Guide to project planning and tracking in project service automation for Microsoft Dynamics CRM

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Microsoft Dynamics CRM

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Overview

Project service automation capabilities for Microsoft Dynamics CRM provide end-to-end support for service organizations by providing tools for managing the sales process. Features of these tools include identifying opportunities, submitting bids, reaching contractual agreements, managing resources, enabling on-time delivery of projects within budget, recording time and expenses, and invoicing the customer according to billing arrangements.

This whitepaper will focus on the project management capabilities of project service automation. With the project management tools in project service automation, project managers can effectively estimate work and forecast resource requirements when projects are in the pipeline. Team members can collaborate on projects and maintain current and accurate project status at all times, allowing managers to proactively identify and resolve potential threats to the success of every engagement.

Prerequisites for project planning and tracking

Use the following settings to access the project-planning features in project service automation.

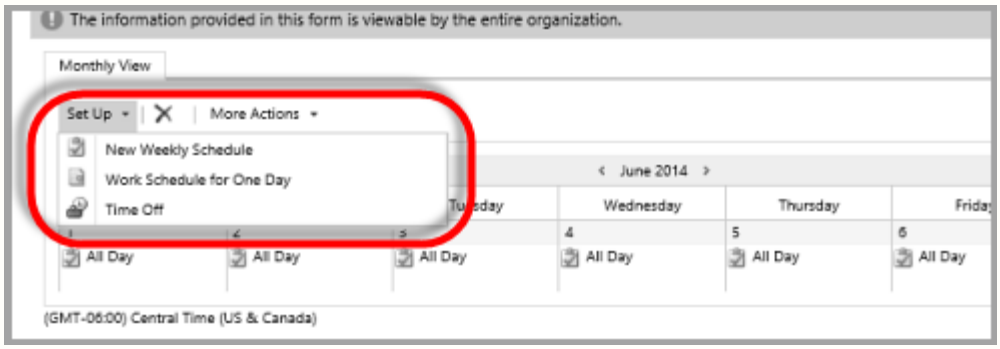
Work template

To create a project schedule, set up a project calendar that defines the number of working hours per day and any business closures. The **Work Hours** setting in the **Service Scheduling** feature in Microsoft Dynamics CRM defines a work template. A work template is an identifier that contains these details, and it can be associated with the project calendar field to apply the schedule to the project.

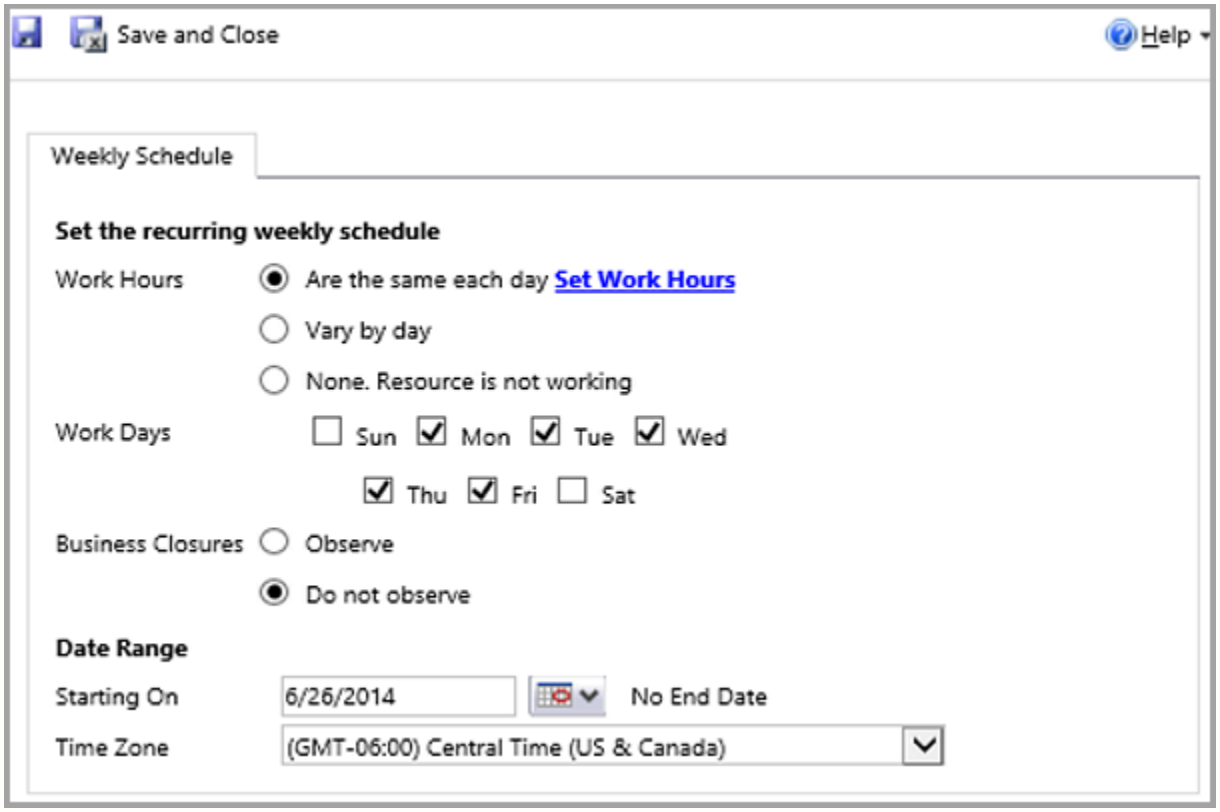
To create a work template:

1. Select the **Settings** tab.
2. Hover over **Settings** and select **Administration**.
3. Click **Users**.
4. Double-click a user record to open it, and then click **Work Hours**
5. On the top navigation bar in the user record click **Work Hours**.
6. On the monthly view ribbon, click **Set Up**. You'll see a **drop-down** list with three options:

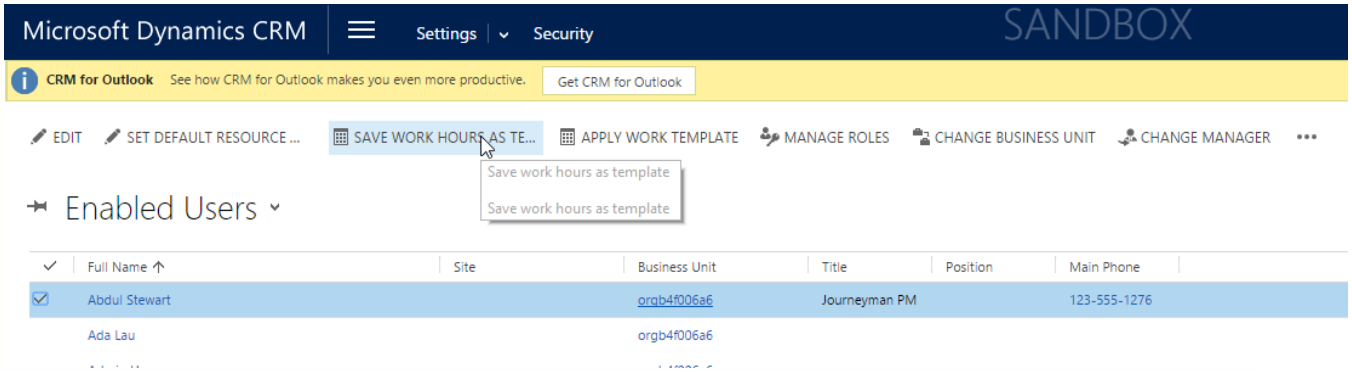
   - New Weekly Schedule
   - Work Schedule for One Day
   - Time Off



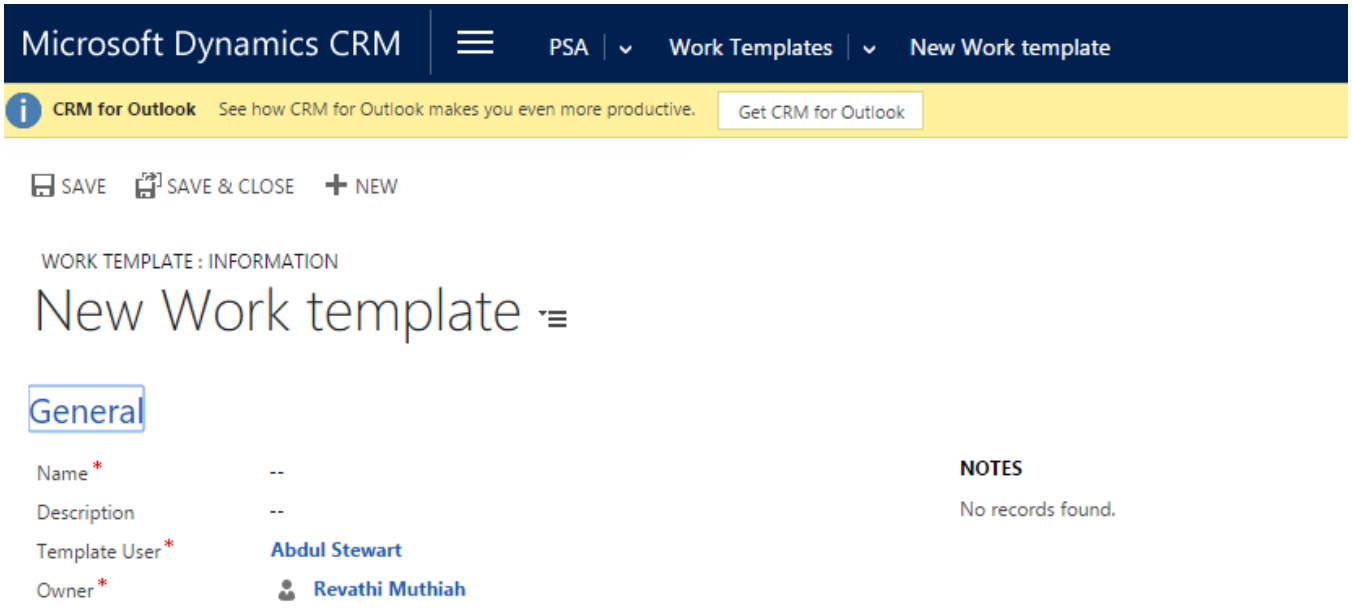
7. Click **New Weekly Schedule** and set options for this resource's schedule. You can set a recurring weekly schedule, set daily work hour parameters, indicate business closures, and more.
8. Set the date range.



9. Click **Save and Close**.
10. Select Security > Users and select the user for which you had set up the work hours.
11. Click **Save work hours as template** to set the work template.



12. On the **Create a new work template** page, specify a name for the work template.

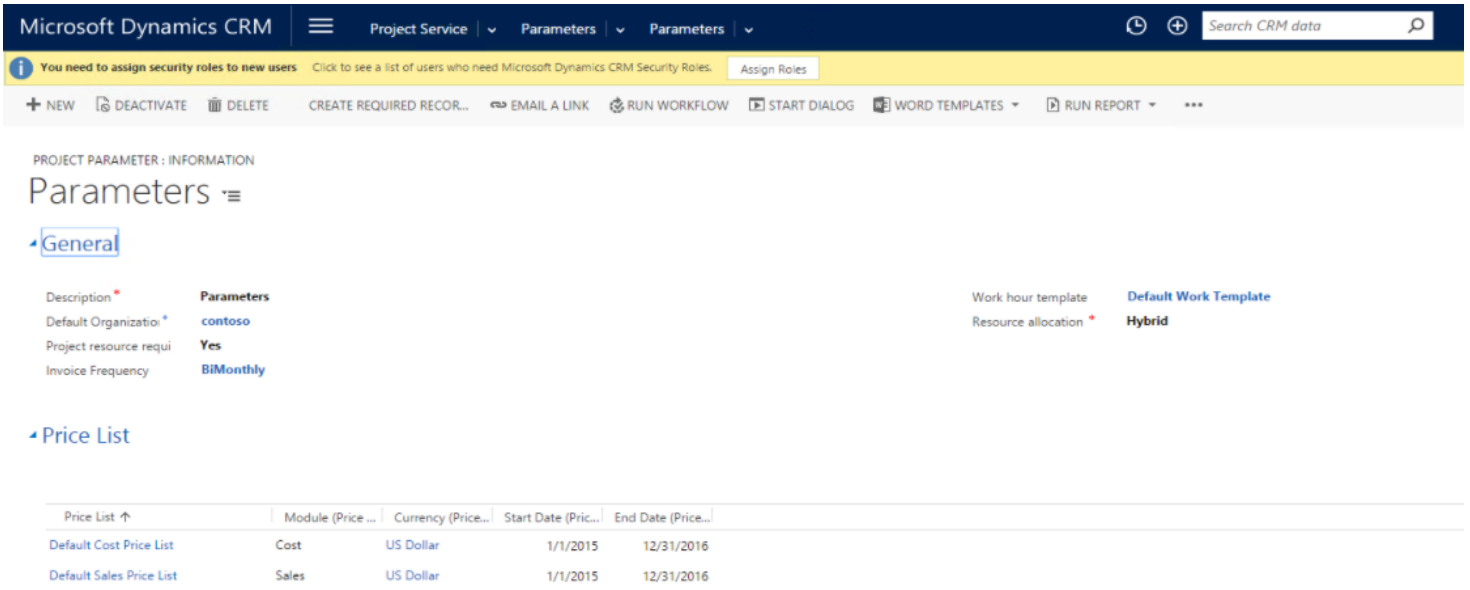


Resource Roles

Resource Role refers to a set of skills, competencies, and certifications that a person is required to have to perform a specific set of tasks on a project. Project Service automation supports costing and billing of resources time based on the role that the resource is associated to. Every organization must setup these roles via Settings sitemap in Project Service Automation solution.

Pricelists

Pricelists in project service automation allow costs and sales prices to be set for resource roles, expense categories, products, and other elements in an organization. Create a backing cost and sales pricelist before setting financial estimates for the work to be delivered in a project. A default cost and sales pricelist should be set up in the parameters section that will apply to all projects created in the organization. In the **Parameters** section in project service automation, ensure set up a default cost and sales pricelist is set up as shown in the following screenshot:



Functions of a project

A project can be used for one of the following purposes:

- Provide deterministic work estimates during the sales process
- Come up with project schedule by using work breakdown structure (WBS)
- Forecast resource requirement for project in pipeline
- Complete and deliver projects for organizations

Deterministic estimates for sales process

During the sales process, project service automation provides a scientific and deterministic method of developing sales estimates with the ability to decompose work and associate relevant estimate attributes for the project in the WBS. If the sale goes through, this WBS can be used as the basis for any further refinement of the project plan.

Linking a project to quote line

When you create a project-based quote line, you can create a new project from the quote line detail form. When you create a new project from the quote line detail, you can leverage project templates.

Project templates are model projects that can represent standard project plans and financial estimates common in an organization. They can also represent copies of project plans and estimates from past projects.

When you create a project, a project template provides a basis to refine the project plan, estimates, and role requirements. When you create the project from the quote, you automatically associate the project with the quote line.

Components of estimates in a project

WBS provides a way to decompose work into tasks, maintain a hierarchy of tasks, determine what resources are required to complete a task, and assign an estimate of effort required to complete a task.

You can determine the work effort and schedule estimates by using WBS and its attributes. Since the project has a pricelist associated to it, financial estimates are determined for the work breakdown using cost and sales prices defined in the pricelist. (Detailed financial estimate calculations are covered in the white paper Basic guide to quoting, pricing, and billing for project service automation capabilities for Dynamics CRM.

Importing estimates from project into quote

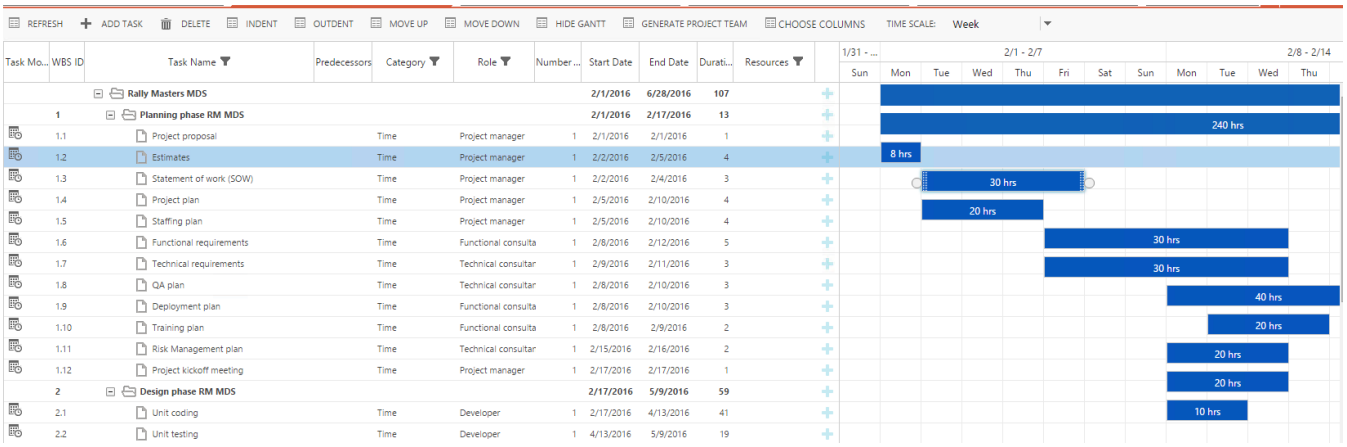
You can import these estimates into the quote line after the project estimates have been determined in the project. In the quote-line details grid, you will see the option **Import from estimates** on the toolbar. You can use this option to summarize project estimates by transaction type, role, or WBS node level.

Schedule a project by using WBS

A project schedule communicates what work needs to be performed, which resources will perform the work, and the timeframe in which that work needs to be completed. The project schedule reflects all the work associated with delivering the project on time. Project service automation provides essential scheduling capabilities through the WBS component.

You can create a project schedule with the project service automation WBS by breaking down work into manageable tasks, estimating the time required to complete a task, setting task dependencies, setting task durations, and estimating the roles that will complete the tasks.

The project schedule in the WBS will be presented in an interactive Gantt chart.



Tasks and basic operations

The first step to coming up with a project schedule is to create a work breakdown structure. The WBS functionality in project service automation supports the following basic constructs for work breakdown:

- **Project root node** is the top-level summary task for the project. All other project tasks are created under it. The name of the root task is always set to the project name. The effort, dates, and duration of the root node are summarized based on the values on the hierarchy below it. Properties of the root node are not editable, and the root node cannot be deleted.
- **Summary or container tasks** have sub-tasks or constituent tasks under them, but has no work effort or cost of its own. Its work effort and cost are a rollup of its constituent tasks. The start date of the summary task is calculated as the earliest start date of the constituent tasks, and its end date is calculated as the latest end date of the constituent tasks. The name of a summary task can be edited, but scheduling properties of effort, dates, and duration cannot be edited. Deleting a summary task will delete the task and all its constituent tasks.
- **Leaf node tasks** represents the most granular work on the project. It has an estimated effort, a planned number of resources, planned start and end dates, and a duration.

Basic operations

The following options will be available to create a task hierarchy.

Add task

Using this action, you can create a new task at a chosen position in the hierarchy. If a position is not chosen, the task will be inserted at the end. A WBS ID is automatically assigned to the task and is representative of its depth and position in the hierarchy. The WBS ID uses outline numbering. For tasks in the first level under the root of the project, a numbering scheme of 1, 2, 3, etc. is used, and for tasks under the first level root, a numbering scheme of 1.1, 1.2, 1.3, etc. is assigned.

Indent task

When a task is indented, it becomes a child of the task directly above it. The WBS number of this task is recalculated using the outline numbering scheme from the WBS number of its parent. The parent task is now a summary or a container task and therefore becomes a rollup of its constituent tasks.

Out dent task

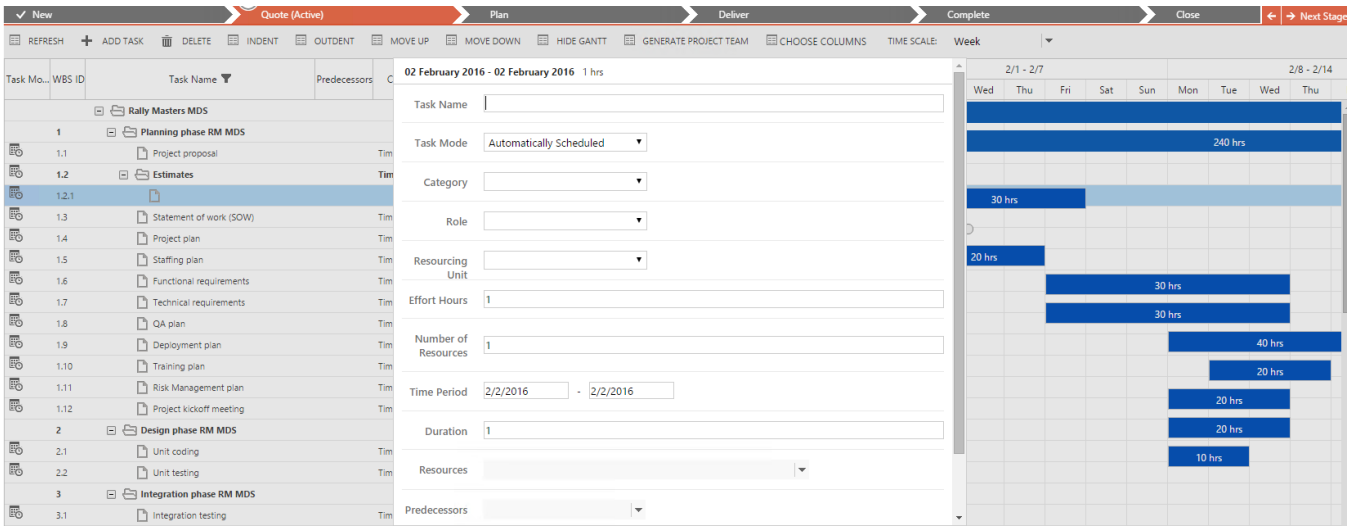
When a task is out dented, it is no longer a constituent of its parent. Its WBS ID is recalculated to reflect this updated depth and position in the hierarchy. The effort, cost, and dates of the previous parent task get recalculated so they do not include this task.

Move up and Move down

Move up and **Move down** change the position of a task within its parent hierarchy. Moving a task up or down does not have any effect on its effort, cost, dates, or duration. Only the WBS number of the task is recalculated to reflect its new position in the parent's constituent task list.

Task attributes

A task's name informs the description of work that needs to be completed. In project service automation, the attributes associated to a task describe the schedule of the task and its staffing requirements.



Schedule attributes

Effort hours, **Number of resources**, **Start date**, **End date**, **Duration** are used to describe the schedule of the task. By assigning values to these attributes, you can determine the schedule for the task.

- **Effort hours** indicates an estimate of the hours it will require to complete the task.
- **Number of resources** is an estimate that the project manager puts in the task to help come up with best possible schedule.
- **Duration** is expressed in days to indicate the number of work days it will take to complete the task.

The auto generated WBS ID field is used for ordering the tasks in the hierarchy. Dependencies between the tasks manage the actual order in which the task will need to be worked on.

Staffing attributes

Role, **Resource organization unit**, **Number of resources**, and **Resources** fields are used to describe the staffing requirements for the task. **Role** describes the type of resource needed to perform the task. **Resource organization unit** is an indication of the unit from which resources should be staffed for that task. This will also affect the cost and sales estimate of the task because you should account for it when determining the unit sales price for the resource. The **Resources** field is used to hold a generic resource or named resource when one is found.

Task dependencies

You can use WBS in project service automation to create predecessor relationships between one or more tasks. The **Predecessor** field under **Tasks** can take one or more values to indicate the tasks that it will be dependent on. Project service automation supports a “Finish to Start” type of dependency. When a predecessor value is assigned to a task, it indicates that a task can only start when all the predecessor tasks have been completed. This dependency will result in the recalculation of the planned start date of the task as the latest end of all of its predecessors. The task mode defined on the task does not limit predecessor-related impact on the schedule.

Task mode

Task mode is one of the important factors that determine the scheduling of leaf node tasks in project service automation. Project service automation supports two task modes for every task: auto scheduling and manual scheduling.

Auto scheduling

When **task** mode is set to **Automatically Scheduled** for a task, the task-scheduling engine in project service automation uses the scheduling rules on the following task attributes to determine the schedule for the task:

- Predecessors
- Effort
- Number of resources
- Start and end dates

Scheduling rules

The start date of a leaf node task that does not have predecessors defaults to the project's scheduled start date. The duration of a leaf node task is always calculated as the number of working days between its start and end dates. When a task is automatically scheduled, the scheduling engine follows these rules:

- Start and end dates of task must always be working days according to the project's scheduling calendar.
- For any task that has predecessor tasks, the start date of that task defaults to the latest end date of its predecessors..
- Effort = number of people * duration * hours in a standard work day of the project calendar.

Manual scheduling

If you want to deviate from these rules, you can set the task mode for the task to **manually scheduled**. This will stop the scheduling engine from calculating the values for other scheduling attributes. Irrespective of the task mode, setting predecessors on tasks will always impact the dependent task's start date.

Determine project cost and revenue estimates

Project estimates provide the financial view for the work estimated and scheduled in the WBS component of the project. The purpose of **estimates** view is to show you the cost and revenue impact of the work you're planning. **Estimates** view helps users view the information on a number of predefined dimensions.

Cost and sales value of the project

Pricelists in project service automation define the cost and bill rates for roles in the projects. You can determine cost and revenue impact of the work based on the roles associated with the tasks in the WBS. The cost and sales values take into account date effectivity defined in the pricelists.

Cost price defaulting

In project service automation, every project belongs to an organization that is indicated by the **Owning unit** field in the project. The pricelist associated with the owning organizational unit will be used for determining the unit cost price. You can determine the cost prices on roles for the date effective on estimate lines by searching for the combination of role, unit, and organizational unit in the cost pricelist to get the correct cost price.

If the combination of role, unit, and organizational unit does not result in a cost price from the owning unit's price list, the system will disregard unit and search for the combination of role and organizational unit. If it finds a cost price, this price must be converted to the unit picked by the user on the estimate line using conversion factors.

If the combination of role and organizational unit does not result in a cost price, the system will disregard the organizational unit and search for the role and unit combination to set the default price after applying any conversion, if required.

If the system does not find a price for the role, then cost price must default to 0.00 on the estimate line. All cost amounts on the project cost estimate lines will be recorded in the currency of the owning organizational unit. OOB CRM functionality stores amounts in base currency as well. This functionality must be leveraged, but the cost amounts shown on the estimates UI will be in the currency of the owning organizational unit.

Sales price defaulting

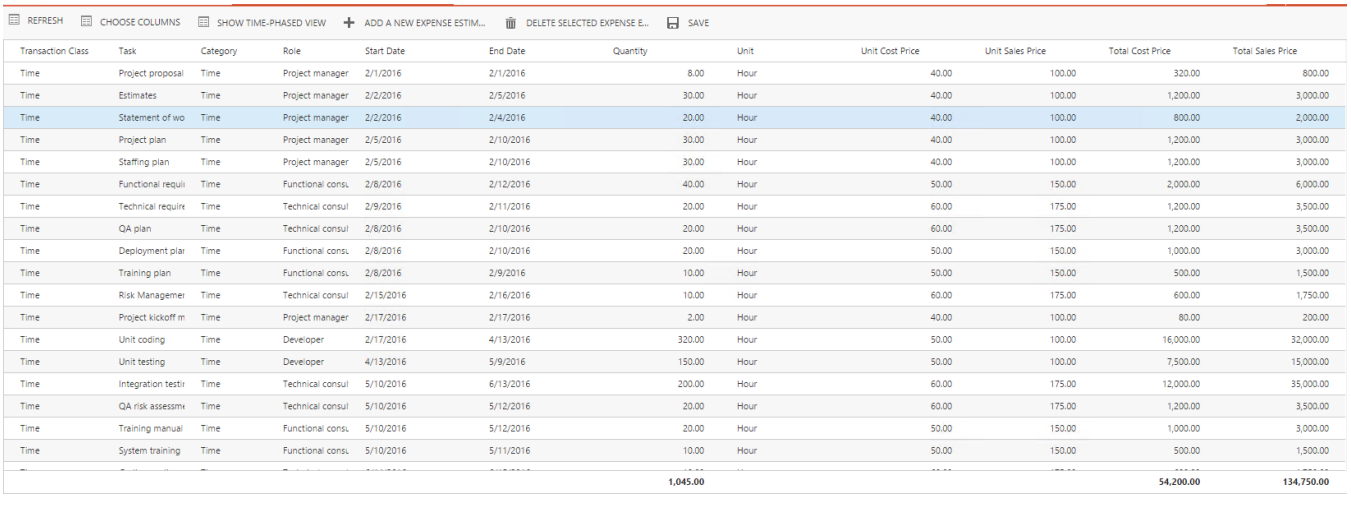
The sales pricelist is determined based on the sales entity the project is attached to, and the sales unit sales price is determined by the pricelist associated to the quote or contract. If the quote or contract has a custom pricelist, this will be the default sales pricelist for the project estimates. If there is no association to the sales entities, then the default sales pricelist from the parameters will be the project's default sales pricelist. Each estimate line has a resource org unit associated to indicate the org unit from which the resources will be booked for completing the task. You can determine the sales price for the associated roles by searching for the combination of role, unit, and resource organizational unit in the sales price list.

If the combination of role, unit, and resource organizational unit does not result in a sales price from the sales price list, the system will disregard unit and search for the combination of role and resource organizational unit. If a sales price is found, this will be converted to the unit picked by the user on the sales estimate line using conversion factor.

If the combination of role and resource organizational unit does not result in a sales price from the sales price list, the system will drop resource organizational unit and search for the role and unit combination for the default price after applying any conversion, if required.

If the system does not find a price for the role, then sales price must default to 0.00 in the estimate line.

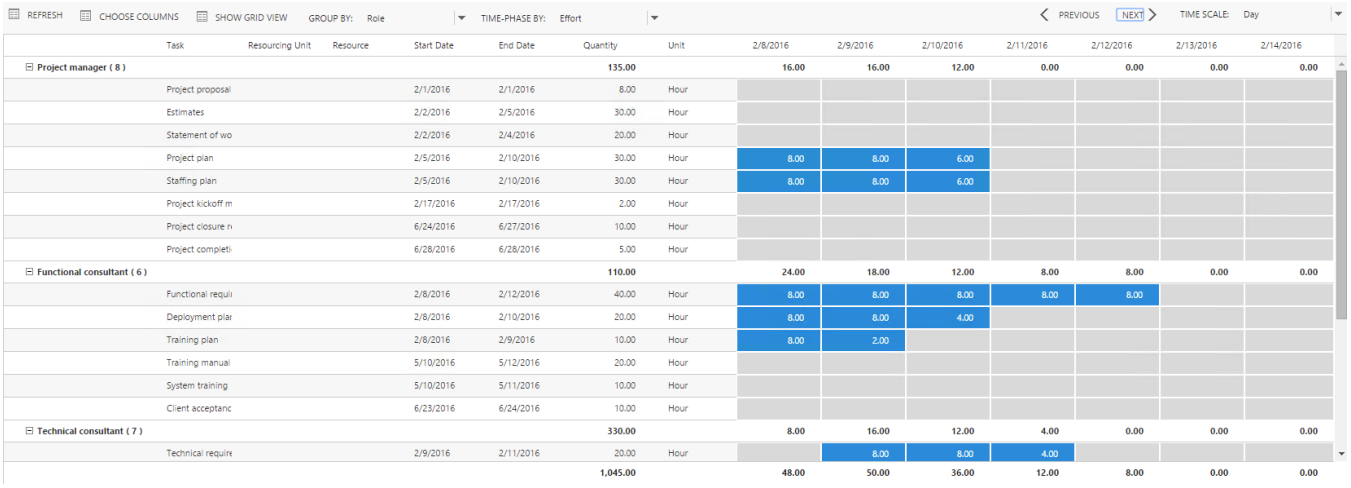
The **estimates** view has a **grid** view that displays a flat grid of estimate lines with unit, total cost, and sales price as shown in the following screenshot.


REFRESH CHOOSE COLUMNS SHOW TIME-PHASED VIEW ADD A NEW EXPENSE ESTIM... DELETE SELECTED EXPENSE E... SAVE

Transaction Class	Task	Category	Role	Start Date	End Date	Quantity	Unit	Unit Cost Price	Unit Sales Price	Total Cost Price	Total Sales Price
Time	Project proposal	Time	Project manager	2/1/2016	2/1/2016	8.00	Hour	40.00	100.00	320.00	800.00
Time	Estimates	Time	Project manager	2/2/2016	2/5/2016	30.00	Hour	40.00	100.00	1,200.00	3,000.00
Time	Statement of wo	Time	Project manager	2/2/2016	2/4/2016	20.00	Hour	40.00	100.00	800.00	2,000.00
Time	Project plan	Time	Project manager	2/5/2016	2/10/2016	30.00	Hour	40.00	100.00	1,200.00	3,000.00
Time	Staffing plan	Time	Project manager	2/5/2016	2/10/2016	30.00	Hour	40.00	100.00	1,200.00	3,000.00
Time	Functional requi	Time	Functional consu	2/8/2016	2/12/2016	40.00	Hour	50.00	150.00	2,000.00	6,000.00
Time	Technical require	Time	Technical consul	2/9/2016	2/11/2016	20.00	Hour	60.00	175.00	1,200.00	3,500.00
Time	QA plan	Time	Technical consul	2/8/2016	2/10/2016	20.00	Hour	60.00	175.00	1,200.00	3,500.00
Time	Deployment plar	Time	Functional consu	2/8/2016	2/10/2016	20.00	Hour	50.00	150.00	1,000.00	3,000.00
Time	Training plan	Time	Functional consu	2/8/2016	2/9/2016	10.00	Hour	50.00	150.00	500.00	1,500.00
Time	Risk Managemer	Time	Technical consul	2/15/2016	2/16/2016	10.00	Hour	60.00	175.00	600.00	1,750.00
Time	Project kickoff m	Time	Project manager	2/17/2016	2/17/2016	2.00	Hour	40.00	100.00	80.00	200.00
Time	Unit coding	Time	Developer	2/17/2016	4/13/2016	320.00	Hour	50.00	100.00	16,000.00	32,000.00
Time	Unit testing	Time	Developer	4/13/2016	5/9/2016	150.00	Hour	50.00	100.00	7,500.00	15,000.00
Time	Integration testi	Time	Technical consul	5/10/2016	6/13/2016	200.00	Hour	60.00	175.00	12,000.00	35,000.00
Time	QA risk assessm	Time	Technical consul	5/10/2016	5/12/2016	20.00	Hour	60.00	175.00	1,200.00	3,500.00
Time	Training manual	Time	Functional consu	5/10/2016	5/12/2016	20.00	Hour	50.00	150.00	1,000.00	3,000.00
Time	System training	Time	Functional consu	5/10/2016	5/11/2016	10.00	Hour	50.00	150.00	500.00	1,500.00
						1,045.00				**54,200.00**	**134,750.00**

Time-phased view of project estimates

In the **Time-phased** view for project estimates, the estimates data from the grid view is pivoted by default on the **Role** dimension and shows a spread of estimate data across the timeline in the chosen timescale.



Task	Resourcing Unit	Resource	Start Date	End Date	Quantity	Unit	2/8/2016	2/9/2016	2/10/2016	2/11/2016	2/12/2016	2/13/2016	2/14/2016
⊟ Project manager (8)					**135.00**		**16.00**	**16.00**	**12.00**	**0.00**	**0.00**	**0.00**	**0.00**
Project proposal			2/1/2016	2/1/2016	8.00	Hour							
Estimates			2/2/2016	2/5/2016	30.00	Hour							
Statement of wo			2/2/2016	2/4/2016	20.00	Hour							
Project plan			2/5/2016	2/10/2016	30.00	Hour	8.00	8.00	6.00				
Staffing plan			2/5/2016	2/10/2016	30.00	Hour	8.00	8.00	6.00				
Project kickoff m			2/17/2016	2/17/2016	2.00	Hour							
Project closure n			6/24/2016	6/27/2016	10.00	Hour							
Project completi			6/28/2016	6/28/2016	5.00	Hour							
⊟ Functional consultant (6)					**110.00**		**24.00**	**18.00**	**12.00**	**8.00**	**8.00**	**0.00**	**0.00**
Functional requi			2/8/2016	2/12/2016	40.00	Hour	8.00	8.00	8.00	8.00	8.00		
Deployment plar			2/8/2016	2/10/2016	20.00	Hour	8.00	8.00	4.00				
Training plan			2/8/2016	2/9/2016	10.00	Hour	8.00	2.00					
Training manual			5/10/2016	5/12/2016	20.00	Hour							
System training			5/10/2016	5/11/2016	10.00	Hour							
Client acceptanc			6/23/2016	6/24/2016	10.00	Hour							
⊟ Technical consultant (7)					**330.00**		**8.00**	**16.00**	**12.00**	**4.00**	**0.00**	**0.00**	**0.00**
Technical require			2/9/2016	2/11/2016	20.00	Hour		8.00	8.00	4.00			
					1,045.00		**48.00**	**50.00**	**36.00**	**12.00**	**8.00**	**0.00**	**0.00**

Effort estimate allocation based on task mode

In the **Time-phased** view, you distribute total effort estimated for the task by allocating a certain number of effort hours per unit time period of the chosen timescale. In project service automation, the task mode determines how effort is allocated across the duration of the task. The two kinds of allocation are **even** allocation and **work hours based** allocation

Work hours based allocation

Autoscheduling task mode sets the daily default hours for task resources at the full work-hours rate. This applies when allocating the effort by splitting it across the duration of task in the **Time-phased** view as well. For example, if you estimate that a task will be completed by one resource on a **Day** timescale, the effort allocated per day will not exceed work hours per day as defined in the project's calendar. Therefore, the effort allocation always ensures that the resources are estimated to be utilized for the full day.

Even allocation

Manually scheduled task mode bases the task schedule on user input. It does not honor the work hours, project calendar, or number of resources defined on the task. For such tasks, the effort allocation per unit time period of the chosen timescale does not have any limiting factor. The total effort on the task is equally split and allocated for each unit time period on the chosen timescale. Thus the task mode defined on the task determines the effort distribution or allocation of effort per unit time period in time-phased estimates.

Grouping and time-phasing options

This view shows the distribution of the effort, cost, and sales estimates on a per day, week, month, or year basis. You can use the **Group By** option to pivot the estimates data on two other dimensions: category and resource. On both **grid** view and **Time-phased** view, it will be possible to choose the fields to be displayed. Totals for each of the time blocks are displayed at the bottom of the project indicating the total estimated effort, cost, and sales for the day, week, month, or year.

The defaults for cost and sales price are date-effective; these estimates will change for each resource based on what **Time-phased** view you select.

Expense estimates

With the **add expense estimate** in **grid** view you can record any expense that will be incurred in the project that is not directly related to labor. You can record the expense estimates for a specific task or for the entire project. Choose expense categories and a tentative date when the expense is expected to be incurred. If the associated cost and sales pricelist have default prices (or markup percentages defined for expense categories), they will default on the estimate line on association.

Tracking project progress and cost consumption

The need for tracking progress against a WBS varies across industry verticals. Some industries do it more diligently at a very granular level of the WBS, while other may track at a higher level of WBS. This section shows how you can use WBS tracking in project service automation to meet your requirements.

Effort tracking view

The **Effort tracking** view shows the tracking of progress for tasks in the WBS. It compares the actual effort hours spent against a task till date to the planned effort hours on a task. Project service automation uses the following formulas to show the tracking metrics:

- Progress % = actual effort spent to date/planned effort for the task
- Estimate to complete (ETC) = planned effort - actual effort spent till date
- Estimate at complete (EAC) = remaining effort + actual effort spent till date
- Projected effort variance = planned effort - EAC

Project service automation shows a projection of the effort variance on the task. If EAC is more than planned effort, the task is projected to take more time than originally planned and is behind schedule. If EAC is less than planned effort, the task is projected to take less time than originally planned and is ahead of schedule.

Project manager's re-projection of effort

It is common for the project manager to revise the original estimates on a task. Project re-projections are a project manager's perception of estimates given the current reality on a project. Changing the baseline numbers is not recommended or preferred since the project baseline represents an established source of truth for the project's schedule and cost estimate that all stakeholders on the project have agreed to.

There are two ways to re-project effort on tasks:

- The project manager can override the default ETC with a new estimate of the actual remaining effort on the task.

- The project manager can override the default progress % with a new estimate of the true progress on the task.

Either of these approaches will cause a recalculation of the task's ETC, EAC, progress %, and the projected effort variance on a task. The EAC, ETC, and progress % on the summary tasks are also recalculated, and their projection of effort variance is refreshed.

Re-projection of effort on summary tasks

Re-projection of effort on summary tasks or container tasks is allowed. Whether the user re-projects by using the Remaining effort or progress % on the summary tasks, the following set of calculations are triggered:

- EAC, ETC, and progress % on the task are calculated.
- The new EAC is then distributed down to the child tasks in the same proportion as the original EAC was on the task.
- The new EAC on each of the constituent tasks down to the leaf node tasks is then calculated.
- The affected child tasks down to the leaf nodes will have their ETC and progress % recalculated based on the EAC value. This results in a new projection for the effort variance of the task.
- The EACs of the summary tasks all the way to the root node are recalculated.

Cost tracking view

Cost tracking view compares the actual cost spent against a task till date to the planned cost on a task. Project service automation uses the following formulas to show the tracking metrics:

- Percent of cost consumed = actual cost spent till date/planned cost for the task
- Cost to complete (CTC) = planned cost – actual cost spent till date
- EAC = CTC + actual cost spent till date
- Projected cost variance = planned cost – EAC.

A projection of the cost variance is shown on the task. If EAC is more than planned cost, the task is projected to use more money than originally planned for and is trending over budget. If EAC is less than planned cost, the task is projected to use less money than originally planned for and is trending under budget.

Project manager's re-projection of cost

When effort is re-projected for a WBS element(s) on the **Effort tracking** view, the elements CTC, EAC, percent of cost consumed, and the projected cost variance are all recalculated on the **Cost tracking** view.

Project status summary

Tracking data in the **Effort tracking** view and **Cost tracking** view show progress and cost consumption at project root node, summary, and down to the leaf node tasks. The **Status** section on project entity page shows a summary of project-level status.

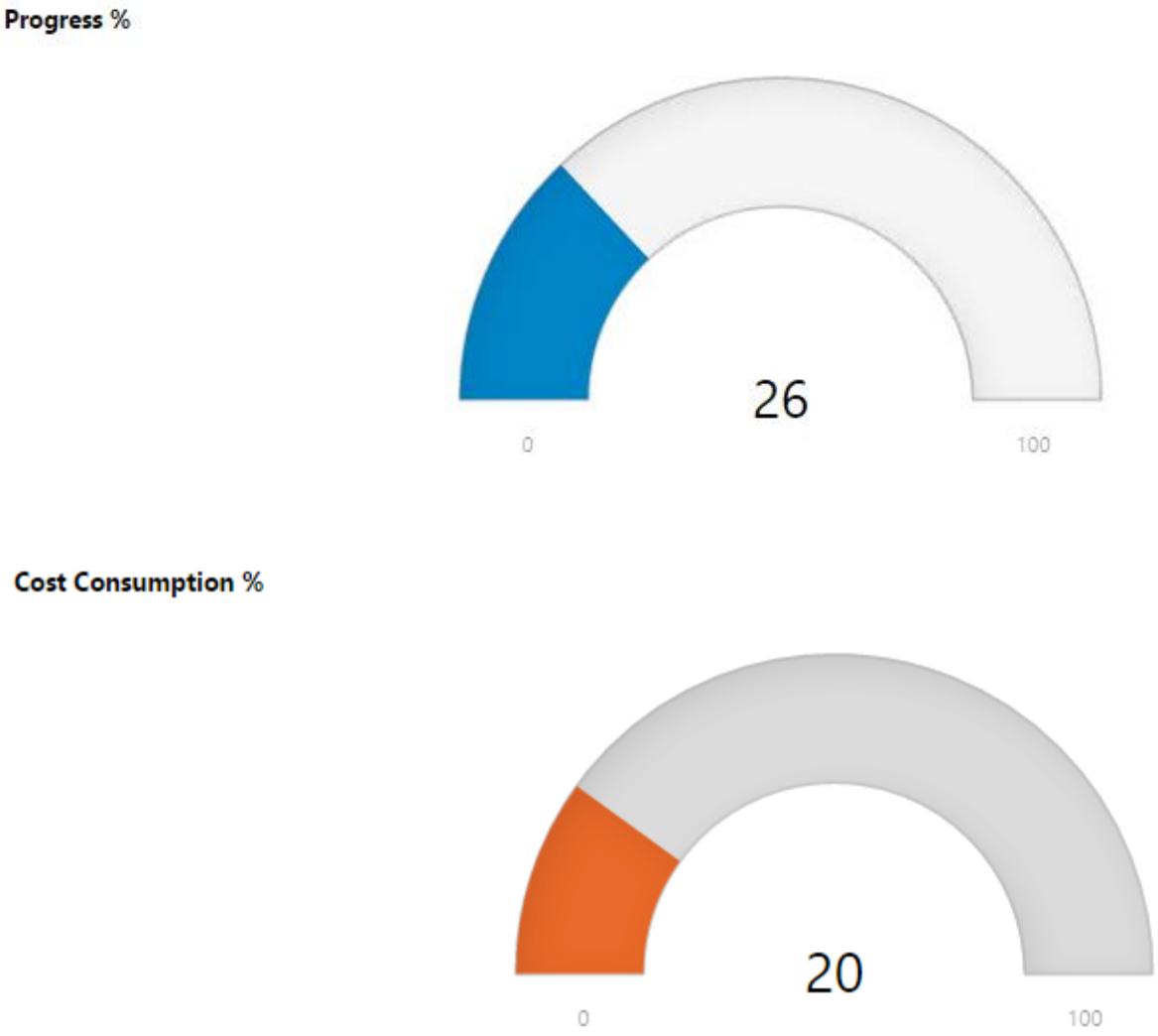
Status summary fields

The **Overall project status** field is a user-controlled field that shows the overall status of the project with color codes such as green, yellow and red to indicate increasing order of risk. The **Comments** field allows the project manager to enter specific comments about the status. The **Status updated on** field is a system-driven field that shows a timestamp of when the status was last updated.

The default **Schedule performance** and **Cost performance** fields are set from the tracking date. You can set them to **ahead** when the schedule and cost variance for the root node in **Effort tracking** view is positive, and you can set them to **behind** when the variance at the root node is negative.

Progress and cost consumption summary chart

In addition to these text fields, there are charts to visually represent the status of the project. The two arcs for **Progress %** and **Cost Consumption %** indicate a percentage value shown shaded inside the arcs.

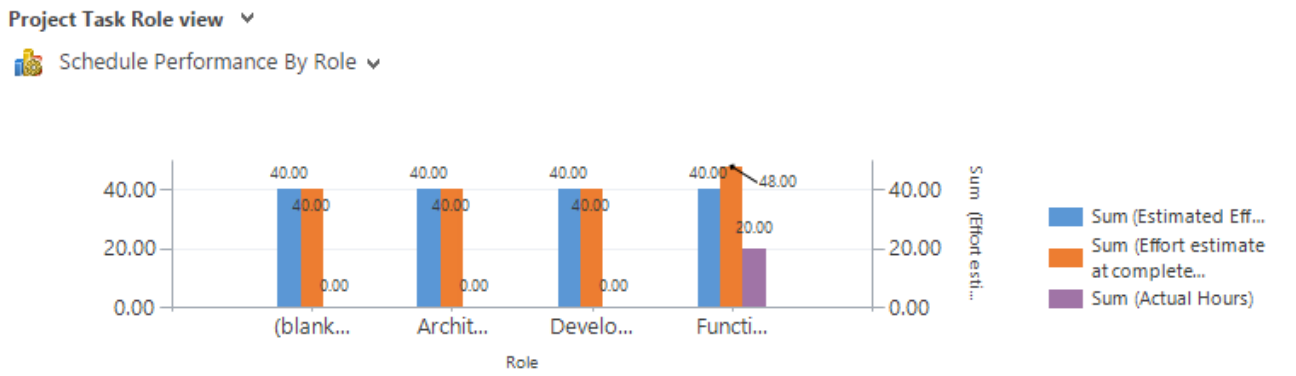


Estimates vs actuals

The following charts shows detailed comparison of estimates to actuals from schedule and cost perspectives.

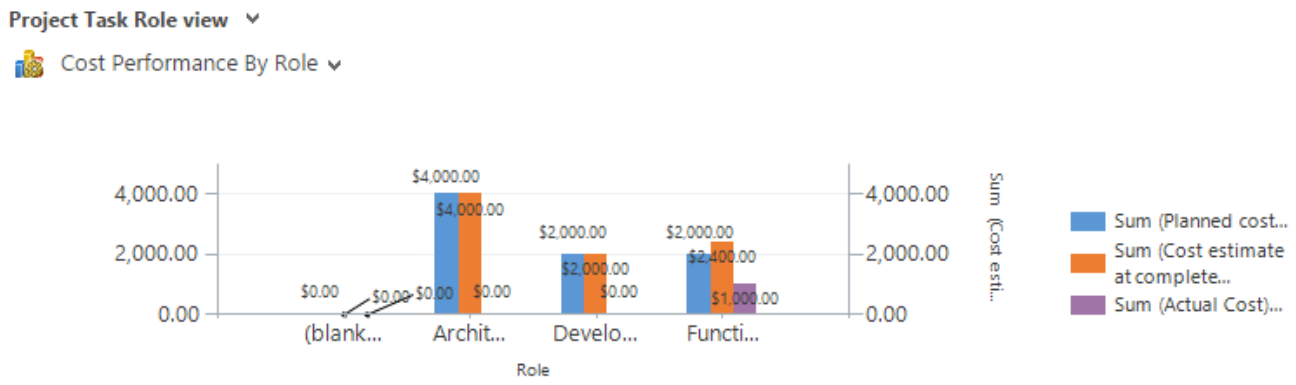
Schedule Performance by Role chart

The **Schedule Performance by Role** chart shows a comparison of effort estimates, actuals, and EAC values summed up by roles from the detailed task-level data on the **Effort tracking** view. This provides an all-up comparison of estimated values to actual values plus a visual understanding of health of the project. These metrics can be viewed for summary tasks by changing the chart view to **Schedule performance by phase**.



Cost Performance by Role chart

The **Cost Performance by Role** chart shows a comparison of cost estimates, actuals, and EAC values summed up by roles from the detailed task-level data on the **Cost tracking** view. This provides an all-up comparison of estimated values to actual values plus a visual understanding of the health of the project budget. These metrics can be viewed for summary tasks by changing the chart view to **Cost performance by phase**.



Project templates

A project template is a predefined framework that helps you start on a project quickly and easily. In project service automation, you can use one of the predefined templates to create a new project with a single click. As with a project, you need to define the prerequisites for a project template. You'll need to define a project calendar for each project template, and roles and pricelists must be predefined in the organization for the components of the template to have useful data.

Components of a project template

A project template consists of three components: A WBS, project estimates, and project team members.

Work Breakdown Structure

A WBS in a project template has the same set of elements as it would in the project. You can create a task hierarchy, associate roles to task, define schedule attributes, set dependencies, and view all the data in the Gantt. A WBS in project templates will also support task modes for each task and therefore support the scheduling engine. You must associate a project calendar to the project. There is no difference between a project template and a project when creating work schedule.

Project estimates

Project estimates in templates work the same way as in projects, but the cost and sales prices are always pulled from the default cost and sales pricelist defined in the parameters.

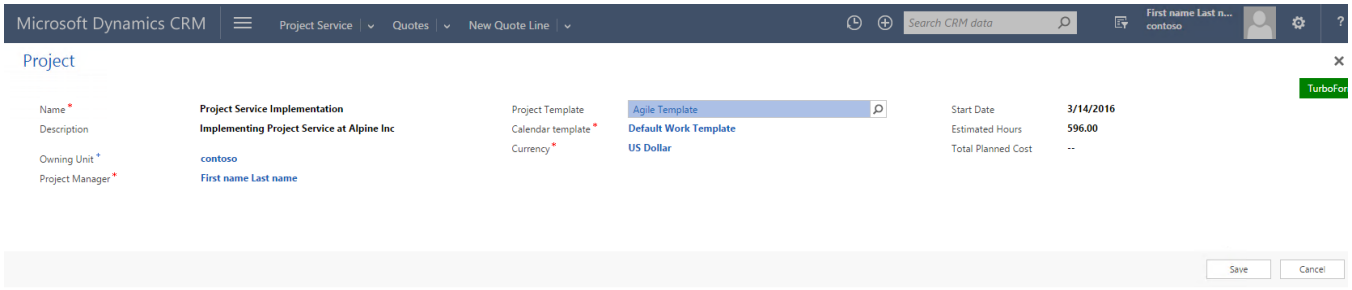
Project team formation

You can't book a named resource in a template when forming a project team for a project template. You can create a set of generic resources with the **Generate PROJECT TEAM** action on the WBS, and you can also specify required skills and proficiencies for the generic resource. Substituting a generic resource with a bookable resource is not allowed in project templates.

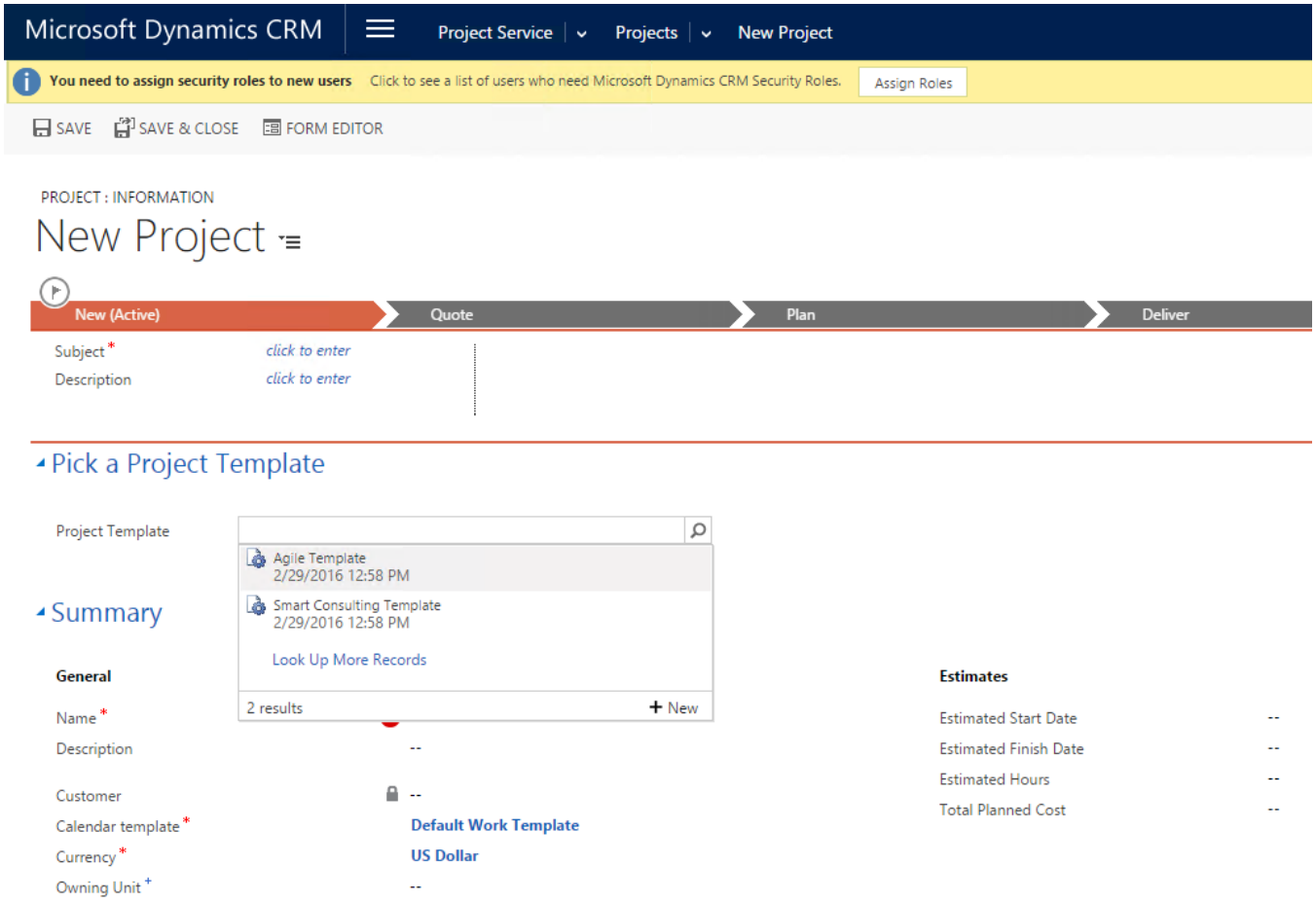
Creating a project from a template

A project can be created from a template in number of ways:

1. When you create a project from the quote, you can choose a project template in the project quick create form.



2. When creating a project by clicking **New Project**, the project form is displayed prior to saving the record. In this state, you can use the **Pick a template** field to choose from the list of predefined project templates in the organization.



3. You can use the **Create project from a template** option in the template entity page to initiate project creation from the template.

Copying components of template to project

When copying the components of a template into a project, a few overrides can happen depending on the values in the project.

Copying work breakdown structure

When you copy the WBS from the template, work hours from the project's calendar will be applied to the schedule of tasks if the project has a different project calendar than the template. This will adjust the schedule to honor the backing project calendar. Similarly, the first task on the WBS will take the project's start date, and the schedule of the rest of the hierarchy will be updated based on the duration and dependencies specified in the template's WBS.

Copying project estimates

When copying across project estimate lines, the pricelists will be updated based on the owning unit of the project for the cost pricelist, and the customer for the sales pricelist. The unit cost and sales prices will be determined from these pricelists on projects that are associated to a sales entity.

Copying project team

When a project team is copied from the template to project, the generic resources will be copied across along with the skills and proficiencies defined in the template. Generic resource assignments will also be maintained as in the project template.

Project stages

As the engagement progresses in project service automation, the project stages are updated to reflect the stage of the engagement. The default business process flow automatically moves the stages of project. The stages defined in the default business process flow are: **New**, **Quote**, **Plan**, **Deliver**, **Complete**, and **Close**.

New

When you create a project, the stage is set to **New**. If the project was created from a template, the project may have schedule, estimates, and team data. Otherwise, it will be the outline of the project on which rest of the components must be manually entered.

Quote

When you associate a project to a quote or when you create a project from a quote, the project stage is set to **Quote** and the estimated start and end date is updated as well. When the project is in **Quote** stage, details on the quote will be shown on the **Sales** tab in the project entity page.

Plan

When you win a quote associated to a project and when the engagement progresses to the **Contrac**t stage, project stage will be updated to **Plan** stage. Similar to the **Quote** details in the **Sales** tab, details about the contract will be displayed as well.

Deliver

When the project plan is complete and when it's time to kick off the project, the project manager should manually switch the project stage to **Deliver** to indicate that the project has begun.

Complete

The project manager can switch the stage to **Complete** when the project work has been completed. When the project manager sets the project stage to complete, the understanding is that work is 100% complete, but the project is kept open for any pending time or expense entries to be recorded.

Close

When all transactions have been recorded on the project, the project manager can manually set the stage to **Close**. At this point no more transactions can be logged and the project will be rendered read only.

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