojects.

Subproject Baseline Information Roll up

When you update a subproject baseline, baseline and earned value (EV) information are not rolled up. To update the master project roll up the baseline information from the sub projects.

Display Master Project Baselines

Suppose, you open a master project that is not baselined, but have baselined one of the subprojects. The current baseline for the subproject is displayed in views.

Example

You have a master project with two subprojects, SB1 and SB2, and only SB1 has a current baseline, Baseline1. You rename Baseline1. You baseline a selected task in SB2. You delete SB1 baseline and replace it with SB2 baseline. SB2 baseline is the current revision.

Earned Value

Earned value (EV) is the value of work performed expressed in terms of the approved budget assigned to that work for a scheduled activity or work breakdown structure. Earned value is also referred to as the budgeted cost of work performed (BCWP).

You can use the EV information to review historical performance and to predict future performance.

You can display earned value fields on any portlet or list page that bases its information about the project or task. To display the fields, personalize the page, or let the CA Clarity PPM administrator configure the page or portlet at the system level using Studio.

Default Earned Value Options

If your organization uses earned value management methodology for measuring project performance, you can set the project-level default earned value calculation method. Use the fields in the Earned Value section of the scheduling properties page to set the method. You can also use this page to associate your project to an earned value reporting period.

The earned value reporting period defines the frequency and the interval for the Update Earned Value History job. The job takes historical earned value snapshots of performance and saves them in the earned value history table. When using earned value methodologies to analyze project performance, the job uses the earned value reporting period to take the snapshot. It saves the snapshot based on the project association to the period. The project manager associates the project to the appropriate period.

Earned Value Metrics

You can use the earned value (EV) fields to track work performance to account for cost and schedule variances. Baseline information is factored in to the calculations performed in earned value analysis. All earned value fields contain the fundamental calculations used for earned value analysis (EVA).

The following EV values are calculated for every scheduled activity:

BAC

Displays the system-calculated value of Budget at Completion (BAC), which is the budgeted total cost at the time of the baseline. This value is calculated based on the following formula:

```
BAC = ((Actuals + Remaining Work) x Billing Rate) taken at time of baseline
```

Current Baseline Required: Yes

BCWS

Displays the system-calculated value of Budgeted Cost of Work Scheduled (BCWS). BCWS is the budgeted amount to spend on the project in a given time period. If not specified, the date is either the current date for the project, or the system date. BCWS is also referred to as the planned value (PV).

The BCWS is calculated based on the following formula:

```
BCWS = Sum of BAC through a point in time
```

Current Baseline Required: Yes

ACWP

Displays the system-calculated value of Actual Cost of Work Performed (ACWP). This value is the total direct cost (based on posted actuals) that is incurred in performing work during a specified period. The cost calculation includes all actuals posted up until the as-of date or the system date (if no as-of date is provided).

ACWP is calculated at the following levels:

■ Assignment. Actual cost is calculated as part of the posting process for actuals that are based on the financial cost matrix.

■ Detail-task. The calculation is based on the following formula:
   ```
   ACWP = Sum of Actual Cost for all the assignments on the task
   ```

■ Summary-task. The calculation is based on the following formula:
   ```
   ACWP = Sum of ACWP for all detail tasks in project
   ```

■ Project. The calculation is based on the following formula:
   ```
   ACWP = Sum of ACWP for all summary tasks in project
   ```

Current Baseline Required: No

BCWP

Displays the system-calculated value of Budgeted Cost of Work Performed (BCWP). The value is calculated and recorded when you baseline a project, or when you update earned value totals. BCWP is also referred to as the earned value (EV). BCWP represents the amount of the budgeted cost (BAC) completed based on performance as measured using the Task EV Calculation method.

Calculations are made based on the level at which the calculation is made. BCWP is calculated at the following levels:

■ Task. BCWP is based on the selected EV calculation method.

■ Project. BCWP is the sum of BCWP for all WBS Level 1 tasks in the project.

Current Baseline Required: Yes

EAC

Displays the aggregated total for the cost of all actuals over time.

EAC (T)

Displays the system-calculated value of Estimate At Completion (EAC). This calculation is most often used when current variances are seen as typical of future variances. The calculation is based on the following formula:
```
EAC (T) = ACWP + ETC
```

Current Baseline Required: No

EAC (AT)

Displays the system-calculated value of estimate at completion (EAC). This calculation is most often used when current variances are seen as atypical. And the project management team expectations are that similar variances will not occur in the future. The calculation is based on the following formula:

`EAC (AT) = (ACWP + (BAC - BCWP))`

Current Baseline Required: Yes

ETC (AT)

Displays the system-calculated value of estimate at completion (ETC) using earned value data. This calculation is most often used when current variances are seen as atypical. And the project management team expectations are that similar variances will not occur in the future. The calculation is based on the following formula:

`ETC (AT) = BAC - BCWPc`

Current Baseline Required: Yes

ETC (Cost)

Displays the system-calculated value of Estimate To Completion (ETC), and is calculated based on the following formula:

`ETC (Cost) = remaining labor cost + remaining non-labor cost`

Current Baseline Required: No

ETC (T)

Displays the system-calculated value of estimate at completion (ETC) using earned value data. This calculation is most often used when current variances are seen as typical of future variances. This value is calculated based on the following formula:

`ETC (T) = (BAC - BCWPc)/CPIc`

Current Baseline Required: Yes

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

CV

Displays the system-calculated value of Cost Variance (CV). The CV is the value of what is accomplished to date as opposed to what is spent to date. The calculation is based on the following formula:

`CV = BCWP - ACWP`

Current Baseline Required: Yes

SV

Displays the system-calculated value of Schedule Variance (SV). The SV is the value of what is scheduled to date as opposed to what is performed to date. A positive value indicates that the work is ahead of the baseline schedule. A negative value indicates that the work is behind the baseline schedule. The calculation is based on the following formula:

SV = BCWP - BCWS

Current Baseline Required: Yes

CPI

Displays the system-calculated value of Cost Performance Index (CPI), which is an efficiency rating for work accomplished. A value equal to or greater than one indicates a favorable condition. A value less than one indicate an unfavorable condition. The calculation is based on the following formula:

CPI = BCWP / ACWP

Current Baseline Required: Yes

SPI

Displays the system-calculated value of Schedule Performance Index (SPI), which is the ratio of work performed to work scheduled. A value less than one indicate the work is behind schedule. The calculation is based on the following formula:

SPI = BCWP / BCWS

Current Baseline Required: Yes

Calculate Earned Value Totals

This procedure describes how to calculate earned value totals.

Follow these steps:

1. Select the earned value calculation method at the project level or task level.

2. Baseline your project if you want those earned value fields that require Budget at Completion (BAC) as input for earned value analysis calculated.

3. Do one of the following:

   ■ Update cost totals. The Update Earned Value Totals job runs.

   ■ Schedule the Update Earned Value Totals job to run at recurring intervals.

About Earned Value Calculation Methods

An earned value calculation method is the method for calculating the various earned value (EV) metrics. Some of the methods are system calculated. For methods that are not system calculated, manually enter the Budgeted Cost of Work Performed (BCWP) for your project.

If you use an EV calculation method for your project and all of its tasks that are not system calculated, define your project BCWP value. To define the value, baseline the project or update the earned value totals. You can also override BCWP for specific tasks.

Regardless of the earned value calculation method you set for your project, the value entered in the BCWP Override field overrides the system-calculated BCWP values. The value is used in all EV calculations that require BCWP as a parameter.

The following EV calculation methods are available:

Percent Complete (PC)

Defines an estimate expressed as a percent of the amount of work that has been completed on a task or work breakdown structure. The EV calculation method where Budgeted Cost of Work Performed (BCWP) is system calculated using the following formula:

BCWP = Budget at Completion (BAC) * % complete

0/100

Defines the EV calculation method where Budgeted Cost of Work Performed (BCWP) is system calculated using the following fixed formula:
If % complete = 100, then BCWP = Budget at Completion (BAC); otherwise, BCWP = zero.

Use this method when project work begins and completes in a single reporting period. Also, use when credit is only earned when the project or task is 100 percent complete.

50/50

Defines the EV calculation method where Budgeted Cost of Work Performed (BCWP) is system calculated using the following formula:
If % complete > zero but < 100, then BCWP = Budget at Completion (BAC) / 2. If % complete = 100, then BCWP = BAC. If % complete = zero, then BCWP = zero.

Use this method when project work begins and completes within two reporting periods. Also use when 50 percent credit is earned when a project or task is started and the remaining 50 percent is earned upon completion.

Level of Effort (LOE)

Defines the EV calculation method where Budgeted Cost of Work Performed (BCWP) is system calculated using the following formula:
BCWP = Budgeted Cost of Work Scheduled (BCWS)

Weighted Milestones

Defines the EV calculation method where Budgeted Cost of Work Performed (BCWP) is user-defined. The project manager assigns weights to milestones across the duration of the summary task. As each milestone in the summary task is reached, a specific percent of the work is completed until 100 percent is reached. Use this method if your organization uses earned value management methodology for measuring project performance and has projects and tasks that use this method. When you use this method, you enter the BCWP at the task level. Use the BCWP Override field in the Earned Value section of the task properties page.

Milestone Percent Complete (PC)

Defines the EV calculation method where Budgeted Cost of Work Performed (BCWP) is not system calculated but user-defined. Dollar amounts are selected for the weighting of each time period, instead of a percentage. EV credit is earned as a percent of the milestone value assigned. Use this method if your organization uses earned value management methodology for measuring project performance and has projects and tasks that use this method. When you use this method, you enter the BCWP at the task level. Use the BCWP Override field in the Earned Value section of the task properties page.

Apportioned Effort (AE)

Defines the EV calculation method where Budgeted Cost of Work Performed (BCWP) is not system calculated but is user-defined. Task work effort is tied to other task work efforts. As the base task completes work, the apportioned task earns completed work. The task uses the work effort tied to other tasks to drive its performance. Use this method for discrete work that is related to other discrete work. Use this method if your organization uses earned value management methodology for measuring project performance and has projects and tasks that use this method. When you use this method, you enter the BCWP at the task level. Use the BCWP Override field in the Earned Value section of the task properties page.

How Earned Value Calculation Methods are Applied

By default, the earned value (EV) calculation method for projects and tasks is percent complete. If your organization uses earned value management methodology for measuring project performance, your CA Clarity PPM administrator can change the default earned value calculation method setting. Change the setting to the method your company uses for projects and tasks.

Best Practice: Have your CA Clarity PPM administrator define the object-level default setting for projects and tasks. In this way, the EV calculation method defaults to this object-level setting when you create new projects or tasks.

You can override the object-level EV calculation method setting at the project and at the task level. When calculating the earned value metrics, the EV calculation method setting you establish at the task level is used. The results are rolled up to the project. If you do not define a method for the task, the task inherits the method from its parent task. If you do not define the method for the summary task, it inherits the method value from the project. If you do not set the method for the project, the task is ignored when the earned value is calculated.

If you create projects from project templates, you can set the EV calculation method in the project template. The projects, created from the template, inherit the setting.

Note: If you are using CA Clarity PPM with Microsoft Project and specify an earned value calculation method other than percent complete, use CA Clarity PPM to calculate, display, and report earned value metrics.

How to Close Projects

Use the following process to close projects:

- Financially close the project (see page 53).
- Verify that the project has no ETC (see page 57).
- Close the project for time tracking.
- Deactivate the project (see page 83).

How to Delete Projects

The following process outlines how to delete a project:

1. Verify that the project contains no posted transactions.
2. Verify that the project contains no time entries with a value greater than zero.
3. Financially close the project (see page 53).
4. Deactivate the project (see page 83).
5. Mark the project for deletion (see page 83).
6. If necessary, cancel the deletion process before running the job (see page 83).
7. Schedule the Delete Projects job to run.

   Note: Your CA Clarity PPM administrator schedules and runs the job on a regular basis.

Deactivate Projects

Active projects display by default on the projects list page. Deactivate a project before removing it from the list of active projects. A deactivated project can be reactivated again.

Follow these steps:

1. Open the project.

2. Complete the following field:

   Active

   Specifies if the investment is active. Clear the check box to deactivate the investment.

   Default: Selected

3. Save the changes.

Mark Project for Deletion

You can mark a project for deletion only when the project is inactive. Projects so marked remain listed on the projects list page until the Delete Investments job runs.

Follow these steps:

1. Open Home, and from Portfolio Management, click Projects.

2. Expand the filter and filter the list for inactive projects.

   The inactive projects display in the list.

3. Select the check box next to the project, and click Mark for Deletion.

4. Click Yes to confirm.

Cancel Project Marked for Deletion

You can cancel projects marked for deletion when the following conditions are true:

- The Delete Investments job has not run from the time you marked the project for deletion.

- The project remains inactive and listed on the projects list page.

- You have not added time entries to the project.

When you cancel an inactive project marked for deletion, the project is not deleted when the Delete Investments job runs. Inactive projects continue to appear in the list of inactive projects.

Follow these steps:

1. Open Home, and from Portfolio Management, click Projects.

2. Expand the filter and filter the list for inactive projects.

    A list of inactive projects displays on the projects list page.

3. Select the check box next to the project and click Cancel Deletion.

4. Click Yes to confirm.

Chapter 3: Project Scheduling

This section contains the following topics:

Gantt View Quick Tour

You can create, manage, and view all project tasks in the Gantt view. This view is divided into a work breakdown structure (WBS) on the left and a Gantt chart on the right.

Use the Gantt chart to view and edit tasks and dependencies in a timeline. You can change task dates and create finish-start dependencies by using a drag-and-drop operation with the Gantt bars. The Gantt chart includes information from the master project and subprojects based on the WBS for the current project.

By default, late tasks and milestones display in the Gantt chart with exclamation points on the task or milestone Gantt bar. Completed tasks and milestones display with checkmarks on the task or milestone Gantt bar.

The green progress bar above the task Gantt bar indicates how much work is complete for the task. You can change the progress bars by changing the Gantt chart display settings.

By default, no object actions display for the Gantt view. To display object actions for the Gantt view, contact your CA Clarity PPM administrator to configure the Actions menu for the Gantt view.

In the Gantt view, you can change the WBS or the Gantt itself and these changes are stored as pending edits. You can either explicitly save, or discard these pending edits.

Sometimes, when you try to save your pending edits, an error message can appear informing you about any error in your edits. For example, an error message appears, if you try to create a task with an ID that is not unique. You can either resolve your error or discard your edits that caused the error in the error message window. Also, save any other pending edits you make outside the error.

Best Practice: Maximize your work area by promoting the detail panel to the workspace, or by maximizing the page.

How to Work with the Gantt View Toolbar

Some toolbar options become active only when you select items in the work breakdown structure. If you do not have the access right, a toolbar option can be disabled.

You can use the icons on the Gantt view toolbar to do the following:

Icon	Action
	Saves your changes. **Note:** Your changes are saved only when you explicitly save.
	Discards your currently unsaved changes.
	Inserts a new task in the WBS.
	Copies a task from a project template.
	Adds an existing subproject to the WBS (see page 59).
	Creates a subproject and adds it to the WBS (see page 65).
	Creates a subproject from a project template and adds it to the WBS (see page 59).
	Assigns a resource to the selected task.
	Outdents the selected task.
	Indents the selected task.
	Moves the selected task (see page 110).
	Creates a task dependency between the selected tasks (see page 104).
	Removes task dependencies between the selected tasks.
	Expands all tasks in the WBS (see page 110).

Icon	Action
	Collapses all tasks in the WBS (see page 110).
	Indicates the project is locked. Hovering over the icon indicates the user that locked the project. If you have administrative rights, you can click the icon to unlock the project.

A project is automatically locked when there are pending edits for it. The lock is removed when you save or discard the edits or if you unlock the project. |
	Indicates the project is not locked.
	Auto-schedules with options (see page 171).
	Auto-schedules and publishes the new schedule (see page 175).
	Creates a tentative schedule (see page 171)
	Publishes the tentative schedule (see page 175).
	Deletes the tentative schedule.
	Create a project baseline (see page 70).
	Updates the task baseline for the selected task (see page 74).
	Updates cost totals (see page 122)
	Deletes a task or removes a subproject from the master project.
	Displays the legend for the Gantt chart (see page 91).
	Defines the timescale for the Gantt chart (see page 92).

Icon	Action
»	Collapses the Gantt view to display only the WBS.

Pending Edits in Gantt View

Changes you make to the WBS or the Gantt itself are stored as pending edits until you explicitly save or discard these changes. The edits on a project persist beyond a session for a specific user. These edits include edits to the rollup fields which are recalculated only after a save is performed. For example, if you extend the date for a subtask, the parent task dates are not extended until you save the change.

Pending edits include the following types of edits in the WBS:

■ Create task using inline insert.

■ Edit any task attribute.

■ Assign resources to tasks.

■ Move tasks or task dates using drag-and-drop.

The following actions outside the WBS are unavailable while there are pending edits. Save or discard your edits to enable these actions:

■ Create or delete tasks from the task properties.

■ Indent or outdent tasks.

■ Move or copy tasks using toolbar icons.

■ Move tasks up or down in the WBS using drag-and-drop.

■ Assign resources from task properties.

■ Add existing subprojects.

■ Baseline.

■ Autoschedule.

■ Open projects in external schedulers such as Open Workbench.

■ Create or remove task dependencies using drag-and-drop.

Whereas changes outside the Gantt view are saved directly to the database, pending edits are saved temporarily until you accept or discard these changes. If you do not save or discard your changes, the pending edits are discarded when your session expires.

Locking Projects when Editing in the Gantt View

When you start making edits in the Gantt view, the project is automatically locked. If someone else already locked the project, the lock icon appears on the toolbar. If you hover over the lock icon, it displays the user who locked the project.

Only the current project is locked. Subprojects are not locked.

All project pages are locked as they are when you open the project in an external scheduler. The pages are locked for all users including the user who locked the project. The Gantt view is an exception to this rule. The current user with the lock can edit in the Gantt view. If the project management setting Allow Edit of Allocations when Investment is Locked is selected, any user with resource management rights to the project can add staff to the project.

As soon as you or the user who locked the project saves their edits, the project is unlocked.

Administrators with the Administration – Application Setup right can unlock the project.

If you open the project in an external scheduler, the Gantt view is locked for all users including the current user.

Gantt in a Separate Window

You can view and edit project tasks in the Gantt view in a separate window in the following ways:

- Click the Gantt icon for a project from the projects list, or from the My Projects portlet.

- Open a project.

- Open the Tasks menu and click Gantt.

The following rules apply for opening a project in Gantt view:

- You can open multiple Gantt view windows for different projects at the same time.

- You can open only one Gantt view window per project.

- A Gantt window is not refreshed automatically. If you change data in a Gantt window that affects another open Gantt window, refresh the Gantt window to view the changes.

- Drilling down into a subproject proxy task launches a separate Gantt window for that project.

Gantt Chart Legend

You can open the legend from the Gantt View toolbar. The Gantt chart displays the following indicators to specify the type or status of a task:

Indicator	Description
	Task. A task is an activity that is required to be accomplished within a time frame. Tasks define the project work, the staff member, and the resource that performs the work.
	Progress Through Bar
	Completed Task. A completed task is a task where its status is set to "Completed".
	Late Task. A late task is a task or milestone where the Finish date field value is later than the Baseline Finish date field value.
	Summary Task. A summary task is a task that has one or more subtasks nested beneath it.
	External Task displayed in the Gantt chart. An external task is a task in another project on which a task within the project has a dependency.
	Subproject displayed in the Gantt chart. A subproject is a project located within a master project.
	External Task displayed in the WBS. An external task is a task in another project on which a task within the project has a dependency.
	Subproject displayed in the WBS. A subproject is a project located within a master project.
	Milestone. Milestones are tasks that have a due date but not a duration (a period between a start and finish date).
	Completed task. A completed task is a task where its status is set to "Completed".
	Late task. A late task is a task or milestone where the Finish date field value is later than the Baseline Finish date field value.

Indicator	Description
◆	External Milestone. An external milestone task is a milestone in another project on which a task within the project has a dependency.
▶⟫	Critical Path. The critical path determines the earliest finish date of the project.
🔗········	Link to hidden task.

Note: The External Task and Subproject icons appear on the task-side of the WBS list, to the right of the task name. The other icons appear on the Gantt side of the view as part of task images.

Change Gantt Chart Time Scale

You can change the Gantt chart timescale as needed so that you can zoom in and out of the timeline. Click the single arrow at the top left or right of the Gantt chart to scroll one time unit at a time. Or, click the double arrows to jump to the next set of time periods.

Follow these steps:

1. Open the project.

2. Open the Tasks menu and click Gantt.

3. Click the Time Scale icon on the toolbar and select the desired timescale.

   The Gantt timescale changes based on your selection.

Printable Gantt View

You can print a Gantt view. The Printable View icon on the Gantt chart displays a read-only view of the tasks you want to print in a new window. You can view a maximum of 300 tasks at a time in this window. The page height automatically fits the tasks, and the page width automatically fits the column and period configuration.

Before you print the Gantt view, select the background colors and images option in the browser menu.

Browser	Action to Take
Internet Explorer, Firefox	Use the Page Setup option in the browser menu.
Google Chrome	Use the Print option in the browser menu.

Note: You can use the Alt key to enable the browser menu for Internet Explorer and Firefox.

Work Breakdown Structure

Tasks identify the work required to complete a project. Tasks have a start date, an end date, and a period in between when the work is performed. Generally speaking, project managers assign resources to tasks and set milestones to measure their progress.

You can create and manage project tasks and assign resources to them. You can define the tasks for a project to start and complete within the start and finish dates of a project.

The work breakdown structure (WBS) is a hierarchical list of tasks showing relationships between the tasks. The WBS displays in the Gantt view with the Gantt chart. Use the WBS to create and organize tasks and to view resource utilization by task assignment. The Gantt view displays summary tasks, milestone tasks, and detail tasks.

All tasks that you create are added at the same level in the WBS. You can then group the detail tasks under summary tasks. You can create an unlimited number of hierarchical levels in a WBS. You can filter the list to find specific tasks based on simple or complex filter criteria.

The tasks are displayed in the Gantt view in the order you create them. The order and level indicate their relationship with each other. The task above a detail task can be a summary task, or a second-, third-, or fourth-level task relative to the task above it.

Example: Building a WBS

You create a summary task named Build the Training Collateral that contains two detail tasks: Develop the Online Training and Develop the Training Quiz. You create the three tasks, and indent the detail tasks one level under the summary task.
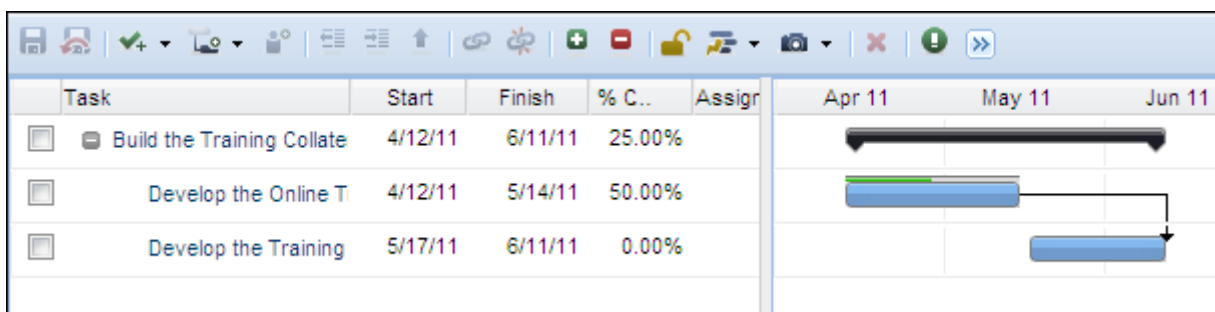
About the Effort Task

A placeholder effort task is automatically created when you staff your project and before you create tasks. You can delete the effort task, or continue to use it by redefining its properties.

Your CA Clarity PPM administrator can change the Allow Effort Task Creation default project management setting so that the effort task is not created by default.

About the Summary Task

A summary task is a task that has one or more subtasks nested beneath it. You can indent tasks to be included as subtasks to the summary task. A subtask is any task that is nested under a task. Subtasks can be detail tasks or summary tasks. You can nest summary tasks under other summary tasks. You can indent and outdent summary tasks, in which case, their nested subtasks move with them.

When creating a summary task, give it a name that implies a logical, organizational grouping. For example, use Phase I, Phase 2, Planning Phase, and Build Phase.

Level 1 tasks are the top-level tasks in a work breakdown structure (WBS). You cannot outdent Level 1 tasks because they are already at the top-most level. A detail task is a task that has assignments tracked for effort. A detail task can be a Level 1 task, but it can also be a subtask to a summary task.

Detail task dates determine summary task dates. The earliest start date of one or more of its detail tasks determines the summary task start date. The latest end date of one or more of its detail tasks determines the summary task finish date. The summary task dates change as you edit the detail task dates. Total Effort and cost for a summary task are calculated based on the detail task information.

How to Edit Tasks

You can:

- Edit tasks directly in the work breakdown structure (WBS) (see page 95).

- Edit tasks in the Gantt chart, such as task start and finish dates (see page 96).

- Open the task and edit all task properties (see page 96).

- Delete tasks provided they are not associated with the following:

    - Unposted transactions

    - Posted assignments actuals

Edit Tasks in the Work Breakdown Structure

Use this procedure to edit tasks directly in the work breakdown structure (WBS) in the Gantt view. You can edit subproject tasks by expanding the subproject in the WBS and clicking the task, which opens the Gantt view for the subproject.

You can delete tasks and milestones from the WBS. When you delete a task or milestone:

- The resource assignment is removed.

- If it is a summary task, its detail tasks are not deleted, which can affect the schedule of the detail task.

If a task has a resource assignment with posted actuals, you cannot delete the task. Instead, the task is placed in a deleted tasks phase. The estimates for the task are set to zero and its status is set to "Complete."

Follow these steps:

1. Open the project.

2. Open the Tasks menu and click Gantt.

    The Gantt view appears.

3. Edit the following fields in the WBS:

    Task

    Defines the name of the task. The value for the field is derived from the Name field on the Task Properties page. On list pages or in portlets, displays the name of the task.

    Limits: 64 characters

    Start

    Defines the date to start the task assignment for a resource. The list pages or portlets display the start date.

    Default: Task start date

    Note: Define the assignment to start on or after the task start date. If an assignment has actuals, the field is read-only.

    Finish

    Defines the date to complete the task assignment for a resource. The list pages or portlets display the completion date.

    Default: Task completion date

    Note: Define the assignment to finish on or before the task completion date.

% Complete

Defines the percent of work that has been completed when the task is partially completed.

Values:

- Zero. The task is not started.

- 1 through 99. The task has ETC or actuals posted and the task is not started.

- 100. The task is complete.

Default: 0

Assigned Resources

Defines the name of the resource assigned to the task.

Required: No

Edit Tasks in the Gantt Chart

You can edit the start and finish dates for an existing task in the Gantt chart. To edit, use the Gantt view by dragging the beginning, middle, or end of a taskbar. Drag the middle of the taskbar left or right to change the start and finish dates. Or, drag the shaded beginning or end of the taskbar to the desired location.

If a task has actuals posted against it, you cannot change the start date by dragging.

As you drag a taskbar, the effective date appears above the mouse pointer. If you change a value, a red triangle displays in the upper left area of the field in the WBS and the Gantt chart. On saving the changes, the red triangle is cleared.

Edit Task Properties

Use this procedure to open the task and edit its properties. The task properties include the general properties, the earned value options, the date constraints, task relationships, and resource assignments.

Note: A locked task cannot be edited. Click Unlock to unlock the task and enable editing.

Follow these steps:

1. Open the project and click Tasks.

2. Click the name of the task.

3. Edit the task fields. The following fields require explanation:

Start

Defines the date to start the task assignment for a resource. The list pages or portlets display the start date.

Default: Task start date

Note: Define the assignment to start on or after the task start date. If an assignment has actuals, the field is read-only.

Finish

Defines the date to complete the task assignment for a resource. The list pages or portlets display the completion date.

Default: Task completion date

Note: Define the assignment to finish on or before the task completion date.

Status

Displays the status of the task based on the value of % Complete. This field is automatically calculated and updated based on the task % Complete value.

Values:

- Completed. Indicates that the ETC task is zero and the percentage completed is 100.

- Not Started. Indicates that actuals are not posted and the percentage completed is zero..

- Started. Displays when a resource posts actuals to the task assignment. The percentage completed on the task is more than zero and less than 100.

Default: Not Started

% Complete

Defines the percent of work that has been completed when the task is partially completed.

Values:

- Zero. The task is not started.

- 1 through 99. The task has ETC or actuals posted and the task is not started.

- 100. The task is complete.

Default: 0

Guidelines

Defines the file path and file name for the guidelines your organization follows for this task.

Example: \\CA Clarity PPM\Guidelines\Project\Plan.doc.

Charge Code

Defines the charge code for the task. Task-level charge codes supersede project-level charge codes where both are specified.

Must Start On

Defines the date on which the task is required to start. This date is used as a date constraint during autoscheduling.

Must Finish On

Defines the date on which the task is required to finish. This date is used as a constraint during autoscheduling.

Start No Earlier Than

Defines the earliest possible start date for a task. This date is used as a constraint during autoscheduling.

Start No Later Than

Defines the latest possible start date for the task. This date is used as a constraint during autoscheduling.

Finish No Earlier Than

Defines the earliest possible finish date for a task. This date is used as a constraint during autoscheduling.

Finish No Later Than

Defines the latest possible finish date for a task. This date is used as a constraint during autoscheduling.

Exclude from Autoscheduling

Specifies excluding the dates for this task during the auto-scheduling process.

Default: Cleared

Required: No

Note: This field works with the *Schedule Assignments on Excluded Tasks* field on the auto-schedule page. Suppose, you exclude the task from auto-scheduling. But you specify allowing changes to excluded task resource assignment dates during auto-scheduling. The auto-schedule process changes the task resource assignment dates, while remaining within the start and finish dates for the task.

4. Save the changes.

Edit Task Duration in the Gantt Chart

The task duration on the Gantt view represents the number of working days between the Start date and Finish date of a task. The duration is auto calculated based on the task Start and Finish dates after you save. You can edit the task duration on the Gantt view. This helps project managers to schedule tasks based on the task duration and not only the task start and finish dates.

The following table shows the interactive changes that you see when you edit the task attributes on the Gantt view:

Field Edited	Result
Task Duration	The task Finish Date and the Gantt bar change.
Task Finish Date	The task Duration changes.
Task Start Date	The task Finish Date changes without impacting the task duration.

However, you cannot edit the task duration in the following cases:

- When the task is a Milestone or a Summary Task.
- Timesheet is already submitted for that period.

The Gantt bar on the Gantt view represents a task schedule, that is, the Start date and Finish date. The task duration changes on modifying the Gantt bar on the Time Scale. The duration changes only if you configure the Gantt bar to display the task schedule. If the Gantt bar is configured to display other attributes, modifying the Gantt bar does not change the task duration.

After you install or upgrade to release 13.3, the Allow Grid Editing check box appears as selected by default for all the task views. If the PMO Accelerator is installed, perform the following steps after upgrade:

Follow these steps:

1. Open Administration, and from Studio, click Add-Ins.

2. Click Accelerator: Program Management Office.

3. Search for Gantt List View in the list.

4. Select the check box and click Apply.

   The status changes from Upgrade Ready to Installed and the Allow Grid Editing check box is selected.

   Note: You can edit the task duration only in the Gantt view even if this check box is selected for a non-Gantt view.

The following table explains the behavior on changing the task duration to a decimal value. For example, change the task duration to 1.2, 1.35, or 1.99.

CA Clarity PPM	■ The task Duration is rounded off to 1, 1, or 2. ■ The task Finish Date increments or decrements accordingly.
Microsoft Project	■ No changes to the task Duration. The values are 1.2, 1.35, or 1.99. ■ The task Finish Date moves to the next working day. ■ The task Start, Finish, and Duration do not change on saving the project back to CA Clarity. The same values are saved back to CA Clarity, provided the Duration field in CA Clarity PPM is configured to display the decimal values. That is, 1.2, 1.35, or 1.99 respectively.
Open Workbench	■ The task Duration is rounded off to 1, 1, or 2. ■ The task Finish Date increments or decrements accordingly. ■ The task Start, Finish, and Duration do not change on saving the project back to CA Clarity. The same values are saved back to Clarity, that is, 1, 1, or 2 respectively.

Note: The duration is calculated based on the base calendar. Any exceptions in the base calendar automatically affect the duration value.

Set the Default Earned Value Options

Task-level earned value fields are available. But the Earned Value section does not display by default on the task properties page. The Earned Value section includes the earned value (EV) fields. Configure the page to include the section and the fields, or let the CA Clarity PPM administrator use Studio to add globally to the page.

Suppose, your company uses an earned value (EV) management methodology for measuring project performance. Use the following fields to override the task default EV calculation method and to override the Budgeted Cost of Work Performed (BCWP) value manually.

Follow these steps:

1. Open the project and click Tasks.

2. Click the name of the task to edit.

3. In the Earned Value section, complete the following fields:

EV Calculation Method

Defines the default earned value (EV) calculation method that is used when calculating EV. This method sets the default if you have not selected an EV calculation method for the task.

Values: Percent Complete, 0/100, 50/50, Level of Effort, Weighted Milestones, Milestone Percent Complete (PC), and Apportioned Effort (AE)

Default: Percent Complete

BCWP Override

Defines the Budgeted Cost of Work Performed (BCWP). The value overrides the system-calculated BCWP and is used for all earned value metrics that are based on BCWP. If you use an earned value calculation method, such as Weighted Milestones, Milestone Percent Complete (PC), and Apportioned Effort (AE), enter the BCWP value manually.

Best Practices: Enter a value in this field only if you are tracking and calculating earned value in an external system. Also, if you are not using CA Clarity PPM to calculate earned value.

BCWP

Displays the system-calculated value of Budgeted Cost of Work Performed (BCWP). The value is calculated and recorded when you baseline a project, or when you update earned value totals. BCWP is also referred to as the earned value (EV). BCWP represents the amount of the budgeted cost (BAC) completed based on performance as measured using the Task EV Calculation method.

Calculations are made based on the level at which the calculation is made. BCWP is calculated at the following levels:

- Task. BCWP is based on the selected EV calculation method.

- Project. BCWP is the sum of BCWP for all WBS Level 1 tasks in the project.

Current Baseline Required: Yes

Earned Value Last Updated

Displays the date that the earned value was last updated.

4. Save the changes.

Set Time Tracking at the Task Level

As a project manager you can toggle a task as being either open or closed to time tracking. The project team members can only add the tasks to their timesheets which are open for time tracking. They cannot accidentally place hours on tasks which should not have actual hours applied against them. Applying errant actuals to a task can lead to a task start or finish date shifting. The project end date can also shift if the task is on the critical path.

Closing a task off from time tracking is useful in the following cases:

- The project is multi-phased and you do not want resources to accidentally track time to future work.

- You complete a task and need to prevent further time tracked to it.

You can set the Open For Time Entry setting on any editable view that includes task properties
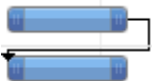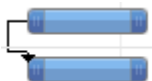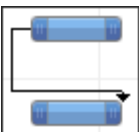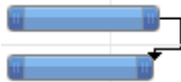
Follow these steps:

- From the project's task list, click in the Open for Time Entry field for a task and select a value from the drop-down menu.

- From the task properties menu click Settings to edit the field on the settings page.

- Add the Open for Time Entry field to any editable task page layout using the Configure option.

Task Dependencies and Relationships

Task dependencies allow you to designate a successor, or predecessor task for a task. Also, to indicate the type of relationship for the tasks. You can create better project plans by using task dependencies and defining lag and lead time. Task relationships display in the Gantt chart in the Gantt view.

You can define the following task dependency relationship types:

Gantt Bars	Description
	Finish-Start. The predecessor task must finish before the successor task can start. This dependency is the most common type.
	Start-Start. The predecessor task must start before the successor task can start.
	Start-Finish. The predecessor task must start before the successor task can finish.
	Finish-Finish. The predecessor task must finish before the successor task can finish.

Task Dependencies and Autoschedule

You can auto-schedule to see the results of creating dependencies between tasks. Auto-schedule uses task dependencies to help determine a work sequence for the project.

Example

The Object Design task is required to be completed a day before the Object Integration task begins.

Drag and Drop Guidelines for the Gantt

In the Gantt view, drag and drop Gantt bars to create dependencies between tasks or to edit task dates. In the WBS, drag and drop tasks to move up or down in the hierarchy, or change the order of the tasks. The WBS is refreshed after you move or edit a task.

If pending edits exist, the options to drag bars to create dependencies, or move tasks in the WBS are unavailable. You can still move the task dates though.

Use the following guidelines for editing and linking tasks using drag-and-drop:

- Place your cursor near the start of a bar to change a task start date. The cursor changes to a left-right arrow. The finish date does not change.

- Place your cursor in middle of a bar to change both the task start date and end date. The cursor changes to a four-way arrow. Both dates change by an equal amount.

- Place your cursor near the end of a bar to change the task end date. The cursor changes to a left-right arrow. The start date does not change.

- When you drop a bar after dragging, changes to the start and end dates are reflected in the WBS as pending edits.

- A dependency line displays when you drag a bar up or down off a row. To cancel a change, press Escape while dragging, or drop the cursor into an open space without any task bars.

- Save all pending edits before moving tasks, or creating task dependencies. Some toolbar options are unavailable if pending edits exist.

- Move tasks into a new position in the WBS. Select the check boxes and then drag and drop them into the required place.

- Select a row by clicking the check box next to the task.

- Select and move a summary task to move all children tasks. The selected tasks are inserted before, or after the target task based upon the insertion line.

Create Task Dependencies

Create task dependencies in the same project from the Gantt view. When you link two tasks in the WBS, a finish-start dependency is created by default. The topmost task in the hierarchy sequence becomes the predecessor and the bottommost task the successor.

Drag-and-drop the Gantt bars to create any type of task dependency. Once created, you cannot change the dependencies using drag-and-drop, but can move tasks without affecting the dependency. To edit the task dependencies, use the task properties page.

You cannot create dependencies to and from summary tasks.

In the WBS, expand a collapsed summary task to view the dependency lines between its detail tasks and other tasks.

Follow these steps:

1. Open the project.

2. Open the Tasks menu and click Gantt.

   The Gantt view appears.

3. Do one of the following:

   - In the WBS, select the check box next to the two tasks to create a dependency between them, and click the Link icon.

   - In the Gantt chart, grab the source taskbar and drag-and-drop it on the destination taskbar. Use the following guidelines:

     - Drag the right edge of the source taskbar and drop it on the left edge of the target taskbar. Creates a finish-start dependency.

     - Drag the left edge of the source taskbar and drop it on the right edge of the target taskbar. Creates a start-finish dependency.

     - Drag the left edge of the source taskbar and drop it on the left edge of the target taskbar. Creates a start-start dependency.

     - Drag the right edge of the source taskbar and drop it on the right edge of the target taskbar. Creates a finish-finish dependency.

Open Projects from CA Clarity PPM in Open Workbench

You can open any active projects you have rights to view or edit from CA Clarity PPM. If you have the access rights to view or edit a project, open the project as read-only. Or, open as read/write from CA Clarity PPM in Open Workbench. Format the projects in Open Workbench. If you have the read-only access rights to a project, or if the project is currently locked, you can open the project as read-only.

Note: You cannot open projects with the same project ID and .rmp file name in Open Workbench from different CA Clarity PPM servers on your computer. To open a project under the conditions, delete the .rmp file you have saved locally. Then, try to open the project with the duplicate project ID from the other CA Clarity PPM servers.

Follow these steps:

1. Open the project and click Tasks.

2. From the Open in Scheduler menu, select Workbench.

3. Select one of the following:

    ■ Read-Only. Opens the project unlocked in Open Workbench.

    ■ Read-Write. Opens the project in Open Workbench and locks the project in CA Clarity PPM.

    Default: Read-Write

    Note: If you have access rights only to view the project, or if another user locks the project, Read-Only is selected by default. The list box is unavailable in this case.

4. Click Go.

    The project opens in Open Workbench.

Edit Task Dependencies

Use this procedure to edit the task dependency relationship, such as predecessor or successor, the names of the dependent tasks, and so on. You can delete dependencies using the task dependencies page.

Follow these steps:

1. Open the project and click Tasks.

2. Click the name of the task to edit dependencies.

3. Open the Properties menu, and from Main, click Dependencies.

    The task dependencies page appears.

4. Click the link for the dependent task to edit.

    The task dependency properties page appears.

5. Edit the following fields:

    Relationship

    Defines the relationship between the current task and the task selected. To have the selected task precede the current task, select Predecessor. To have the selected task succeed the current task, select Successor.

    Values: Predecessor, Successor

    Default: Predecessor

Type

Defines the type of relationship to set between two tasks.

Values:

- Finish-Start. The predecessor task requires finishing before the successor task can start. This dependency is the most common dependency type.

- Start-Start. The predecessor task requires starting before the successor task can start.

- Start-Finish. The predecessor task requires starting before the successor task can finish.

- Finish-Finish. The predecessor task requires finishing before the successor task can finish.

Default: Finish-Start

Example: If you select predecessor as the relationship and Finish-Start as the type, the predecessor task is scheduled to finish before the successor task starts. Alternatively, if you select successor as the relationship, and Finish-Finish as the type, the successor task can finish once the predecessor task finishes.

Lag

Identifies the lag period between the two tasks.

Default: 0.00

Example: For a Finish-Start type of relationship, create a lag period of five days between the finish date of the predecessor task and the start of the successor task.

Lag Type

Specifies the type of lag between two dependent tasks.

Values: Daily or Percent

Default: Daily

Example: If you enter 5 as the lag and daily as the lag type, a lag period of five days between the tasks is created. Suppose, the duration specified is 100 days, 20 as the lag, and 20 percent as the lag type (20 percent of 100 days). A lag period of 20 days between the tasks is created. A lag time percent is based on the duration of the predecessor task.

6. Save the changes.

About Dependency Chains

A dependency chain is a relationship between multiple tasks or milestones. The dependency chain is created relative to the task or milestone positions in the work breakdown structure in the Gantt view. The type of dependency created is a finish-start dependency with zero lag. The next task or milestone in the chain relies on the completion of the previous task before it can start.

Example of finish-start dependency chain

Suppose, you have three tasks: Task 1, Task 2, and Task 3. Task 3 can start after completing Task 2, and Task 2 only after completing Task 1. You can create a dependency chain from Task 1 to Task 2, and from Task 2 to Task 3.

Create External Task Dependencies

Use the following procedure to create and change dependencies between tasks in different projects.

Follow these steps:

1. Open the project and click Tasks.

2. Click the name of the task.

3. Open the Properties menu, and from Main, click Dependencies.

   The task dependencies page appears.

4. Click New.

   The select task page appears.

5. Click the button next to the task to create the external dependency, and click Next.

   The task dependency properties page appears.

6. Complete the following fields:

   Dependent Investment

   Displays the name of the project upon which the task depends.

   Dependent Task

   Displays the name of the task upon which the task depends.

Relationship

Defines the relationship between the current task and the task selected. To have the selected task precede the current task, select Predecessor. To have the selected task succeed the current task, select Successor.

Values: Predecessor, Successor

Default: Predecessor

Type

Defines the type of relationship to set between two tasks.

Values:

- Finish-Start. The predecessor task requires finishing before the successor task can start. This dependency is the most common dependency type.

- Start-Start. The predecessor task requires starting before the successor task can start.

- Start-Finish. The predecessor task requires starting before the successor task can finish.

- Finish-Finish. The predecessor task requires finishing before the successor task can finish.

Default: Finish-Start

Example: If you select predecessor as the relationship and Finish-Start as the type, the predecessor task is scheduled to finish before the successor task starts. Alternatively, if you select successor as the relationship, and Finish-Finish as the type, the successor task can finish once the predecessor task finishes.

Lag

Identifies the lag period between the two tasks.

Default: 0.00

Example: For a Finish-Start type of relationship, create a lag period of five days between the finish date of the predecessor task and the start of the successor task.

Lag Type

Specifies the type of lag between two dependent tasks.

Values: Daily or Percent

Default: Daily

Example: If you enter 5 as the lag and daily as the lag type, a lag period of five days between the tasks is created. Suppose, the duration specified is 100 days, 20 as the lag, and 20 percent as the lag type (20 percent of 100 days). A lag period of 20 days between the tasks is created. A lag time percent is based on the duration of the predecessor task.

7. Save the changes.

About Externally Dependent Tasks

The Gantt view displays externally dependent tasks. The dependent task is displayed before or after the task based on whether it is a predecessor or successor task. If multiple tasks are dependent on an external task, the list displays the first task out of the multiple that is dependent on the external task. The external project name is prefixed to the externally dependent task name.

Organize Your Tasks

Use the Gantt view icons to organize your tasks:

- Outdent tasks.
- Indent tasks.
- Move tasks (see page 110).

Move Tasks within the WBS

Moving tasks moves all of the subtasks. You cannot move tasks across or between projects. If the task has a dependency, moving the task does not remove the dependency.

Follow these steps:

1. Select the task.
2. Do one of the following:
   - Use the Move icon to move up tasks.
   - Use a drag-and-drop operation.

Expand and Collapse the WBS

You can expand the work breakdown structure (WBS) to see the summary tasks. Subtasks are nested one level under the nearest higher-level task. A plus (+) sign appears in front of the higher-level task.

You can also expand and collapse all tasks using the Expand All and Collapse All icons on the Gantt view toolbar.

The collapsed view is useful to view a small group of items (a parent and descendants) alone. For example, you can expand the summary task to view all the nested subtasks. Collapse it back up to the summary level when finished. Use the Plus (+) or Minus (-) icon next to expand or collapse the summary tasks.

The expand and collapse states of the WBS of a CA Clarity PPM session are retained when you next open the page.

Resource Utilization

Resource utilization is the amount of resource effort it takes, or is expected to take to complete a task. Using the *Project: Tasks: Resource Utilization* page, you can:

- View and edit each task calculated total effort, based on the following formula:

  `Total Effort = Actuals + Remaining ETC`

- Autoschedule the project.

By default, the Gantt chart displays total effort by task by week for all of the resources assigned to that task. You can change the chart configuration to display different variations of task and resource information.

Important! Assign staff to tasks before viewing resource utilization.

How to View Resource Utilization

You can view resource utilization:

-
- By resource.

View Resource Utilization in Aggregate

This version of the resource utilization page of project tasks displays data in aggregate. The utilization (Total Effort) is displayed, task-wise, for all the resources assigned to that task.

The blue Gantt bar in the task date cell represents a resource allocated to the task. The default period is weekly, always starting with the current week. The colored bars in the Total row at the bottom of the chart indicate total resource allocation (or over-allocation) for each time period. When you scroll over a cell, a note displays that lets you compare total effort with total allocation (Project Aggregate Allocation) for that period. Red in the Total row means that resources are over-allocated.

By default, the resource utilization color code works as follows:

■ Blue. Indicates the total amount of time staff resources are allocated to each task during the periods displayed. The amount of time indicated by the bar is required to equal to the number in the Total Effort column for that task.

■ Yellow. Resource is allocated at or under availability for that period.

■ Red. Resource is over-allocated. That is, the amount of time booked exceeds availability for that period.

■ Green. Actuals recorded by the resource for that period.

Note: A task name suffixed with a plus sign indicates that the task has child tasks. Click the sign to expand and view the resource utilization for all the child and summary tasks.

You can change the values displayed in the Gantt chart.

Follow these steps:

1. Open the project to view resource utilization.

2. Open the Tasks menu and click Resource Utilization.

   The resource utilization page of project tasks appears. All the resources assigned to the task with their resource utilization display in the list.

Edit Resource Utilization

When you adjust the fields on the resource utilization page of project tasks, the graph displays accordingly. For example, if you enter the name of a new task or ID, data in the other cells change to reflect resource utilization for that task. If you change the start or finish dates for a task, the time cells in the graph change to reflect the new dates.

A change to the name or ID of the task is reflected on the list and WBS pages of project tasks, and on the staff assignment pages.

Follow these steps:

1. Open the project.

2. Open the Tasks menu and click Resource Utilization.

   The utilization page of project tasks appears.

3. Edit the required information. The following fields require explanation:

Start

> Defines the date to start working on the task.

> **Default:** Current date

> **Note:** A task work cannot start before the project start date. If the task has already started or finished, this field is not available.

Finish

> Enter the date for completing the task.

> **Default:** Current date

> **Note:** A task work cannot finish after the project finish date. If the task has already started or finished, the field is not available.

4. Save the changes.

Estimate to Complete (ETC)

The Estimate to Complete (ETC) is the estimated time for a resource to complete an assignment. This value is important for project planning and revenue recognition. In the short run, estimates help project managers more effectively allocate work hours. In the end, project managers can compare actuals to estimates, which can help produce more accurate forecasting and planning.

How to Set Up Tasks for Top-Down Estimating

You can set up tasks for top-down estimating. You can also apply top-down distributions at the project level. Use the following process to set up tasks for top-down estimating:

1. <u>Zero out the existing estimates</u> (see page 113).

2. <u>Enter a distribution percentage</u> (see page 114).

3. <u>Apply the top-down estimating</u> (see page 115).

Zero out Existing Estimates

Before you can set up and apply top-down estimating at the task level, zero out existing estimates. To set up top-down estimating for detail tasks, zero out the ETC amount of the summary task.

Follow these steps:

1. Open the project and click Tasks.

2. Open the task and click Estimating.

   The task estimating properties page appears.

3. Complete the following field:

   ETC

   Defines the total remaining work for the task. The list displays the value for the ETC field on the task estimating properties page.

   Required: No

   Verify that the ETC field is set to zero (0.00). If it is not, delete the amount and enter 0.

4. Click Apply.

Enter Distribution Percentages

Enter a distribution percentage for each task to share a portion of the top-down distribution.

Follow these steps:

1. Open the project and click Tasks.

   The list page appears.

2. Open the task and click Estimating.

   The task estimating properties page appears.

3. Complete the following field:

   Top-down %

   Displays the percentage of the top-down estimate from the project that is distributed to the task.

4. Save the changes.

   Default Allocation %

   Defines the percentage of time to allocate the resource to the project (you can enter 0 percent). If you change the amount in this field, the value replaces the value in the Default % Allocation field on the staff member properties page.

Apply Top-Down Estimating Using the Estimating Rules Mode

You can apply top-down estimating to the tasks set up to receive the top down distribution using the estimating rules mode. Use this mode when you have a good idea of the number of hours necessary to complete all the tasks in a grouping or project. At the summary-task level, the number is distributed through all the detail tasks that have resource assignments.

The top-down method can be most effectively used when assignments have no existing estimates. That is, the ETC field is set to 0). Prepare the tasks to receive the top-down distribution.

Example

Suppose you know that Phase I requires 100 hours to complete. Before you can enter the number and apply it, you set up the tasks for the phase to receive some percentage of those 100 hours. In this case, you can enter 60 percent for Task A, and 40 percent for Task B. Once the tasks are set up to receive a percentage, you can apply the ETC. The number is distributed accordingly.

Follow these steps:

1. Open the project and click Tasks.

    The list page appears.

2. Open the task and click Estimating.

    The task estimating properties page appears.

3. In the General section, complete the following field:

    ETC

    Defines the total remaining work for the task. The list displays the value for the ETC field on the task estimating properties page.

    Required: No

    Enter the amount to distribute down to the detail tasks.

4. Click Preview.

    The preview ETC change page appears.

5. Click Apply.

    The ETC is distributed to the detail tasks, and the distribution is saved.

Task Estimating Rules

Create and apply estimating rules to calculate ETC automatically. For example, you can create an estimating rule for a group of tasks that considers the budgeted cost of the tasks in the ETC. Though you can create multiple task estimating rules for the same task, only one can serve as the default rule.

Create estimating rules at the task level, and run the rules for the tasks for which they were created. Suppose, you create a rule at the phase level for a phase containing two detail tasks. The rule is applied to the tasks in the phase. If you create the rule at the detail-task level, you can only run the rule for that task.

You can run any task estimating rule from any page on which it exists at any time. Create an execution condition for all rules except the default rule, which cannot have an execution condition.

You can run individual estimating rules or run them all. Rules are verified in the order listed. You require having two or more estimating rules with estimating conditions displayed in the list to reorder the list. You cannot reorder the default task estimating rule.

If you do not require a task estimating rule, delete the rule.

How to Apply Estimates

Use the following process to apply estimates (ETC):

1. Assign a resource to the task.
2. Create the task estimating rule (see page 116).
3. Compare the generated ETC with the current ETC (see page 118).
4. Apply the ETC from the task estimating rule (see page 119).

How to Create Task Estimating Rules

Use the following process to create a task estimating rule:

1. Create the estimating rule (see page 116).
2. If the rule is not the default rule for the task or phase) Create the execution condition (see page 117).

Create Task Estimating Rules

A new row, for every new task estimating rule, displays in the Task Estimating Rules section of the task estimating properties page.

Enter or paste a formula directly into the Estimating Rule field to bypass the Operator and Value fields. Then, click Evaluate to evaluate the expression.

Follow these steps:

1. Open the project and click Tasks.

   The list page appears.

2. Open the task and click Estimating.

   The task estimating properties page appears.

3. In the Task Estimating Rules section, click New.

   The create page appears.

4. Complete the following fields:

   Operator

   > Displays the operator for the formula.
   >
   > **Values:** addition, subtraction, multiplication, division, exponential, or modulus

   Value

   > Defines the value for the estimating rule.
   >
   > **Values:**
   >
   > - Estimate for Another Task. Select the field to use the estimates from another task on this project.
   >
   > - Constant. Select the field and enter a number (integer or decimal) that serves as a fixed value for the estimating rule.
   >
   > - Project Attribute. Select the field from the list of numeric project attributes. You can use any numeric attribute in the estimating rule.
   >
   > **Default:** Estimate for Another Task

5. Click Add.

   The expression is evaluated and, if successful, the new rule appears in the Estimating Rule field. If the expression does not evaluate successfully, an error message displays in the field.

6. Click Finish.

   The rule is created.

Create Execution Conditions

Create a task estimating rule execution condition if an existing estimating rule is not the default rule. Execution conditions determine when the rule is required to run. An executing condition is not required for the default rule.

Verify that a task estimating rule exists before completing this procedure. The [Define execution conditions] link appears only if a rule is established.

Follow these steps:

1. Open the project and click Tasks.

   The list page appears.

2. Open the task and click Estimating.

   The task estimating properties page appears.

3. In the Task Estimating Rules section, click [Define execution conditions] next to an existing task estimating rule.

   The execution condition page appears.

4. Complete the following field:

   Object

   > Defines the object.

   > **Values:** Project or Task

   The field that appears or becomes available next depends upon the type of object selected. If Project is selected as the object, then select the Field or Operation field and select a value. If Task is the object, then select the field and select a value.

5. Complete the following field, and click Add:

   Operator

   > Displays the operator to use in the formula.

   > **Values:** = or !=

   Right

   > Defines the Constant or an Object.

6. Click Add to add the expression to the Expression field.

7. Click Evaluate to evaluate the expression.

8. Click Save and Return.

   If successful, the new rule displays in the Task Estimating Rules section. If the expression does not evaluate successfully, an error message displays in the field.

   Note: Enter or paste a formula directly into the Estimated Rule field to bypass the Operator and Value fields. Then, click Evaluate to evaluate the expression.

9. Save the changes.

Compare Generated ETC with Current ETC

Use this procedure to compare the ETC generated by the task estimating rule with the current ETC (the one in place before running the rules).

Follow these steps:

1. Open the project and click Tasks.

    The list page appears.

2. Open the task and click Estimating.

    The task estimating properties page appears.

3. Select the rule and click Run.

    The run estimating rules page appears.

4. View the following fields:

    Current ETC

    Displays the total Estimate To Complete (ETC) for the task. The value for this field is derived from the ETC field on the task estimating properties page.

    ETC from Rules

    Displays the total Estimate To Complete (ETC) for the task generated from the applied task estimating rule.

Apply ETC from Task Estimating Rules

You can run an estimating rule at the phase, task, or project level, which applies ETC values to the task based on the rules. Use the following procedure to apply task estimating rules to the phase or summary task and to its detail tasks.

To run a task estimating rule for a phase or summary task, select the required task to apply the rule to all its detail tasks. Or, select one or more of the detail tasks to apply the rule individually.

The order in which tasks are listed on the task estimating page is important. If none of the task estimating rules meets its execution conditions, the default rule is run. If only a default rule exists, then that rule is run. The process of applying ETC is executed automatically after verifying all the rules in the list in the order in which they are listed.

You can either run the task estimating rule on all listed tasks or select which tasks to run the rule. In the absence of a rule to run, all the rules are evaluated in the order in which they appear. Also, the first rule that meets the execution conditions is run.

Follow these steps:

1. Open the project and click Tasks.

    The list page appears.

2. Open the task and click Estimating.

    The task estimating properties page appears.

3. Select the check box next to the rule and click Run.

   The run estimating rules page appears.

4. Select the check box next to the task to apply ETC, and click Apply ETC from Rules.

Apply Estimating Rules

Create and apply estimating rules to distribute ETC values in a specific way. For example, you can create an estimating rule for a specific group of tasks that considers the planned cost of the tasks in the estimate.

Create the estimating rules at the task level, and you can only run them for the tasks for which you created them. Though you can apply estimating rules at the project level, you cannot create them at the project level.

The names of the phases or groupings for which the rule is run are highlighted in a different color. Use the ETC From Rules column to compare the ETC previously generated for the phase with the ETC generated from the applied rules.

Follow these steps:

1. Open the project and click Tasks.

   The list page appears.

2. Open the task and click Estimating.

   The task estimating properties page appears.

3. In the Task Estimating Rules section, select the rule, and click Run.

Edit Task Estimating Rules

Task estimating rules displays in the list on the task estimating properties page.

Follow these steps:

1. Open the project and click Tasks.

   The list page appears.

2. Open the task and click Estimating.

   The estimating rule page appears.

3. Edit the following fields:

   Operator

      Displays the operator for the formula.

      Values: addition, subtraction, multiplication, division, exponential, or modulus

Value

Defines the value for the estimating rule.

Values:

- Estimate for Another Task. Select the field to use the estimates from another task on this project.

- Constant. Select the field and enter a number (integer or decimal) that serves as a fixed value for the estimating rule.

- Project Attribute. Select the field from the list of numeric project attributes. You can use any numeric attribute in the estimating rule.

Default: Estimate for Another Task

4. Click Add.

   The expression is evaluated and, if successful, the new rule appears in the Estimated Rule field. If unsuccessful, an error message displays in the field.

5. Click Finish and Save.

Edit Task Estimating Rule Execution Condition

Follow these steps:

1. Open the project and click Tasks.

   The list page appears.

2. Open the task and click Estimating.

   The task estimating properties page appears.

3. Do one of the following:

   - Click the name of the execution condition to change.

   - Click the *Define execution conditions* link to define a condition for the default rule.

   The executing conditions page appears.

4. Edit the execution condition and save the changes.

How to Update Cost Totals

Update costs when you create or update a baseline, and when you change the task information - an input for earned value calculations. When earned value is used, update the total costs to view costs tied to ACWP, EAC (Cost), and ETC (T).

Use the following process to update the costs totals for your project:

1. Schedule the Rate Matrix Extraction job to run periodically.

2. Do one of the following:

    ■   Update cost totals (see page 122). The Update Earned Value Totals job runs.

    ■   Schedule the Update Earned Value Totals job to run at recurring intervals based on how often you post actuals.

Update Cost Totals

Use the following procedure to recalculate the cost metrics and earned value information for the project as of the project As Of Date. The date is a field on the scheduling properties page.

Follow these steps:

1. Open the project and click Tasks.

    The list page appears.

2. Open the Tasks menu and click Gantt.

    The Gantt view appears.

3. Open the Actions menu, and from General, click Update Cost Totals.

Chapter 4: Teams

This section contains the following topics:

How to Work with Project Team Staff

The project team staff page displays a list of the resources or roles that you have added to your project.

To access this page, open the project and click Team. The page displays the name of the project manager and any other participants in the list.

You can do the following:

- Add a resource or role as a team staff member to the project.

- Add a resource or role as a team staff member to the project by OBS Unit (see page 125).

- Edit the team staff member properties (see page 139).

- Use the resource finder to replace resources using the availability score (see page 156).

- Define resource allocation.

- Edit the resource role, booking status, start date, finish date, and percent allocation.

- Shift or scale all or a portion of the resource allocations in the project (see page 160).

- Set resource allocation (see page 164).

- Generate resource estimates based on allocation (see page 164).

- Allocate resources from estimates (see page 164).

- Accept hard allocation (see page 166).

- Commit planned allocation (see page 167).

- Remove team staff members from the project (see page 156).

- Create and manage requisitions (see page 129)

How to Manage Project Teams

You can manage project teams in the following ways:

- Add resources or roles to the project.

- Add participants to the project.

- Define resource allocations.

- View role capacity (see page 138).

- Create participant groups.

- Remove resources from the project (see page 156).

You can delete project team members, provided the following conditions are true:

- The project team members have no associated posted transactions.

- The project team members have no associated posted actuals.

Add Resources to Projects by OBS Unit

Use the following procedure to add resources that are part of the OBS to the project as team staff members.

Follow these steps:

1. Open the project and click Team.

    The project team staff page appears.

2. Click Add/Update by OBS.

    The select resources page appears.

3. Select the OBS and click Add.

    The page closes.

4. Save the changes.

About Team Staff Member OBS Unit

When you add a resource to your project, the default staff OBS unit for the project is the unit used for the resource. The project default staff OBS unit is a field on the scheduling properties page. You can define the resource staff OBS type using the Staff OBS Unit field on the staff member properties page.

The following rules are used when adding resources to projects:

■   If the defined resource and project OBS units are the same, then the resource OBS unit is set to that of the project. The value does not change even if the resource properties for the defined resource have a different value.

■   If the defined resource and the project OBS units vary, then the resource OBS unit is left undefined (blank).

■   If the project OBS unit is not defined, then the resource OBS unit is left undefined (blank).

■   When booking a requisition, the booked resource staff OBS value is set using the same rules as replace.

Specify Staffing Requirements

Specify staffing requirements for a resource or role that is added to the project. When done, you can create requisitions for the staffing requirements.

Follow these steps:

1. Open the project and click Team.

    The team staff page of the project appears.

2. Click the Properties icon for the resource or role to specify the staffing requirement.

    The staff member properties page appears.

3. Specify the staff member properties:

    Requirement Name

    Defines the staffing requirement name. Each requisition can access all information from the team member. For example, skills, allocation needed, or role on which the requisition is based.

    Start Date

    Specifies the start date for the period or range of time periods.

    End

    Defines the date of completing the project.

    Default Allocation %

    Defines the percentage of time to allocate the resource to the project (you can enter 0 percent). If you change the amount in this field, the value replaces the value in the Default % Allocation field on the staff member properties page.

    Booking Status

    Defines the booking status for the resource.

    Values:

    -   Soft. The resource is tentatively scheduled to work on the investment.

    -   Hard. The resource is committed to work on the investment.

    -   Mixed. The resource is both soft and hard allocated to the investment, or the soft allocation for the resource does not match the hard allocation.

    Default: Soft

Request Status

The requisition status if a requisition is linked to the team record. Whenever the actual requisition status changes on the requisition properties page, this request status field is updated. The requisition status provides the project manager an indicator of the state of their requisitions. When you first create a staffing requirement, the request status is "New". The field is read-only unless the requisition status is "Closed" or "Booked", or there are no requisitions. If more than one requisition is attached, then this field displays the status of the open (not closed) requisition. You can use this status for manually booking a resource without using a formal requisition.

Values: New, Open, Proposed, Booked, or Closed. The values apply, provided no requisitions are associated with the team member.

Investment Role

The role of resources requested for the investment. For example, developer, business analyst, or architect.

Staff OBS Unit

Defines the staff member OBS Unit affiliation.

Default: The project Staff OBS Unit value if one is defined for the project.

Open for Time Entry

Specifies if the resource can enter time against a specific project.

Default: Selected

4. Complete the following fields in the Resource Search section:

Resource Employment Type

Specifies the employment type to search for resources.

Values: Contractor or Employee

Resume Keywords

Defines the keywords in the resume of the resource.

Planned Allocation

Represents the duration that the resource is required on the project. The field represents the total availability of the resource for the project, as the project manager requests.

Hard Allocation

Represents the total hard-booked availability of the resource to the project, as the resource manager specifies. No hard allocation value exists until the resource manager hard-books the allocations.

5. Click New Row to add more resources. Or, select the check box next to the start date and click delete to remove a resource from the new staff list.

6.   Save the changes.

About Task Requisitions

The following is a high-level overview of the flow of tasks that the project and the resource managers perform. The aim is to fulfill project staffing requirements through the process of creating and submitting requisitions.

1.   The project manager defines staffing requirements by adding soft-booked resources or roles as project team members.

2.   The project manager creates requisitions based on the predefined staffing requirements.

3.   The project manager submits new requisitions so resource managers can start looking at them. The requisition is routed to the appropriate resource managers based on the default booking manager defined for the resource or role in the requisition.

4.   The resource manager addresses requisitions by proposing a list of resources. The resource manager can also decline a requisition. In both cases, the project manager is notified.

5.   The project manager reviews the proposed allocations and either:

     ■   Rejects the proposed requisition. In this case the requisition is reopened and the resource manager is notified. The resource manager modifies and resubmits the proposals.

     ■   Accepts the proposed requisition. In this case the resource requisition is hard booked to the project.

         A resource manager can also directly hard-book a resource. The booking depends on the required rights and the Requisition Approval Required flag turned on.

6.   The project manager can make the following changes to the resource allocation after a resource is hard-booked to a project:

     ■   Reduce allocation. If a resource is booked to a project for a longer time than required. Or, if a resource is unavailable during a specific period, the project manager can unbook the resource for that period.

     ■   Extend allocation. If a project gets extended, the project manager can request additional booking for a particular resource.

     ■   Replace a resource or role. If a resource is being unbooked, the project manager can request a replacement for that resource.

Create Requisitions

Requisitions are associated with single staffing requirements; they always contain references to a specific resource or role. The requisition uses the details from the staffing requirement to populate the requisition.

When selecting multiple resources or roles, a new requisition is created for each resource or role (staffing requirement). For a given staffing requirement, there can be only one outstanding requisition (with a status of *New*, *Open*, or *Proposed*). You cannot create requisitions for staffing requirements that already have outstanding requisitions. If you cannot create requisitions for any of the staffing requirements selected, then the create operation fails for all requisitions. An alert message appears.

As a project manager, you can edit the requested allocation amount in a requisition. You can edit a requisition as long as its status is still *New*. You can avoid situations where the resource manager is already working on the request, has a shortlist partly put together, and then the request changes on them.

When you create the requisition, you can do one of the following:

- Create the requisition and set its status to *New*. This way, you can edit the requisitions to add additional information not carried over from the staffing requirement. Also, you can change the default values, such as the due date or the amount requisitioned by manually open the requisitions.

- Create the requisition and set its status to *Open*. This way, you can quickly submit all your requisitions when you do not need to edit any of the details. The details are already defined in the staffing requirement. After a requisition is submitted, the resource manager is notified through email and can act on the requisition.

Follow these steps:

1. Open the project and click Team.

   The team staff page of the project appears.

2. Select the check box for a soft-booked resource or role, and from the Actions menu, click Create Requisitions.

   The create requisitions page appears.

3. Select a requisition type:

   Values:

   - Request Resources: Select this option to create new requisitions.

   - Unbook Resources: Select this option to create requisitions to unbook and release hard-booked time.

   - Replace Resources: Select this option to unbook and replace a hard-booked resource.

4. Select a booking manager for each resource or role. If the resource manager or administrator specifies a default booking manager, this value is automatically populated.

5. Do one of the following:

    ■   Click Create to create requisitions with a *New* status.

    ■   Click Create and Open to create a requisition. Set the status to *Open*.

    The requisition is created and displays on the team staff page of the project.

6. Save the changes.

Edit Unopened Requisition Requests

You can view your new requisitions, monitor your open requisitions and edit any unopened requisitions.

You can view a requisition status in the Request Status field. Whenever the requisition status changes, the Request Status field is updated.

You can only edit requisition requests that have a status of "New."

After you submit an open requisition, the resource manager receives notification to work on the request. If a requisition is for a named resource, the named resource is automatically added to the resource list for the requisition when the status changes to "Open." The resource is selected or "Proposed."

You can delete resource requisitions at any time and in any state. You can also delete requisitions with approved bookings. The results of the booking (for example, the team members that got hard-booked to the project) remain. The record of the booking transaction (for example, the requisition itself) can be deleted. To delete a requisition, select the check box and click Delete.

Follow these steps:

1. Open the project and click Team.

    The team staff page of the project appears.

2. Open the Team menu and click Requisitions.

    The team requisitions page of the project appears.

3. Click the name of the requisition to edit the properties.

    The requisitions properties page appears for that requisition.

4. Complete the requested information. The following fields require explanation:

    Requisition Name

    Change the name of the requisition to describe the staffing requirement. When the requisition is created, the field is populated with the name of the selected staffing requirement.

    Required: Yes

    Due Date

    Select the last date of filling the requisition. The date generally appears before the date you require the resource.

    Status

    Indicates the status of the requisition. To submit a requisition, change its status from "New" to "Open".

    Required: Yes

    Values: New, Open, Proposed, or Closed

    Requested By

    Displays the name of the project manager who created the requisition.

    Booking Manager

    Displays the booking manager name of the resource or role according to the staffing requirement.

    Requirement Name

    Displays the staffing requirement name. Each requisition can access all information from the team member. For example, skills, allocation needed, or role on which the requisition is based.

    Requested Resource

    Displays the name of the requested resource or role.

    Project

    Displays the name of the project for the requisition.

    Unbook

    Displays the status based on the selected option when creating the requisition. For example, Request Resources, Unbook Resources, or Replace Resources.

    Replace

    Displays the status based on the selected option when creating the requisition.

    Values: Request Resources, Unbook Resources, or Replace Resources

Requested Amount

Define the period for the resource to work on the project. Also, specify the percentage of the time available for the resource.

5. Save the changes.

Review and Book Proposed Allocations

A requisition can have many bookings associated with it. Each resource that you add to the requisition shortlist constitutes a booking. A booking is simply a record of a resource attached to the shortlist and contains the amount of time the resource is booked to the project. The status of the booking determines whether the resource is proposed, rejected, or booked to a project.

After a resource manager works on a requisition, the requester receives a notification that someone has filled or partly filled a requisition. You can view information about the resources they offer. You can also see which staffing requirements have a "Proposed" status, meaning the resource manager has proposed allocations on the requisition. A committed (or hard) allocation for the resources does not exist because you have not yet accepted the proposals. You can open the Team menu and click Requisitions to view all the requests for the proposed amounts and accept multiple requisitions at a time. You can also drill into any individual requisition from either the team staff, or team requisitions page.

You can hard book resources to projects as follows:

Note: The Requisition Approval Required field displays in the Staffing section of the schedule properties page.

Requisition Approval Required field	Method
Selected	Project manager books a requisition proposed by a resource manager.
Selected	Project manager hard-books a resource or role directly to the project. They have hard-booking rights and the *Project – Edit* access right.
Cleared	Project manager or resource manager hard-books a resource or role directly to the project if they have hard-booking rights.

View Resource Allocations

Before you accept a proposed resource or book them to a project, review its allocations to other projects.

You can view allocation details on the team details page. To view the page, open the project and the team, and click Detail from the team menu. This page lists all of the investments to which the resource is allocated, with the number of hours the resource is allocated to each investment.

Follow these steps:

1. Open the project and click Team.

   The team staff page of the project appears.

2. Click the Resource Allocation icon next to the resource to view allocations.

   The summary page for that resource appears.

Accept and Book a Single Requisition

View the details of the requisition before accepting a proposed booking. As project manager, you see the same view the resource manager saw that displays the details of the requisition. You see how much time you requested, how much the resource manager proposed, and who the resource manager proposed.

If you select the Requisition Approval Required field, the resource manager cannot book team members directly onto a project – even with hard-booking access rights.

On the team staff page, you can see that the resource has committed allocation to the project. The request status is now "Booked." The booking status has changed from "Soft" to "Hard."

Follow these steps:

1. Open the project and click Team.

   The team staff page of the project appears.

2. Open the Team menu and click Requisitions.

   The team requisitions page of the project appears.

3. Click the Person with List icon to the right of the desired requisition.

   The resource requisition page appears. This page displays the requested allocation, the proposed allocation, and the variance. The histogram shows you the overall availability of the proposed resources.

4. To accept the proposal, click Book.

   The resource is hard booked.

Accept and Book Multiple Requisitions

You can review and accept multiple requisitions at the same time on the team staff page of the project. From this page, you can view the average availability rate of the proposed requisitions. You can select multiple requisitions and click the Book button to accept all proposals at once.

When a project manager or resource manager books a resource to a project or a project manager changes the planned allocation for a resource, the associated staffing requirement booking status automatically updates to reflect the latest status.

The booking status in the staffing requirement changes based on the values in the following table:

Planned Allocation	Hard Allocation	Booking Status
Date range and allocation have been set	None	Soft
Date range and allocation have been set	Equals planned allocation	Hard
Date range and allocation have been set	Date range and allocation is less than planned allocation	Mixed This booking status displays only if the system setting for Allow Mixed Booking is turned on. By default it is turned on.
Date range and allocation have been set	Date range and allocation is more than planned allocation	Mixed

Follow these steps:

1. Open the project and click Team.

   The team staff page of the project appears.

2. Open the Team menu and click Requisitions.

   The team requisitions page of the project appears.

3. Select the proposed requisitions, and click Book to accept the selected requisitions.

4. Return to the team staff page of the project.

   The team members have a booked request status. The booking status is "Hard", and the planned and committed allocations are equal.

Reject a Requisition

If you are not satisfied with the proposed availability of a named resource, you can reject the requisition. You can also reject one or more resources from the shortlist of resources proposed by the resource manager for a specific role. When you reject a resource requisition, the resource manager is notified about the reopened requisition.

You can also open a requisition, view the requisition properties, and then reject the requisition using the Reject button. Use the Discussions feature to record why you are rejecting a requisition.

Follow these steps:

1. Open the project and click Team.

   The team staff page of the project appears.

2. Open the Team menu and click Requisitions.

   The team requisitions page of the project appears.

3. Select one or more proposed requisitions, and click Reject.

   The status of the requisition changes from Proposed to Open.

Book Overallocated Resources

If the available hours of a resource are less than the total number of requested hours, the Remaining Availability Confirmation page appears.

The Remaining Availability Confirmation page indicates that the resource is overbooked when you add them to the project or investment. The 100% Resource Allocation column displays the number of hours utilized if you book the resource at 100 percent (default) of their availability. The Remaining Availability column indicates the actual number of work hours available for the resource to work on your project.

When the page appears, you can:

- Over-allocate the resource.
- Book the resource for the amount remaining only. This amount is listed in the Remaining Availability column.

Unbook Hard-Booked Resources Using Requisitions

Suppose, you reduce the scope of a project, or a resource is unavailable for a particular duration in the project. You can unbook hard-booked resources to use their unbooked time on another project.

You can unbook a resource completely or partially from projects. The unbooked amount defaults to the hard allocation of the team member less the planned allocation.

After you unbook the resource requisition, the associated resource manager is notified. The resource manager can proceed to address the unbooked resource requisition.

Follow these steps:

1. Open the project and click Team.

    The team staff page of the project appears.

2. Select the check box next to the name of the hard-booked resource you want unbooked, and from the Actions menu, click Create Requisitions.

    The create requisitions page appears.

3. In the Select Requisition Type section, select Unbook Resources (Remove all hard allocation not in plan).

4. In the Resources section, click Create and Open to unbook the resource completely.

    The team staff page of the project appears showing the booking status as "Mixed". An unbook requisition is created to unbook other resource for the entire hard-allocated amount.

Follow these steps:

Note: You can also specify the amount using the staff member page of properties, before unbooking the resource requisition.

1. Open the project and click Team.

    The team staff page of the project appears.

2. Select the check box next to the name of the hard-booked resource you want to unbook, and from the Actions menu, click Create Requisitions.

    The create requisitions page appears.

3. In the Select Requisition Type section, select Unbook Resources (Remove all hard allocation not in plan).

4. In the resources section, click Create.

    The team staff page of the project appears.

5. Click the request status link for the resource which shows a status of "New."

The requisitions properties page appears.

6. Specify the requested amount to unbook. That is, indicate the period and the unbooking percentage. Then, change the status to "Open."

7. Save the changes.

Replace Unbooked Resource Requisitions

When unbooking a resource through a requisition, you can request a replacement team member. The action lets you unbook the selected resource and request for a new team member.

Follow these steps:

1. Open the project and click Team.

   The team staff page of the project appears.

2. Select the check box next to the name of the hard-booked resource to unbook, and from the Actions menu, click Create Requisitions.

   The create requisitions page appears.

3. In the Select Requisition Type section, select Replace Resources (Replace all hard allocation with new resource).

4. In the Resources section, click Create and Open to unbook the resource completely.

   The team staff page of the project appears showing the booking status as "Mixed". An unbook requisition is created to unbook totally the resource for the entire hard-allocated amount.

Request Additional Bookings

If the project gets extended, you can add additional planned allocation for a resource.

The submit, propose, and accept process for a requisition is identical to the process described in the earlier sections. The two requisitions (created initially and the other for additional booking) are stored as two separate records of the individual transactions.

For un-booking a resource, you reduce the planned booking. But for additional booking, you require to increase the planned booking compared to the hard-booking.

Split Booking

For an additional and unbook requisition, you can change allocations using the Shift Allocation option. Create a regular requisition and select the Unbook option to unbook a requisition. You require performing the two distinct actions as separate tasks. A team record can have up to one each of open and unbook requisitions at the same time.

Follow these steps:

1. Open the project and click Team.

   The team staff page of the project appears.

2. Click the Properties icon for the hard-booked resource.

   The staff member page of properties appears.

3. Edit the resource Planned Allocation chart.

4. Create a requisition.

   The new requisition automatically asks for the difference between the planned and committed time.

About Roles and Role Capacity

Use a role as a placeholder when you do not know the name of a resource, or if a resource is not available. You can staff a project with multiple instances of the same role. But you cannot add multiple instances of the same named resource to a project.

Role capacity is the role demand against the capacity of the resources that fill those roles.

You can view an aggregated view of all role demand whether generated by role-based team staff members or named resources using the role capacity page. Resources without a primary role are displayed on this page in the [No Role] row.

From this page, you can view:

- Role allocation to this project and subproject as opposed to allocation to other projects and over-allocations. Information is aggregated role-wise. The subproject allocates a specific percentage to the project.

- Available role capacity for this project and its subprojects.

- Role capacity both inside and outside of a scenario.

Click the name of the role on the role capacity page to view the resource using a role when a role appears over-allocated.

Edit Resource Roles

You can change a resource role on a project. The project role does not alter the role identified in their resource profile.

Follow these steps:

1. Open the project and click Team.

   The team staff page of the project appears.

2. Edit the project role for the resource in the Role column.

3. Save the changes.

Edit Team Staff Member Properties

Use the following procedure to define and edit the properties for a team staff member. For example, define a resource as open for time entry to track the time spent on their tasks on the timesheet.

Follow these steps:

1. Open the project and click Team.

   The team staff page of the project appears.

2. Click the Properties icon for the resource or role.

   The staff member page of properties appears.

3. Complete the following fields in the General section:

   Requirement Name

   Defines the staffing requirement name. Each requisition can access all information from the team member. For example, skills, allocation needed, or role on which the requisition is based.

   Start Date

   Defines the start date for the resource on the project.

   Finish Date

   Defines the end date for the resource on the project.

Default % Allocation

Defines the percentage of time you want to allocate the resource to this project (you can enter 0 percent). This amount is reflected in the Allocation and Allocation % columns on the project team staff page.

Default: 100 percent

Required: No

Booking Status

Defines the booking status for the resource.

Values:

- Soft. The resource is tentatively scheduled to work on the investment.

- Hard. The resource is committed to work on the investment.

- Mixed. The resource is both soft and hard allocated to the investment, or the soft allocation for the resource does not match the hard allocation.

Default: Soft

Request Status

Specifies the requisition status when a requisition is linked to the team record. Project managers use the request status to monitor the state of their requisitions and to book manually a resource without using a formal requisition. The field is display only, when the request status is "New", "Open, or "Proposed", or when no requisitions exist.

Values:

- New. The staffing requirement is new. The project manager has not requested staffing needs.

- Open. The resource requisition is active and is waiting to be filled.

- Proposed. The resource requisition has been proposed.

- Booked. The project manager has accepted the proposed resource.

- Closed. No requisitions are associated with the team member.

Default: New

Required: Yes

Investment Role

Defines the role of the resources requested for the project.

Example: Developer, business analyst, or product manager

Staff OBS Unit

Defines the OBS Unit affiliation for the resource assigned to the project.

Default: Default Staff OBS Unit (if this value is defined for the project)

Open for Time Entry

Specifies if the resource can use timesheets to track time that is spent on task assignments. When cleared, the resource cannot log time on any project.

Default: Selected

4. Complete the following fields in the Resource Search section:

Resource Employment Type

Specifies the employment type to search for resources.

Values: Contractor or Employee

Resume Keywords

Defines the keywords in the resume of the resource.

5. Complete the following fields in the Planned Allocation section:

Planned Allocation

Defines the duration of time for which the resource is required to work on the project. The time represents the total amount of availability the resource has to the project (as requested by the project manager).

6. Complete the following fields in the Hard Allocation section:

Hard Allocation

Defines the total amount of hard-booked availability the resource has to the project (as filled out by the resource manager). A hard allocation value does not exist until the resource manager hard-books the allocations.

7. Save the changes.

About Booking Already-booked Resources

You can add multiple instances of a role to a project but not multiple instances of the same named resource. When booking already-booked resources to projects, the following error message appears under the following circumstances:

```
Resource not booked because it exists in the team. Use the team properties page to
update this resource allocation.
```

Circumstances:

- Booking a resource to a project to which they are already booked.

- Booking a resource already on the project team, and you opt not to reduce a matching role allocation.

Example

You can assign programmer (1) and programmer (2) to the same task.

About Assigning Resources to Tasks

Assign labor resources to tasks so that they can perform the work and record the work time in their timesheets.

You can also assign expense, material, and equipment resources to tasks. These types of resources can also be tracked using timesheets, and can have actuals that are logged through transactions.

Note: You cannot assign resources to milestone or summary tasks.

Replace Resources Assigned to Tasks

The replace resource page displays the assignment dates and ETC of the members being replaced. The page also lists all the team staff members currently assigned to the project staff, including the members assigned to the task. Only resources to which you have access are listed on the page.

The following fields display in the Assignments list on the replace resource page:

Resource

Defines the names of the resources that are allocated to investments in the portfolio. You can click the name to open the resource properties page.

Start

Defines the date to start the task assignment for a resource. The list pages or portlets display the start date.

Default: Task start date

Note: Define the assignment to start on or after the task start date. If an assignment has actuals, the field is read-only.

Finish

Defines the date to complete the task assignment for a resource. The list pages or portlets display the completion date.

Default: Task completion date

Note: Define the assignment to finish on or before the task completion date.

ETC

Defines the total remaining work for the task. The list displays the value for the ETC field on the task estimating properties page.

Required: No

Task

Defines the name of the task. The value for the field is derived from the Name field on the Task Properties page. On list pages or in portlets, displays the name of the task.

Limits: 64 characters

The following fields display in the resource selection section of the replace resource page:

Resource/Role

Displays the name of the resource or role assigned to the task.

Is Team Member

Indicates if the resource or role is a team staff member.

ID

Displays the unique identifier for the resource. The value for the field is derived from the Resource ID field on the resource properties page.

Email

Displays the address to which notification and other CA Clarity PPM communications are sent. The value for this field is from the Email Address field on the resource properties page.

Resource Type

Specifies the type of resource or role you want to create. In lists and in portlets, displays the resource type.

Values: Labor, Equipment, Material, Expense

Default: Labor

Employment

Displays the employment type for the resource. The value for this field is from the Employment Type field on the resource properties page.

Values: Employee or Contractor

Default: Employee

Role

Displays the primary role for the resource. The value for this field is from the Primary Role field on the resource properties page.

Start

Defines the date to start the task assignment for a resource. The list pages or portlets display the start date.

Default: Task start date

Note: Define the assignment to start on or after the task start date. If an assignment has actuals, the field is read-only.

Finish

Defines the date to complete the task assignment for a resource. The list pages or portlets display the completion date.

Default: Task completion date

Note: Define the assignment to finish on or before the task completion date.

Follow these steps:

1. Select the check box next to the resource to replace, and click Replace.

   The replace resource page appears.

2. Select the resource or role to replace the assigned resource, and click Replace.

Remove Resource Assignments from Tasks

If the resource assignment is associated with posted transactions, you cannot remove a resource assignment from a task.

Follow these steps:

1. Open the project and click Tasks.

   The list page appears.

2. Open the Tasks menu and click Assignments.

   The task assignments page appears.

3. Select the check box next to the resource, and click Remove.

   The confirmation page appears.

4. Click Yes.

Modify Resource Assignments

Use the following procedure to modify the assignment properties for the resources assigned to your tasks. You can also use the resource assignment properties page to vary the ETC based on work segments.

Follow these steps:

1. Open the project and click Tasks.

   The list page appears.

2. Open the Tasks menu and click Assignments.

   The task assignments page appears.

3. Click the Properties icon next to the name of the resource to define assignment properties.

   The resource assignment properties page appears.

4. In the General section, complete the following fields:

   Resource

   Displays the name of the resource assigned to the task.

   Role

   Defines the role of the resource assigned to the task.

   Loading Pattern

   Specifies the loading pattern to distribute the ETC for a task assignment over the duration of the task. Autoschedule schedules the work based on this loading pattern.

   Values: Back, Uniform, Fixed, Contour, or Front

   Default: Front

   Actuals

   Displays the total number of hours the resource has recorded to date for tasks on this project. Actuals appear after the *Post Timesheets* job is run.

   Actuals Thru

   Displays the actuals thru date for the resource task assignment based on posted actuals. The value for this field is updated when the *Post Timesheets* job runs, which runs automatically when the project manager posts an approved timesheet.

Status

Displays the status of the task based on the value of % Complete. This field is automatically calculated and updated based on the task % Complete value.

Values:

■ Completed. Indicates that the ETC task is zero and the percentage completed is 100.

■ Not Started. Indicates that actuals are not posted and the percentage completed is zero..

■ Started. Displays when a resource posts actuals to the task assignment. The percentage completed on the task is more than zero and less than 100.

Default: Not Started

Start

Defines the date to start the task assignment for a resource. The list pages or portlets display the start date.

Default: Task start date

Note: Define the assignment to start on or after the task start date. If an assignment has actuals, the field is read-only. If an assignment has actuals, this field is display only.

Finish

Defines the date to complete the task assignment for a resource. The list pages or portlets display the completion date.

Default: Task completion date

Note: Define the assignment to finish on or before the task completion date.

ETC

Displays the estimate of remaining hours to complete the task. The estimate is based on the allocation percent for the team staff member between assignment start and finish dates. Also based on the number of hours the resource is available each day.

5. Save the changes.

About Time-Varying ETCs for Assignments

You can contour ETC at the task level to create segments of work that vary over the duration of an assignment. You can assign a resource to a task, start and stop work by that resource on the task, and then resume work again.

How to Enter Time-Varying ETC Segments

You can enter time-varying ETC segments for a resource assigned to a task on the task properties page and on the assignment properties page.

Use one of the following methods to enter time-varying ETC segments:

- Enter ETC segments for task assignments (see page 147).

- Enter ETC segments for resource assignments (see page 148).

Enter Time-Varying ETC Segments for Task Assignments

Use the following procedure to enter the time-varying ETC segments for a resource assigned to a task. The time-varying ETC segments are displayed in the Usage column in the assignments list on the task properties page. Each time-varying ETC cell displays the work effort according to the work effort setting for the assignments list. The total ETC for the resource assignment is automatically calculated.

For fixed resource loading pattern, you can enter time-varying ETC in tentative-schedule and capacity planning scenario modes.

Follow these steps:

1. Open the project and click Tasks.

   The list page appears.

2. Open the Tasks menu and click Assignments.

   The task assignments page appears.

3. Click the Properties icon next to the name of the task.

   The assignment properties page appears.

4. In the Assignments section, complete the following fields for each resource:

   Role

   Defines the role for this resource on this task.

   Start

   Defines the date to start the task assignment for a resource. The list pages or portlets display the start date.

   Default: Task start date

   Note: Define the assignment to start on or after the task start date. If an assignment has actuals, the field is read-only.

Finish

Defines the date to complete the task assignment for a resource. The list pages or portlets display the completion date.

Default: Task completion date

Note: Define the assignment to finish on or before the task completion date.

Note: The segments you define can extend beyond the task start or finish date depending on task date editing rules. When save your changes, the task start and finish dates change to reflect the new dates, and the project start or finish dates adjust accordingly.

ETC

Displays the estimate of remaining hours to complete the task. The estimate is based on the allocation percent for the team staff member between assignment start and finish dates. Also based on the number of hours the resource is available each day.

Loading Pattern

Specifies the loading pattern to distribute the ETC for a task assignment over the duration of the task. Autoschedule schedules the work based on this loading pattern.

Values: Back, Uniform, Fixed, Contour, or Front

Default: Front

Select Fixed to enter the distribution of the work effort.

5. In the Usage column, click in a cell and enter the work effort to schedule for the resource. Repeat for each segment.

6. Save the changes.

Enter Time-Varying ETC Segments for Resource Assignments

Use the following procedure to enter the work effort in an ETC segment. You can also delete a segment.

The ETC Detail section on the resource assignment properties page displays time segments with the start and finish dates and the ETC for each block of work. The work units for consecutive time-varying ETC segments display as one block, for example, 12/7/10 - 12/31/10 90 hours.

When you save your changes, the total ETC for the assignment is recalculated with the sum of all the individual work segments. On the task properties page, the ETC column and the Usage column for the resource reflect the changes you made.

Example

Enter the following time segments and work units:

Time Segment	Work Units
11/01/11	32
11/08/11	28
11/15/11	0
11/22/11	32

They appear as:

Time Segment	Work Units
11/01/11	60
11/22/11	32

Follow these steps:

1. Open the project and click Tasks.

    The list page appears.

2. Open the Tasks menu and click Assignments.

    The task assignments page appears.

3. Click the Properties icon next to the name of the task.

    The assignment properties page appears.

4. Click the Properties icon next to the name of the resource to define the assignment properties.

    The resource assignment properties page appears.

5. In the General section, complete the following field:

    Loading Pattern

    Specifies the loading pattern to distribute the ETC for a task assignment over the duration of the task. Autoschedule schedules the work based on this loading pattern.

    Values: Back, Uniform, Fixed, Contour, or Front

    Default: Front

    Select Fixed to enter the distribution of the work effort.

6. In the ETC Detail section, complete the following fields for each time segment:

Start

Specifies the start date for the time segment. Click the calendar icon and select a start date for the new time segment.

Finish

Specifies the finish date for the time segment. Click the calendar icon and select a start date for the new time segment.

Value

Specifies the number of ETC hours for the time segment.

7. Save the changes.

Create New Time-Varying ETC Segment

Use the following procedure to enter time-varying ETC segments at the resource assignment level.

Click Add to create a segment.

Follow these steps:

1. Open the project and click Tasks.

   The list page appears.

2. Open the Tasks menu and click Assignments.

   The task assignments page appears.

3. Click the Properties icon next to the name of the resource to define the assignment properties.

   The resource assignment properties page appears.

4. In the General section, complete the following field:

   Loading Pattern

   Specifies the loading pattern to distribute the ETC for a task assignment over the duration of the task. Auto-schedule schedules the work based on the loading pattern.

   Values: Back, Uniform, Fixed, Contour, or Front

   Default: Front

   Select Fixed to enter the distribution of the work effort.

5. In the ETC Detail section, complete the following fields for each time segment:

Start

Specifies the start date for the time segment. Click the calendar icon and select a start date for the new time segment.

Finish

Specifies the finish date for the time segment. Click the calendar icon and select a start date for the new time segment.

Value

Specifies the number of ETC hours for the time segment.

6. Save the changes.

About Entering Time-Varying ETC in Capacity Planning Scenario Mode

You can only enter time-varying ETC segments for fixed loading pattern assignments in capacity planning scenarios. All other loading pattern assignments are read-only in scenarios.

Update Total ETC from Time-Varying ETC

The Assignment List section on the task properties page displays a list of resources assigned to the task. By default, the time segments are displayed as weekly columns and start with the current week.

If you enter values into the ETC field on the task properties page and into the ETC time-varying fields, the time-varying information is saved first. Then, the ETC field is updated with the sum of all the ETC values you enter into the time-varying fields.

Evenly Distribute ETC Over Segments

You can enter a total ETC for a resource assignment. When you enter a total ETC, the ETC for that resource is evenly distributed over all the time segments for the task. When you autoschedule the project, the ETC is distributed between the start and finish dates based on the loading pattern rules.

Follow these steps:

1. Open the project and click Tasks.

   The list page appears.

2. Open the Tasks menu and click Assignments.

   The task assignments page appears.

3. Click the Properties icon next to the name of the desired resource.

   The resource assignment properties page appears.

4. Complete the following field:

   ETC

   Displays the estimate of remaining hours to complete the task. The estimate is based on the allocation percent for the team staff member between assignment start and finish dates. Also based on the number of hours the resource is available each day.

5. Save the changes.

ETC Distribution and Autoschedule

At the task assignment level, Autoschedule uses the resource loading pattern to distribute the ETC for a task assignment over the duration of the task. If you set the default resource loading pattern to fixed, you define and control the time segments for a resource. The time segments are preserved during autoscheduling. If you set the default resource loading pattern to front, back, contoured, or uniform, Autoschedule does the load balancing. The balancing is based on the loading pattern rules and overwrites any defined-time segments.

Suppose, you enter a total ETC value on the assignment properties page without specifying values for each time segment. Autoschedule distributes the ETC units evenly over the duration of the task. The distribution follows the load pattern rules.

How to Run Autoschedule After Adjusting ETC

After adjusting the ETC for a task or a resource assignment, you can autoschedule your project. You can publish automatically and view the effects of your changes on the project schedule in tentative-schedule mode.

Use the following process to autoschedule your project after adjusting resource ETC:

1. Adjust resource assignment ETC (see page 148).

2. Define the autoschedule parameters and autoschedule the project (see page 171).

3. Do one of the following:

   ■ Publish the tentative schedule (see page 175).

   ■ Return to the plan of record (POR).

About Team Staff Member Replacement

You can replace a resource with a role or a different resource, and vice-versa.

Guidelines for Team Staff Member Replacements

Consider the following before replacing a team staff member:

- When you replace a resource, the actuals and pending actuals of the original team member, are not transferred to the replacing staff. Only the remaining ETC is transferred to the replacing staff.

- The original team staff member requires completing time entries so that the actuals are posted before the replacement occurs.

- The project role of the original team member is transferred to the new one, unless you are replacing a role too.

How Information Transfers to Replacement Staff

When you replace one team staff member with another, certain project information is transferred to the replacing staff. For example:

- Available Start

  Note: Information is only transferred if the available start date has not passed and if the replacement staff is not booked on that date.

- Available Finish

- Remaining Allocation

- Percent Allocation

- ETC

- Assigned Tasks

- Project Role

The following field information is not transferred:

- Completed Assignments

- Existing Actuals

- Pending Actuals

- Pending Estimates

- Baselines

Project Locks and Team Staff Member Replacement

You can replace team staff members on unlocked projects. If the project is locked, you can replace a team staff member role (without replacing tasks). You can replace, provided the *Allow Edit of Allocations when Investment is Locked* default project management setting is selected.

If the project is unlocked, you can transfer resource assignments when you replace a role or resource with a single resource. Provided, the original role or resource has no allocation remaining.

How to Replace Team Staff Members

Use one of the following methods to replace team staff members on projects:

- Replace the resource with an unassigned team staff member (see page 142).
- Replace the resource with an assigned team staff member (see page 154).
- Replace a role with an assigned team staff member (see page 155).
- Replace the resource using the availability score (see page 156).

About Replacing Resources on Tasks with Unassigned Team Staff Members

You can replace a team staff member with another, provided they are not assigned to the same task. You can also replace one resource or multiple resources with a single one, provided the concerned resource can perform the job as effectively.

The ETC and assignment dates associated with the previous resource is transferred to the replacing resource. When you replace multiple resources with one resource, the combined ETC is transferred from the replaced members to the replacing member.

Task assignment dates override project assignment dates. You can assign team staff members to a task whose end date exceeds the date the member is assigned to the project.

About Replacing Resources on Tasks with Assigned Team Staff Members

You can replace one team staff member with another. The method allows you to:

- Replace a team staff member with any team staff member, including members already assigned to the same task. Replacing one team member with another allows you to consolidate the number of members assigned to the same task.
- Replace a team staff member assigned to a different task with the same team staff member.

When you replace team staff with the assigned team staff, the name of the replacing (assigned) staff displays instead of the replaced staff. ETC is adjusted accordingly. If the transfer is from a single member, or combined for multiple members selected for replacement, the ETC is transferred as is.

About Replacing Roles on Tasks with Assigned Team Staff Member

When you replace a role with a resource that is assigned to the project, the allocation from the role is added to the existing allocation for the resource. The role allocation decrements by the amount added to the resource.

Consider the following behavior when replacing roles:

- When you fully decrement a role by replacing it with a named resource, the following behaviors are seen:

    - The role allocation decrement to zero and the role is removed from the team staff page.

    - All assignments and ETC that were assigned to the role are transferred to the named resource.

    - The role allocation is added to the named resource allocation. In this case, you can over-allocate the named resource (that is, allocated at greater than 100 percent).

- When you partially replace a role by one or more named resources, the following behaviors are seen:

    - The role allocation decrements by the amount replaced, and the role remains on the team list.

    - No transfer of assignments is made to the named resources.

    - The amount of the replaced role allocation is added to the named resource allocations.

- When you replace a role that has assignments and ETC such that the role allocation is zero, the role remains on the team list. Reassign the task to one or more resources, and then remove the role from the project team.

Availability Score and Team Staff Member Replacement

You can use the availability score to help you decide the resource best suited, in terms of availability, to replace another on your project. An availability score is automatically generated for each of the resources to which you have access.

The score indicates the nearest availability match between the replaced and the replacing resources. Availability is based on the duration of the assignment and the daily availability of the resource. Generally speaking, the higher the score, the closer the match.

Replace Resources Using Availability Score

Use this procedure to replace a team staff member assigned to a task to use an availability score to find a replacement from the same team.

Follow these steps:

1. Open the project and click Team.

   The team staff page appears.

2. Click the Resource Finder icon for the team staff member to replace.

   The find resources page appears.

3. Select the check box next to the resource to replace the previous resource, and click Replace.

   The confirmation page appears.

4. Click Yes.

Remove Team Staff Members

Once actuals are posted against a resource assignment, you cannot remove the resource from the project.

Removing a team staff member does not delete the resource.

Follow these steps:

1. Open the project and click Team.

   The team staff page appears.

2. Select the resource and click Remove.

   The confirmation page appears.

3. Click Yes.

How to Manage Project Participants

As a project manager you use CA Clarity PPM to manage your projects. Non-resource users, such as project stakeholders and senior management, require access to your project to track its progress and to access the project documentation.

CA Clarity PPM enables you to add non-resource users to projects as participants and then to organize them into participant groups. Control access to the project documentation by participant and participant group.

Note: The default behavior of CA Clarity PPM automatically adds project employee resources as project participants when you add them as team staff. Your CA Clarity PPM system administrator can change the *Automatically Add Staff Members As Investment Participant* project management setting to change this behavior.

Prerequisites:

■   Your project is set up.

■   The users that you want to add as participants are set up.

The following process describes how a project manager adds participants to projects and organizes them into project groups:
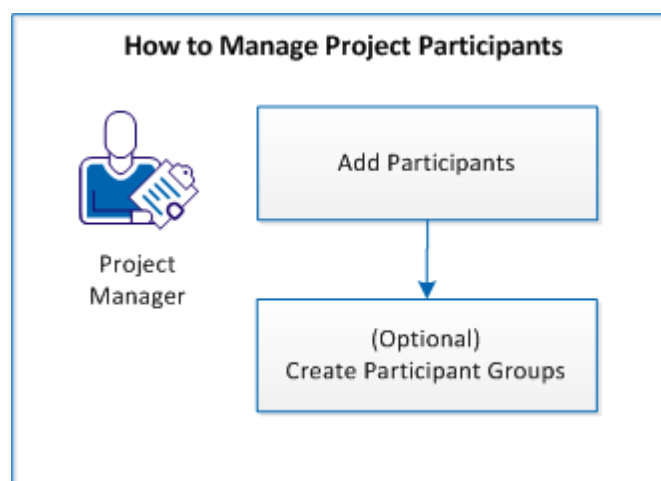
To manage participants, follow these steps:

1. [Add Participants](#) (see page 158)

2. (Optional) [Create Participant Groups](#) (see page 159)

Add Participants

The product enables you to add users to your project as participants to provide them with view access to project information and documentation.

Follow these steps:

1. Open the project and click Team.

2. Open the Team menu and click Participants.

3. Select Resources from the Show drop-down, and perform any of the following actions:

   ■ Input an ID in the Add by Resource ID field and click Add.

     The product adds that user to the participant list.

   ■ Click Add to open the Add Resources page, select the users to add, and click Add.

     The product adds the selected users to the participant list.

   ■ (Optional) Click Add Staff.

     The product adds existing Team Staff resources to the participant list.

     Note: The default behavior of CA Clarity PPM automatically adds project employee resources as project participants when you add them as team staff. Your CA Clarity PPM system administrator can change the *Automatically Add Staff Members As Investment Participant* project management setting to change this behavior.

   ■ (Optional) Select participants and click Make Collaboration Manager.

     The product gives the selected participants additional rights in the Collaboration tab to manage documents and discussions.

     Note: The creator of the project is the default collaboration manager.

4. (Optional) Add System Groups as participants.

   a. Select System Groups from the Show drop-down

   b. Click Add, select the system groups to add, and click Add.

   The product adds the selected system group to the participant list.

Participants in projects can view project details, monitor its progress, and access project documentation. To manage project participants, use the Team menu Participants option.

Create Participant Groups

You can organize project participants into participant groups. Participant groups enable you to manage documentation access rights collectively.

Follow these steps:

1. Open the project and click Team.

2. Open the Team menu and click Participant Groups.

3. Click Add.

4. Input a group name and description.

5. Click the binoculars icon at the Select Participants prompt.

   The Resource Participants window opens.

6. Select participants from the Resources tab, and click Add.

   The product adds the selected participants to the participant group.

7. (Optional) Select system groups from the System Groups tab, and click Add.

   The product adds the selected system groups to the participant group.

8. Click Submit.

   The product creates the participant group. To manage participant groups, use the Team menu Participant Groups option.

Allocations

Allocation is the period during which a resource is staffed, or booked, to a project. Multiply the total number of working days between and including the project start and finish dates by the number of hours the resource is available to work each day. The result displays the allocation amount for each resource. All resources are automatically allocated at 100 percent of their available working days.

Allocation differs from ETC in that the ETC amount is based on the number of hours a resource is assigned to tasks. Staff members can be assigned to tasks for all the hours they are allocated to the project.

If it helps to create a more accurate schedule, allow project resources one or two hours each working day, or each week, for alternative work or non-project meetings.

Allocation information can be changed in the following ways:

■   Edit the setting allocation options .

■   Define resource allocation.

■   Shift and scale resource allocations .

About Planned and Hard Allocation

The Planned Allocation curve represents the default, or total allocation amount requested by the project manager. The Hard Allocation curve represents the allocation amount committed by the resource manager. The booking status for a resource changes according to the allocation amounts in the planned and hard allocation curves.

Example: Fill Gaps in Allocation Segments

When editing the default allocation segment for a resource, if there are segment gaps, a segment is automatically created. The new segment displays the default percent allocation amount.

You book a resource to a project with availability less than 100 percent. An allocation segment is added such that the allocation start date is greater than the previous allocation segment end date:

■ Initial segment start and finish dates: 01/10/12 to 09/10/13.

■ New segment start and finish dates: 04/12/13 to 09/04/14.

A gap is created between two segments from 10/10/13 to 03/12/13 as unallocated.

To create a gap, you create two allocation rows in the Planned Allocation and Hard Allocation sections of the staff member properties page. By default, the resource is allocated at 100 percent. One allocation covers the period where the resource works at 50 percent. The other allocation covers the period where the resource works at 0 percent. When you save your changes, a default segment is created for the gap period and populated with the allocation amount of 100 percent.

About Overallocating Resources

When staffing resources to your project, the resource manager can over-allocate the resource, or accept any remaining availability. During team staff member replacement, you can also over-allocate the resource who is replacing the previous resource.

Note: Avoid over-allocating resources, which can cause scheduling delays and less effective performance.

Shift and Scale Resource Allocations

You can you shift or scale all or a portion of the resource allocations in one project. You can move resource allocations back and forth in time. Any segmented allocation dates are kept intact as the information is moved, though the percent allocated for each segment can change. Shifting allocation for a resource is useful for project allocations beyond the allowable timescale, which can only extend for six months.

Follow these steps:

1. Open the project and click Team.

    The project team staff page appears.

2. Select the check box next to the name of the resource to shift allocation. Open the Actions menu on the top right side of the page and click Shift allocation.

    The shift allocation page appears.

3. In the Investment Schedule section, view the following fields:

    Investment Start Date

    Displays the start date for the project. The value for this field is based on the Start Date field on the scheduling properties page.

    Investment Finish Date

    Displays the finish date for the project. The value for this field is based on the Finish Date field on the scheduling properties page.

4. In the Time Span to Shift section, complete the following fields:

    Start Date

    Defines the start date for the resource on the project. The date marks the starting of the date range to shift.

    Finish Date

    Defines the end date for the resource on the project. The date marks the ending of the date range to shift.

5. In the Time Shift Parameters section, complete the following fields:

    Shift to Date

    Defines the date when you want the shifted allocation to begin.

    Shift Cut-off Date

    Defines the last date for shifting allocations. Allocations cannot shift beyond the last date.

    Scale Allocation % By

    Defines the percentage change in the allocation required for the shift.

    Note: If you leave the field empty, no scaling occurs.

    Required: No

6. Save the changes.

Change Resource Default Allocation

Use the following procedure to indicate any deviations from the Default % Allocation field. You can unbook a hard-booked resource or extend a resource to do additional project planning.

Follow these steps:

1. Open the project and click Team.

   The project team staff page appears.

2. Click the Properties icon for the resource to change allocation.

   The staff member properties page appears.

3. Complete the following field in the General section:

   Default % Allocation

   Defines the percentage of time you want to allocate the resource to this project (you can enter 0 percent). This amount is reflected in the Allocation and Allocation % columns on the project team staff page.

   Default: 100 percent

   Required: No

4. Create one row for each deviation from the default allocation in the Planned Allocation and Hard Allocation sections. To create a planned or hard allocation period, complete the following fields in the row:

   Start

   Defines the start date for the allocation period.

   Finish

   Defines the finish date for the allocation period.

   % Allocation

   Defines the expected percentage of time for the resource to work (as tentative or committed) on the investment.

5. Save the changes.

About Editing Allocations

You can edit the team allocation for your project using the time-varying cells on the project team staff page. The time-varying cells contain planned allocation, hard allocation ETC, and actuals. You can edit the planned and hard allocation information in these cells to create allocation segments. You can create allocation segments between the start and finish dates for the staff team member.

You can define explicit start and finish dates for staff team members. Or, the dates can be inherited from the start and finish dates for the investment. When editing the allocation information in the time-varying cells, the following editing rules are used when you save your changes:

1. The start and finish dates for the staff team member are verified against the date range of the cell. If the current start or finish date for the staff team member falls within the date range of the cell, the information you enter starts (or finishes) on the current date for the staff team member.

2. If the date range of the cell is beyond the team member current start or finish date, the start (or finish) date for the staff team member is updated to the start (or end) date of the cell.

3. If you have the access rights to edit the start and finish dates for the investment, when you allocate a staff team member outside of current investment dates, the investment dates move to accommodate the allocation.

4. If you do not enter allocation information for a cell that is located between two cells that contain information, the allocation is set to 0 percent for the empty cell.

To give resource managers the ability to manage team allocations while you have the project locked, verify the *Allow Edit of Allocations when Investment is Locked* default project management setting is selected. This setting allows resource managers to modify the team while you are working on the project schedule, either in tentative schedule mode or when working offline in a desktop scheduler.

How to Reset Resource Allocations

You can reset resource allocations using one of the following methods:

■ Allocate resources from estimates (see page 164).

■ Generate estimates based on resource allocation (see page 164).

■ Set resource allocation (see page 164).

■ Commit planned allocation (see page 167).

■ Accept hard allocation (see page 166).

Allocate Resources from Estimates

Use the Allocate From Estimates option when you have changed your resource original ETC. Also, to calculate the planned allocation based on the new estimates. This calculation only impacts the portion of the allocation that is after the resource actuals through date. The resulting allocation segments are rounded based on the value set for the Round Allocations to the Nearest % field. The value is a default project management setting.

Follow these steps:

1. Open the project and click Team.

   The project team staff page appears.

2. Select the check box next to the name of the resource, role, or non-labor resource, and from the Actions menu, click Allocate from Estimates.

Generate Estimates Based on Resource Allocation

Use the following procedure to generate estimates based on allocation.

The Estimate from Allocation option is available only for resources that are assigned to effort tasks.

Follow these steps:

1. Open the project and click Team.

   The project team staff page appears.

2. Select the check box next to the name of the resource, and from the Actions menu, click Estimate from Allocation.

   The number in the ETC column refreshes to match the Allocation number.

Set Resource Allocation

Use this procedure to set the allocation for one or more team staff members. You can accommodate projects, which are staffed outside an OBS.

The changes you make on this page override the settings on the staff member properties page.

Follow these steps:

1. Open the project and click Team

    The project team staff page appears.

2. Select the check box next to the name of the resource, and from the Actions menu, click Set Allocation.

    The set allocation page appears.

3. Complete the following fields in the General section of the page:

    Start Date

    Defines the start date for the resource on the project.

    Finish Date

    Defines the end date for the resource on the project.

    Default Allocation %

    Defines the percentage of time to allocate the resource to the project (you can enter 0 percent). If you change the amount in this field, the value replaces the value in the Default % Allocation field on the staff member properties page.

    Booking Status

    Defines the booking status for the resource.

    Values:

    ■ Soft. The resource is tentatively scheduled to work on the investment.

    ■ Hard. The resource is committed to work on the investment.

    ■ Mixed. The resource is both soft and hard allocated to the investment, or the soft allocation for the resource does not match the hard allocation.

    Default: Soft

    Request Status

    Select the requisition status of the resource on the project.

    Open for Time Entry

    Specifies whether the resource can track time spent on assigned tasks using timesheets.

    Values: Yes or No

    Default: No Change

    Staff OBS Unit

    Defines the OBS Unit affiliation for the resource assigned to the project.

    Default: Default Staff OBS Unit (if this value is defined for the project)

Role

Defines the investment role for the resource. If you specify a role, this value replaces the value in the Investment Role field on the staff member properties page.

4. Complete the following field in the Existing Allocation Segments section:

   Clear existing allocation segments

   Specifies removing all allocation segments for the selected team staff member.

5. To create an allocation segment for the selected team staff members, complete the following fields in the New Allocation Segments section of the page:

   Start

   Defines the start date for the allocation segment.

   Finish

   Defines the finish date for the allocation segment.

   % Allocation

   Defines the expected percentage of time for the resource to work (as tentative or committed) on the investment.

6. Save the changes.

Accept Hard Allocation

Use this procedure to reset the planned allocation to be equal to the hard-booked, or committed, allocation. Soft-booked planned segments in the Planned Allocation section are removed and all segments are reset to equal the hard-booked segment.

Accordingly, the % Allocation and the Weekly Summary column values on the project team staff page change. When you accept the hard allocation, the resource booking status displays as "Hard" because all the allocation is fully committed.

Note: The option to accept hard allocation is dependent on the default *Allow Mixed Booking* project management setting.

Follow these steps:

1. Open the project and click Team.

   The project team staff page appears by default.

2. Select the check box next to the name of the resource to accept hard allocation, and from the Actions menu, click Accept Hard Allocation.

   The confirmation page appears.

3. Click Yes.

Commit Planned Allocation

You can reset the hard allocation to be equal to the planned allocation.

When a resource has a hard booking status, that resource is fully committed. Committing planned allocation does not reset the default allocation percentage. The planned allocation is copied into the Hard Allocation field in the Weekly Summary column on the project team staff page.

Note: The Hard Allocation section of the page displays on the page depending on the *Allow Mixed Booking* default project management setting.

Follow these steps:

1. Open the project and click Team.

    The project team staff page appears.

2. Select the check box next to the name of the resource, and from the Actions menu, click Commit Planned Allocation.

    The confirmation page appears.

3. Click Yes.

Chapter 5: Autoschedule

This section contains the following topics:

About Autoschedule

Autoschedule is an automated way to create project schedules. Autoscheduling helps model your plan and generate dates for your tasks and overall project. Autoschedule is designed to schedule project tasks while minimizing the delays and expansions that can cause deadline slippage, while eliminating or minimizing resource over-allocation.

Use Autoschedule to update the project schedule after you or others make small, quick changes to it. You can review your changes before publishing them as the plan or record (POR), and accordingly arrive at a practical result.

Autoschedule uses task duration, task date constraints, priority order, dependency information, and related date and resource logic to identify the project critical path and schedules tasks. 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 date constraints

- To minimize the duration of the critical path

Note: You must have the *Project - Schedule In Browser* access right to autoschedule in the Gantt view.

The critical path determines the earliest finish date of the project. Autoschedule uses the critical path information to make the following scheduling adjustments:

- Determines early and late start and finish dates for each task.

- Moves the early start forward or back, as applicable.

- Checks for load patterns that are set to fixed, and adjusts early start and finish dates to fit.

- Builds new ETC curves based on the recalculated early start and finish dates for the tasks, and subtracts as applicable from remaining resource availability.

- To eliminate or minimize resource over-allocation, calculations can move out a task finish date, or the project finish date.

Task date constraints are rules that help determine the project work sequence. For example, the task must start on, start or finish no later than. Set the date constraints on the task properties page.

How to Work With Autoschedule

Use the following process to work with Autoschedule:

1. Autoschedule using the default options and publish the schedule (see page 175).

2. Create a tentative schedule (see page 171). When autoscheduling completes, the tentative schedule is created and the project is locked.

3. With tentative schedules, you can do the following:

   a. Delete the tentative schedule (see page 176).

   b. Publish the tentative schedule (see page 175).

About Tentative Schedules

Autoschedule a project to create a tentative schedule that you can own and edit. The project is locked and in tentative-schedule mode. Use a tentative schedule to see the effects of changes you make to the project. For example, estimate to complete (ETC) changes, before publishing the schedule as the plan of record (POR). You can review the tentative schedule and decide whether to accept them.

All locked project pages display the POR as read-only information. You can view and work with tentative schedules using the Gantt view, the task list page, and the task assignments page. You can change the tentative schedule by adjusting the scheduled tasks and assignment information, such as ETC.

The work breakdown structure (WBS) in the Gantt view displays the tentative schedule with redlining of POR information. Use the redlining to view the changes that you tentatively make to the schedule.

While the project is locked, the name of the resource holding the lock is displayed on the message bar. An Unlock button displays on this bar, which you can use to unlock the project. On the Gantt view, a lock icon is displayed on the toolbar, which you can use to unlock the project.

About Tentative Schedules and Subprojects

Autoscheduling a master project creates a tentative schedule for the master project and publishable tentative schedules for all of its subprojects. The subprojects are locked.

If a subproject is locked when you autoschedule the master project, an unpublishable tentative schedule is created for the subproject. A warning message appears with the names of the subprojects that are locked.

When you publish the tentative schedule for the master project, the plan of record (POR) for the subproject is replaced only if the tentative schedule is publishable.

Create a Tentative Schedule

You can specify scheduling criteria and begin scheduling tasks using Autoschedule. You can autoschedule an entire project or only tasks that occur between ranges of dates. Use this procedure to specify the deviations from the current schedule and automatically create a new tentative schedule.

You can also create a tentative schedule by running the Autoschedule Investment job.

You can discard a tentative schedule and delete projects that are tentative-scheduled. When you delete the tentative schedule, the project is unlocked and the plan of record (POR) information is displayed. To delete a tentative schedule, click the down arrow for the Autoschedule With Options icon on the Gantt view toolbar, and select Delete Tentative Schedule.

Follow these steps:

1. Open the project and click Tasks.

   The list page appears.

2. Open the Tasks menu and click Gantt.

   The Gantt view appears.

3. Click the down arrow for the Autoschedule With Options icon in the Gantt view.

   The autoschedule page appears.

4. Complete the following fields:

   Project

   Displays the name for the project. The value for the field is based on the Project Name field on the project properties page.

   Project Start

   Displays the start date. The value for this field is based on the Start Date field on the project properties page.

   Project Finish

   Displays the finish date. The value for this field is based on the Finish Date field on the general properties page.

   Autoschedule Date

   Specifies the date to begin scheduling tasks. If you are scheduling from the finish date, enter the date on or before to begin scheduling tasks. If the project is not initiated, enter the project start date. If the project is already in progress, enter the first day after the last date actuals are posted.

   Default: Current Date

   Ignore Tasks Starting Before

   Specifies the date before which to exclude tasks.

   Example: Suppose, you enter 7/3/11 as the Ignore Tasks Starting Before date, and you have a task that starts on 6/20/11. The task is excluded from the schedule.

   Ignore Tasks Starting After

   Specifies the date after which to exclude all tasks.

   Example: Suppose, you enter 7/3/11 as the Ignore Tasks Starting After date, and you have a task that starts on 8/14/11. The task is excluded from the schedule.

Resource Constraints

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

Default: Selected

Note: If you clear the check box, Autoschedule treats resources as if they have unlimited availability. Each task is scheduled against the total availability for the resource. But not against the remaining availability for the resource which takes other task assignments into consideration. This results in the shortest possible schedule, but it can also cause over-commitment of resources.

Schedule from Finish Date

Specifies if you want Autoschedule to perform a backwards schedule from a defined deadline date. Use this option if the last task is required to be complete by the project finish date.

Default: Cleared

Note: If you schedule from the finish date, enter the finish date into the Autoschedule Date field.

Subnets

Specifies to autoschedule to calculate the critical path for the entire project. When the field is selected, a separate critical path is calculated for each subnet.

Default: Cleared

Honor Constraints on Started Tasks

Specifies to ignore started tasks during autoscheduling. Autoschedule schedules the remaining work according to normal autoschedule logic, including any task constraints.

Default: Cleared

Schedule Assignments on Excluded Tasks

Specifies autoscheduling. Accordingly, CA Technologies lets you exclude task resource assignment dates when the new dates stay within the task start and finish dates.

Default: Cleared

Note: This field works with the Exclude from Autoscheduling field on the task properties page.

Start Successors on Next Day

Specifies to 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

Publish After Scheduling

Specifies to publish the tentative schedule to the plan of record (POR) immediately. When selected, the tentative plan is created and immediately deleted, and the project gets unlocked.

Default: Cleared

5. Click Autoschedule.

Schedule Subnets

Use the following procedure to set up your project to calculate separate critical paths. Subnets are a set of project tasks that have dependencies among themselves, or a single task with no dependencies. During autoschedule, you can 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.

Scheduling subnets has several key benefits:

- If you are working with a master project that contains multiple projects, you can calculate and display the critical path of each subproject, not only 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 life, you can display the management tasks and the true critical path.

Follow these steps:

1. Open the project and click Tasks.

   The list page appears.

2. Open the Tasks menu and click Gantt.

   The Gantt view appears.

3. Click the down arrow for the Autoschedule With Options icon in the Gantt view.

   The autoschedule page appears.

4. Complete the following field:

    Subnets

    Specifies to autoschedule to calculate the critical path for the entire project.
    When the field is selected, a separate critical path is calculated for each subnet.

    Default: Cleared

    Select the check box.

5. Click Autoschedule.

Publish Tentative Schedules

Publishing the tentative schedule replaces the plan of record (POR) with your tentative
schedule and unlocks the project.

Follow these steps:

1. Open the project and click Tasks.

    The list page appears.

2. Open the Tasks menu and click Gantt.

    The Gantt view appears.

3. Click the down arrow for the Autoschedule With Options icon in the Gantt view,
    and click Publish Tentative Schedule.

    The confirmation page appears.

4. Click Yes.

Autoschedule and Publish

Use this procedure to publish the tentative schedule using the default options. When
you autoschedule and publish, the new schedule replaces the plan of record (POR) and
the project is unlocked.

Follow these steps:

1. Open the project and click Tasks.

    The list page appears.

2. Open the Tasks menu and click Gantt.

    The Gantt view appears.

3. Click the down arrow for the Autoschedule With Options icon in the Gantt view, and click Autoschedule with Publish.

Unlock Projects in Tentative Schedule Mode

You can unlock projects that are in tentative-schedule mode. When you unlock the project, the tentative schedule is deleted. Only the user who locked the project, or a resource with the Administration - Access right, can unlock projects in tentative-schedule mode.

Follow these steps:

1. Open the project and click Tasks.

    The list page appears.

2. Open the Tasks menu and click Gantt.

    The Gantt view appears.

3. Click the Lock icon in the Gantt view.

    The confirmation page appears.

4. Click Yes.

Chapter 6: Timesheets

This section contains the following topics:

How to Manage Time Recording

As a *resource manager*, you use the product to manage the time recording of the employee resources who report to you.

As a *project manager*, you use the product to manage the time recording for your project tasks.

Your resources use weekly timesheets to track their time and activities. Resources access their current timesheet, and record the actual time that they spend on the tasks that are allocated to them, usually by the hour. Resources record time for assignments, such as project tasks, incidents, indirect work, and any time they spend on other activities.

You can modify the projects and tasks that individual resources can log time against. When a resource submits a timesheet for approval, you receive an action item to review the timesheet. You approve the timesheet or return the timesheet to the resource to make corrections.

Note: Project managers receive notifications only for timesheets that contain tasks in their projects.

When you approve a timesheet, the time for each task is posted to the actuals. Project managers can compare the actual time that is recorded with the estimates and can monitor the progress of their project.

Prerequisites:

- Resources and project tasks and activities are set up.
- Your employee resources complete and submit their timesheets.

  Note: For more information, search *Timesheets*.

The following process describes how a resource or project manager manages the time recording of their direct reports:
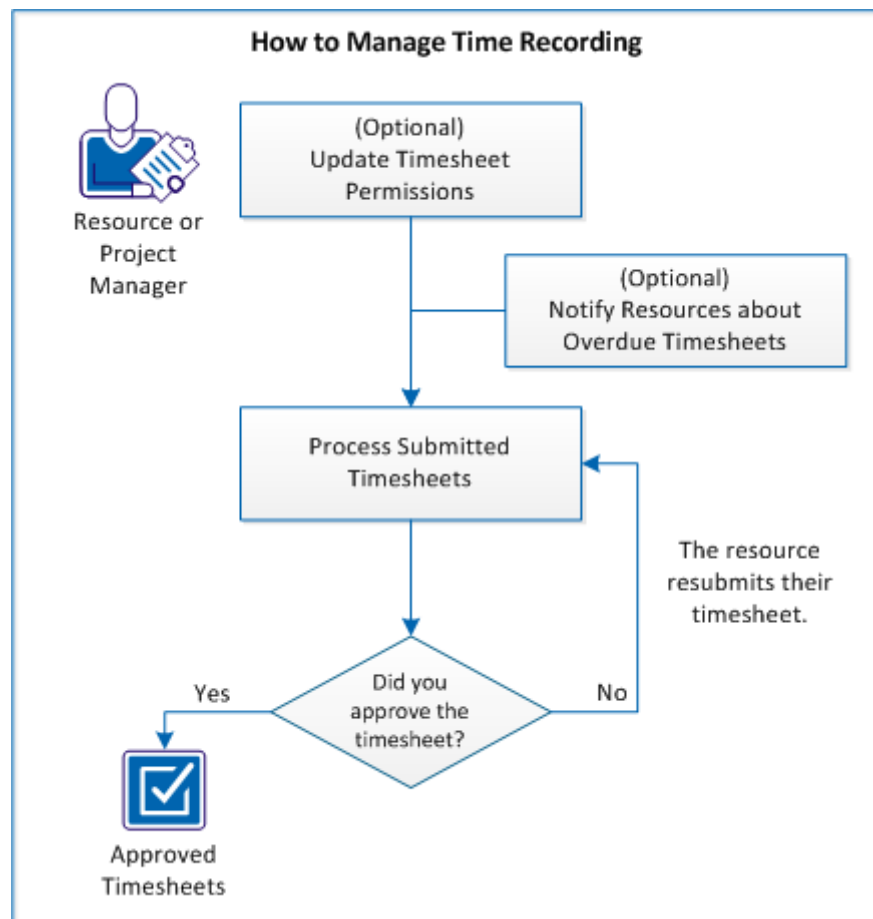
To manage time recording, follow these steps:

1. (Optional) Update Timesheet Permissions (see page 179) to change the tasks and projects that resources can report time for.

2. (Optional) Notify Resources about Overdue Timesheets (see page 180) when a resource misses the deadline to submit a timesheet.

3. Process Submitted Timesheets (see page 180)

Update Timesheet Permissions

As a resource or project manager, you continually adjust the ability of employee resources to enter time for specific projects and tasks.

To prevent an employee resource entering time for any task:

1. Open the Home menu, and from Resource Management, click Resources.

2. Click the name of the resource.

3. Clear the Open for Time check box.

4. Click Save.

To prevent any employee resource entering time for a project:

1. Open the Home menu, and from Portfolio Management, select Projects.

2. Click the name of the project.

3. Open the Properties menu, and from Properties, select Schedule.

4. Clear the Time Entry check box.

5. Click Save.

To prevent an employee resource entering time against a project:

1. Open the Home menu, and from Portfolio Management, select Projects.

2. Click the name of the project.

3. Select the Team tab.

4. Click the Time table cell for the resource, and select No.

5. Click Save.

To prevent an employee resource entering time against a task:

1. Open the Home menu, and from Portfolio Management, select Projects.

2. Click the name of the project.

3. Open the Tasks menu, and select Assignments.

4. Select the check box for the resource in the task assignment tree.

5. Click Remove.

Notify Resources about Overdue Timesheets

Employee resources usually submit timesheets on a weekly basis, allowing time for managers to review and approve them. If an employee does not submit a timesheet on time, you can send them a notification.

Follow these steps:

1. Open the timesheet for the employee resource.

    The timesheet page appears.

2. Click Notify.

    CA Clarity PPM sends an overdue timesheet notification to the employee.

Process Submitted Timesheets

As a project or resource manager, you review and approve the time that is recorded against project and other tasks.

When a resource submits a timesheet, the product sends a notification to review the timesheet.

Note: Project managers only receive timesheet submission notifications if the timesheet contains items that they are associated with.

Follow these steps:

1. Open Home, and from Personal, click Timesheets.

2. Filter for submitted timesheets.

3. Open the timesheet to process.

4. (Optional) Click the Timesheet Notes icon to add or edit notes against individual entries or the whole timesheet.

5. Do one of the following:

    ■ Click Approve.

      The timesheet is approved and the time that is recorded against each task is added to the actuals for that task.

    ■ Click Return Timesheet.

      CA Clarity PPM returns the timesheet for corrections and notifies the resource that the timesheet is returned.

Restore Timesheet Defaults

Follow these steps:

1. Open Administration, and from Project Management, click Timesheet Options.

   The timesheet options page appears.

2. Click Restore Defaults.

   The confirmation page appears.

3. Click Yes.

   The timesheet options page appears.

4. Save the changes.

Apply Timesheet Changes to All Resources

Use the following procedure to reset the timesheet options for all resources to the default settings.

Follow these steps:

1. Open Administration, and from Project Management, click Timesheet Options.

   The timesheet options page appears.

2. Change the timesheet options, and click Apply to All Resources.

   The confirmation page appears.

3. Click Yes.

   The timesheet options page appears.

4. Save the changes.

Chapter 7: Microsoft Project Desktop Scheduler

This section contains the following topics:

Microsoft Project and CA Clarity PPM Schedule Connect

For large-scale replanning or to use automatic scheduling algorithms, open CA Clarity PPM projects in Microsoft Project using CA Clarity PPM Schedule Connect (Schedule Connect). Schedule Connect provides full bidirectional connection between CA Clarity PPM and Microsoft Project. The changes in CA Clarity PPM, or the desktop scheduler are automatically synchronized. You are always working with the most up-to-date information.

With Schedule Connect, you can:

■ Open projects in Microsoft Project for reviewing or editing.

■ Save projects you update or new projects you create in Microsoft Project back to CA Clarity PPM, where you can view the latest project information.

■ Select the CA Clarity PPM resources and allocate selected resources to the project open in Microsoft Project.

Schedule Connect enables the exchange of information between CA Clarity PPM and Microsoft Project. The benefits of Schedule Connect are:

■ Improved performance. When you open and save a project, all information is sent to and from CA Clarity PPM in one large block.

■ Simultaneous communication between CA Clarity PPM and Microsoft Project. CA Clarity PPM can send information to Microsoft Project before an entire block of information is received from CA Clarity PPM.

■ Security. SSL and proxy servers are supported without requiring you to open special ports.

Requirements Before You Install CA Clarity PPM Microsoft Project Interface

Before you install CA Clarity PPM Microsoft Project Interface, verify that you have the following third-party software products installed:

For Microsoft Project 2013,

■ Microsoft Project 2013 with the latest Service Pack

■ Microsoft .NET Framework 4

For 32-bit and 64-bit Operating Systems - dotNetFx40_Full_x86_x64.exe

You can download the software using the following link:

http://www.microsoft.com/downloads/en/details.aspx?FamilyID=0a391abd-25c1-4fc0-919f-b21f31ab88b7&displaylang=en

■ Microsoft Visual Studio 2010 Tools for Office Runtime

For 32-bit Operating System - vstor40_x86.exe

For 64-bit Operating System - vstor40_x64.exe

You can download the software using the following link:

http://www.microsoft.com/en-us/download/details.aspx?id=35594

For Microsoft Project 2010,

- Microsoft Project 2010 hotfix package, Microsoft Project cumulative update June 2012, and Microsoft Project 2010 hotfix package, Microsoft Project 2010 Service Pack 1

- Microsoft .NET Framework 4

  For 32-bit and 64-bit Operating Systems - dotNetFx40_Full_x86_x64.exe

- Microsoft Visual Studio 2010 Tools for Office Runtime

  For 32-bit Operating System - vstor40_x86.exe

  For 64-bit Operating System - vstor40_x64.exe

How to Set up Microsoft Project 2010 and 2013 with CA Clarity PPM

If you are installing the interface for the first time, start with the prerequisites section. If you are upgrading your Microsoft Project Interface from a previous version, start with the uninstall the Microsoft Project Interface section.

Use the following process to set up Microsoft Project with CA Clarity PPM:

1. Uninstall the Microsoft Project Interface (see page 186)
2. Review the Prerequisites (see page 187)
3. Enable the CA Clarity PPM Microsoft Project Interface Macro (see page 188)
4. Install CA Clarity PPM Microsoft Project Interface with CA Clarity PPM Schedule Connect (see page 188)
5. Set the Browser Options (see page 189)
6. Set up the Connection to a CA Clarity PPM Server (see page 190)

Uninstall the Microsoft Project Interface from Microsoft Project

Perform these steps only if you are attempting to upgrade your Microsoft Project Interface from a previous version. Once these steps are completed, your computer is restored to the state immediately.

Uninstall the Interface from Microsoft Project 2007

The following procedure explains how to uninstall Microsoft Project Interface from Microsoft Project 2007.

Follow these steps:

1. Close all instances of Microsoft Project.

2. Navigate to the Control Panel and uninstall the following programs:

   ■ CA Clarity PPM Microsoft Project Interface

   ■ CA Clarity PPM Schedule Connect

   ■ CAClarityAddIn

3. Open the Microsoft Project and click OK on the compile error dialog to proceed.

   The Global.MPT file appears.

4. Delete the following procedures that refer to the CAClarityAddin: Project_Open, Project_BeforeSave, and Project_BeforeClose.

   Note: Delete all the contents of the file if you are not using any other Microsoft Project Add-ins.

5. Save the Global.MPT file and click OK to proceed.

6. Run the following commands to clear the cache for Visual Studio Tools Office Runtime. All the contents in the following folders are removed.

   ■ Windows 7
     `%USERPROFILE%\AppData\Local\Apps\2.0`
     `For example, C:\Users\<UserName>\AppData\Local\Apps\2.0`

   ■ Windows XP/2003
     `%USERPROFILE%\Local Settings\Apps\2.0`
     `For example, C:\Documents and Settings\<UserName>\Local Settings\Apps\2.0`

Uninstall the Interface from Microsoft Project 2010 or 2013

The following procedure explains how to uninstall Microsoft Project Interface from Microsoft Project 2010 and 2013.

Follow these steps:

1. Close all instances of Microsoft Project.

2. Navigate to the Control Panel and uninstall the following programs:

   ■ CA Clarity PPM Microsoft Project Interface

   ■ CA Clarity PPM Schedule Connect

   ■ CAClarityAddIn

Review the Prerequisites

Before you install CA Clarity PPM Microsoft Project Interface, verify that you have the following third-party software products installed:

For Microsoft Project 2013,

- Microsoft Project 2013 with the latest Service Pack

- Microsoft .NET Framework 4

    For 32-bit and 64-bit - dotNetFx40_Full_x86_x64.exe

- Microsoft Visual Studio 2010 Tools for Office Runtime

    For 32-bit - vstor40_x86.exe

    For 64-bit - vstor40_x64.exe

For Microsoft Project 2010,

- Microsoft Project 2010 with the latest Service Pack

- Microsoft .NET Framework 4

    For 32-bit and 64-bit - dotNetFx40_Full_x86_x64.exe

- Microsoft Visual Studio 2010 Tools for Office Runtime

    For 32-bit - vstor40_x86.exe

    For 64-bit - vstor40_x64.exe

You can download the software using the following links:

- Microsoft .NET Framework 4

    http://www.microsoft.com/downloads/en/details.aspx?FamilyID=0a391abd-25c1-4fc0-919f-b21f31ab88b7&displaylang=en

- Microsoft Visual Studio 2010 Tools for Office Runtime

    http://www.microsoft.com/en-us/download/details.aspx?id=35594

Enable the CA Clarity PPM Microsoft Project Interface Macro

Enable the macros before you install the Microsoft Project Interface:

1. Open Microsoft Project.

2. Go to File, Options.

3. Click Trust Center, and click Trust Center Settings.

4. Click Add-ins. Clear the require application add-ins to be signed by trusted publisher option.

5. Return to the Trust Center page.

6. Click Macro Settings and select the enable all macros option.

    This action can be reverted following the installation.

Install CA Clarity PPM Microsoft Project Interface with CA Clarity PPM Schedule Connect on Microsoft Project 2010 or 2013

Install a version of Schedule Connect that is compatible with the CA Clarity PPM server to which you are connecting. You require the *Software Download – Microsoft Project Interface* access right to download software.

For the connector to function appropriately with CA Clarity PPM, verify that the following programs are installed:

■ Microsoft Project 2013 or 2010

■ CA Clarity PPM Schedule Connect

Also verify that the .nikusl file downloaded from the application is associated with CA Clarity PPM Schedule Connect for the Microsoft Project integration to function. If you do not have Microsoft Project Interface installed, opening a project from CA Clarity PPM into Microsoft Project results in a generic browser download.

Follow these steps:

1. Close all instances of Microsoft Project.

2. Download the right version of CA Clarity PPM Microsoft Project Interface using one of the following methods:

   ■ CA Clarity PPM DVD

      Download the CA Clarity PPM Microsoft Project Interface installation executable from the CA Clarity PPM DVD. Navigate to Clients\MSPInterface and click mspsetup.exe.

   ■ CA Clarity PPM

      This includes Schedule Connect. Open Home and click Software Downloads from Account Settings. Click the download link for Microsoft Project Interface.

3. Select your language preference for the installer and click OK to continue with the setup process.

4. Follow the instructions on each dialog to continue.

   Note: If you have an existing installation, a message appears prompting you to copy the files to the same directory. Click Yes to continue.

   The setup can take a few moments. A dialog appears when the files are copied to their destinations.

5. Select the check boxes to launch Microsoft Project Interface and Schedule Connect and click Finish.

   A series of installation dialog boxes take you through the process.

   Important! Watch for a prompt when the COM Addin (CA Clarity Addin) VB script launches and ensure that it is loaded into Microsoft Project. This step should perhaps be verified by viewing the list of installed programs on the client machine and if it is not there, give instructions about how to run this particular component of the install individually

6. Verify that the CA Clarity Addin is installed in the list of programs installed. If not installed, then run the addin component of the install individually.

7. Follow the instructions on each dialog to continue.

The install completed dialog appears last when the installation completes successfully. If the installation fails, unistall the programs and try reinstalling the programs.

Set the Browser Options

The following browser option is suggested when connecting Microsoft Project to CA Clarity PPM using Schedule Connect. Use the following procedure to prevent the file download window from appearing when the browser encounters an encrypted page.

For more information, see Microsoft Internet Explorer.

Follow these steps:

1. Open the Tools menu of the Internet Explorer.

2. Click Internet Options, and then click the Advanced tab.

3. Clear the following check box under the Security section:

    Do not save encrypted pages to disk

    Specifies to prevent the file download window from appearing when the browser encounters and encrypted page.

    Default: Cleared

    Clear the check box.

4. Click OK.

Set up the Connection to a CA Clarity PPM Server

When you open a project from CA Clarity PPM to update in Microsoft Project, you implicitly log in to CA Clarity PPM. Schedule Connect remembers your settings. Once logged in and a session is established for a target project instance, you need only enter your password the next time when you try to save projects or browse for resources in CA Clarity PPM.

If you open a project from Microsoft Project and save it to CA Clarity PPM, Schedule Connect connects you to the specified CA Clarity PPM server. Use the following procedure to set up for the first time connection to CA Clarity PPM.

Note: If you are using Federated SSO, then you must have an open CA Clarity PPM browser session. This browser session must be in the environment to which you are trying to connect, which is defined in the CA Clarity Host field.

Follow these steps:

1. With Microsoft Project open, click the CA Clarity PPM Integration menu or toolbar, and go to Open.

2. Enter your CA Clarity PPM user name and password, and click >>Setup.

3. Complete the following fields. The following fields require explanation:

SSL Handling

Specifies the Secure Sockets Layer (SSL) handling preference.

Values:

■   Full. SSL is used for all communications including logins and data exchanges.

■   Login. SSL is used when logging in and bypassed for all other data exchanges.

■   None. No connection through SSL.

Default: Full

Select Full.

CA Clarity PPM Host

Defines the name of the CA Clarity PPM server to which Microsoft Project is connected. This server defines the location from which you open a project, or to which you save a project. The login host is not the full URL.

Default: <Clarity Host>

Example: corpName

Port

The port for the CA Clarity PPM server.

Example: 80 is the default port for a CA Clarity PPM server.

Note: To determine the port number to specify, you can check the CSA application server settings, the application log on URL, or contact your administrator. Also, Schedule Connect uses the field to define the port on the Application Entry URL to load information. Therefore, independent of the port field, this field must also contain a reference to *<server_name>:<portnumber>*.

Enter 443 if using SSL.

Proxy Host

Defines the name of your proxy server. The proxy host is not the full URL.

Example: corpProxy

Note: If you are accessing CA Clarity PPM through a nonauthenticating proxy, enter the proxy host and port in the CA Clarity Host and Port fields.

Required: Only when accessing an authenticating proxy

Port

Defines the port for the proxy server.

Proxy User Name

Defines the user name for connecting to the proxy server.

Proxy Password

Defines the password for connecting to the proxy server.

4. Click OK.

You are connected to the CA Clarity PPM server.

You can connect Schedule Connect to only one CA Clarity PPM server at a time. To open or save projects to a different CA Clarity PPM server, change the connections settings. When pointing Schedule Connect to another CA Clarity PPM server, be sure to update the Proxy server setting if necessary.

Set up Microsoft Project Options to Work with CA Clarity PPM

In general, you can set up Microsoft Project as you like. This section provides guidelines for setting up Microsoft Project to work effectively with CA Clarity PPM.

To set Microsoft Project options, select Options from the Tools menu.

For more information, see the Microsoft online help.

The following options are available:

Calculation

On the Calculation tab, select Automatic Calculation. Automatic calculation is the preferred setting, but it is not required. If you select Manual Calculation, you must manually calculate the project before saving it to CA Clarity PPM. The project is recalculated whenever you open the project from CA Clarity PPM even if you have Manual Calculation as your calculation setting.

Calendar

On the Calendar tab, select Set as Default. This setting helps ensure that the default start and end times match the shift schedule on your system wide standard calendar set in CA Clarity PPM.

View

On the View tab, clear the *Show links between projects dialog on open* check box. This feature is incompatible with CA Clarity PPM external dependencies, and is ignored when selected.

Save

On the Save tab, change the file location as desired. In general, you can save the MPP files to any folder. However, if you share your computer with other users and update master projects, set the file location to a commonly shared folder.

See your Windows administrator for assistance.

How to Upgrade CA Clarity PPM Schedule Connect

Periodically look for CA Clarity PPM releases or patches. Accompanying release notes advise you if a Microsoft Project Interface or Schedule Connect upgrade is recommended or required.

In general, you are not required to upgrade Schedule Connect each time you upgrade CA Clarity PPM. But if upgraded, the latest product enhancements and bug fixes display.

1. Uninstall the CA Clarity PPM Microsoft Project Interface with CA Clarity PPM Schedule Connect (see page 193).

2. Install to the newer version.

How to Uninstall the CA Clarity PPM Microsoft Project Interface with Schedule Connect

Use the following process to uninstall Microsoft Project Interface 2007 with CA Clarity PPM Schedule Connect:

1. Remove the following programs from Windows Add or Remove Programs:

   ■ CA Clarity PPM Add-in

   ■ CA Clarity PPM Microsoft Project Interface

   ■ CA Clarity PPM Schedule Connect

After you uninstall the Microsoft Project Interface and Schedule Connect from Windows Control Panel, the following contents are removed:

■ The Microsoft Project Interface installation directory, "%ProgramFiles (x86)%\CA\Clarity\CA Clarity PPM MSPInterface"

■ The Schedule Connect installation directory, "%ProgramFiles (x86)%\CA\Clarity\CA Clarity PPM Schedule" Connect"

■ "HKEY_LOCAL_MACHINE\SOFTWARE\Niku\Schedulers\MSPOptions" registry key

■ "HKEY_CURRENT_USER\Software\Niku\Schedulers\MPPLookup" registry key

■ "HKEY_CURRENT_USER\Software\Niku\Schedulers\MSPOptions" registry key

■ "HKEY_CURRENT_USER\Software\Niku\Schedulers\Schedlink" registry key

■ VBA code and the Microsoft Project Integration toolbar or add-in are automatically removed for Microsoft Project 2010 and 2013 but not for Microsoft Project 2007.

A clean.vbs file is placed under the root folder on Windows System drive(For example, C:\clean.vbs). If the VBA code and the MSP Integration toolbar or add-in are not removed automatically, run the clean.vbs to remove them.

Use the following process to uninstall Microsoft Project Interface 2010 with CA Clarity PPM Schedule Connect:

1. Remove the following programs from Windows Add or Remove Programs:

   - CA Clarity PPM Add-in

   - CA Clarity PPM Microsoft Project Interface

   - CA Clarity PPM Schedule Connect

2. In the registry delete the following folders. If you install a 32-bit Microsoft Project Interface on a 64-bit operating system, you need to drill down to the Wow6432Node folder to get to the Niku folder.

   - hkey_local_Machine\Software\Niku

   - hkey_current_User\Software\Niku

3. Log in to Microsoft Project 2010.

4. Open View, and from Macros, click Visual Basic Editor.

5. Open ProjectGlobal, and then Modules.

6. Delete the modules that start with "CA_ "and "Niku_".

7. Open Microsoft Project Objects and then Thisproject.

8. Select and delete all the contents in the right panel.

9. Save your changes and close Visual Basic Editor.

10. Log out of Microsoft Project 2010.

Working Copies of Projects in Microsoft Project

A working copy of a project lets you update the project offline for extended periods of time. When you open and save a project as a file, Microsoft Project creates a working copy. Save projects locally as MPP files in Microsoft Project.

Unless you save the project to CA Clarity PPM during the same session, the project remains locked. You can continue updating the project in Microsoft Project. The next time you save the working copy, Microsoft Project assumes that you are saving back to CA Clarity PPM.

Data Exchanges between Microsoft Project and CA Clarity PPM

When you open and save projects, Schedule Connect coordinates updates between CA Clarity PPM and Microsoft Project, even when changes occur concurrently. To enable this coordination of information, Microsoft Project fields are mapped to CA Clarity PPM fields. You can do this using Studio.

When working in Studio, keep in mind the following:

- Enter the PRNAME field in the MSPField table in lowercase and set the attribute ID value used in Studio.

- CA Clarity PPM does not map custom assignment attributes to Microsoft Project.

Key information such as resources and the costing rules is controlled in CA Clarity PPM. You cannot save any changes to global information from Microsoft Project back to CA Clarity PPM. You can only save changes to global information locally. For example, suppose you create a resource in Microsoft Project and then reference it in your project. Verify that the resource is first created in CA Clarity PPM, and then the project saved to CA Clarity PPM.

Certain types of information are protected and cannot be updated or edited from Microsoft Project. For example, you can edit actuals when resources are enabled to use CA Clarity PPM timesheets. When you submit actuals, the project plan is recalculated when the actuals are compared with the estimates (ETC).

Data Retrieval from Microsoft Project

When saving a project to CA Clarity PPM, information about a project including its tasks and assignments is updated, with the following exceptions:

- Resource and charge code information are not updated or created.

- Time-tracking information about tracked assignments is not updated.

- Unplanned tasks and assignments are not updated or deleted, even when you force a save.

You cannot delete projects, tasks, and team staff members that have submitted actuals. You cannot remove resource assignments from tasks that have submitted actuals. When you try to delete an assignment with actuals, the estimates (ETC) are set to zero. When you try to delete a task with actuals, the task is marked as "Complete".

The tasks are relocated under a Deleted Tasks summary task in the work breakdown structure (WBS). The logic in CA Clarity PPM either creates this phase or reuses an existing phase. CA Clarity PPM sets the ID of the task to a value that is not localized. CA Clarity PPM and Microsoft Project can recognize the task based on the language settings.

How Concurrent Timesheets and Transaction Changes are Merged

You can update timesheets or financial transactions in CA Clarity PPM that can affect information about projects that you are updating. When a project is locked, most timesheets and transaction updates that affect a project are blocked.

The following changes are retained and merged when saving projects to CA Clarity PPM:

- Unplanned tasks. Unplanned tasks are placed in an Unplanned Tasks summary task in Microsoft Project until a project manager moves the unplanned tasks. Unplanned tasks occur when staff members:

    - Create new unplanned tasks.

    - Create an unplanned assignment by recording actual time against tasks to which team staff members are not assigned.

    When you save the project to CA Clarity PPM, unplanned tasks and assignments are not deleted. Any unplanned tasks and assignments opened in Microsoft Project are marked as "Planned". You can delete unplanned tasks and assignments from Microsoft Project at a later time.

- Pending Estimates. Team staff members can set pending estimates (ETC) from CA Clarity PPM. If you change this field from Microsoft Project on a tracked assignment, the change is ignored when you save the project back to CA Clarity PPM. The following is an exception to this change rule. You accept or reject the pending estimate values and a team staff member is not concurrently modifying the estimate in CA Clarity PPM.

- Notes. Staff members can add notes to tasks from CA Clarity PPM.

- Actuals. Both approved actuals and unapproved actuals show as pending actuals in the project plan.

Note: Assignments are tracked when the Track Mode field in CA Clarity PPM for associated projects and resources is set to Clarity or Other. Actuals, Actuals Thru Date, Pending Actuals and for Pending Estimates field information (except for setting it to blank) is maintained from CA Clarity PPM. Any changes you make to these fields from Microsoft Project are ignored.

About Cost Data Retrieval

Cost information is retrieved from the financial cost matrix in CA Clarity PPM when you open projects using CA Clarity PPM in Microsoft Project. Cost rates determine the cost associated with a resource assigned to a task in a project. The cost rates displayed in Microsoft Project are retrieved from the Cost field in the CA Clarity PPM cost matrix. These costs are shown over time by task and at the project level.

Microsoft Project supports time-varying and project-specific cost rates. The changes you make to the cost rates in Microsoft Project are for what-if purposes only and cannot be saved to CA Clarity PPM.

External Dependencies in Microsoft Project

You can insert dependencies into an open project without having to open the project from which the dependent relationship is created. In Microsoft Project, you can insert dependencies by entering the file name and task ID of the dependent task. You must have both files open in Microsoft Project to create the external dependency.

When you have a project with external dependencies open in Microsoft Project, the external task information and external dependencies are retrieved. No other information is retrieved. In Microsoft Project, the task ID of the external dependency is displayed as the [Project Name]\[Task ID]. For example, wireless_upgrade\5.

When you save a project with external dependencies, external tasks are updated as needed.

How to Open CA Clarity PPM Projects in Microsoft Project

You can open projects from:

- CA Clarity PPM

- Microsoft Project Interface with Schedule Connect

Before you open a project from CA Clarity PPM into Microsoft Project:

1. If you have the project open in Microsoft Project, save and close the project.

2. Close any open dialog boxes or let any interactions with Microsoft Project complete.

3. If you are attempting to open a project from a different CA Clarity PPM server:

   a. Exit Microsoft Project.

   b. Change the server settings in Schedule Connect.

      Suppose, you have Microsoft Project 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.

Open Projects from CA Clarity PPM in Microsoft Project

You can open any active projects you have rights to view or edit from CA Clarity PPM. To open projects from CA Clarity PPM, they must be formatted in Microsoft Project. Tasks created with dates set in CA Clarity PPM that are different than the project start date acquire Start No Earlier constraints to hold them there. Work effort estimates for each role on each task are loaded into Microsoft Project including the distribution of this work over time.

The access rights to view or edit a project allow you to open the project as read-only or read/write from CA Clarity PPM in Microsoft Project. If you have the read-only access rights to a project, or if the project is currently locked, you can open the project as read-only.

Note: You cannot open projects with the same project ID and the MPP file name in Microsoft Project from different CA Clarity PPM servers on your computer. If you open a project under the conditions, delete the MPP file that you have saved locally. Then, open the project with the duplicate project ID from the other CA Clarity PPM servers.

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

- Your CA Clarity PPM login is sent automatically to Microsoft Project. Logging in to Schedule Connect is not required to open a project from CA Clarity PPM into Microsoft Project.

- The project opens in Microsoft Project. If Microsoft Project is already running, that instance of the Microsoft Project is used. Any projects opened in Microsoft Project remain open.

- If you open the project from CA Clarity PPM in Microsoft Project as read-only and modify it, you cannot save the changes to CA Clarity PPM.

- If you open the project from CA Clarity PPM in Microsoft Project as read/write, other users can only open the project as read-only.

Follow these steps:

1. With the project open, click Tasks.

   The task list appears.

2. From the Open in Scheduler menu, select Microsoft Project.

3. Select one of the following:

   ■ Read-Only. Opens the project unlocked in Microsoft Project.

   ■ Read-Write. Opens the project in Microsoft Project and locks the project in CA Clarity PPM.

     Default: Read-Write

     Note: If you have access rights only to view the project, or if another user locks the project, Read-Only is selected by default. Also, the list box becomes unavailable.

4. Click Go.

   The project opens in Microsoft Project.

Open CA Clarity PPM Projects from Microsoft Project

Use the following procedure to open CA Clarity PPM project from Microsoft Project after you have set up your connection to a CA Clarity PPM server. You can open any active CA Clarity PPM project to which you have view, or edit rights from Microsoft Project using Schedule Connect.

The Open from Clarity window displays a list of CA Clarity PPM projects. A list of active projects formatted for Microsoft Project that you can edit or view are displayed in the table.

Follow these steps:

1. With Microsoft Project open, click the *CA Clarity PPM Integration* menu or toolbar, and go to Open.

   The *Open from Clarity* window opens.

2. View the following columns:

   Project ID

   Defines the unique identifier for the project that is typically auto-numbered.

   Limits: 20 characters

   Required: Yes

   Name

   Displays the name for the project. The value for this field is based on the Project Name field on the project properties page.

   Locked By

   Defines the user name of the resource currently editing the project.

Manager

Specifies the email address of the resource responsible for managing the project.

3. Select the project and click Open.

   If the project is locked and saved locally, a message appears prompting to open the CA Clarity PPM version and replacing the local version.

4. Click Yes to open the CA Clarity PPM version.

About Project Locks

When you open a project from CA Clarity PPM in Microsoft Project, you can open in the following modes:

- Read-only mode. When you open the project using this mode, a lock is not placed on the project. You can edit the project locally, but you cannot save the changes to CA Clarity PPM.

- Read/write mode. When you open the project using this mode, a lock is placed on the project. A project lock prevents users from updating the project and potentially overriding any changes made by the resource who is holding the lock.

When you lock a project in CA Clarity PPM:

- 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. The action lets you update projects locally for extended durations and also to share the updated information with other users.

- Other users can open the project as read-only. They can update locally, but they cannot save the project to CA Clarity PPM. In Microsoft Project, when you force a save, a warning message appears that changes after opening the project can get overwritten.

How to Save CA Clarity PPM Projects in Microsoft Project

Use the following process to save CA Clarity PPM projects in Microsoft Project:

- Save new projects you create in Microsoft Project to CA Clarity PPM (see page 202).

- Save a copy of an existing CA Clarity PPM project as a new project (see page 204).

- Save an existing project to CA Clarity PPM (see page 204).

When you save a project that you updated in Microsoft Project back to CA Clarity PPM, the saved project in CA Clarity PPM reflects the updated schedule. The MPP project file is uploaded to CA Clarity PPM including discrete information, such as task schedules and resource work amounts.

Note: Use the Save and Save As feature of Microsoft Project to save the file locally. Use Schedule Connect to save projects to CA Clarity PPM.

Save New Projects to CA Clarity PPM from Microsoft Project

If the following conditions are true, you can create a project in Microsoft Project and then save it to CA Clarity PPM:

- You have the access rights to create projects in CA Clarity PPM.

- Any resources or charge codes referenced in the project exist in CA Clarity PPM.

- The project is not password-protected. To verify whether the project is password-protected, select the Save option.

When you save a new project created in Microsoft Project to CA Clarity PPM, the following occurs automatically:

- You become the CA Clarity PPM project manager.

- The project is locked in CA Clarity PPM.

- The project remains open in Microsoft Project.

Note: If the project ID exists in CA Clarity PPM, you can save a project over an existing project by clicking *Save As...* from the *CA Clarity PPM Integration* menu or toolbar. If you save over an existing project, the new project information replaces the existing project information. Unplanned tasks, assigned tasks with actuals are moved to the Deleted Tasks summary phase as deleted tasks.

If you open a project from CA Clarity PPM, the project ID stored in the MPP file is used as the default project ID. If the project is not opened from CA Clarity PPM, the project title is used as the project ID.

You can change the project ID. 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 exists already. Click Yes to replace the existing project with the new project information.

Note: If you change the ID, the MPP file name changes to match it.

Follow these steps:

1. With the project open in Microsoft Project, click the *CA Clarity PPM Integration* menu or toolbar, and go to Save As....

    The *Save As to Clarity* dialog appears with a list of active projects to which you have access rights.

2. Define the following fields:

    Project ID

    > Defines the unique identifier for the project that is typically auto-numbered.
    >
    > **Limits:** 20 characters
    >
    > **Required:** Yes

    Local file name

    > Defines the default local path and the MPP file name of the project. The MPP file name defaults to the project ID. If the project name exists already, information from the new project replaces the existing project.
    >
    > **Note:** The path and file name are based on the Tools, Option, Save settings in Microsoft Project. Any changes to the setting do not take effect until the next time you start Microsoft Project.

    Track Mode

    > Indicates the tracking method that is used by resource assignments to enter time spent on project tasks.
    >
    > **Values:**
    >
    > - Clarity. Resource assignments enter time against their assigned tasks using timesheets.
    >
    > - None. Resources other than labor resources track actuals from financial transaction records or through a desktop scheduler, such as Open Workbench and Microsoft Project.
    >
    > - Other. Actuals are imported from a third-party application.
    >
    > **Default:** Clarity

3. Save your project.

Save Copies of Existing CA Clarity PPM Projects as New Projects

You can save a copy of an existing CA Clarity PPM project as a new project. Such action copies all the project information to the new project. Both projects exist independently of each other. No file sharing occurs.

Saving a copy of a CA Clarity PPM project, discards your lock on that project, unless you save it as an MPP file.

Follow these steps:

1. Open the project in Microsoft Project from CA Clarity PPM.

    The project opens.

2. Click the *CA Clarity PPM Integration* menu or toolbar, and go to Save As....

    The *Save As To Clarity* dialog appears.

3. Enter a new, unique CA Clarity PPM project ID, and then click Save As.

    A copy of the project is saved as a new project in CA Clarity PPM.

Save Existing Projects to CA Clarity PPM from Microsoft Project

To save an existing project to CA Clarity PPM, requires you to have edit access rights and lock option on the project. You cannot save to CA Clarity PPM when another user has locked the project, or when you did not lock it. If necessary, you can force a save.

Once you save your existing project, you can continue to modify the project, even when it is locked.

Follow these steps:

1. With the project open in Microsoft Project, click the *CA Clarity PPM Integration* menu or toolbar, and go to Save As....

    The project remains open and locked.

    If you do not have a lock on the project, a message appears prompting to force a save.

2. Click Yes.

    Your changes are saved.

Unlock and Hold Locks on Projects

A lock is placed on a project when you open it from CA Clarity PPM as read/write. In general, closing a project in Microsoft Project, unlocks the project in CA Clarity PPM, even when you exit Microsoft Project with the project open.

Unlock a project from Microsoft Project

You can unlock a project from Microsoft Project.

Follow these steps:

1. With the project open in Microsoft Project, save it to CA Clarity PPM.

   The project is saved.

2. Close the project without saving it in Microsoft Project.

   The project unlocks.

Exit Microsoft Project

If you exit Microsoft Project without saving the project locally, a message appears prompting to save the project. If you save, the project is saved locally, but is not saved back to CA Clarity PPM.

How to Create Projects

You can do the following to create projects:

- Create a project in CA Clarity PPM.
- Create a project in Microsoft Project.

How to Assign Resources to Tasks

You can assign resources to tasks from CA Clarity PPM or from Microsoft Project.

In CA Clarity PPM, you can assign resources to tasks in the work breakdown structure (WBS) in the Gantt view. The resource assignments that you create default to the default resource load pattern. Your CA Clarity PPM administrator can define this option using the Default Load Pattern field, which is a default project management setting.

When you open a CA Clarity PPM project in Microsoft Project, the following occurs:

■ When you set the load pattern to Contoured in CA Clarity PPM, the work contour in Microsoft Project is set to Flat under the following situations:

■ The assignment is newly created.

■ You are opening the project in Microsoft Project for the first time.

If the assignment exists (previously opened in Microsoft Project and saved to CA Clarity PPM), the work contour in Microsoft Project does not change.

■ When the assignment is a split task (with a gap between the end of the actual work and the start of the remaining work) and the load pattern is Contoured, the settings of following fields on the Microsoft Project Options dialog determine how the work contour is set in Microsoft Project:

– The Updating Task Status Updates Resource Status check box on the Calculation menu.

– The Split In-progress Tasks check box on the Schedule tab.

Updating Task Status Updates Resource Status	Split In-progress Tasks	Work Contour set to
Selected	Not Selected	Contoured
Selected	Selected	Flat
Not Selected	Not Selected	Flat
Not Selected	Selected	Flat

Note: If the project Track Mode field in CA Clarity PPM is set to Clarity or Other, the Updating Task Status Updates Resource Status check box is cleared. The check box is cleared regardless of the user settings in Microsoft Project.

The schedule for the work can change when opening the project in Microsoft Project.

Examples

Example 1

Suppose, you create a Front-loaded assignment in CA Clarity PPM with 40 hours on a five-day task. CA Clarity PPM schedules that work as full-time over those five days. Microsoft Project schedules those 40 hours over 8.33 days.

Example 2

Suppose, you assign a resource uniformly to a five-day task in CA Clarity PPM and then change the task duration to ten days. The rate of work is reduced to half-time, retaining the total amount of work. Microsoft Project reschedules this change as full-time, shortening the task back to five days.

Add Resources or Roles to Projects

Add any CA Clarity PPM resource or role to which you have access rights to hard or soft book to a project open in Microsoft Project. When you add a resource using Schedule Connect, the resources are allocated to tasks manually.

When you add a resource to the project, the resource information is downloaded from CA Clarity PPM. The resource is allocated at 100 percent to the project as if the resource is staffed in CA Clarity PPM. You can modify the resource availability in the project and implicitly change the allocation to another value.

To add a resource to a project in Microsoft Project, create a resource and enter the ID in the Initials field. The resource ID requires matching with the resource ID in CA Clarity PPM. The remaining resource attributes are set to match the CA Clarity PPM information when you save and reopen the project in CA Clarity PPM. To save the project to CA Clarity PPM, the resource requires existing in CA Clarity PPM.

Follow these steps:

1. With the project open in Microsoft Project, click Browse Resources.

   The browse resources dialog appears.

2. Select the resources or roles and click Add.

3. Move resources and roles between the following columns, and click OK:

   Selected Resources/Roles

   The list of selected resources and roles that you add to the project.

   Available Resources/Roles

   The list of resources and roles to which you have booking rights.

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

   The selected resources or roles are added to the project.

About Balanced Workloads

When you assign resources to a fully developed plan, you can balance the workload. The resource-leveling feature is a Microsoft Project solution to balance the workload. The feature shifts task schedules without changing task durations, or the distribution of work.

If you opt not to use the feature, you can manually reassign work by modifying the model. For example, manipulate assignment delays and assign work contours.

For more information, see the Microsoft online help.

How to Work with Subprojects using Microsoft Project

You can insert CA Clarity PPM projects as subprojects into a project you have open in Microsoft project. Subprojects open as read/write or read-only depending on how you opened the master project from CA Clarity PPM. The read/write status of each of the subprojects also determine how they open.

Note: Use care when linking subprojects to multiple master projects. You can reference subprojects many times from different projects.

About the Shared Resource Pool Project

When you open a master project in Microsoft Project, the subprojects and nested subprojects are opened and linked to the master project. A shared resource pool project is created locally when resources are shared across multiple projects.

Example:

wireless_pool.mpp

This shared resource pool project allows the master project to share its resources with its subprojects. The shared resource pool is associated with the master project and opens only when you open the master project. When you save a master project in Microsoft Project back to CA Clarity PPM, all project teams update with the resources from the shared resource pool. The subprojects must be read-write.

About Opening Subprojects

When you open a subproject from CA Clarity PPM in Microsoft Project, you open it as read/write or read-only. The access depends on how you open the master project and the read/write status of each of the subprojects.

Subprojects you open as independent projects open without any associations to their master projects or shared resource pools. Opening a subproject and linking it to its master projects, creates a shared resource pool project to share resources across multiple projects.

About Access Rights and Locks on Subprojects

Access rights and locks control subproject access. When you open a master project from CA Clarity PPM in Microsoft Project, the access rights and locks are verified in all subprojects. The following are verified:

- Insufficient access rights to open the subproject as read-only. If you do not have sufficient rights to the subprojects, you cannot open a master project. A message appears informing that you have insufficient rights to the subprojects.

- Insufficient access rights to open the subproject as read/write, but sufficient access rights to open it as read-only. If you try to open a master with subprojects as read/write when you only have read-only access rights, a message appears. If you have sufficient access rights, you can opt to open the subprojects as read-only.

- Unable to acquire a lock because another user locked the project. If you open a master project with subprojects (locked by another user) as read/write, a message appears prompting to open them as read-only.

- Unable to acquire a lock because the project is already locked. If you open a master with subprojects (that you have locked) as read/write, you are prompted to reacquire the lock. You must also rollback the projects to their current versions in CA Clarity PPM.

Note: If you have the subproject already open as read/write in Microsoft Project, this version is used instead of opening another version from CA Clarity PPM.

How Subprojects are Opened

Subprojects that you have set to read-only are opened from CA Clarity PPM in Microsoft Project as read-only. The case holds good, unless the subprojects are already open in read/write mode, or you open them later as read/write. In this case, the subprojects in the master project temporarily change to read/write.

As long as you open the master project as read/ write, subprojects that you open as read/write, open so in Microsoft Project.

Note: You can update read/write master projects and subprojects, and link master projects to other master projects from different computers. You can do so, until the user who first checks out the master project checks it in before you.

How Subprojects are Saved

You can save a subproject you have open in read/write mode by saving the master in Microsoft Project back to CA Clarity PPM. The following conditions are verified before a subproject is saved:

■ The subproject exists in CA Clarity PPM. If it does not, a message appears notifying you that you cannot update or create the project.

■ You have sufficient access rights to update a subproject open in read/write mode. If you do not, a message appears notifying you that you do not have rights to update the referenced subprojects.

■ The subproject is locked. If it is not, a message appears notifying you that you cannot update the project.

■ The subproject version in Microsoft Project matches the version in CA Clarity PPM. If it does not, a message appears notifying you that you cannot update the project because newer versions of the subproject exist in CA Clarity PPM. You cannot force a save on subprojects.

■ The resource or charge code exists in CA Clarity PPM. If it does not, a message appears notifying you that you cannot update the project.

Baselines

You can create a baseline of the project from Microsoft Project, or from CA Clarity PPM. You can keep a copy of the schedule now, or at any point, by creating a baseline. The baseline is saved with the resources time-varying rate at the time you create a baseline revision.

Best Practice: You can encounter performance issues when opening up a CA Clarity PPM project in Microsoft Project that has many baselines. So, limit the transfer to only the current baseline information. Your CA Clarity PPM administrator can select the Only Export Current Baselines When Opening Investments in a Scheduler project management setting.

Microsoft Project 2000

Microsoft Project 2000 can support only a single baseline.

When you open a project from CA Clarity PPM in Microsoft Project:

- A maximum of 11 baseline revisions is sent. Only one baseline is the current baseline.

- Information about the current revision is saved to the MPP file and updated on the project plan in Microsoft Project.

  Note: If no baseline revisions are sent from CA Clarity PPM, Schedule Connect verifies that the baseline information in the MPP file and on the project plan are cleared in Microsoft Project.

When you save the project to CA Clarity PPM, Schedule Connect checks for baseline information. If the plan has:

- A baseline:

  - The baseline revision is sent and includes all information from the MPP file. If no information is available from the MPP file, the baseline revision is new, and the default ID, name, and description is used.

  - Baseline detail records are sent as needed.

- No baseline. If no baseline information is available from the MPP file, no baseline revision information is sent to CA Clarity PPM.

Microsoft Project 2002 and later

Microsoft Project 2002 and later can support up to 11 baselines. Multiple baselines are managed by saving each revision to baseline slots in the MPP file. For example, the information for the current revision is saved to the baseline slot. A previous baseline revision is saved to the baseline1 slot, and so on, up to baseline10.

When you open a project from CA Clarity PPM in Microsoft Project:

- A maximum of 11 baseline revisions is sent in descending order by the last date modified. Only one baseline is the current baseline.

- Information about each revision is saved to the MPP file.

- The current revision is used to update the project plan baseline information. Any remaining baseline revisions are used to update other baseline slots for the project plan (baseline1 through baseline10) in the order they are received.

- If the project in Microsoft Project has baseline information for which no matching revision information is received, that baseline is cleared.

- If no baseline revisions are sent, all baseline information in the MPP file is cleared in Microsoft Project.

When you save the project to CA Clarity PPM, Schedule Connect checks each possible baseline slot in the project. The check begins with the baseline slot and ends with the baseline10 slot:

- If a baseline slot has information, the revision information from the MPP file is sent to CA Clarity PPM.

- If no information is available from a baseline slot, the revision is new and the default ID, name, and description is used for the revision. For example, if the information is from the baseline3 slot, the number 3 is appended to the default ID, name, and description.

  Note: If the MPP file contains information for a revision whose matching baseline slot is empty, Schedule Connect sends the revision information to CA Clarity PPM. A Delete flag is used to tell CA Clarity PPM to delete the baseline revision.

About Master Project Baselines

If you are using CA Clarity PPM with Microsoft Project and creating 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 information for the master includes the values from the subprojects. For example, a master project has a task with five hours of ETC, and its two subprojects have a task with ten hours ETC each. When you save the project back to CA Clarity PPM, the master project baseline usage is 25 hours.

Save the Baseline

For more information, see the Microsoft online help.

Follow this step:

With the project open in Microsoft Project, navigate to Tools, Tracking, and Save Baseline from the menu.

Actuals

The resources assignments on your project likely use timesheets in CA Clarity PPM to enter the weekly work they accomplish on their assigned project tasks. These timesheets automatically include tasks you have scheduled for that week.

Resources must submit their timesheet and the project manager must approve the timesheet before it is posted to the project plan. Pending actuals are displayed in Microsoft Project before posting actuals. The Pending Actuals field in CA Clarity PPM is mapped to the Number2 field in Microsoft Project.

When a timesheet is posted, the estimates (ETC) on assignments for which a resource enters actuals on their timesheet is adjusted. In most cases, the ETC reduces the amount of the actuals so that the total work on the assignment remains the same.

In Microsoft Project, assignments with a work contour assigned Contoured (Fixed in CA Clarity PPM) are processed differently. In this case, the ETC that are scheduled on or before the week are replaced with the actuals. Also, the ETC scheduled after the week are kept intact. The result, depending on when the estimates are scheduled in Microsoft Project, can be an increase or a decrease of total work.

Note: In Microsoft Project, work contour assignments are reset to Contoured if you edit the work distribution. If you modify the total actual or remaining work distributions, the work contour is not modified.

Most of the time, posting a timesheet does not immediately change the finish dates of the tasks that were on that timesheet. For example, when work on a task takes longer than planned (more actuals are entered than planned), the result is a new, reduced ETC.

Less work is completed on a task than was planned for the week is scheduled at a higher rate within the task schedule. In this case, when you open the project from CA Clarity PPM in Microsoft Project, the task is rescheduled and the finish date is delayed.

A posted timesheet is assumed to be a complete accounting of the project work that a resource did that week. A scheduled task that does not appear on the timesheet implies that the resource did not complete any work on that task. The project manager must reschedule the task for the following week or beyond.

Note: When you open a project from CA Clarity PPM in Microsoft Project it is scheduled, even if you use Manual Calculation in Microsoft Project. As a result, task finish dates and resource work distribution in Microsoft Project can be different than in CA Clarity PPM.

Rework Plans (Microsoft Project)

Once actuals have been posted, rework your plan. Reworking the plan helps ensure that work is balanced. Also, the rate of progress does not demand a change of scope, sequence, or other elements of the project.

Chapter 8: Risks, Issues, Change Requests, and Action Items

This section contains the following topics:

How to Manage Project Risks

A risk management process includes identifying, analyzing, planning, tracking, and communicating risk. Risk management involves risks, issues, and change requests. Making informed decisions by consciously assessing potential problems and the severity of their impact is the heart of project risk management.

The project manager creates a risk or an issue based on the impact of the risk after identifying and analyzing the risk.

You can identify risks at any time during a project life cycle. You can escalate a risk to an issue when it appears likely to affect the project in a significant way. Change requests result from issues and can help facilitate effective resolutions.

The following diagram and this scenario, describe one way of managing project risks.

How to Manage Project Risks
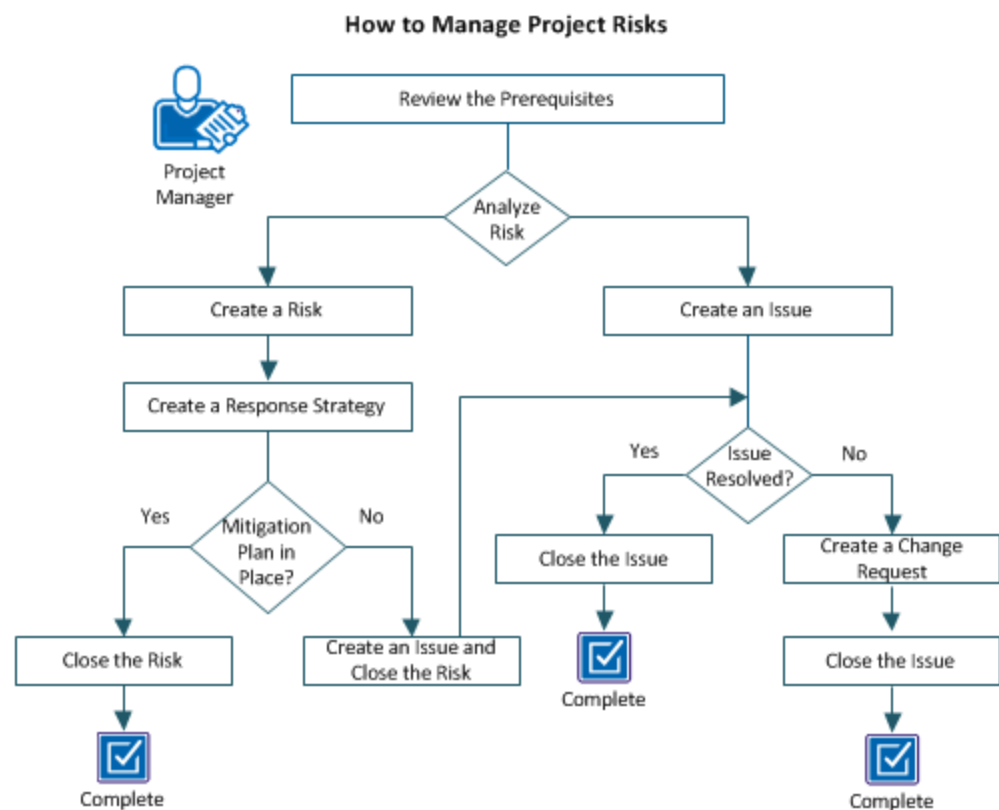
Example: Create and manage a project risk

In this example, the project team at Forward Inc. is developing a new product using a niche technology. The resources within the organization having experience with this technology are limited and so the team must use external resources to complete the project. Additionally, the product is bundled with third-party APIs for which legal approvals are required.

The team identifies two risks affecting their project in a significant way for analysis:

■   A limited number of resources with the required experience

■   Dependency on the approval process

After the analysis, based on the impact of the risk on the project, the project manager creates a risk for the limited resources and an issue for the dependency.

To manage project risks, perform these steps:

1. Review the Prerequisites (see page 217).

2. Analyze Risk.

   ■   Create a Risk (see page 218).

      a.   Create a Response Strategy (see page 221).

      b.   Close the Risk (see page 221).

      c.   Create an Issue and Close the Risk (see page 222).

   ■   Create an Issue (see page 223).

      a.   Close the Issue (see page 225)

      b.   Create a Change Request (see page 225).

Review the Prerequisites

To complete all tasks in this scenario, you need the following access rights:

   ■   *Project - Risk, Issue, Change Request - Create/Edit*

   ■   *Project - Risk, Issue, Change Request - Delete*

   ■   *Project - Risk, Issue, Change Request - Delete - All*

   ■   *Project - Risk, Issue, Change Request - Edit - All*

   ■   *Project - Risk, Issue, Change Request - View*

   ■   *Project - Risk, Issue, Change Request - View - All*

Create a Risk

A *risk* is a potential future event that has a positive or negative impact on a project objective. Identify the risks early in a project to become aware of potential effects on the project scope, schedule, budget and other factors. In this scenario, the team decides to mitigate the limited resources risk by employing external resources. The project manager creates a detailed risk providing all the information and selects Resource Availability from the Category drop-down list.

If the overall score for a detailed risk differs from the rating you assigned to it, the two risk management components interact. The score of the detailed risk overrides the rate you assigned. If you create a detailed risk without assigning rates, scores from the risk entries color the appropriate factor in the list. Deleting a detailed risk changes the project overall risk score and the combined risk score for that particular risk category.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Click New.

3. Complete the fields in the General section. The following fields require explanation:

   Category

   Defines the category to which the risk belongs.

   Values:

   - Flexibility - The project is not adaptable.

   - Funding - The project funding is not allocated or is available with constraints.

   - Human Interface - The user interface (UI) is poorly defined.

   - Implementation - Uncertainties exist in the implementation effort and user acceptance

   - Interdependencies - The project is dependent on other projects.

   - Objectives - The requirements, objectives, scope, and benefits are unreasonable, unclear, not measurable, and not verifiable.

   - Organizational Culture - The project requires changes to the organization culture, business processes, procedures, or policies.

   - Resource Availability - The internal resource availability is uncertain and external resources are required.

   - Sponsorship - The sponsorship is not clearly identified and committed.

■ Supportability - It is not easy to support the project in the future and requires major updating.

■ Technical - The project technology is unproven and new internal or external expertise is required.

Note: When you specify a risk category, the overall risk score overrides any differing status selection you make for the risk category or factor.

Owner

Defines the name of the resource who is managing the risk. This resource is responsible for verifying that the risk is managed and tracked appropriately through its life cycle.

Default: The resource currently logged in.

4. Complete the fields in the Details section. The following fields require explanation:

Impact Date

Defines the date by which repercussions from this risk could affect the project. If you identify an impact date, enter a date in the Target Resolution Date field.

Default: Current date

Assumptions

Defines the assumptions that determine that this item could be a risk. You can verify these assumptions to help ensure that they continue to be valid through the duration of the risk life. If the assumptions change, the impact or probability of the risk can also change.

Associated Risks

Defines the risks within the project that are associated with this risk. You can only link this risk to risks within this project.

Associated Issues

Defines the issues within the project that are associated with this risk. You can only link this risk to issues within this project.

Response Type

Defines the type of response you want to make with this risk.

Values:

■ Watch. You do not want to respond to a risk. This type is typically assigned for any risk whose calculated risk score is low. Though the risk probability or impact is not sufficient to warrant an action, you still want to keep the risk open and monitor it.

- Accept. The risk exposure is accepted, and in some cases, there is no intent to pursue the risk.

- Transfer. You want to transfer the risk to a different project. Once transferred, you can close the risk.

- Mitigate. You want to apply a risk response strategy to resolve the risk.

Default: Watch

Note: In this scenario, select Mitigate.

5. Complete the fields in the Quantify Risk section. The following fields require explanation:

Probability

Defines the probability that the risk can occur. The risk probability is used to calculate the risk exposure.

Values: Low (1), Medium (2), or High (3)

Default: Low

Calculated Risk

Displays the score calculated based on the selections you make in the Probability and Impact fields.

Values:

- 1 - 3 (Green). The calculated risk is low.

- 4 - 6 (Yellow). The calculated risk is medium.

- 7 - 9 (Red). The calculated risk is high.

Impact

Defines the effect of the risk on the project. The effect of the risk on the project performance, supportability, cost, and schedule determines the impact. This value is used to calculate the risk exposure.

Default: Low

6. Attach a document which provides valuable background on the risk, its mitigation or effect on the project, if any in the Attachments section.

7. Complete the following fields in the Resolution section. The following fields require explanation:

Resolution

Defines the final resolution of this risk once the risk is mitigated. The resolution data is useful for recalling the outcome of a risk response strategy when planning or approaching future project risk plans.

Note: You can define a resolution while creating the risk, or before closing it.

Residual Risks

Specifies the risks encountered or created within the project as a result of the mitigation that is taken to resolve the risk. Unlike associated risks, residual risks do not share similar outcomes, but result from an action you take in resolving a risk.

8. Save your changes.

Create a Response Strategy

Once a decision is made to mitigate the risk, the project manager creates and assigns the owner of the risk to develop a response strategy. Risk response strategies document the actions, tracking requirements, and other supporting information that is required to reduce the risk probability and impact.

Regardless of who owns the risk, you can assign individual response strategies to different resources, and each response strategy can have its own due date. These dates and names can be used with processes to send notifications and reminders to risk owners. You typically create a risk response strategy when you select a Response Type of Mitigate.

In some cases, you can accept the risk exposure and not pursue the risk.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Open the risk.

3. Open the Properties menu and click Response Strategy.

4. Complete the fields and click Add to save your changes.

Close the Risk

Once the risk is successfully mitigated, change the status of the risk to Closed and enter the final resolution. A detailed resolution can help you recall the outcome of a risk response strategy when planning, or approaching future project risk plans.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Open the risk.

3. Change the Status to Closed.

4. Enter how the risk was mitigated in the Resolution section.

5. Save your changes.

Create an Issue and Close the Risk

An *issue* is an event that has affected the project. When the risk mitigation plan fails, you can escalate the risk to an issue. Create an issue from the existing risk and then close the risk. The new issue inherits the risk name, description, and some of its values, such as Status ("Open") and Date Created (current calendar date). You can always link back to the originating risk. Creating an issue from a risk brings awareness, actions, and tasks around an issue for the conclusion by the project team. Additionally, it allows the team to keep a record of issues and their outcome for analysis at project closure and future project planning.

You can also connect other risks or issues that are related to this issue. Connecting all related issues and risks helps you trace dependencies and recognize trends in future analysis and audits.

In this scenario, as part of the mitigation plan, external contractors are hired to complete the project. However the contractors hired do not have the required level of experience which is impacting the progress of the project delivery. The risk now becomes an issue and the project manager then creates an issue from this risk and closes the risk.

Follow these steps:

1. Open the project and click Risk/Issues/Changes.

2. Open the risk.

3. Click Create Issue.

4. Complete the fields in the General section. The following fields require explanation:

    Category

    Defines the category to which the issue belongs.

    Values:

    ■   Flexibility - The project is not adaptable.

    ■   Funding - The project funding is not allocated or is available with constraints.

    ■   Human Interface - The user interface (UI) is poorly defined.

    ■   Implementation - Uncertainties exist in the implementation effort and user acceptance

    ■   Interdependencies - The project is dependent on other projects.

    ■   Objectives - The requirements, objectives, scope, and benefits are unreasonable, unclear, not measurable, and not verifiable.

- ■ Organizational Culture - The project requires changes to the organization culture, business processes, procedures, or policies.

- ■ Resource Availability - The internal resource availability is uncertain and external resources are required.

- ■ Sponsorship - The sponsorship is not clearly identified and committed.

- ■ Supportability - It is not easy to support the project in the future and requires major updating.

- ■ Technical - The project technology is unproven and new internal or external expertise is required.

Owner

Defines the name of the resource who is managing the issue. This resource is responsible for verifying that the issue is managed and tracked appropriately through its life cycle.

Default: The resource currently logged in.

5. Complete the fields in the Details section.

6. Attach a document which provides valuable background on the issue, its resolution or effect on the project, if any in the Attachments section.

7. Complete the Resolution section after the issue is resolved.

8. Click Save and Return to go to the Risk Properties page to close the risk.

9. Change the Status to Closed.

10. Save your changes.

Create an Issue

Create an issue when the risk impacts the project in a significant way. Since the delay in the approval process is anticipated, the project manager creates an issue and assigns the category as dependency.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Open the Risks/Issues/Changes menu and click Issues.

3. Click New.

4. Complete the fields in the General section. The following fields require explanation:

Issue ID

Defines the unique identifier for the issue. You cannot change the identifier, once you save the issue.

Category

Defines the category that the issue belongs to.

Values:

- Flexibility - The project is not adaptable.

- Funding - The project funding is not allocated or is available with constraints.

- Human Interface - The user interface (UI) is poorly defined.

- Implementation - Uncertainties exist in the implementation effort and user acceptance

- Interdependencies - The project is dependent on other projects.

- Objectives - The requirements, objectives, scope, and benefits are unreasonable, unclear, not measurable, and not verifiable.

- Organizational Culture - The project requires changes to the organization culture, business processes, procedures, or policies.

- Resource Availability - The internal resource availability is uncertain and external resources are required.

- Sponsorship - The sponsorship is not clearly identified and committed.

- Supportability - It is not easy to support the project in the future and requires major updating.

- Technical - The project technology is unproven and new internal or external expertise is required.

Owner

Defines the name of the resource who is managing the issue. This resource is responsible for verifying that the issue is managed and tracked appropriately through its life cycle.

Default: The resource currently logged in.

Creator

Displays the name of the resource who created the issue.

Default: The resource currently logged in.

5. Complete the fields in the Details section.

6. Attach a document which provides valuable background on the issue, its resolution or effect on the project, if any in the Attachments section.

7. Complete the Resolution section after the issue is resolved.

8. Save your changes.

Close the Issue

Once the issue is resolved, change the status to Closed, and enter a final resolution. A detailed resolution can help you recall the outcome of an issue when planning or approaching future projects issue plans.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Open the Risks/Issues/Changes menu and click Issues.

3. Open the issue.

4. Change the Status to Closed.

5. Enter how the issue was resolved in the Resolution section.

6. Save your changes.

Create a Change Request

A *change request* is an alteration to expand or contract the project scope, schedule, or budget. Create a change request when the issue resolution impacts the project scope, schedule, or budget or when the issue is not resolved. Recording a change request helps you analyze the project and also learn from past events.

In this scenario, the project manager creates a change request to extend the project deadline to address both the issues:

- Resources availability

- Dependency

Follow these steps:

1. Open the project and click Risk/Issues/Changes.

2. Open the Risks/Issues/Changes menu and click Issues.

3. Open the issue and click Create Change Request.

4. Complete the fields in the General section. The following fields require explanation:

   Category

   Defines the category to which the change request belongs.

   Values:

   - Flexibility - The project is not adaptable.

   - Funding - The project funding is not allocated or is available with constraints.

- ■ Human Interface - The user interface (UI) is poorly defined.

- ■ Implementation - Uncertainties exist in the implementation effort and user acceptance

- ■ Interdependencies - The project is dependent on other projects.

- ■ Objectives - The requirements, objectives, scope, and benefits are unreasonable, unclear, not measurable, and not verifiable.

- ■ Organizational Culture - The project requires changes to the organization culture, business processes, procedures, or policies.

- ■ Resource Availability - The internal resource availability is uncertain and external resources are required.

- ■ Sponsorship - The sponsorship is not clearly identified and committed.

- ■ Supportability - It is not easy to support the project in the future and requires major updating.

Technical - The project technology is unproven and new internal or external expertise is required.

Owner

Defines the name of the resource who is managing the change request. This resource is responsible for verifying that the change request is managed and tracked appropriately through its life cycle.

Default: The resource currently logged in.

5. Complete the fields in the Details section.

6. Attach a document which provides valuable background on the change request, its resolution or effect on the project, if any in the Attachments section.

7. Complete the fields in the Effect section. The following fields require explanation:

Impact on Baseline

Describes how the changes in the request can affect the project baseline.

Impact on Other Projects

Describes how the request can affect other projects.

Change in Cost

Defines the amount by which the request can change the budget cost of the project. The budget cost is a field that is defined on the budget properties page.

Change in Schedule

Defines the number of days by which the request can delay or accelerate the overall project schedule.

Change in Resources

Defines a number that reflects the request for an increase or decrease in the number of resources that are needed for the project.

8. Complete the fields in the Assessment section.

9. Click Save and Return to go to the issue properties page to close the issue.

10. Change the Status to Closed.

11. Save your changes.

Risks

You can create risks to address uncertainty, minimizing the costly consequences of unforeseen or unmanaged problems. You can create response strategies for risks and associate risks with tasks and processes.

How to Work with Risks

The risks list page displays a list of existing risks. A checkmark icon in the Above Threshold column of the risks page indicates that the risk score exceeds the risk threshold.

You can manage risks in the following ways:

■ Create a risk.

■ Create the response strategy.

■ Create an associated action item.

■ Close risk and track as an issue.

■ Delete a risk.

How to Create Risks

You can create risks in the following ways:

■ Create a detailed risk.

■ Create a risk from an issue.

■ Create a risk from a change request.

Create Risks from Issues

You can create risks from existing issues. Basic information from common fields is carried over to the new issue for easy setup. You can link back to the originating issue from the risk for easy navigation between the records. In addition, you can manually associate risks or issues to each other. Manual association is useful for understanding the relationships between the risks and issues, providing better overall management of a project.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Open the Risks/Issues/Changes menu and click Issues.

3. Click the name of the issue.

4. Click Create Risk.

5. Complete the fields in the General section. The following fields require explanation:

    Category

    Defines the category to which the risk belongs.

    Values:

    ■   Flexibility - The project is not adaptable.

    ■   Funding - The project funding is not allocated or is available with constraints.

    ■   Human Interface - The user interface (UI) is poorly defined.

    ■   Implementation - Uncertainties exist in the implementation effort and user acceptance

    ■   Interdependencies - The project is dependent on other projects.

    ■   Objectives - The requirements, objectives, scope, and benefits are unreasonable, unclear, not measurable, and not verifiable.

    ■   Organizational Culture - The project requires changes to the organization culture, business processes, procedures, or policies.

    ■   Resource Availability - The internal resource availability is uncertain and external resources are required.

    ■   Sponsorship - The sponsorship is not clearly identified and committed.

    ■   Supportability - It is not easy to support the project in the future and requires major updating.

    ■   Technical - The project technology is unproven and new internal or external expertise is required.

Owner

Defines the name of the resource who is managing the risk. This resource is responsible for verifying that the risk is managed and tracked appropriately through its lifecycle.

Default: The resource that is currently logged in.

Creator

Displays the name of the resource who created this risk.

Default: The resource currently logged in.

6. Complete the fields in the Details section. The following fields require explanation:

Risk Symptoms

Defines the symptoms that identify this item as a risk.

Impact Description

Displays a description of the result the risk had on the project.

Risk Impact Date

Displays the date when the repercussions from the risk impacted the project.

Target Resolution Date

Displays the target date of resolving the risk.

Assumptions

Displays the assumptions that determined the risk.

Associated Risks

Defines the risks within this project that are associated with this risk. You can only link this risk to risks within this project.

Associated Issues

Defines the issues within this project that are associated with this risk. You can only link this risk to risks within this project.

Response Type

Defines the type of response you want to make with this risk.

Values:

■ Watch. Use this type when you do not want to respond to a risk. This type is typically assigned for any risk whose calculated risk score is low. In other words, though risk probability or impact is not sufficient to warrant action, you still want to keep the risk open and monitor it.

■ Accept. Use this type when the risk exposure is accepted, and in some cases, there is no intent to pursue the risk.

■ Transfer. Use this type when you want to transfer the risk to a different project. Once transferred, you can close the risk.

■ Mitigate. Use type when you want to apply a risk response strategy to resolve the risk.

Default: Watch

7. Complete the fields in the Quantify Risk section. The following fields require explanation:

Probability

Defines the probability that the impact can occur. The risk probability is used to calculate the risk exposure.

Values: Low (1), Medium (2), or High (3)

Default: Low

Calculated Risk

Displays the score calculated based on the selections you make in the Probability and Impact fields.

Risk values:

■ 4 - 6 (Yellow). The calculated risk is medium.

■ 7 - 9 (Red). The calculated risk is high.

■ 1 - 3 (Green). The calculated risk is low.

Impact

Defines the effect of the particular risk on the project, determined by the risk effect on project performance, supportability, cost, and schedule. This value is used to calculate the risk exposure.

Values: Low (1), Medium (2), or High (3)

Default: Low

8. Attach the documents, if any in the Attachments section.

9. Complete the fields in the Resolution section. The following fields require explanation:

Resolution

Defines the final resolution once the risk is mitigated. The resolution data is useful for recalling the outcome of a risk response strategy when planning or approaching future project risk plans.

Residual Risks

Specifies the risks encountered or created within the project as a result of the mitigation taken to resolve the risk. Unlike associated risks, residual risks do not share similar outcomes, but result from an action you take in resolving a risk.

10. Save the changes.

Create Risks from Change Requests

When you create a risk from a change request, some of the fields are populated with information from the related change request. To view the original change request from the risk, open the risk, and click the ID in the Originating Change Request field.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Open the Risks/Issues/Changes menu and click Change Requests.

3. Click the name of the change request.

4. Click Create Risk.

5. Complete the fields in the General section. The following fields require explanation:

Category

Defines the category to which the risk belongs.

Values:

■ Flexibility - The project is not adaptable.

■ Funding - The project funding is not allocated or is available with constraints.

■ Human Interface - The user interface (UI) is poorly defined.

■ Implementation - Uncertainties exist in the implementation effort and user acceptance

■ Interdependencies - The project is dependent on other projects.

■ Objectives - The requirements, objectives, scope, and benefits are unreasonable, unclear, not measurable, and not verifiable.

- Organizational Culture - The project requires changes to the organization culture, business processes, procedures, or policies.

- Resource Availability - The internal resource availability is uncertain and external resources are required.

- Sponsorship - The sponsorship is not clearly identified and committed.

- Supportability - It is not easy to support the project in the future and requires major updating.

- Technical - The project technology is unproven and new internal or external expertise is required.

Owner

Defines the name of the resource who is managing the risk. This resource is responsible for verifying that the risk is managed and tracked appropriately through its lifecycle.

Default: The resource that is currently logged in.

Creator

Displays the name of the resource who created this risk.

Default: The resource currently logged in.

6. Complete the fields in the Details section. The following fields require explanation:

Risk Symptoms

Defines the symptoms that identify this item as a risk.

Impact Description

Displays a description of the result the risk had on the project.

Risk Impact Date

Displays the date when the repercussions from the risk impacted the project.

Assumptions

Defines the assumptions that determine that this item could be a risk. You can verify these assumptions to help ensure that they continue to be valid through the duration of the risk life. If the assumptions change, the impact or probability of the risk can also change.

Associated Risks

Defines the risks within this project that are associated with this risk. You can only link this risk to risks within this project.

Associated Issues

Defines the issues within this project that are associated with this risk. You can only link this risk to risks within this project.

7. Complete the fields in the Quantity Risk section. The following fields require explanation:

   Probability

   > Defines the probability that the impact can occur. The risk probability is used to calculate the risk exposure.

   > **Values:** Low (1), Medium (2), or High (3)

   > **Default:** Low

   Impact

   > Defines the effect of the particular risk on the project, determined by the risk effect on project performance, supportability, cost, and schedule. This value is used to calculate the risk exposure.

   > **Values:** Low (1), Medium (2), or High (3)

   > **Default:** Low

   Calculated Risk

   > Displays the score calculated based on the selections you make in the Probability and Impact fields.

   > **Risk values:**

   > ■   4 - 6 (Yellow). The calculated risk is medium.

   > ■   7 - 9 (Red). The calculated risk is high.

   > 1 - 3 (Green). The calculated risk is low.

8. Attach the documents, if any in the Attachments section.

9. Complete the fields in the Resolution section. The following fields require explanation:

   Resolution

   > Defines the final resolution once the risk is mitigated. The resolution data is useful for recalling the outcome of a risk response strategy when planning or approaching future project risk plans.

   Residual Risks

   > Specifies the risks encountered or created within the project as a result of the mitigation taken to resolve the risk. Unlike associated risks, residual risks do not share similar outcomes, but result from an action you take in resolving a risk.

10. Save the changes.

Risk Rating

Organizations typically prefer to fund projects which offer low and medium risks. Unless a high-risk project can provide substantial benefits, or is strategically essential to business goals, it can be terminated.

You can rate a predefined list of possible risk factors for each project on the main risk page.

The following colors are used to display the risk score in the form of a stoplight:

- Red = High risk

- Yellow = Medium risk

- Green = Low risk

After you assign risk rates to the individual factors, an overall risk level for the project is calculated. The calculation is based on the combined risk levels of all the risk factors in the list. The overall risk level appears at the top of the factor list.

How Risk Rating Works

You can rate your risks on the main risk page. All the other risk management components and actions that you can perform are on the risks page within a project. Create a detailed risk on the risks page and assign it to a risk category. The category is equivalent to one of the risk categories or factors listed on the main risk page.

If the overall score for a detailed risk differs from the rating you assigned to it on the main risk page, the two risk management components interact. The score of the detailed risk overrides the rate you assigned. If you create detailed risk without assigning rates, scores from the risk entries color the appropriate factor in the list.

Example

Suppose, you delete a detailed Funding risk, and multiple risks of the risk category type exist. The risk score for that risk category/factor is recalculated based on the combined score of all the risks remaining in that category. If, however, you delete a Funding Risk and only one risk of the category remains, you can select a risk value from the Funding drop-down.

Assign Rates to Risk Factors

You can assign rates to the project risk factors using the main risk page. The risk factors display in the Contributing Factors section of the page. The Risk field, at the top of the page, indicates a combined risk level for the project. The risk level is based on all the selections made in the Contributing Factors section of the page.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Select the options to rate the risk.

    Objectives

    Specifies if the requirements, objectives, scope, and benefits are reasonable, clearly defined, measurable, and verifiable.

    Sponsorship

    Specifies if the sponsorship is clearly identified and committed.

    Funding

    Specifies if the project funding is available without constraints.

    Resource Availability

    Specifies if internal resources are available for the project without constraints and external resources are not required.

    Interdependencies

    Specifies if the project is not dependent on other projects.

    Technical

    Specifies if the project technology is proven and new internal or external expertise is required.

    Human Interface

    Specifies if the project has a well-defined user interface (UI).

    Organizational Culture

    Specifies if the project requires little change to the organization culture, business processes, procedures, or policies.

    Supportability

    Specifies if the project is easy to support in the future and do not require major updating.

    Implementation

    Specifies if minor uncertainties exist in the implementation effort and user acceptance.

Flexibility

Specifies if the project is easily adaptable.

3. Save your changes.

The stoplights are changed next to each risk factor to the color assigned to the level you selected for each risk.

Calculated Risk Score

You can enter and view a detailed calculated risk score in the Quantify Risk section of the risk properties page. The risk score is calculated based on the selections you make in the Probability and Impact fields on this page.

Probability and impact levels are rated as follows:

- Low = 1

- Medium = 2

- High = 3

Example

You set the risk probability level to High (3) and the impact level to Medium (2). The calculated risk score is 6.

The calculated risk score works with the system-level risk threshold value for all projects, set by your CA Clarity PPM administrator. The *risk threshold* is the acceptable level of risk that can be tolerated without acting out the risk response strategy. The risk threshold is useful because projects can have hundreds of risks. The only way to manage them is to focus on the most important ones.

The risk score matrix and the risk threshold contain default values. You can set the values as high or low as appropriate for your organization. You can view whether your risk is above the threshold on the risks page. You can design procedures or processes to deal with risks that exceed the threshold.

About Risk Notes

You can add notes to record additional information about a risk (issue or change request). The notes you add are displayed in a list on the risk notes page. They are listed in the order in which they were created, with the most recent note appearing at the top of the list. From this page, you can sort the list of notes and add additional notes.

You cannot edit or create replies to risk notes.

Add Notes

Follow these steps:

1. Open the Risks/Issues/Changes menu and click Risks.

2. Open the risk to add a note.

3. Click Notes.

4. Complete the fields and click Add to save the notes

Risks Associated with Tasks

You can assign a risk to an existing task, or create a task. You can also assign risks to one or more key tasks. A key task is significant in some way. For example, the start date of other tasks can depend on the key task. Using the risk associated tasks page, you can view a list of the tasks associated with the risk.

You can associate the risks you create with your tasks and view them on the task associated risks page. You cannot reply to or edit the risks that are listed on the page.

View a List of Risks Associated with Tasks

Use the following procedure to view a list of risks. The page displays the name of the risk, priority, status, impact date, and the name of the assignee. Resources with project access can view the risks.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Click the risk name.

3. Click Associated Tasks.

Create Key Tasks Associated to Risks

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Click the risk name.

3. Click Associated Tasks.

4. Click New.

5. Complete the fields in the General section. The following fields require explanation:

Milestone

Specifies to designate the task as a milestone task. Milestones are tasks that have a due date but not a duration (a period between a start and finish date). Once saved, the Start field on the task properties page is locked.

Default: Cleared

Note: You cannot assign staff to milestones or designate them as summary tasks.

Key Task

Specifies whether you want to identify this task as a key task. A key task is significant in some way. For example, the start date of other tasks can depend on the key task.

Example: If this task is one whose completion is essential to the start date of other tasks, then mark this task as a key task.

Default: Selected

Status

Displays the status of the task based on the value of % Complete. This field is automatically calculated and updated based on the task % Complete value.

Values:

■ Completed. Indicates that the ETC task is zero and the percentage completed is 100.

■ Not Started. Indicates that actuals are not posted and the percentage completed is zero..

■ Started. Displays when a resource posts actuals to the task assignment. The percentage completed on the task is more than zero and less than 100.

Default: Not Started

% Complete

Defines the percent of work that has been completed when the task is partially completed.

Values:

■ Zero. The task is not started.

■ 1 through 99. The task has ETC or actuals posted and the task is not started.

■ 100. The task is complete.

■ **Default:** 0

Charge Code

Defines the charge code for the task. Task-level charge codes supersede project-level charge codes where both are specified.

Must Start On

Defines the date on which the task is required to start. This date is used as a date constraint during autoscheduling.

Must Finish On

Defines the date on which the task is required to finish. This date is used as a constraint during autoscheduling.

Start No Earlier Than

Defines the earliest possible start date for a task. This date is used as a constraint during autoscheduling.

Start No Later Than

Defines the latest possible start date for the task. This date is used as a constraint during autoscheduling.

Finish No Earlier Than

Defines the earliest possible finish date for a task. This date is used as a constraint during autoscheduling.

Finish No Later Than

Defines the latest possible finish date for a task. This date is used as a constraint during autoscheduling.

Exclude from Autoscheduling

Specifies excluding the dates for this task during the auto-scheduling process.

Default: Cleared

Required: No

Note: This field works with the *Schedule Assignments on Excluded Tasks* field on the auto-schedule page. Suppose, you exclude the task from auto-scheduling. But you specify allowing changes to excluded task resource assignment dates during auto-scheduling. The auto-schedule process changes the task resource assignment dates, while remaining within the start and finish dates for the task.

6. Save and submit the changes.

Associate Existing Tasks with Risks

Creating an association between a risk and a task, helps you view the association on the task associated risks page.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Click the risk name.

3. Click Associated Tasks.

4. Click Add Existing Tasks.

5. Select the check box next to the task to associate to the risk, and click Link To.

Risk Audit Trail

The risk audit trail page lets you view when certain risk fields are changed, and by whom. In this way, you can track changes by resource and date.

Your CA Clarity PPM administrator can set up the auditing to audit and preserve a record of operations performed on risks. When you edit a risk, the change is displays on the Audit Trail page when viewed in CA Clarity PPM.

View Audit Fields

You can view the fields that have changed for a risk. The fields display in the list on the risk audit trail page with the name of the resource who changed it, and when.

Before you can view the risk audit trail page, your CA Clarity PPM administrator requires setting up risks for auditing.

For more information, search *Studio*.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Click the risk name.

3. Click Audit.

4. Filter the list.

Risk Management Processes

You can use processes to automate certain elements of the risk management process. Before you begin creating and maintaining risk management processes, be sure that you understand the process and how it works.

Issues

The issues page helps you create and manage issues. You can create issues from risks to escalate a serious risk to a higher level. Or, create issues that are independent of risks and change requests. As with risks, you can associate issues with action items, tasks, and processes.

How to Work with Issues

The issues list page displays a list of existing issues. To access the issues list page, open the project, and from the Risks/Issues/Changes menu, click Issues.

You can manage an issue in the following ways:

- Create an issue.

- Track a closed risk as an issue.

- Track a closed request as an issue.

- Create an associated action item.

- Close an issue.

How to Create Issues

You can create any number of issues for each project. Like projects, programs, and risks, you can create issues in the following ways:

- Create a detailed issue.

- Create an issue from a risk

- Create an issue from a change request.

- Import the issues from another system of record.

Create Issues from Change Requests

You can create issues from change requests.

Follow these steps:

1. Open the project and click Risk/Issues/Changes.

2. Open the Risk/Issues/Changes menu and click Change Request.

3. Click the name of the change request.

4. Click Create Issue.

5. Complete the fields in the General section. The following fields are explained:

   Owner

   Defines the name of the resource who is managing the risk. This resource is responsible for verifying that the issue is managed and tracked appropriately through its lifecycle. If you create an issue from a closed risk, the value for this field is from Owner field on the risk properties page.

   Default: The resource currently logged in

   Creator

   Displays the name of the resource who created the issue.

   Default: The resource currently logged in

6. Complete the fields in the Details section.

7. Attach the documents, if any.

8. Complete the Resolution field in the Resolution section.

9. Save the changes.

Import Issues from Another System of Record

If your organization uses a different system such as Microsoft Excel or Access to create and monitor issues, use the XML Open Gateway (XOG) to import them into CA Clarity PPM.

Close Change Requests and Track as Issues

You can quickly create a change request from an existing issue. Basic information from common fields is carried over to the new change request for easy setup. A link back to the originating change request is provided on the issue properties page for easy navigation between the records.

In addition, you can manually associate issues or change requests to each other. Association can help you understand the relationships between the issues and change requests, and provide better overall project management.

Click the ID in the Originating Change Request field to view the originating change request.

Follow these steps:

1. Open the change request page.

2. Change the Status to Closed.

3. Save the changes.

4. Click Create Issue.

5. Complete the fields in the General section. The following fields are explained:

   Owner

   Defines the name of the resource who is managing the risk. This resource is responsible for verifying that the issue is managed and tracked appropriately through its lifecycle. If you create an issue from a closed risk, the value for this field is from Owner field on the risk properties page.

   Default: The resource currently logged in

   Creator

   Displays the name of the resource who created the issue.

   Default: The resource currently logged in

6. Complete the fields in the Details section. The following field is explained:

   Target Resolution Date

   Defines the date for resolving the issue. The date requires to be the same or earlier than the impact date.

   Default: Current date

7. Attach the documents, if any.

8. Complete the Resolution field in the Resolution section.

9. Save the changes.

About Issue Notes

You can add notes to record additional information about an issue. The notes are displayed in a list on the Issue Notes page. They are listed in the order in which they were created, with the most recent note appearing at the top of the list. From this page, you can sort the list of notes and add additional notes.

You cannot enter a reply to issue notes.

Add Notes

View notes in the list section of the issues page. But you cannot create replies to notes or edit notes to issues. Users with access to the Risks/Issues/Changes page for a project can view notes.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Click Issues.

3. Open the issue to add a note.

4. Click Notes.

5. Complete the fields and click Add to save the notes.

Issues Associated to Tasks

Use the issue associated tasks page to associate tasks with the issue and to view a list of tasks associated with the issue. You can associate tasks, key tasks, and milestones with an issue. You cannot reply to, or edit the issues listed on the page.

By default, not all tasks associated with the issue are displayed in the list. To view all tasks associated with the issue, expand the filter section, select All at the Key Task filter field, and then click Filter.

View a List of Issues Associated with Tasks

Use the following procedure to view a list of issues. This page displays the name for the issue, priority, target resolution date, and the name of the assignee. Resources with project access can view the issues.

Follow these steps:

1.   Open the project and click Risks/Issues/Changes.

2.   Open the Risks/Issues/Changes menu and click Issues.

3.   Click the name of the issue.

4.   Click Associated Tasks.

Associate Existing Key Tasks with Issues

Creating an association between the issue and the task helps to view the same using the task associated issues page.

Follow these steps:

1.   Open the project and click Risks/Issues/Changes.

2.   Open the Risks/Issues/Changes menu and click Issues.

3.   Click the name of the issue.

4.   Click Associated Tasks.

5.   Click Add Existing Tasks.

6.   Select the task check box to associate the task with the issue, and click Link To.

Issue Audit Trail

Use the issue audit trail page to view changes in certain issue details and the resources who changed them. You can track changes by resource and date.

Your CA Clarity PPM administrator determines the property fields required to be set up for audit trail.

View Audit Fields

You can view attributes that have changed, or as changed in a filter for an issue. The fields display in the list on the issue audit trail page, with the name of the resource who changed it, and when.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Open the Risks/Issues/Changes menu and click Issues.

3. Click the name of the issue.

4. Click Audit.

5. Filter the list.

About Issue Processes

Use processes to automate certain elements of the Issue management process. For example, you can create processes to notify when issue-related tasks are completed. Before you begin creating and maintaining Issue Management processes, understand the process and how it works.

Change Requests

You can create change requests to submit and track stakeholder requests. Change requests are requests to expand or reduce the project scope or plans or to revise schedules. A change request can be raised for a new product feature, enhancement request, defect, or changed requirement. You can track the change request status throughout the project lifecycle.

How to Work with Change Requests

The change request list page displays a list of existing change requests. To access the page, open the project, and from the Risks/Issues/Changes menu, click Change Requests.

You can manage change requests in the following ways:

How to Create Change Requests

You can create any number of change requests for each project in the following ways:

■ Create a detailed change request.

■ Create change requests from a risk.

■ Create change requests from an issue.

Create Change Requests

You can create a change request using the following steps.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Open the Risks/Issues/Changes menu and click Change Request.

3. Click New.

4. Complete the fields in the General section. The following fields require explanation:

   Owner

   Specifies the name of the resource managing the request. The resource is responsible for verifying that the request is managed and tracked appropriately through its lifecycle.

   Default: The resource currently logged in

   Creator

   Displays the name of the resource who created the request.

   Default: The resource currently logged in

5. Complete the fields in the Details section.

6. Attach the documents, if any in the Attachments section.

7. Complete the fields in the Effect section. The following fields require explanation:

   Impact on Baseline

   Defines how the changes in the request can affect the project baseline.

   Impact on Other Projects

   Defines how the request can affect other projects.

   Benefits

   Defines how this change can benefit the project.

Change in Cost

Defines the amount by which the request can change the budget cost of the project. The budget cost is a field defined on the budget properties page.

Change in Schedule

Defines the number of days by which the request can delay or hasten the overall project schedule.

Change in Resources

Defines the number that reflects the request for an increase or decrease in the number of resources required for the project.

8. Complete the fields in the Assessment section.

9. Save your changes.

Create Change Requests from Risks

You can create change requests from existing risks. In addition, the Originating Risk field displays on the change request properties page. This field is a link to the risk from which the change request derived. Basic information, such as the risk name and ID number, are carried over to the new change request for easy setup.

Follow these steps:

1. Open the project and click Risk/Issues/Changes.

2. Click the name of the risk.

3. Click Create Change Request.

4. Complete the fields in the General section. The following fields require explanation:

   Owner

   Specifies the name of the resource managing the request. The resource is responsible for verifying that the request is managed and tracked appropriately through its lifecycle.

   Default: The resource currently logged in

   Creator

   Displays the name of the resource who created the request.

   Default: The resource currently logged in

5. Complete the fields in the Details section.

6. Complete the fields in the Effect section. The following fields require explanation:

   Impact on Baseline

   Defines the effect of the change request on the project baseline.

Impact on Other Projects

> Defines the effect of the change request on other projects.

Benefits

> Describe how this change can benefit the project.

Change in Cost

> Defines the amount by which the request can change the budget cost of the project. The budget cost is a field defined on the budget properties page.

Change in Schedule

> Defines the number of days by which the request can delay or hasten the overall project schedule.

Change in Resources

> Defines the number that reflects the request for an increase or decrease in the number of resources needed for the project.

7. Complete the fields in the Assessment section.

8. Save the changes.

Note: To close the change request, change the status to Closed.

Close Change Requests

Once a change request is resolved, change its status to "Closed", and enter a final resolution for the request. A detailed resolution can help recall the outcome of a request when planning or approaching future projects.

Follow these steps:

1. Open the change request required to be closed.

   The change request main page appears.

2. In the General Properties section, complete the following field:

Status

> Specifies the status of the change request.
>
> **Values:** Open, Work in Progress, Closed, or Resolved
>
> **Default:** Open
>
> **Required:** Yes
>
> Select "Closed" as the status.

Reasons

Enter the reason for the requested change.

3. Save the changes.

Notes

You can add notes to record additional information about a request. The notes, you add, are displayed in a list on the change request notes page. They are listed in the order of creating, with the most recent note appearing at the top of the list. From the page, you can sort the list of notes and add additional notes. You cannot create a reply to change request notes.

Create Change Request Notes

The new change requests appear on the change request notes page. Change request notes display in the list section of the page. You can only view the notes on the page.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Open the Risks/Issues/Changes menu and click Change Request.

3. Open the request to add a note.

4. Click Notes.

5. Complete the fields and click Add to save the notes.

About Change Request Audit Trail

The change request audit trail page lets you view when certain request fields are changed, and by whom. In this way, you can track changes by resource and date.

Your CA Clarity PPM administrator can set up the auditing to audit and preserve a record of operations performed on change requests. When you edit a change request, the change is displayed on the Audit Trail page when viewed in CA Clarity PPM.

View Audit Fields

You can view the attributes of a request that have undergone a change. The fields display on the bottom half of the change request audit trail page. The details include the name of the resource who changed it, and when.

Before you can view the change request audit trail page, your CA Clarity PPM administrator sets up the risks for auditing.

For more information, search *Studio*.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

    The risks page appears.

2. Open the Risks/Issues/Changes menu and click Change Request.

    The change requests page appears.

3. Open the request and click Audit.

    The change request audit trail page appears.

4. Filter the list.

    The audit fields for the request display.

About Processes for Change Requests

Use processes to automate certain elements of the change request process. For example, you can create processes to notify you when change request audit trails undergo changes. Before you begin creating and maintaining change request processes, understand the process and how it works.

Action Items

Action items are units of non-task work that you assign to yourself or to others and that others assign to you. You can use action items to track the progress of projects and to help ensure that a project is complete and on time.

How to Work with Action Items

Project-related action items are listed in the Action Items portlet on the Overview page. They are also listed on the Organizer Action Items page and within the project on the Action Items page.

You can modify the general, notification, and assignee properties of an action item from the Action Item Properties page. You can only update your status on the action items that other resources create and assign to you.

You can manage the action items in the following ways:

- Create an action item (see page 252).

- Edit an action item.

- Add and remove action item assignees.

- Delete action items.

Create Action Items

Create your project-related action items from within a project. When you create an action item, you become the owner of the action item or you can assign it to resources that access the item. As the owner, you can modify and delete it.

Follow these steps:

1. Open Home, and from Personal, click Organizer.

2. Click New.

3. Complete the fields in the General section. The following fields require explanation:

   Recurring

   Indicates if the action item occurs at regular intervals. If the action item occurs only once, clear the check box.

   Frequency

   Specifies how often the action item to recur. For example, if you require a status report each week, enter 1 in the Frequency field.

4. Complete the fields in the Notify section. The following fields require explanation:

   Notify Assignees

   Indicates if the assigned resource receives a notification by email or SMS on the Overview page.

   Default: Cleared

Send Reminder

Indicates if a reminder email notification is sent to the assigned resource (or resources) when the action item is due.

Default: Cleared

Time Before Reminder

If the Send Reminder check box is selected, the field defines the amount of time before the item is due for the reminder to occur. For example, enter 15 in the field, and select Minutes in the Units field.

5. Select the resources to assign the action item in the Assignees section.

6. Save your changes.

Notes

You can add notes to record additional information about a risk, issue or change request. The notes, you add, are displayed in a list on the notes page. They are listed in the order of creating, with the most recent note appearing at the top of the list. From the page, you can sort the list of notes and add additional notes. You cannot create a reply to notes.

Add Notes (Risks)

Follow these steps:

1. Open the Risks/Issues/Changes menu.

2. Click Risks, Issues, or Change Requests.

3. Open the risk, issue, or change request to add a note.

4. Click Notes.

5. Complete the fields and click Add to save the notes.

Add Notes for Issues

View notes in the list section of the issues page. But you cannot create replies to notes or edit notes to issues. Users with access to the Risks/Issues/Changes page for a project can view notes.

Follow these steps:

1. Open e Risks/Issues/Changes menu and click Issues.

2. Open the issue to add a note.

3. Click Notes.

4. Complete the fields and click Add to save the notes.

Add Notes for Change Requests

The new change requests appear on the change request notes page. Change request notes display in the list section of the page. You can only view the notes on the page.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Open the Risks/Issues/Changes menu and click Change Request.

3. Open the request to add a note.

4. Click Notes.

5. Complete the fields and click Add to save the notes.

Audit Trail

Use the issue audit trail page to view changes in certain issue details and the resources who changed them. You can track changes by resource and date.

Your CA Clarity PPM administrator determines the property fields required to be set up for audit trail.

View Audit Fields (Risks)

You can view attributes that have changed, or as changed in a filter for an issue. The fields display in the list on the issue audit trail page, with the name of the resource who changed it, and when.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Open the Risks/Issues/Changes menu and click Risks.

3. Click the name of the risk.

4. Click Audit.

5. Filter the list.

View Audit Fields (Issues)

You can view attributes that have changed, or as changed in a filter for an issue. The fields display in the list on the issue audit trail page, with the name of the resource who changed it, and when.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Open the Risks/Issues/Changes menu and click Issues.

3. Click the name of the issue.

4. Click Audit.

5. Filter the list.

View Audit Fields (Change Requests)

You can view attributes that have changed, or as changed in a filter for a change request. The fields display in the list on the change request audit trail page, with the name of the resource who changed it, and when.

Follow these steps:

1. Open the project and click Risks/Issues/Changes.

2. Open the Risks/Issues/Changes menu and click Change Requests.

3. Click the name of the change request.

4. Click Audit.

5. Filter the list.

Chapter 9: Programs

This section contains the following topics:

The Differences Between Projects and Programs

Programs are top-level projects that serve as the parent or umbrella project to one or more child projects. Master projects serve as parent projects to child projects. Use programs to view combined actuals and effort for all of the projects contained within them. In this way, programs provide an important top-down summary view of an organization goals and the plan to meet them.

Though a program is a project and shares some of the same functionality, it also differs in a few significant ways. For example, you cannot create nonmilestone tasks at the program level, nor can you staff a program. And while you cannot financially enable a program, you can create a financial plan for it and view plan data in a graph format. In addition, you can view the combined actuals and other totals for all of the projects in a program.

It is important to understand the differences and similarities between programs, master projects, projects, and subprojects. The following table provides a summary of the differences and similarities:

Attribute or Ability	Program	Master Project	Project	Comments
Displays sum of values from subprojects	Yes	No	N/A	You can view the combined actuals and effort for all of the projects in a program. You cannot do from master projects.

Attribute or Ability	Program	Master Project	Project	Comments
Assign Staff Members	No	Yes	Yes	You cannot assign staff at the program level. The roles that display on the program team staff page are read-only and are aggregated from the program subprojects. The project role assigned to a team member is displayed. If a resource does not have an assigned team member role, then their name appears individually in the list. You cannot edit this list.
Add Participants	Yes	Yes	Yes	You can add participants to programs, master projects, and subprojects.
Create and apply a Work Breakdown Structure (WBS)	No	Yes	Yes	Because you cannot staff or add nonmilestone tasks to programs, you cannot create and apply a WBS to programs.
Use Tasks	Milestones Only	Yes	Yes	You can add milestones to programs, but you cannot add key tasks or task estimates.
Use Planning features	Yes	Yes	Yes	You can create budgets and forecasts for programs and projects.
Connect to Scheduler	Read-only	Read/Write	Read/Write	As it does not contain actuals of its own, a program can only be viewed as read-only in a desktop scheduler. For example, Open Workbench and Microsoft Project.

About Programs

To access programs, select Programs from the Portfolio Management menu. The programs list page appears, displaying all the programs you created and have access to.

You can do the following from the programs page:

- Create new programs

- Define program properties such as schedules and budgets and adding projects to the program

- View the combined actuals and effort for all of the projects in a program

- Edit existing programs

- Delete programs

After creating a program and defining its properties, you can use the other program menus to do the following:

- Team. Use the pages on this menu to add participants and participant groups to the program. If the program subprojects contain staff, the team staff page of programs displays a list of the roles of all of the resources assigned as staff to the subprojects. For the staff assigned to the subprojects but without a project role, the page displays the name of the staff member.

- Tasks. Use the pages on this menu to create milestone tasks and open the tasks in a separate Gantt view window. The Work Breakdown Structure menu does not display.

- Action Items, Document Manager, Discussions, and Processes. Program participants can use all the collaboration tools of the program.

- Risks/Issues/Changes. Use this menu to rate risks and create risks, issues, and change requests as you do for a project.

How to Create Programs

Programs, like projects, are created in two stages:

1. Create the program (see page 260).

2. Define the program properties (see page 263).

You can create new programs, or use an existing program template. This section explains how to create a program in both the ways.

Create New Programs

Follow these steps:

1. Open Home, and from Portfolio Management, click Programs.

   The programs page appears.

2. Click New.

   The create page appears.

3. Complete the following fields:

Assignment Pool

Specifies the pool of resources allowed when assigning resources to programs.

Values:

- Team Only. Allow only staff members.

- Resource Pool. Allow team staff members and resources you have access to for booking to a project. With this option, when you assign a resource to a program, the resource is also added as a team staff member.

Default: Resource Pool

Required: Yes

Program Name

Required. Enter a unique name for the program.

Limit: 80 characters

Program ID

Required. Enter a unique ID for the program.

Limit: 20 characters

Description

Enter a description of the program.

Limit: 254 characters

Manager

This fields defaults to the name of the user creating the program.

Page Layout

Required. Select the Dashboard layout to view project or program data.

Values:

- Project Default Layout. The default setting. Use this Layout to view default labor and team utilization charts on the Dashboard.

- Program Layout. Use this layout to view budget data on the Dashboard.

- Program Status Dashboard. This layout is only available if you have installed the Accelerator: Program Management Office add-in.

- Project status Dashboard. This layout is only available if you have installed the Accelerator: Program Management Office add-in.

Start Date

Select or enter the date of starting the program.

Finish Date

Select or enter the date of completing the program.

Stage

Defines the company-defined stage for the program.

Goal

Select a goal for the program.

Values: Cost Avoidance, Cost Reduction, Grow the Business, Infrastructure Improvement, and Maintain the Business.

Priority

This field is only applicable if you plan to work with the project in Open Workbench. The number entered is a score for the importance of the project in relation to all other projects in your organization. This score controls the order in which tasks are scheduled during Autoschedule, subject to dependency constraints.

Values: 0-36, with 0 being the highest.

Default: 10

Progress

Select the program progress.

Values: Completed, Started, and Not Started.

Default: Not Started.

Status

Select the program status.

Values: Approved, Unapproved, and Rejected.

Default: Unapproved.

% Complete Calculation Method

Specifies the method to calculate the % Complete value for the project and tasks.

Values:

- Manual. Use this method to enter the % Complete for the project, summary, and detail tasks manually. Also, select this calculation method if you are using CA Clarity PPM with Microsoft Project, or if you are using an external job to calculate % Complete. The % Complete field appears on the task properties page. When using the manual method, the status of a task does not change automatically. The task status changes only when you manually update the % Complete value or the status.

- Duration. Use this method to track the % Complete based on the duration. The duration is a measure of the total span of active working time for a task: from the start date to the finish date of a task. The % Complete for summary tasks is automatically calculated based on the following formula:

Summary Task % Complete = Total Detail Task Duration Complete / Total Detail Task Duration

- Effort. Use this method to calculate the % Complete for summary and detail tasks, automatically, based on the work units that are completed by resource assignments. If you assign a nonlabor resource to a task, the effort and actuals for that resource are ignored in the calculation. The calculations are based on the following formulas.

Summary Task % Complete = Sum of Detail Task resource assignment Actuals / Sum of Detail Task resource assignment Effort
Detail Task % Complete = Sum of resource assignment Actuals / Sum of resource assignment Effort

Default: Manual

Note: Set the % Complete Calculation Method at the beginning of your project and do not change this value.

In the Organizational Breakdown Structures section, define the OBS to associate with the program for security, organizational, or reporting purposes.

Department

Defines the financial department associated with the program.

Required: No

Location

Defines the financial location associated with the program. The location requires belonging to the same entity as the department.

1. Save the changes.

Convert Projects into Programs

You can convert an existing project to a program only when the following conditions are true:

- The project contains no tasks.

- The project contains no staff.

- The project is not financially enabled.

Once converted, you can open the program and add subprojects, participants, or edit any of the available properties. Once you convert a project to a program, the Template field, which is used to designate a project as a template, disappears. You cannot use programs as templates because you cannot financially enable them, and because they cannot contain staff or key tasks.

Follow these steps:

1. Open the project to convert into a program.

   The properties page appears.

2. Select the Program check box and save the changes.

   The project is converted to a program and no longer appears in your list of projects.

Program Properties

You can define the same properties for a program as you do for a project.

Following are descriptions of the menus and options on the program properties page:

Main

The default program properties page. From this page, you can use the following links on the properties menu:

General

Edit the basic properties you defined on the create page and define a few additional, general characteristics.

Schedule

Define the program start and finish dates.

Risk

Rate the risk level for a number of program characteristics.

Budget

Define the program simple budget and forecast. You can use the program dashboard page to view program-level and subproject budget data. You cannot financially enable a program. However, you can use the page to create a simple budget.

Financial

Enable the program for transaction processing.

Subprojects

Add subprojects (that is, projects) to the program.

Dependencies

Identify dependencies between portfolio investments.

Define Program General Properties

The properties page of the program is the default page you see when you open a program. The page displays all the fields defined when creating the program. The page also displays additional fields to edit and links that you can use.

Follow these steps:

1. Open the program to add or edit the program properties.

    The properties page appears.

2. Complete the following General fields:

    Program Name

    Required. Enter a unique name for the program (up to 80 characters).

    Program ID

    Required. Enter a unique ID for the program (up to 20 characters).

    Description

    Enter a description of the program (up to 254 characters).

    Manager

    This fields defaults to the name of the user creating the program.

Page Layout

Required. The page layout for the program.

Risk

The stoplight in the field indicates the program risk status, as you specify on the properties page and on the Risks/Issues/Changes - Risks page.

Values:

- Green = Low Risk

- Yellow = Medium Risk

- Red = High Risk.

Note: If you do not complete the fields on the properties page and on the Risks/Issues/Changes - Risks page, this field does not display in color.

Alignment

The stoplight in the field indicates the program alignment status.

Active

Clear the field to deactivate the program. The program no longer appears in the list of active programs.

Program

As you are currently in an open program, the field is selected.

Template

Select the field to use this program as a template for other program.

Add to My Projects

Click this link to make the program available from the My Projects section of your *Personal: General* page. After you click the link and add the program, the link name changes to [Remove from My Projects]. Click the link to remove the program from the list in the My Projects section of the page.

Copy from Template

Click the link to copy tasks, task estimates, and staff assignments from a template into the current project.

Organizational Breakdown Structures

Use the link to associate a business unit, or security OBS with the project.

Open in Open Workbench

Click Go to open the project in Open Workbench.

3. Save the changes.

Scheduling Properties

You can define your program start and finish dates using the schedule page of program properties. The dates encompass the start and completion dates of all of the projects contained in the program. Be sure to set the dates of any program milestone tasks considering the program duration.

Note: The As of Date field does not apply to programs, which cannot contain task-level estimating.

Follow these steps:

1. Open the program.

   The properties page appears.

2. Open the Properties menu and click Schedule.

   The schedule page appears.

3. In the Scheduling section, complete the following fields:

   Start

   Defines the date of starting the project.

   End

   Defines the date of completing the project.

   Set Planned Cost Dates

   Specifies if the planned cost dates are synchronized with the investment dates. Selecting the option for a detailed financial plan does not affect the planned cost dates.

   Default: Selected

   As Of Date

   Defines the date to include data in time and budget estimates. This date is used in Earned Value Analysis (EVA) calculations, such as Budgeted Cost of Work Scheduled (BCWS) and drives the calculations for costs. ETC for a project is not scheduled on or before the As of Date.

   Progress

   Indicates the level of work completed on project tasks. Use the following as a guideline:

   - Not Started = 0 percent

   - Started = 1 - 99 percent

   - Completed = 100 percent

Options: Completed, Started, and Not Started

Default: Not Started

Priority

If you are using CA Clarity PPM with Open Workbench, defines the relative importance of this project in relation to all other projects. The priority controls the order in which tasks are scheduled during Autoschedule. The priority is subject to dependency constraints.

Values: 0-36, where 0 is the highest

Default: 10

Status Indicator

Indicates the project status.

Stoplight values:

■ Green. The project is on track.

■ Yellow. A minor variance exists in the overall status of the projects.

■ Red. A significant variance exists in the overall status of the project.

Status Comment

Defines any comments about the project status.

4. Save the changes.

Open and Close Projects for Time Tracking

To allow staff members to track time spent on project tasks on the timesheets, open the project for time tracking and select Clarity to track. The staff member profile also requires opening to enter time on project tasks.

To disallow a team member resource from logging time for a specific project, clear the Time Entry field.

Follow these steps:

1. Open the project.

   The properties page appears.

2. Open the Properties menu and click Schedule.

   The schedule page appears.

3. In the Tracking section of the page, complete the following fields:

Time Entry

Indicates if staff members can enter time on their timesheets for this investment. Select the check box to enable the investment for time entry.

Important! Each staff member must also be enabled for time entry.

Default: Selected

Track Mode

Indicates the tracking method used to enter time for this investment.

Values:

■ Clarity. Staff members enter time against their assigned tasks using timesheets.

■ None. Non-labor resources, such as expenses, materials, and equipment track actuals through transaction vouchers, or through a scheduler, such as Open Workbench or Microsoft Project.

■ Other. Indicates that actuals are imported from a third-party program.

Default: Clarity

Charge Code

Select a default charge code to use for all project tasks. If you enter different charge codes at the task level on timesheets, the task-level charge codes override the project-level charge code.

4. Submit the changes.

Define Default Staffing Options

You can define the project default staffing options in the Staffing section of the schedule page of program properties. The OBS you specify as the default staff OBS unit is used to more fully describe a staffing requirement. You can map roles with OBS units with resource managers. The staff OBS can be anything such as resource pool, a specific location, or a department. For example, you require a programmer (role) from Atlanta (staff OBS). Then, you can use the project default OBS value to route the role requisition to the resource manager responsible for allocating resources from Atlanta OBS.

The staff OBS you identify is also used during capacity planning. You can filter capacity and demand based on staff OBS. For example, use it to find out if you have enough capacity for programmers in Atlanta to fulfill the demand for programmers in that location.

You can also specify if resource requisitions require approval before they can be booked. When you select the Requisition Approval Required check box, the following rules apply:

- Resources require the Project Edit access to book proposed resources to a project or reject them. If resources also have hard-booking rights, they can hard book those resources directly to the project. Without this access right, resources can only propose resources to submit the booking for approval.

- If you request a named resource and the booking manager proposes the same resource and allocation, the proposal is approved automatically and a notification is sent. No formal approval is required.

Follow these steps:

1. Open the project.

   The properties page appears.

2. Open the Properties menu and click Schedule.

   The schedule page appears.

3. In the Staffing section, complete the following fields:

   Default Staff OBS Unit

   Defines the set default OBS unit that is used when you add team staff members to this project. This OBS unit more fully describes a staffing requirement, and can be a resource pool, a specific location, or a department. By mapping roles with OBS units and resource managers, the roles can be filled more accurately. The default staff OBS unit is used during capacity planning for analyzing demand against your capacity using the staff OBS as filter criteria.

   Example:

   Use the OBS to find out if you have enough capacity for programmers in Atlanta to fulfill the demand for programmers in that location.

   Requisition Approval Required

   Specifies if requisitions require approval before they can be booked.

4. Submit the changes.

Define Program Budget Properties

Though it is not required that you create a budget for a program, you can create a simple one. The budget applies only to the program, not to its subprojects. The financials page is not available for programs. However, you can use the planning page to create a detailed budget or forecast for the program.

You can view program budget data, and budget data generated from its subprojects, on the program Dashboard page.

Follow these steps:

1. Open the program.

   The properties page appears.

2. Open the Properties menu and click Budget.

   The budget page appears.

3. Complete the following fields:

   Currency

   Select the currency to calculate the program budget and forecast values.

   Planned Cost

   Enter a planned cost for the entire program. The value you enter is distributed between the planned cost start and planned cost finish dates.

   Planned Cost Start

   Defines the start date for the budget. You have an option to use the program start date.

   Planned Cost Finish

   Defines the finish date for the budget. You have an option to use the program finish date.

   Planned Benefit

   Enter the anticipated financial benefit for this program. The value is distributed between the planned benefit start and finish dates.

   Planned Benefit Start

   Select the scheduled benefit start date.

   Planned Benefit Finish

   Select the scheduled benefit end date.

   Planned NPV

   The value in the field is calculated based on the following formula:
   `Planned NPV = Planned Benefit - Planned Cost`

   If you clear the Calculate Financial Metrics field, you can make the field available for data entry.

   Planned ROI

   The value in the field is calculated based on the following formula:
   `Planned ROI = Planned NPV / Planned Cost`

   Note: If you clear the Calculate Financial Metrics field, you can make the field available for data entry.

Planned Breakeven

The date and amount in this read-only field indicate the period and value at which the program becomes profitable.

Note: If you clear the Calculate Financial Metrics field, you can make the field available for data entry.

Calculate Financial Metrics

Specifies if the Financial metric fields (Planned NPV, Planned ROI, and Planned Breakeven) are loaded automatically using the formulas listed in the field descriptions. Clear this field to make the financial metric fields available for data entry.

Default: Selected

4. Save the changes.

Program Risk Properties

As with projects, you can rate a predefined list of risks for programs, and create and track risks, issues, and change requests. The only difference being performing actions from within the program instead of from within the project.

Open Programs in Open Workbench

Follow these steps:

1. Open the program.

   The properties page appears.

2. Next to the Open in Open Workbench field, click Go.

   The program opens in Open Workbench.

Add Projects to Programs

Like the subprojects added to projects, data is not shared between the projects you add to programs. However, unlike master projects, programs generate and display combined actuals and estimates for all of the subprojects it contains. You can also view program and project-level budget information about the program dashboard page.

The projects you add to programs, retain all the data they contained as independent projects. The data includes complex planning and financial information and work breakdown structures, and staff. You can post vouchers and timesheet transactions to the project as usual. Projects contained in programs continue to be available from the projects list page.

Follow these steps:

1. Open the program to add projects.

    The properties page appears.

2. Open the Properties menu, and from Main, click Subprojects.

    The subproject properties page appears.

3. Click Add.

    The select projects page appears.

4. Select the projects to add to the program, and click Add.

View Combined Subproject Actuals and Estimates

The Total row on the subprojects properties page displays the total number of actuals and estimates accrued and entered for all of the projects in the program.

The cells in the Total row display the combined total of the data in each column. Thus, in the sample screen above, the combined actuals for all of the projects in the program are 1,138, while the total ETC is 1,556.

The following table provides descriptions of the columns and data displayed on the page:

Count

Subprojects are allowed to have their own subprojects. The number in the Count column indicates the number of subprojects a subproject (or in the case of a program, a project) contains.

Actuals

Displays the actuals that have been posted for the tasks in each project. The number in the Total cell reflects the combined actuals of all of the projects in the program.

ETC

Displays the Estimated To Complete (ETC) number for each of the projects in the program. The number in the Total cell reflects the combined ETC for all of the projects in the program.

Total Effort

Total effort is Actuals + remaining ETC. The cells in the column reflect the total effort for each project. The number in the Total cell reflects the combined effort of all of the projects in the program.

% Expended

Displays the percentage of resource usage expended on this project. The value in the Total cell reflects the combined percentage for all of the projects in the program.

Baseline

Displays the usage number for the project most current baseline. Usage is Total effort (actuals plus remaining ETC) to date.

Status

This stoplight indicates if the project is approved (green), on-hold (yellow), or unapproved (red). The stoplight in the Total cell provides an overall at whether all of the projects in the program have been approved.

Schedule

The stoplight indicates if a project is on schedule, or in danger of being delayed. In the Total row, the stoplight provides an overall view if most projects in the program are on schedule.

Remove Projects from Programs

Follow these steps:

1. Open the program to remove a project.

   The properties page appears.

2. Open the Properties menu, and from Main, click Subprojects.

   The subproject properties page appears.

3. Select the projects and click Remove.

   The selected projects no longer display in the list of subprojects.

Program Dependencies

Like a project, a program is considered an investment in a portfolio. Other types of investments are assets, applications, and products. You can indicate dependency relationships that exist between investments in a portfolio using the dependencies page of program properties.

A dependency can occur when a task in an investment requires be completed before a task in another investment can begin. Or, if one or more of the projects in a program require to be canceled if a certain application runs significantly over budget.

Dependency information is used when creating portfolio management scenarios. You can view dependency connections from the Efficient Frontier page within scenarios. The scenarios include data from the investments you identify on the dependencies page of program properties.

Create Program Dependencies

You can create dependencies to other investments, or create a dependency on another program.

Follow these steps:

1. Open the program.

    The properties page appears.

2. Open the Properties menu, and from Main, click Dependencies.

    The dependencies properties page appears.

3. Select the dependency from the drop-down:

    - Investments that depend on this one. Used to create one or more dependencies that depend on this program.

    - Investments this one depends on. Used to create one or more dependencies that this program depends on.

    The dependency structure is designed according to your selections.

4. Click Add.

    The select investments page appears.

5. Select the check box next to the program or investment to create a dependency, and click Add.

    The dependencies properties page appears, listing the project dependency.

6. Filter the list by investment type.

    The investments (by type) you have access to display in the list.

7. Select the check box next to the investment to create the dependency, and click Add.

    The investment displays in the list as a dependency on the dependencies page.

View Program Dependencies

View a list of investments dependent on a program using the dependencies page of program properties.

You can also view dependency relationships from the Scenario: Efficient Frontier page within scenarios. The page includes data from the investments identified on the dependencies page of program properties.

Follow these steps:

1. Open the program.

   The properties page appears.

2. Open the Properties menu, and from Main, click Dependencies.

   The dependencies properties page appears with the dependencies listing on the page.

Remove Dependencies

Follow these steps:

1. Open the program.

   The properties page appears.

2. Open the Properties menu, and from Main, click Dependencies.

   The dependencies properties page appears.

3. Select the dependency and click Remove.

   The dependency no longer appears in the list of dependencies.

Associated Releases

Releases represent new future deliverables. You can link releases to the project or program to track the release implementation effort. The association is established from the release. No limit to the number of releases that you can associate to a project or program.

View a List of Associated Releases

View a list of releases associated with your project or program using the release properties page.

Follow these steps:

1. Open the project or program.

   The properties page appears.

2. Open the Properties menu and click Associated Releases.

   The associated release properties page appears.

Open Releases Associated to Projects or Programs

You can open the releases associated with your project or program using the release properties page.

Follow these steps:

1. Open the project or program.

   The properties page appears.

2. Open the Properties menu and click Associated Releases.

   The associated release properties page appears.

3. Click the name of the release.

   The release properties page appears.

Unlink Projects or Programs from Releases

You can unlink a release from the project to which it is associated using the release properties page. You can also remove the association: Open the release and unlink the release from the project or program.

Follow these steps:

1. Open the project or program.

   The properties page appears.

2. Open the Properties menu and click Associated Releases.

   The associated release properties page appears.

3. Select the check box next to the release to unlink from the project or program, and click Unlink.

   The release is removed from the list on the release properties page and is unlinked from the project or program.

Monitor Program Performance

Selecting Program Layout as the layout option on the program properties page lets you view the Return on Investment (ROI) data on the program dashboard page. This applies if you create a program-level budget. You can view summaries of the total effort and actuals accumulated for all the program projects. Also, compare overall benefit information at the program level with combined benefit information for all the program projects.

Though it is named a program dashboard, you can also view projects on the page.

By default, the page displays the following portlets:

- General portlet. This read-only view displays basic information about the program, such as name, ID, start and finish date. The icon in the Status Indicator field displays the program status.

- Labor Resource Effort portlet. This view displays the program up-to-date actuals, ETC, and allocation information.

- Team Utilization portlet. This view displays total effort per resource across all of the program tasks to which the resource is assigned. You can drill down from this view to view utilization by individual resource and task.

Add or remove portlets to customize the page. Your CA Clarity PPM administrator can customize using the program layout portlet page of Dashboard content from Studio.

How to Delete Programs

Delete programs like you delete projects - the procedure for both is the same.

Cancel Programs Marked for Deletion

Cancel programs marked for deletion similar to canceling projects marked for deletion. The procedure for both is the same.

Chapter 10: Setup

This section contains the following topics:

About Invalid Transactions

Transactions can fail for various reasons. For example, a resource can enter an incorrect timesheet, causing a transaction to fail.

When transactions fail, you can view a list of invalid transactions on the invalid transactions page. To view a list of invalid transactions, click the Administration menu, and select Invalid Transactions from the Project Management menu.

How to Work with Project Management Settings

You can define the system level default project management options using the fields on the settings page. You can define the:

- Project management settings (see page 279)

- Resource load pattern (see page 284)

- Earned value calculation methods (see page 80)

- Resource booking options (see page 288)

Defines the Default Project Management Settings

Use the project management settings page to set the system-level default project management options. For example, setting CA Clarity PPM to export only the current baseline when opening projects in a desktop scheduler (Open Workbench or Microsoft Project) from CA Clarity PPM.

Follow these steps:

1. Open Administration, and from Project Management, click Settings.

   The settings page appears.

2. Complete the following fields:

   Default Load Pattern

   Specifies the system-level default resource load pattern.

   Values: Back, Uniform, Fixed, Contour, or Front

   Default: Front

   Required: No

   Guidelines URL

   Specifies the URL for the guidelines.

   First Month of Financial Quarter

   Specifies the first month of the financial quarter.

   Values: All calendar months

   Default: January

   Required: No

   First Day of Work Week

   Specifies the first day of the workweek in the resource calendars and scheduler interfaces.

   Values: All calendar days

   Default: Monday

   Required: No

   Default Display Unit for Work Effort

   Specifies the default display unit for work effort.

   Values: Hours or Days

   Default: Hours

   Required: No

   Enable Investment-specific Charge Codes

   Specifies to allow entry of charge codes that are specific to investments.

   Default: Cleared

   Required: No

Allow posting of future timesheets

Specifies to allow the posting of future timesheets.

Default: Selected

Required: No

Notify on Delete of Risk/Issue/Change Requests

Defines whether you want a notification sent out whenever a resource deletes risks, issues, or change requests.

Default: Cleared

Required: No

Only Export Current Baselines When Opening Investments in a Scheduler

If you are using CA Clarity PPM with a desktop scheduler (Open Workbench or Microsoft Project), specifies to export only the current baseline in the desktop scheduler. This option applies when multiple baselines exist.

Default: Cleared

Required: No

Round Allocations to Nearest %

Specifies the amount you want allocations rounded to when booking resource time to projects.

Default: 25

Required: Yes

Allow Effort Task Creation

Specifies to create the effort task when you add a resource to a project does not have tasks.

Default: Selected

Required: No

Reassign Tasks when replacing Role

Specifies to allow tasks to be reassigned, or replaced when the project manager replaces a resource role.

Default: Selected

Required: No

Allow Edit of Allocations when Investment is Locked

Specifies to allow resources to edit allocations while projects are locked.

Default: Cleared

When selected, project managers can:

■ Edit existing team staff member allocations if the project is checked out in a desktop scheduler, such as Open Workbench or Microsoft Project.

■ Add new team staff members to the project.

■ Replace roles if the *Reassign Tasks when replacing Role* default project management setting is selected.

Required: No

Automatically Open Staff Members for Time Entry

Defines if you want staff members to be open to enter time on project tasks after a specific action occurs.

Values:

■ Never. Indicates that staff members are not automatically open for time entry to enter time on project tasks.

Example: If you edit existing properties for a staff member, no changes are made to the Open for Time Entry value for the staff member. If you add new staff members, the Team object Open attribute Default value is used.

■ When Hard-Booked. Indicates that staff members are automatically open for time entry when they are hard-booked. Hard-booking here means when any amount is hard-booked, not when the booking status changes to "Hard".

■ When Request Status is Approved. Indicates that staff members are automatically open for time entry when their request status changes to "Approved."

Default: Never

For more information, search *Studio*.

Required: No

Show Tasks in Organizer

Defines how projects tasks are displayed in the Organizer.

Values:

■ When Assigned. Indicates that project tasks are listed in the Organizer when resources are assigned to the task.

■ When Hard-Booked. Indicates that project tasks are listed in the Organizer when resources are hard-booked to the tasks.

■ When Request Status is Approved. Indicates that project tasks are listed in the Organizer when resources are approved.

Default: When Assigned

Required: No

Automatically Add Staff Members As Investment Participant

Specifies how resources are assigned to investments as participants.

Values:

- Never. Indicates that resources can never be automatically assigned to investments as participants.

- When Added to Investment. Indicates that resources can be automatically assigned to investments as participants when they are added to these investments.

  If this option is selected and project notifications are enabled, project participants receive a project notification when added to the team staff page of a project.

- When Hard Booked. Indicates that resources can be automatically assigned to investments as participants when they are hard-booked for these investments. Hard-booking here means when any amount is hard-booked, not when the booking status changes to "Hard".

Default: When Added to Investment

Required: No

Allow Override Requisition Approval

Specifies to allow project managers to require requisition approval on individual projects.

Default: Cleared

Note: If the project manager does not require requisition approval on a project. A project manager or resource manager requires the *Project - Edit* access right to book requisitions.

Allow Mixed Booking

Defines to let project managers edit the allocation of hard-booked resources, to mix booked resources on projects. Also, to extend a resource to do additional project planning.

Default: Selected

Note: If a mixed booking exists on the project, the field is read-only.

Required: No

Convert resources to roles when using templates (default)

Specifies to convert all resources to project roles when the project manager creates a project from a project template.

Note: The project manager can override this default setting when creating projects from project templates.

Default: Cleared

Required: No

Requisition Booking

Defines the options to book requisitions using allocation percentage or available work units. CA Clarity PPM decrements the requested amount based on the booked amount. To determine if a requisition is fully filled, depending on the selected booking option, CA Clarity PPM uses allocation percentage or time-varying values (work units).

Values:

■ Use Allocation Percentage

■ Use Available Work Units

Example: When using Allocation Percentage, a resource booked at 100 percent fully replaces another resource booked at 100 percent. The requisition is fully filled even if the hours they work per week are different. When using Available Work Units, if the new resource works fewer hours per week than the resource being replaced, the requisition is not fully filled.

3. Save the changes.

About Resource Load Patterns

Autoschedule uses the resource load pattern to determine the ETC that is distributed for a resource over a set date range. You can establish the default resource load pattern at the system level and at the task assignment level. ETC is distributed first based on the resource load pattern defined at the task assignment level then at the system level.

You can select from one of the following load patterns:

Back

Work effort is loaded as close to the end of the task as possible, based on unused resource availability after autoscheduling. With this load pattern, ETC is only decremented when actuals are posted on unadjusted timesheets. The remaining ETC is spread out past the timesheet period based on the load pattern type.

Uniform

Work effort is loaded as evenly as possible based on total resource availability. With this load pattern, ETC is only decremented when actuals are posted on unadjusted timesheets. The remaining ETC is spread out past the timesheet period based on the load pattern type.

Fixed

Work effort distribution is user-defined. Autoschedule does not affect work effort distribution. With a Fixed load pattern, ETC is decremented through the timesheet period (that is, Actuals through Date) if the resource posted actuals to the task. The remaining ETC remains fixed in the schedule, on the day the work was assigned. The remaining ETC is not reallocated to the remaining duration of the task.

Contour

Work effort is loaded as evenly as possible across the duration of the task, based on unused resource availability after autoscheduling. With this load pattern, ETC is only decremented when actuals are posted on unadjusted timesheets. The remaining ETC is spread out past the timesheet period based on the load pattern type.

If you are using CA Clarity PPM with Microsoft Project, when you open the project the first time from Microsoft Project, the work contour for the new assignments is set to flat. If you previously opened the assignment in Microsoft Project and saved it to CA Clarity PPM, the work contour in Microsoft Project does not change.

Front

Work effort is loaded as close to the start of the task as possible, based on unused resource availability after autoschedule. With this load pattern, ETC is only decremented when actuals are posted on unadjusted timesheets. The remaining ETC is spread out past the timesheet period based on the loading pattern type.

Set the Default Resource Load Pattern

Use this procedure to set the system-level default resource load pattern. The load pattern you set on the settings page is used by default when project managers assign resources, or change staffing assignment properties.

Follow these steps:

1. Open Administration, and from Project Management, click Settings.

   The settings page appears.

2. Complete the following field:

   Default Load Pattern

   Specifies the system-level default resource load pattern.

   Values: Back, Uniform, Fixed, Contour, or Front

   Default: Front

3. Save the changes.

About Earned Value Calculation Methods

An earned value calculation method is the method for calculating the various earned value (EV) metrics. Some of the methods are system calculated. For methods that are not system calculated, manually enter the Budgeted Cost of Work Performed (BCWP) for your project.

If you use an EV calculation method for your project and all of its tasks that are not system calculated, define your project BCWP value. To define the value, baseline the project or update the earned value totals. You can also override BCWP for specific tasks.

Regardless of the earned value calculation method you set for your project, the value entered in the BCWP Override field overrides the system-calculated BCWP values. The value is used in all EV calculations that require BCWP as a parameter.

The following EV calculation methods are available:

Percent Complete (PC)

Defines an estimate expressed as a percent of the amount of work that has been completed on a task or work breakdown structure. The EV calculation method where Budgeted Cost of Work Performed (BCWP) is system calculated using the following formula:

```
BCWP = Budget at Completion (BAC) * % complete
```

0/100

Defines the EV calculation method where Budgeted Cost of Work Performed (BCWP) is system calculated using the following fixed formula:

`If % complete = 100, then BCWP = Budget at Completion (BAC); otherwise, BCWP = zero.`

Use this method when project work begins and completes in a single reporting period. Also, use when credit is only earned when the project or task is 100 percent complete.

50/50

Defines the EV calculation method where Budgeted Cost of Work Performed (BCWP) is system calculated using the following formula:

`If % complete > zero but < 100, then BCWP = Budget at Completion (BAC) / 2. If % complete = 100, then BCWP = BAC. If % complete = zero, then BCWP = zero.`

Use this method when project work begins and completes within two reporting periods. Also use when 50 percent credit is earned when a project or task is started and the remaining 50 percent is earned upon completion.

Level of Effort (LOE)

Defines the EV calculation method where Budgeted Cost of Work Performed (BCWP) is system calculated using the following formula:

`BCWP = Budgeted Cost of Work Scheduled (BCWS)`

Weighted Milestones

Defines the EV calculation method where Budgeted Cost of Work Performed (BCWP) is user-defined. The project manager assigns weights to milestones across the duration of the summary task. As each milestone in the summary task is reached, a specific percent of the work is completed until 100 percent is reached. Use this method if your organization uses earned value management methodology for measuring project performance and has projects and tasks that use this method. When you use this method, you enter the BCWP at the task level. Use the BCWP Override field in the Earned Value section of the task properties page.

Milestone Percent Complete (PC)

Defines the EV calculation method where Budgeted Cost of Work Performed (BCWP) is not system calculated but user-defined. Dollar amounts are selected for the weighting of each time period, instead of a percentage. EV credit is earned as a percent of the milestone value assigned. Use this method if your organization uses earned value management methodology for measuring project performance and has projects and tasks that use this method. When you use this method, you enter the BCWP at the task level. Use the BCWP Override field in the Earned Value section of the task properties page.

Apportioned Effort (AE)

Defines the EV calculation method where Budgeted Cost of Work Performed (BCWP) is not system calculated but is user-defined. Task work effort is tied to other task work efforts. As the base task completes work, the apportioned task earns completed work. The task uses the work effort tied to other tasks to drive its performance. Use this method for discrete work that is related to other discrete work. Use this method if your organization uses earned value management methodology for measuring project performance and has projects and tasks that use this method. When you use this method, you enter the BCWP at the task level. Use the BCWP Override field in the Earned Value section of the task properties page.

Set the Default Earned Value Calculation Method

You can define the default method in which earned value is calculated for projects and project tasks. The default setting for the earned value calculation method for projects and tasks is percent complete. If your organization uses earned value management methodology for measuring project performance, you can set the default earned value calculation method to that methodology. Edit the Project and Task objects in Studio to set the EV Calculation Method attribute.

Note: If you are using CA Clarity PPM with Microsoft Project and you specify an earned value calculation method other than percent complete, use CA Clarity PPM to calculate, display, and report earned value metrics.

For more information, search *Studio*.

Set the Default Resource Booking Options

Mixed booking lets hard and soft allocations for resources on projects. To allow resources with separate hard and soft allocations, select the system setting for Allow Mixed Booking on the settings page.

Follow these steps:

1. Open Administration, and from Project Management, click Settings.

   The settings page appears.

2. Complete the following field:

   Allow Mixed Booking

   Defines to let project managers edit the allocation of hard-booked resources, to mix booked resources on projects. Also, to extend a resource to do additional project planning.

   Default: Selected

   Note: If a mixed booking exists on the project, the field is read-only.

3. Save the changes.

About Base Calendars

Base calendars are templates that you can use to create individual resource calendars. Resource calendars are used to perform important calculations involving resource availability, such as capacity as opposed to demand, or over-allocated resources.

Most often the standard calendar is used. But, you can change the characteristics of the base calendar to suit your needs. For example, you can change the workdays and nonworkdays of the week. You can set up to four standard shifts.

You cannot delete the standard calendars, or base calendars that have child calendars. In which case, before you delete the parent calendar, delete the child calendars.

Create New Calendars

Use the following procedure to create a custom calendar. A custom calendar can be created based upon an existing calendar. The latter is the parent calendar.

Follow these steps:

1. Open Administration, and from Project Management, click Base Calendars.

   The base calendars page appears.

2. Click New.

   The edit calendar properties page appears.

3. Complete the following fields, and then click Add:

   Calendar Name

   Defines the new calendar name.

Base Calendar

Specifies the calendar to base this calendar. The base calendar is the parent to the new calendar.

Example: Standard

Standard

Specifies the calendar as the standard calendar in CA Clarity PPM.

Default: Cleared

4. Save the changes.

About the Default Shift

The default shift for the base calendar is eight hours per day. You can set new shifts to override the default shift. When you change a specific holiday on the resources calendar to a nonworkday, the shift information or availability is removed. If you change the day back to a workday, a check is made to see if a shift pattern exists for that day in that calendar (or parent). One of the following actions occurs:

■ If a shift pattern does exist for that day, the day is set to use that shift pattern.

■ If a shift pattern for the day does not exist, a check is made for a shift pattern for the corresponding day of the week for that calendar (or parent, as needed).

■ If a shift pattern is found from the search, the day is set to use that shift pattern.

■ If no shift pattern is found for that specific day of the week, then the first day of the week shift pattern that is found is used starting with the first day of the week (Sunday).

■ If no shift pattern exists for any day of the week, then the default shift patterns of 8:00 AM – 12:00 PM and 1:00 PM – 5:00 PM are set for that day.

Define Days as Workdays

You can select days as workdays or as non-workdays. To select dates by days of the week, select the check box next to the day of the week and click Make Workday. To change dates from workdays to non-workdays, select the check box next to each date. Then, click Make Non-Workday.

Follow these steps:

1. Open Administration, and from Project Management, click Base Calendars.

2. Click the name of the calendar.

   The edit calendar exceptions page appears.

3. Select the month at the top of the calendar to edit.

   The month displays on the edit base calendars page.

4. Indicate which days are standard workdays. Select the check box next to each date and then click Make Workday.

   The changes are saved.

Set Resource Shifts

Follow these steps:

1. Click Base Calendars and click the name of the calendar.

   The edit calendar exceptions page appears.

2. Select the month at the top of the calendar to edit.

   The month displays.

3. Select the check box next to the days having the same shift, and click Set Shifts.

   The shifts page appears.

4. Enter the starting and ending hour for up to four shifts

5. Save your changes.

Reset Base Calendar Shifts

When you reset the shift by resetting a base calendar, the base calendar shift information is picked up for that day. This information is important when you use a shift other than eight hours, and can affect resource availability and allocation.

Follow these steps:

1. Click Base Calendars and click the name of the calendar.

   The edit calendar exceptions page appears.

2. Select the check box next to each date to reset, and then click Reset to Base.

   The shift is reset to the base calendar.

Change Base Calendar Parent/Child Relationships

To delete a parent calendar or change to another parent, use the following procedure to change that relationship.

Follow these steps:

1. Click Base Calendars and click the name of the calendar.

   The edit calendar exceptions page appears.

2. Click Edit Calendar Properties.

   The edit calendar properties page appears.

3. Complete the following field:

   Base Calendar

   Specifies the calendar to base this calendar. The base calendar is the parent to the new calendar.

   Example: Standard

4. Save the changes.

Risk Category Types

Add risk categories to group investment risks by a particular type. You can add additional risk categories, and then add these categories to object attributes, such as the Category Type lookup attribute. The lookup attribute defines the predefined risk category or factors that the resources can view when defining the detailed project and overall risks.

For more information, search *Administration*.

How to Add New Risk Categories

Your CA Clarity PPM administrator can add new risk categories/factors. The risk categories display in the Contributing Factors section of the main risk page. The project Risk field displays a weighted average of all risk categories or factors displayed on the page.

Use the following process to add new risk categories:

1. Create a number attribute (field) for the project object Properties view, to the Contributing Factors section of the Risk subpage view. The new number attribute is a formula field calculated based on a weighted average formula.

2. Publish the view. Publish the view for the new risk category to display on the page. The users can then enter values for the risk category.

For more information, search *Studio*.

About the Risk Score Matrix

Use the Risk Score matrix to determine the degree of risk (low, medium, or high) based on the risk impact and probability factors. The risk probability values are plotted against the risk impact values. The intersection of every probability and impact value is the risk score.

Set Risk Threshold

Use the following procedure to set the system-level default project risk score and overall risk threshold. The *risk threshold* is the acceptable level of risk that can be tolerated without acting out the risk response strategy. You can also set the probability and impact values for the projects that have detailed risks.

You can change the existing risk thresholds, which help to calculate the degree of risk. But the changes are not based on the changes to the risk score matrix.

Follow these steps:

1. Open Administration, and from Project Management, click Risk Settings.

    The risk settings page appears.

2. Complete the following field:

    Risk Threshold

    Defines the risk acceptance level for all projects.

    Default: 4

3. Set the risk score for a given impact and probability combination

4. Save the changes.

Earned Value Reporting Periods

The earned value reporting period defines the frequency and the interval for the Update Earned Value History job. The job takes historical earned value snapshots of performance and saves them in the earned value history table. When using earned value methodologies to analyze project performance, the job uses the earned value reporting period to take the snapshot. It saves the snapshot based on the project association to the period. The project manager associates the project to the appropriate period.

By setting up reporting periods, you define the time intervals used to save earned value (EV) information, such as weekly or monthly. The periods store and calculate historical earned value.

You can delete earned value reporting periods from the list page.

Create Earned Value Reporting Periods

Create the earned value reporting periods used by project managers for earned value analysis (EVA). When you define the reporting period, you define how often the report runs.

Project managers associate their projects to defined reporting periods. Historical earned value snapshots of project performance are taken based on this reporting period.

Weekly Frequency Example

For a weekly recurrence of the reporting period, enter 1 as the frequency. For a recurrence to happen every other week, enter 2. For twice a year, enter 26. And once a year, enter 52.

Follow these steps:

1. Open Administration, and from Earned Value Management, click Period Definitions.

    The list page appears.

2. Click New.

    The create page appears.

3. Complete the following general fields:

    Name

    Defines the name for the earned value reporting period.

    Limits: 80

    Required: Yes

ID

Defines the unique identifier for the earned value reporting period.

Limits: 16

Required: Yes

Description

Defines the reporting period description.

Active

Indicates if this reporting period is active. When the reporting period is active, project managers can associate projects to it.

Default: Selected

Period Type

Defines the period type. Once you select a period type, define the recurrence of the selected period.

Values:

Weekly, Monthly, Quarterly, Annually

- **Weekly**

  Frequency. Defines the weekly interval and the day of the week when the period starts.

  Example: Define the recurrence as every two weeks by entering 2, or define it as twice a year by entering 26.

  Interval Values: 1 - 52

  Day of the Week Values: Sunday through Saturday

  Default: Weekly on Sundays starting this Sunday.

- **Monthly**

  Frequency. Defines the monthly interval when the period starts. The recurrence can start on a specific day each month, or start at monthly intervals on a specific day of the week.

  Day Interval Values: 1 - 31

  Interval Values: First, Second, Third, Fourth, or Last

  Day of the Week Values: Sunday through Saturday

  Default: Monthly starting on the first day of the month.

- **Quarterly**

  First Quarter Starts. Defines the month (January through December) when the first quarter starts.

  Frequency. Defines the quarterly interval for the period to start. The recurrence can start on a specific day of the month each quarter, or start at quarterly intervals on a specific day of the week.

  Day Interval Values: 1 - 31

  Interval Values: First, Second, Third, Fourth, or Last

  Day of the Week Values: Sunday through Saturday

  Default: Quarterly starting on January 1

- **Annually**

  Every. Defines the month (January through December) when the period starts.

  Frequency. Defines the annual interval for the period to start. The recurrence can start on a specific day of the month each year, or start at annual intervals on a specific day of the week.

  Day Interval Values: 1 - 31

  Interval Values: First, Second, Third, Fourth, or Last

  Day of the Week Values: Sunday through Saturday

  Default: Annually starting on January 1

4. Save the changes.

Edit Earned Value Reporting Periods

Follow these steps:

1. Open the earned value reporting period.

   The earned value reporting period properties page appears.

2. Edit the following fields:

   Name

   Defines the name for the earned value reporting period.

   Limits: 80

   Required: Yes

ID

Defines the unique identifier for the earned value reporting period.

Limits: 16

Required: Yes

Description

Defines the reporting period description.

Active

Indicates if this reporting period is active. When the reporting period is active, project managers can associate projects to it.

Default: Selected

Period Type

Defines the period type. Once you select a period type, define the recurrence of the selected period.

Values:

Weekly, Monthly, Quarterly, Annually

■ **Weekly**

Frequency. Defines the weekly interval and the day of the week when the period starts.

Example: Define the recurrence as every two weeks by entering 2, or define it as twice a year by entering 26.

Interval Values: 1 - 52

Day of the Week Values: Sunday through Saturday

Default: Weekly on Sundays starting this Sunday.

■ **Monthly**

Frequency. Defines the monthly interval when the period starts. The recurrence can start on a specific day each month, or start at monthly intervals on a specific day of the week.

Day Interval Values: 1 - 31

Interval Values: First, Second, Third, Fourth, or Last

Day of the Week Values: Sunday through Saturday

Default: Monthly starting on the first day of the month.

■ **Quarterly**

First Quarter Starts. Defines the month (January through December) when the first quarter starts.

Frequency. Defines the quarterly interval for the period to start. The recurrence can start on a specific day of the month each quarter, or start at quarterly intervals on a specific day of the week.

Day Interval Values: 1 - 31

Interval Values: First, Second, Third, Fourth, or Last

Day of the Week Values: Sunday through Saturday

Default: Quarterly starting on January 1

■ **Annually**

Every. Defines the month (January through December) when the period starts.

Frequency. Defines the annual interval for the period to start. The recurrence can start on a specific day of the month each year, or start at annual intervals on a specific day of the week.

Day Interval Values: 1 - 31

Interval Values: First, Second, Third, Fourth, or Last

Day of the Week Values: Sunday through Saturday

Default: Annually starting on January 1

3. Save the changes.

Earned Value Periods

The earned value (EV) periods are the buckets to which the earned value reporting period information goes. The Update Earned Value History job creates the periods as it needs them.

You can only delete consecutive ending time EV periods. Use the EV periods list page to delete EV periods.

Generate Earned Value Periods

Earned value (EV) periods are created automatically when the Update Earned Value History job runs. Or, using this procedure, create the earned value periods manually.

Follow these steps:

1. Open Administration, and from Earned Value Management, click Period Definitions.

    The list page appears.

2. Click the Calendar icon next to the earned value reporting period to generate a new EV period.

    The EV periods list page appears.

3. Click Create.

    The generate EV periods page appears.

4. Complete the following field:

    Number of New Periods

    > Defines the number of new periods.

5. Save the changes.

Appendix A: Portlets and Reports

This section contains the following topics:

Monitor Project Performance

You can monitor project performance using the Project Dashboard page. You can view summary views of project labor and team utilization data in graph and table formats on this page. The data on this page is read-only. Dashboard data is drawn from the information you enter in the task and resource assignment fields, and on data submitted in staff member timesheets. The dashboard is automatically updated when you add or post new information to the project.

By default, this page displays the following portlets:

- General portlet. This view displays the basic information about the project such as name, ID, start date, and finish date. The icon in the Status Indicator field displays the project status.

- Labor Resource Effort portlet. This view displays the project latest actuals, ETC, and allocation information.

- Team Utilization portlet. This view displays total effort per resource across all of the project tasks to which the resource is assigned. You can drill down from this view to view utilization by individual resource and task.

You can use these portlets to view resource allocation and availability information and to compare actuals to estimates. A change in the appearance or data in the General and Labor Resource Effort portlets is disallowed. But you can configure some of the settings on the Team Utilization graph.

Add or remove portlets to customize the page. Your CA Clarity PPM administrator can do so from the Dashboard tab of the Project Default Layout portlet page using Studio.

General Portlet

The General portlet displays on on the project dashboard page. Use the General portlet to view basic information about the project.

This portlet includes the following fields:

Project Name

Displays the name for the project.

Project ID

Defines the unique identifier for the project that is typically auto-numbered.

Limits: 20 characters

Required: Yes

Description

Displays the description.

Project Manager

Specifies the name of the resource responsible for managing the investment.

Start Date

Defines the initial start date for a project. As you create tasks and assignments, this date is auto-calculated to match the first date that a task is scheduled to start. At that point, to edit this date, adjust the following dates:

- Start date of the first task of the project.

- Start date of the resource assignments and allocations on the project.

Important! Verify that the start dates of tasks and assignments are the same or later than the start date of the project. Else, the start date of the project is automatically redefined as per the start dates of the tasks and assignments.

Default: Current date

Required: Yes

Finish Date

Defines the initial finish date for a project. As you create tasks and assignments, this date is auto-calculated to match the last date that a task is scheduled to finish. At that point, to edit this date, adjust the following dates:

- End date of the first task of the project.

- End date of the resource assignments and allocations on the project.

Important! Verify that the finish dates of tasks and assignments are the same or before the finish date of the project. Else, the end date of the project is automatically redefined as per the end dates of the tasks and assignments.

Default: Current date

Baseline Finish Date

Displays the baseline finish date.

Status Indicator

Indicates the project status.

Stoplight values:

■ Green. The project is on track.

■ Yellow. A minor variance exists in the overall status of the projects.

■ Red. A significant variance exists in the overall status of the project.

Labor Effort Portlet

The Labor Effort portlet displays on the project dashboard. Use this portlet to compare up-to-date actuals and estimates, and to view overall baseline and allocation variances.

This portlet includes the following fields:

Total Effort

Defines the total effort based on the following formula:
```
Total Effort = Actuals + remaining ETC
```

Actuals

Defines the total number of hours that have been submitted and posted against project tasks.

Estimate to Complete (ETC)

Displays the current estimate to complete (ETC) for the project. The value for this field is from the Current ETC on the estimating properties page.

Required: No

Baseline

Displays the usage of the current baseline. Baseline usage is based on the following formula:
```
Usage = Total of Actuals + ETC; If a baseline is not being used, Usage = zero.
```

Baseline Variance

Displays the baseline variance, based on the following formula:
```
Baseline Variance = Baseline Usage - Total Effort
```

Remaining Allocation

Displays the number of allocated hours remaining on the project, based on the following formula:
```
Remaining Allocation = Allocation - Actuals
```

Allocation Variance

Displays the allocation variance, based on the following formula:
```
Allocation Variance = Remaining Allocation - Total Effort
```

Project Status Portlet

The Project Status portlet is an interactive portlet that contains an Xcelsius visualization with multiple components. Use this portlet to analyze your investments.

You can access this portlet from the projects list page by clicking the Status Report icon that displays in the Overview column.

Before data can display in this portlet, run the Update Business Objects Report Tables, Cost Matrix Extraction, and Time Slicing jobs.

The following information is available:

Manager

Displays the name of the resource responsible for managing the project.

Start

Displays the date of starting the project.

Finish

Displays the date of completing the project.

Baseline Finish

Displays the date of completing baselining the project.

Lifecycle Category

Displays the lifecycle category that controls the list of available lifecycle stages for this investment.

Lifecycle Stage

Displays the lifecycle stage of the investment. The metric is applied in portfolio analysis when using comparable stage criteria across all portfolio investments.

Status

Displays a graphical representation of the status.

Example: If the status is "Approved," the visual representation of the status is a Green stoplight. The selection is displayed as a stoplight symbol when saved.

Values: Red, Yellow, and Green

The following are included:

Investment Allocation Hours by Role

Displays the roles assigned for an investment in hours. This pie chart component shows allocation hours by role. Each pie segment represents the total allocation for a role.

Spending Plan by Month

Displays the cost plan for the month. This grid component displays a bar representing the spending for each month.

Schedule Variance

Displays the difference between the baseline finish and the finish dates. This gauge component measures the scheduled variance. If no baseline exists, the schedule variance is the current date minus finish date.

Issues

Displays the issue name, status, and priority. The list view component shows a list of the issues for an investment.

Values:

- Green. No high or medium priority issues exist.

- Yellow. Medium priority issues exist.

- Red. High priority issues exist.

- White. Issue status not defined.

Risks

Displays the risk name, status, and priority. The list view component shows a list of the risks for an investment.

Values:

- Green (0 to 33). Project is low risk

- Yellow (34 to 68). Project is medium risk

- Red (68 to 100). Project is high risk

- White. Risk data undefined

Team Utilization Portlet

The Team Utilization portlet displays on the project Dashboard, on the project dashboard page. Use this portlet to view total effort for each resource assigned to project tasks. Resource utilization is the amount of total effort it takes, or is expected to take, for a resource to complete a task.

Information is displayed in this portlet by resource by time period. By default, the time segments are weekly, and start with the current week. The time segment values display as a histogram. You can use this histogram to determine utilization for a resource on a project or to help you determine if a resource is over-utilized or under-utilized. Rollover text displays the values for each time segment.

You can personalize any of the values in the Team Utilization portlet, including the color codes.

For more information, search *Basics*.

The following list describes the Team Utilization portlet columns and icons:

Properties Icon

Click this icon to open the staff member properties page.

Resource Allocation Icon

Click this icon to open the resource/role allocations page and edit investment allocations.

Resource

Defines the names of the resources that are allocated to investments in the portfolio. You can click the name to open the resource properties page.

Avg Alloc %

Displays the average percentage of time that a resource is allocated to work (as tentative or committed) on this project. The percentage in this column reflects the average percentage of available time that each resource is allocated to a task assignment for that project.

Weekly Team Utilization

Displays the total effort for all tasks to which a team staff member on this project is assigned. Information for the periods is displayed in a colored histogram.

Time Scale: Week

Values:

- Green. Indicates that actuals are recorded by the resource for that time period.

■   Yellow. Indicates the resource is allocated at or under availability for that time period.

■   Red. Indicates the resource is over-allocated (that is, the amount of time booked exceeds availability) for that time period based on ETC and actuals.

Appendix B: Access Rights

This section contains the following topics:

Project Access Rights

The following access rights are required to work with projects:

Project - Approve

Allows users to approve a specific project.

Includes: *Project - Edit* right to edit the project.

Type: Instance

Project - Approve - All

Allows users to approve all projects.

Includes: *Project - Edit - All* right to edit all projects.

Type: Global

Project - Benefit Plan - Edit

Allows users to edit the benefit plans for a specific project.

Type: Instance

Project - Benefit Plan - Edit - All

Allows users to edit the benefit plans for all projects.

Type: Global

Project - Benefit Plan - View

Allows users to view the benefit plans for a specific project.

Type: Instance

Project - Benefit Plan - View - All

Allows users to view the benefit plans for all projects.

Type: Global

Project - Billing Access

Allows users to access a billing for a specific project.

Type: Instance

Project - Billing Approval

Allows users to approve a billing for a specific project.

Type: Instance

Project - Budget Plan - Approve

Allows users to approve the budget plans for a specific project.

Type: Instance

Project - Budget Plan - Approve All

Allows users to approve the budget plans of any project.

Type: Global

Project - Budget Plan - Edit

Allows users to edit the budget plans for a specific project.

Type: Instance

Project - Budget Plan - Edit All

Allows users to edit the budget plans of any project.

Type: Global

Project - Budget Plan - View

Allows users to view the budget plans for a specific project.

Type: Instance

Project - Budget Plan - View All

Allows users to view budget plans for all projects.

Type: Global

Project - Cost Plan - Edit

Allows users to edit the cost plans for a specific project.

Type: Instance

Project - Cost Plan - Edit All

Allows users to edit cost plans for all projects.

Type: Global

Project - Cost Plan - View

Allows users to view the cost plans for a specific project.

Type: Instance

Project - Cost Plan - View All

Allows users to view cost plans for all projects.

Type: Global

Project - Create

Allows you to create new projects and define the general properties.

Includes: Project - Create from Template right to create a project using a template.

Type: Global

Project - Create from Template

Allows you to create new projects using project templates.

Type: Global

Project - Delete

Allows users to delete a specific project.

Requires: *Project - View* to view the project.

Type: Instance

Project - Delete - All

Allows users to delete any project.

Requires: *Project - View* to view the project.

Type: Global

Project - Edit

Allows the user to edit all parts of a project.

Type: Instance

Project - Edit - All

Allows users to edit properties and other areas of any project, except for custom defined fields.

Type: Global

Project - Edit Access Rights

Allows users to manage access rights for all projects.

Requires: *Project - Edit Management* right to manage access rights for all projects.

Type: Global

Project - Edit Assigned Tasks

Allows the user to edit assigned tasks on a specific project.

Type: Instance

Project - Edit Assigned Tasks - All

Allows the user to edit assigned tasks on all projects.

Type: Global

Project - Enable Financial

Enable financial properties for Projects.

Requires:

■ *Project - View*

■ *Project - View Management or Project - Manager*

Type: Global

Project - Edit Financial - All

Allows users to view and edit the general properties, processes, and financial information about all projects. This right also allows the user to enable financial projects.

Type: Global

Project - Edit Management

Allows users to edit general and management properties, to add staff, create tasks, and create and manage processes for the specific project. This right includes the ability to add subprojects and to edit the project in a project scheduler, such as Microsoft Project.

Type: Instance

Project - Edit Management - All

Allows the user to edit general and management properties for all projects. This right allows you to add staff and create tasks if projects are enabled for management. This right also includes the right to add subprojects to the project and edit the project in a project scheduler, such as Microsoft Project.

Type: Global

Project - Edit Project Plan

Allows users to add unplanned tasks to a specific project when completing their timesheets when they are a team member on the project.

Type: Instance

Project - Edit Project Plan - All

Allows users to add unplanned tasks to any project when completing their timesheets when they are a team member of those projects.

Type: Global

Project - Enable Financial

Enable financial properties for Projects.

Requires:

- *Project - View*

- *Project - View Management* or *Project - Manager*

Type: Global

Project - Financial Plan - Submit for Approval

Allows users to submit the financial plans for approval for a specific project.

Type: Instance

Project - Manager (Auto)

Allows the user to view and edit general and management properties for the projects and programs to which they have access.

Type: Instance

Project - Modify Baseline

Allows users to edit the baseline for a specific project. This right also allows users to edit the project general properties and processes.

Type: Instance

Project - Modify Baseline All

Allows the user to edit the baseline for all project instances to which the user has edit access.

Type: Global

Project - Risk, Issue, Change Request - Create/Edit

Allows users to create and edit risks, issues, and changes for a specific project.

Type: Instance

Project - Risk, Issue, Change Request - Delete

Allows users to delete risks, issues, and changes for a specific project on which they are a staff member.

Type: Instance

Project - Risk, Issue, Change Request - Delete - All

Allows you to delete risks, issues, and change requests for all projects.

Type: Global

Project - Risk, Issue, Change Request - Edit - All

Allows you to create and edit risks, issues, and change requests for any project.

Type: Global

Project - Risk, Issue, Change Request - View

Allows users to view all risks, issues, and change requests for a specific project.

Type: Global

Project - Risk, Issue, Change Request - View - All

Lets you view all risks, issues, and change requests for a specific project.

Type: Global

Project - View

Allows users to view the general, management, financial properties, custom defined fields, roster, tasks, processes, and subprojects for a specific project.

Type: Instance

Project - View Access Rights

Allows users to view access rights for a specific project. From CA Clarity PPM, this right implies that users also have the *Project - View* access right to the project. From Administration, users must also have the *Resource - Edit Administration* right.

Type: Instance

Project - View All Fields

Allows users to view all the general properties and custom defined fields for a specific project.

Type: Instance

Project - View Financial

Allows users to view the general and financial properties for a specific project.

Type: Instance

Project - View Financial - All

Allows users to view the general and financial properties, and processes on all projects. This right does not include the *Project - Budget Plan - View All* access right.

Type: Global

Project - View Management

Allows users to view management properties, roster, and key tasks of a specific project. This right also allows users view the project in a project scheduler, such as Microsoft Project.

Type: Instance

Project - View Management - All

Allows users to view management properties and processes on any project that has been enabled for management.

Type: Global

Project - View Tasks

Allows users to view all tasks for a specific project. This access right is dependent on the resource having the *Project - View Base* access right.

Type: Instance

Project - View Tasks - All

Allows users to view tasks and work breakdown structure for any project the user has been granted access.

Type: Global

Projects - Navigate

Lets users navigate to the Projects list page and to the My Projects portlet.

Type: Global

Administration - Application Setup

Allows users to edit CA Clarity PPM system options and settings, including Organization and Access menu, Timesheet Options, Data Administration menu, and General Settings menu.

Includes: Administration - Access to access the Administration menu.

Type: Global

Administration - Access

Allows the user to access the Administration menu.

Type: Global

Resource - Approve Time

Allows users to approve and reject timesheets for a specific resource. The right does not include the *Resource - Enter Time* right.

Type: Instance

Timesheets Access Rights

The following access rights are available for timesheets:

Timesheets - Navigate

Allows you to navigate to timesheet pages.

Type: Global

Timesheets - Edit All

Allows users to edit all timesheets.

Type: Global

Timesheets - Approve All

Allows users to approve all submitted timesheets.

Type: Global

Resource - Enter Time

Allows users to complete and submit timesheets for a specific resource.

Type: Instance

Project - Edit Project Plan

Allows users to add unplanned tasks to a specific project when completing their timesheets when they are a team member on the project.

Type: Instance

Earned Value Definition Access Rights

The following access rights are required to work with earned value definitions:

Earned Value Definition - Create

Allows users to create a new earned value definition.

Type: Global

Earned Value Definition - Edit Access Rights - All

Allows users to edit the access rights for all earned value definitions.

Requires: *Earned Value Definition - Navigate* right or *Earned Value Definition - View* right

Type: Global

Earned Value Definition - Edit All

Allows users to edit any earned value definition.

Type: Global

Earned Value Definition - Navigate

Allows users to access any earned value definition pages.

Type: Global

Earned Value Definition - View All

Allows users to view any earned value definition.

Type: Global

Program Access Rights

The following access rights are available for users who create and edit programs and subprojects:

Management - Programs

Allows user to access the programs to which you have access. This right is dependent on the user having rights to programs and projects at either the instance level or OBS level.

Type: Global

Project - Approve

Allows the user to approve a specific project. This right includes the *Project - Edit* access right.

Type: Instance

Project - Create

Allows user to create a project or program specifying general project properties. A user with this right automatically becomes the collaboration manager for the project. The user can also create action items and discussion. This access right includes the *Project - Create from Template* access right.

Type: Global

Project - Create from Template

Allows user to create a new project or program using only templates. A user with this right automatically becomes the collaboration manager for the project. The user can create action items and discussion.

Type: Global

Project - Delete

Combined with the *Project - Edit* access right, this right allows users to delete the projects and programs to which they have access.

Project - Edit

Allows user to edit all parts of a project or program except the collaboration tools (e.g. Document Manager, Action Items, Calendar, and Discussion pages). Also, allows user to accept requisitions if project manager approval is required.

Type: Instance

Project - Edit Access Rights

Combined with the *Project - Edit Management* access right, this right allows user to manage access rights to a project or program.

Type: Global

Project - Edit Management

Allows user to edit general and management properties, to add staff, create tasks, and create and manage processes for the projects and programs to which the user has access. This includes the ability to add subprojects and to edit the project in Open Workbench or Microsoft Project.

Type: Instance.

Project - Manager (Auto)

Allows user to view and edit general and management properties for the projects and programs to which they have access.

Type: Instance

Appendix C: Microsoft Project Field Mappings

This section contains the following topics:

About Field Mappings

Many of the standard Microsoft Project fields are mapped to CA Clarity PPM fields. Notes are provided only when there is special information about how Schedule Connect handles data exchanges between Microsoft Project and CA Clarity PPM.

Where possible, the location of the field is provided with the default field name as it appears on the user interface. The CA Clarity PPM column of the mapping tables, first lists the CA Clarity PPM user interface field then the corresponding database table: column.

Project Information

The following fields map project information from Microsoft Project to CA Clarity PPM:

- Schedule (see page 320)

- Project Baseline

- Manager (see page 321)

- Other Project Attributes (see page 321)

- Calendar (see page 322)

Schedule

The following table maps fields from Microsoft Project to fields on the scheduling properties page in CA Clarity PPM:

Microsoft Project	CA Clarity PPM	Notes
Start Date	Start Date PRJ_PROJECTS: PRSTART	
Finish Date	Finish Date PRJ_PROJECTS: PRFINISH	
Schedule From	Start Imposed This field is not displayed by default. PRJ_PROJECTS: PRSTARTIMPOSED Finish Imposed This field is not displayed by default. PRJ_PROJECTS: PRFINISHIMPOSED	If this field is displayed, the Schedule From field is set to the Start Date when you open the project in Microsoft Project. Otherwise, Schedule From is set to the Finish Date.
Status Date	As Of Date PRJ_PROJECTS: PRASOF	You cannot programmatically set this field to NA in Microsoft Project. If the As of Date in CA Clarity PPM is blank, the existing value in this field is retained.
Priority	Priority PRJ_PROJECTS: PRPRIORITY	Priorities are translated between the range (0-1000) in Microsoft Project and the range (36-0) in CA Clarity PPM.

Manager

The following table maps fields in Microsoft Project to fields on the general properties page in CA Clarity PPM.

Microsoft Project	CA Clarity PPM	Notes
Manager	Manager	When opening the project in Microsoft Project, this field is set to the user name in CA Clarity PPM identified as the project manager. This value is not saved back to CA Clarity PPM.
Title	Title SRM_PPROJECTS: NAME	

Other Project Attributes

The following table maps other project field information in Microsoft Project to fields on the scheduling properties page in CA Clarity PPM:

Microsoft Project	CA Clarity PPM	Notes
Text5	Charge Code PRJ_PROJECTS: PRCHARGECODEID	The charge code ID (PREXTERNALID) is shown in Microsoft Project. To modify the charge code for a project, enter a charge code ID that exists in CA Clarity PPM to save the project back to CA Clarity PPM. This default mapping can be changed.

Calendar

The following table maps fields from Microsoft Project to the CA Clarity PPM base calendar fields.

Note: The project calendar in Microsoft Project is always reset to the base calendar in CA Clarity PPM.

Microsoft Project	CA Clarity PPM	Notes
For	Calendar Name PRCalendar: PRNAME	Not used for resource calendars.
Base Calendar	Base Calendar PRCalendar: PRBASECALENDARID	In Microsoft Project, only resource calendars have base calendars. Combines system calendars with their base calendars when this information is set in Microsoft Project.
Set Working Time for Selected Dates	PRCalendar: PRVALUE	Calendar information defined in CA Clarity PPM is shown in the Set Working Time options in Microsoft Project.

Resource Information Field Mapping

The following table maps the fields from Resource information in Microsoft Project to fields on the resource properties page in CA Clarity PPM:

Microsoft Project	CA Clarity PPM	Notes
General Tab		
Resource Name	Resource/Role Name SRM_RESOURCE: Full_Name	The name of the role and non-labor resource in CA Clarity PPM. For labor resources, the concatenated last and first name of the resource without commas. When opening the project in Microsoft Project, commas are replaced with a space. When saving the project back to CA Clarity PPM, spaces are replaced with commas.

Microsoft Project	CA Clarity PPM	Notes
Initials	Resource ID SRM_RESOURCE: UNIQUE_NAME	When saving the project to CA Clarity PPM, this field is used to check for an existing CA Clarity PPM resource ID. If the matching resource ID is found, the project is saved to CA Clarity PPM. If no matching resource ID is found, you are asked to provide a valid resource ID.
Resource Type	Employment Type SRM_RESOURCE: RESOURCE_TYPE	In CA Clarity PPM, this field is set to: ■ Work for labor resources and roles ■ Material for all other resource types.
Generic	n/a	This field is set to On for roles and set to Off for resources.
Booking Type	n/a	Not mapped to CA Clarity PPM, but the value is retained in the .MPP file.
Email	Email Address SRM_RESOURCE: EMAIL	
Group	Category PRJ_RESOURCES: PRCATEGORY	
Code	Input Type Code PRJ_RESOURCES: prTypeCode	

Resource Availability

In Microsoft Project, resource availability is the units a resource is available to work on the project. In CA Clarity PPM, resource availability is based on the systemwide availability of the resource in hours, and the percent a resource is allocated to projects.

When opening a project in Microsoft, the resource availability is set from CA Clarity PPM using the following formula:

Resource systemwide Availability * Resource Project % Allocation

Maps resource availability fields in Microsoft Project to resource availability fields on the project team staff page and resource properties page.

	CA Clarity PPM	Notes
	PRJ_RESOURCE: PRAVAILCURVE	Used only for labor resources in Microsoft Project. This field is combined with the resource-to-project allocation information when opening the project in Microsoft Project. The field gets factored out when saving the project to CA Clarity PPM.

Microsoft Project	CA Clarity PPM	Notes
	PRTeam: PRALLOCCURVE	Used only for labor resources in Microsoft Project.
		This field is combined with resource availability when opening the project in Microsoft Project and then gets factored out when saving the project to CA Clarity PPM.
Available From	Project Team: Staff: Start PRTeam: PRAVAILSTART	When saving the project to CA Clarity PPM, this field is set to the date the resource is available to finish the project.
		If the Available To field is set to NA in Microsoft Project, this field in CA Clarity PPM is set to blank indicating that the resource is available when the project starts.
Available To	Project Team: Staff: Finish PRTeam: PRAVAILFINISH	When saving the project to CA Clarity PPM, this field is set to the date the resource is available to finish the project.
		If the Available To field is set to NA in Microsoft Project, this field in CA Clarity PPM is set to blank indicating that the resource is available when the project starts.
Working Time tab		

Work Time information in Microsoft Project is set to the base calendar and any resource-specific exceptions from the resource calendar settings on the edit resource calendar page in CA Clarity PPM. The calendar is used only for labor resources in Microsoft Project.

Costs tab		

When opening the project in Microsoft Project, cost information is set to the first cost rate table from the CA Clarity PPM cost matrix.

Tasks Field Mapping

The following table maps fields from Microsoft Project to fields on the task properties page in CA Clarity PPM:

Microsoft Project	CA Clarity PPM	Notes
General tab		

Microsoft Project	CA Clarity PPM	Notes
Name	Name PRTask: PRNAME	When saving the project to CA Clarity PPM, if the Name field is blank in Microsoft Project, it is set to the CA Clarity PPM internal ID. This field cannot be blank.
Text1	ID PRTask: PREXTERNALID	Task ID in the same project must be unique in CA Clarity PPM (except blank).
Start	Start PRTask: PRSTART	The same calendar information is reflected in the Set Working Time in Microsoft Project.
Finish	Finish PRTask: PRFINISH	The same calendar information reflected in the Set Working Time options in the Change Working Time dialog.
Duration	Duration This field is not displayed by default. PRTask: PRDURATION	In Microsoft Project, you can set the duration unit in the *Duration is entered in* field on the Options dialog (Tools, Options). Elapsed durations are converted to their equivalent in work time duration, but the model is changed.
Priority	Priority This field is not displayed by default. PRTask: PRPRIORITY	Priorities are translated between the range (0-1000) in Microsoft Project and the range (36-0) in CA Clarity PPM. Precision is lost.
Flag1	Key Task PRTask: PRISKEY	This is the default mapping, which you can change.
Text5	Charge Code PRTask: PRCHARGECODEID	The ID (PREXTERNALID) for the charge code is shown in Microsoft Project. To modify the charge code for a task, enter any existing CA Clarity PPM charge code ID. This mapping is the default mapping, which you can change.
% Complete	% Complete PRTask: PRSTATUS and PRTask: PRPCTCOMPLETE	The task status is set to "Started" when the percent complete is greater than zero, or to "Complete" when it is 100. Otherwise, this field is set to "Not Started".

Advanced tab

Microsoft Project	CA Clarity PPM	Notes
Mark Task as Milestone	Milestone PRTask: PRISMILESTONE	In Microsoft Project, any task can be flagged a milestone as a means to drive Gantt bar rules. For example, drawing the diamond and other features such as filtering. Microsoft Project automatically sets this flag when a task acquires zero duration.
Calendar		You can use them in Microsoft Project, but the list of available calendars comes from CA Clarity PPM.
Task Type	Fixed Duration PRTask: PRISFIXED	All types in Microsoft Project are supported. In Microsoft Project: ■ Fixed duration task type maps to True ■ Fixed unit and fixed work maps to False.
Effort Driven	No Mapping	Tasks flagged as Effort Driven in Microsoft Project take more processing. If there are many tasks, system memory requirements and performance can degrade noticeably.

Constraints

The constraints defined in Microsoft Project are stored in CA Clarity PPM, but you cannot edit them from Schedule Connect.

Microsoft Project automatically sets the Start No Earlier Than constraint to hold a task start date. If you add a Start No Earlier Than constraint and Microsoft Project then adds a later Start No Earlier Than constraint to hold a task start date, the saved Start No Earlier Than constraint is not set.

Constraint Type	No CA Clarity PPM user interface field available PRConstraint: PRTYPE	When opening the project in Microsoft Project, if multiple constraints in CA Clarity PPM exist for a task, the first constraint encountered is processed.
Constraint Date	No CA Clarity PPM user interface field available PRConstraint: PRTIME	

Resource Assignment Information Field Mapping

The following table details the resource assignment information that is mapped from Microsoft Project to fields in CA Clarity PPM.

Any assignment that exists in CA Clarity PPM when a timesheet for that resource is posted gets an Actuals Thru date equal to the end of the timesheet period. Conditions can exist where you inadvertently place remaining work before this date. The following examples illustrate this condition:

■ A task has actuals that end before the Actuals Thru date and has no remaining work, but require to add work. You enter an updated Remaining Work amount and Microsoft Project places it at the end of the task, which is in the prior week.

■ A task is scheduled to start next week and has not yet started. You remove a predecessor dependency on the task, which reschedules the task to two weeks ago.

When these situations occur, the work is moved beyond the Actuals Thru date when you save the project to CA Clarity PPM. A message appears warning you of the change.

Microsoft Project	CA Clarity PPM	Notes
Units	Max % Load PRAssignment: PRESTMAX	When opening the project in Microsoft Project, this field is set to the value in CA Clarity PPM multiplied by the resource maximum units (or by 1 if the maximum unit is 0). This value is set only for the not contoured assignment of labor resources to unfixed tasks. When saving the project to CA Clarity PPM, this field is set to the assignment units divided by the resource maximum units. Or if either value is 0, sets the value to 1. This value is set only for assignments of labor resources.
Number1	Task Assignment: Proposed ETC (Not displayed by default) PRAssignment: PRPENDESTSUM	When opening the project in Microsoft Project, this field is set to the value in the field or to -1 when the Pending Estimates in CA Clarity PPM is blank. This field is saved to CA Clarity PPM only if: ■ Either the project or the assigned resource is tracked in CA Clarity PPM (the Track Mode is set to Clarity or Other). ■ Value is -1, which clears the Pending Estimates in CA Clarity PPM.
Number2	Pending Actuals (not displayed by default) PRAssignment: PRPENDACTSUM	This field is not saved back to CA Clarity PPM.

Microsoft Project	CA Clarity PPM	Notes
	Task Properties: Status PRAssignment: PRSTATUS	This field is set to the following: ■ Not Started if there are no actuals in Microsoft Project. ■ Started if the remaining work is greater than 0. ■ Complete if there is no remaining work.
Resume	Actuals Thru Date PRAssignment: PRactThru	This field must always be on or after the last day of the actuals on the assignment. If either the project or the assigned resource has Track Mode set to None, the following applies: ■ This field can be implicitly modified to correspond with updates to actuals when saving the project to CA Clarity PPM. ■ If the Resume field is set beyond the first day of the remaining work, the remaining work is modified when saving the project to CA Clarity PPM.
Actual Work	Actuals PRJ_BASELINE_ DETAILS: PREXTENSION	This information is saved to CA Clarity PPM only if the Track Mode is set to None for either the project or the assigned resource.
Work	Assignment Properties: Assignments: ETC PRASSIGNMENT: PREXTENSION	This field is set when saving to CA Clarity PPM only if the assigned resource has Track Mode set to None.
Baseline Start	Assignment Properties: Baseline: Baseline Start Date (not displayed by default) PRJ_BASELINE_ DETAILS: START_DATE	
Baseline Finish	Assignment Properties: Baseline: Baseline Finish (not displayed by default) PRJ_BASELINE_ DETAILS: FINISH_DATE	
Baseline Cost	Assignment Properties: Baseline: Baseline Cost (not displayed by default) PRJ_BASELINE_ DETAILS: COSTSUM	

Microsoft Project	CA Clarity PPM	Notes
Baseline Work	Assignment Properties: Baseline: Baseline Usage (not displayed by default) PRJ_BASELINE_ DETAILS: USAGESUM	You must have Modify Baseline rights to save a baseline to CA Clarity PPM.

Notes Field Mapping

The following table maps fields from Files Properties or from Task Information, Resource Information, and Assignments in Microsoft Project to fields in CA Clarity PPM.

Microsoft Project	CA Clarity PPM	Notes
None	PRNote: PRCREATEDBY	This field is set to the name of the current user when saving the project to CA Clarity PPM.
None	PRNote: PRCREATEDTIME	This field is set to the current system time when saving the project to CA Clarity PPM.
Comments field for projects Notes field for tasks, resources, and assignments	PRNote: PRVALUE	Concatenates multiple notes on the same object (such as project, task, resource, or assignment) into a single Notes field when opening the project in Microsoft Project.

How notes are saved back to CA Clarity PPM

The Internal ID is the key used to identify the note when saved to CA Clarity PPM. Do not edit the note or any information. New notes are added after the Add new note(s).

```
The Intern[date/time note is entered by the user (internal ID)]
    note #1
[date/time note is entered by the user (internal ID)]
    note #2
Add new note(s) under here:
```

A hard return starts a new note. Blank lines are removed.

Private Field Mapping (Microsoft Project)

The Text3 field is for Resource, Project, Task, and Assignment. This field is used for information required by Schedule Connect. If Text3 is used for another purpose in your organization, change the mapping.

Relevant mapping is for PRUID. You must have it mapped. Do not remove it without remapping. These mappings are systemwide. You cannot remap Text3 on one project and keep the same on other projects.

The Text4 field is for the work breakdown structure (WBS). Schedule Connect uses this field internally to order the WBS when opening the project in Microsoft Project. You cannot remap this field.

Microsoft Project	CA Clarity PPM	Notes
Custom property/prVersion	PRJ_PROJECTS: PRVERSION	Sets the version (internal use only) when opening the project in Microsoft Project and when saving back to CA Clarity PPM.