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About Planned Maintenance

Planned Maintenance in Essentials Edition allows you to plan preventative maintenance for your corporate assets. Planned maintenance helps to reduce the unexpected costs of reactive maintenance. Planned Maintenance consists of two TSIs: [Maintenance library](#) and Maintenance planner.

Planned Maintenance - Concepts

Planned Maintenance includes two TSIs: **Maintenance Library** and **Maintenance Planner**. It also shares functionality with the Technical assets TSI.

In **Maintenance Library** you can add various libraries containing standard service plans and standard activity definitions. These standard service plans and standard activity definitions can subsequently be linked to assets in the Technical assets TSI. In **Maintenance Planner**, these standard service plans and standard activity definitions can be used to compile a maintenance plan.

Activity

A scheduled maintenance task to be performed on an asset or building element as part of a maintenance plan. A maintenance order can be generated from each activity. Activities can also be clustered and together be assigned to a single maintenance order.

Activity definition

An element in Planon ProCenter that defines a maintenance activity and includes detailed data on the preventive maintenance of an asset.

There are five types of activity definitions:

- On a generic level: **standard activity definitions**, which are added and maintained in **Maintenance Library**. Standard activity definitions are typically used for large groups of assets. Activity definitions that are based on standard activity definitions are added to a maintenance plan when it is compiled;
- On the most specific level: **maintenance activity definitions** that are added specifically and directly to a maintenance plan in **Maintenance Planner** at the **Definitions & Schedules** selection level.

See also

[Maintenance library](#)


[Survey activity definitions in Planned Maintenance](#)




[Maintenance regime is non-cyclic](#)

Activity definition status

The extent to which activities are scheduled or re-scheduled in an activity definition.

In **Maintenance Planner**, activity definitions can assume four system statuses: **Unbalanced**, **Balanced**, **Postponed** or **Canceled**. These statuses are selected at the **Definitions & schedules** selection level > **Status transitions** action panel and they refer to activity scheduling as described below:

-  = balanced. This status means that the activity definition's activity scheduling is finalized, because its work has been balanced over time and against the linked budget;

-  = unbalanced. This status means that the activity definition's activity scheduling is not finalized, because its work has not been balanced over time and against the linked budget;
-  = postponed. This status means that scheduled activities are postponed. As a result, no maintenance orders can be generated;
-  = canceled. This status means that scheduled activities are canceled. As a result, no maintenance orders can be generated.

Activity status

The phase a recurring or non-recurring activity is in.

In **Maintenance Planner**, activities can have four system statuses: **Planned**, **In progress**, **Completed** and **Canceled**. These statuses are selected at **Details > Maintenance activities**.



In **FieldDefiner**, the Planon administrator can create user-defined statuses for activities.

Activity statuses are affected by the statuses of generated maintenance orders.

If a maintenance order is in either the **Technically completed** or the **Administratively completed** status, the corresponding activities are assigned the **Completed** status, with the exception of those that are in the **Canceled** status. If a maintenance order is assigned the **Canceled** status, the corresponding activities are also canceled, with the exception of those that are in the **Completed** status.

See also

[Completing an activity](#)

[Canceling an activity](#)

[Completing an activity](#)

Activity type

The type of maintenance associated with the activities generated from an activity definition.

There are four types of activity: routine, statutory, other mandatory and replacement.

- **Routine:** the activity must be carried out, but no specific agreement or regulation is applicable;
- **Other mandatory:** the activity must be carried out due to agreements (e.g. with an insurance company, to comply with warranty conditions, company policy, etc);
- **Statutory:** the activity is mandatory by law;
- **Replacement:** the activity must be carried out in order to replace the relevant asset;

See also

[Adding an activity definition to a service plan](#)

Assets in Planned Maintenance

Assets are items of value owned by an organization. In Essentials Edition they are registered in Technical assets .

The Technical assets TSI allows you to maintain data on assets and to keep track of their locations and owners. With regard to asset maintenance, this TSI allows you to make the necessary preparations for compiling maintenance plans for assets and building elements in **Maintenance Planner**.

In **Maintenance Planner**, basic functionality for assets and building elements is also available, at **Activity filters > Assets**. This selection level only displays assets and building elements that are linked to properties in the selected maintenance plan.

Asset classification

A functional and hierarchical grouping of assets that require planned preventative maintenance. The individual items in the asset classification have their own descriptions and codes.

Asset classifications are added and maintained in **Supporting Data > Asset classification**.

They can subsequently be selected in **Maintenance Planner > Asset filters**. Different methods of asset classification are used for different types of assets. If you select an asset classification at **Asset filters** and subsequently drill down to **Definitions & schedules**, only the activity definitions with assets belonging to that asset classification are displayed in the elements list.

Asset group

A functional and hierarchical grouping of assets that require planned preventative maintenance. The individual items in an asset group have their own descriptions and codes.

If you select an asset group at **Asset filters** and subsequently drill down to **Definitions & schedules**, only the activity definitions with assets belonging to that asset group are displayed in the elements list.

Building element

An essential part of a building that protects the building occupants and affects the indoor environment.

In Planon ProCenter, building elements form a part of the company assets, which are added and maintained in **Asset Management > Technical assets**.

Examples

- window frames
- outer walls
- inner walls
- roof covering
- floor slabs

- doors

Clustering

The grouping together of several maintenance activities by applying certain criteria, with the purpose of generating one maintenance order for each 'cluster' of activities. Clustering is performed automatically according to several system defined criteria, such as property or order group. In addition, you can select optional clustering criteria, such as rentable unit, floor or space.

In **Maintenance Planner**, activities are clustered by clicking the **Generate clustered orders** button at **Definitions & schedules**. The generated maintenance order with its clusters of activities becomes available in the Work Orders TSI.



See also

[Generating maintenance orders for clustered activities](#)

Expected costs

The costs that are expected to occur for each maintenance activity belonging to a maintenance activity definition. Expected costs can be one of three types: **Additional costs**, **Material costs** and **Labor-hour costs**.

In **Maintenance Planner**, expected costs are added to the selected maintenance activity definition at **Details > Expected costs**. Each type of maintenance costs is represented by its own icon in the elements list:

-  Additional costs
-  Material costs
-  labor-hour costs

When maintenance orders are generated for an activity definition, any associated expected costs are copied to the estimates and order lines of the generated maintenance orders in Work Orders .



If an activity definition is deleted, any linked expected costs are also deleted.

Graphical planner in Planned Maintenance

A graphical timetable that depicts the recurring and non-recurring maintenance activities of the selected maintenance plan.

In **Maintenance Planner**, the graphical planner at **Definitions & schedules** supports two important tasks:

- work balancing
- cost planning

Additionally, it facilitates quick (re)scheduling of maintenance activities. By clicking an activity in the schedule, you can easily drag-and-drop it to a more convenient date and time. For more information see [Work balancing in the graphical planner](#).

Order group

The thematic group to which an order belongs.

Order groups are used to classify orders into meaningful categories. An order group is a hierarchical element which means that you can also add sub order groups.

Example

You can for example add order groups for Housing, Services, Facilities and ICT.

Overruling activity definition

If an activity definition is linked to the same [service plan](#) and [asset](#) as other activity definitions and it includes equivalent activities, but it is linked to a different schedule, it can be designated as overruling other activity definitions.

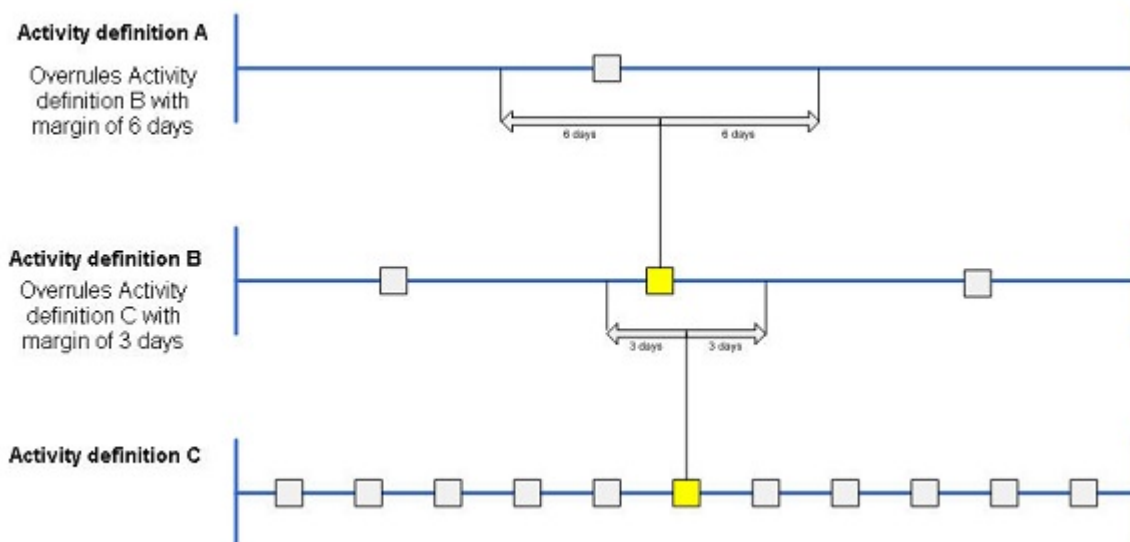
In **Maintenance Planner**, at **Definitions & Schedules > Activity definitions**, overruling activity definitions are selected in the **Overruled by schedule from...** field. The margins for overruling are specified in the **Period of overruling schedule** field.

Example

Three activity definitions, A, B and C are linked to the same asset and service plan:

Activity definition B is overruled by Activity definition A, within a margin of plus or minus six days.

Activity definition C is overruled by Activity definition B, within a margin of plus or minus three days. If Activity definition B is deactivated, Activity definition A will overrule Activity definition C.



See also

[Adding an activity definition to a service plan](#)

See also

[Adding an activity definition to a service plan](#)

[Deep copying a standard service plan](#)

[Maintenance regime is time-based](#)

Maintenance order

A (*planned*) *maintenance order* or *PPM order* is generated in **Maintenance Planner** and added in **Work Orders** for a single maintenance activity or cluster of activities in a definitive maintenance plan.

In **Maintenance Planner**, maintenance orders are generated at **Definitions & Schedules**. They can be monitored and their statuses can be changed in **Work Orders** .

See also

[Generating maintenance orders](#)

[Scheduling automatic generation of maintenance orders](#)

Maintenance planner

A TSI designed to plan all preventative maintenance for the assets and building elements associated with properties or contracts. Preparations for populating this TSI with data can be made in the [Maintenance Library](#) TSI.

See also

[Working with Maintenance Library](#)

[Working with Maintenance Planner](#)

Maintenance plan

A scheme containing all preventative maintenance for the assets and building elements that are linked to one or more properties or contracts in a specific period, usually a year. A maintenance plan is often based on a maintenance plan from the previous year.

A 'blank' maintenance plan is first added in **Maintenance Planner** at the **Maintenance plans** selection level. A maintenance plan is subsequently populated with content by compiling it: this means including the standard service plans and all corresponding activity definitions that are available for the properties and contracts linked to the maintenance plan. Maintenance plans can be assigned various statuses: **In preparation**, **Active** and **Closed**.

See also




[Maintenance plan status](#)

Linking properties to a maintenance plan

Maintenance plan status

The phase a maintenance plan is in.

In **Maintenance Planner**, maintenance plans are assigned the following system statuses:

-  : In preparation
-  : Active
-  : Closed

If assigned the **Active** status, the maintenance plan must be made definitive by selecting **Yes** in the **Definitive (Y/N)** field, in order to be able to generate maintenance orders.



If you make a maintenance plan definitive that has linked asset condition details, Planon ProCenter will check other definitive maintenance plans with activity definitions in the **Unbalanced** or **Balanced** status for the same asset condition details. If such activity definitions exist, Planon ProCenter will change the status of the activity definitions in the current plan to **Cancelled** and display a warning.

See also

[Maintenance plan](#)

[Changing the status of a maintenance plan](#)

Properties

A selection level in **Maintenance Planner** showing the properties that are linked to a maintenance plan.

Properties > Properties displays:

- Properties that you linked directly to a maintenance plan;
- Properties and their subproperties that belong to the contract lines that are linked to the maintenance plan;
- Properties belonging to the assets or building elements (via their asset locations) that are linked to the contract service plans in a compiled maintenance plan;
- Properties that belong to existing activity definitions from previous compiled contract-based maintenance plans.

Schedule

The **schedule** is the timetable linked to an activity definition. The graphical planner shows a visual representation of the schedule, displaying all the maintenance activities that are scheduled for the activity definition.

The timetable of an activity definition can contain activities that are purely time-based:

- A time-based schedule allows a maintenance activity to be set to occur hourly, daily, weekly, monthly, yearly or on specific dates.

For an activity definition, a time-based schedule can be set in **Maintenance Manager > Maintenance Planner** at **Definitions & schedules**;

For a standard activity definition, a time-based schedule is set in **Maintenance Manager > Maintenance Library** at **Standard activity definitions**;

Examples

Example of time-based schedule 1: Daily > every 2 days

Example of time-based schedule 2: Weekly on Monday, Tuesday and Wednesday

Example of time-based schedule 3: Monthly on day 5

See also

[Time-based maintenance](#)

Scheduling method

A method assigned to an activity via its activity definition, which determines how the start dates of future activities are affected if an end user modifies the start date-time of the activity, or sets the status of a previous activity to completed.

In **Maintenance Planner** a scheduling method is selected at **Definitions & Schedules > Activity definitions** in the **Scheduling method** field.

There are three methods available in the scheduling method field:

- **Variable** method: Changing the start date of an activity scheduled via the selected activity definition *does not change the start and end dates of future activities* scheduled in the same activity definition.
- **Fixed** method: Changing the start date of an activity scheduled in the selected activity definition *changes the start dates of future activities* scheduled via the same activity definition accordingly. For example, if you put the start date back by two days, the start dates of other activities are also put back by two days.
- **Fixed completion** method: Changing the completion date of an activity scheduled via the selected activity definition *causes the start date of the next activity scheduled via the same activity definition to change accordingly*. For example, if you put the completion date back by one month, the start date of the next scheduled activity is also put back by one month.



If an activity definition is assigned the **Fixed completion** scheduling method, only 1 maintenance order can be manually generated at a time and only if the previous maintenance order is in **Technically completed** / **Administratively completed** status. If relevant, the start dates of future activities are moved forward or put back in accordance with the changes to the intervals between the activities.



If a maintenance activity in a **Fixed completion** sequence has already been executed, but setting this activity to the **Completed** status takes longer than anticipated, the actual completion is moved to a later date. As a result, future activities are also delayed. If this is not what you want, you can *antedate* the completion of this latest maintenance activity, by giving it a completion date prior to that of the order. You do this via the **Actual completion date** field of the maintenance activity. Antedating the activity will not affect the **Technically completed** date of the related maintenance order. However, it will make sure that the start date of next activity in line is based on the correct **Actual completion date** of the previous maintenance activity.

Trade

In **Maintenance Planner**, maintenance activities can be filtered according to the trade with which they are associated, such as heating, plastering, painting, electrical, etc.

In **Maintenance Planner** trades are added or selected at **Activity filters > Trades**.

Unit

A unit of measurement on which cost calculations are based. For example: pieces, dozen, m2, m3 or kilo.

You can maintain units in Supporting data > **Unit of measurement**.

Work type

In **Maintenance Planner**, maintenance activities can be filtered according to the type of maintenance (work) with which they are associated, such as deferred maintenance, preventive maintenance or maintenance connected with a renovation.

In **Maintenance Planner** work types can be selected at **Activity filters > Work types**. Work types are maintained in **Supporting data > Unit of measurement**.

Maintenance Library - Concepts

This section describes the concepts available in **Maintenance Library** and how they interact with each other.

Checklist items

Additional technical or other information on a maintenance activity, intended for the tradesperson carrying out the maintenance.

Checklist items can be viewed and added to standard activity definitions in **Maintenance Library > Details**. When maintenance orders are generated in the **Work Orders** TSI, the checklist information can be included in a report (form) for the person carrying out the maintenance.

See also

[Adding checklist items to a standard activity definition](#)

Maintenance library

A collection of standard service plans with standard activity definitions, often created and supplied by an external party carrying out the maintenance. The use of maintenance libraries is not mandatory, but they are useful for the compilation of comprehensive maintenance plans in **Maintenance Planner**.

In **Maintenance Library**, maintenance libraries are added and maintained at the **Maintenance Libraries** selection level. The standard service plans and standard activity definitions that are included in a maintenance library can be linked to assets in **Technical assets**.

Example

Each internal or external party that is responsible for the maintenance of assets can add its own maintenance library with standard service plans to the **Maintenance Library** TSI. So the party in charge of servicing the air-conditioning units may add one library, while the company contracted to do the paintwork may add another library.

See also

[Activity definition](#)

[Standard service plan](#)

[Standard activity definition](#)

Standard activity definition

A 'template' for a maintenance activity to be performed on assets that require planned preventative maintenance.

Standard activity definitions cannot be added separately: they must be added to a selected standard service plan in **Maintenance Library** at the **Standard activity definitions** selection level. Standard

activity definitions are linked to M&E Assets & Building elements in the **Technical assets** TSI via their corresponding standard service plan. After being linked to an asset, they are used to compile maintenance plans in **Maintenance Planner**.



Essentials Edition ensures that field changes are automatically implemented in all types of activity definition. Thus, the fields of standard activity definitions and other activity definitions remain identical. Example: if a field attribute for one type of activity definition is changed, an identical field change is automatically implemented in all standard activity definitions.

See also

[Maintenance library](#)

[Adding a standard activity definition to a standard service plan](#)

Standard service plan

A standard service plan is a 'template' service plan that is designed for a specific type of asset or building element, containing a set of standard activity definitions. Standard service plans are linked to assets/building elements in Technical assets and used to compile maintenance plans in **Maintenance Planner**.

Standard service plans are part of a maintenance library. In **Maintenance Library**, standard service plans can be added to maintenance libraries and also copied at the **Standard service plans** selection level.

See also

[Contract service plan](#)

[Service plan](#)

[Asset service plan](#)

[Maintenance library](#)

[Service plan](#)

[Asset service plan](#)

[Compiling a property-based maintenance plan](#)

Getting started with planned maintenance

The following preparations should be made to set up an operational maintenance plan in Essentials Edition :

- [Preparations in Planned Maintenance](#)
- [Preparations in Technical assets](#)

Preconditions for setting up a maintenance library

A maintenance library should include the following:

1. At least one **Standard service plan**.
2. At least one scheduled **Standard activity definition**.
3. Links between the service plan(s) you created and the assets that you want to maintain.

Preparations in Planned Maintenance

The following preparatory steps have to be made in Planned Maintenance in order to set up planned maintenance in Essentials Edition :

1. Add a maintenance plan for a certain time frame.
2. If you want to generate planned maintenance orders for your activities, make sure that the following values are set for your maintenance plan:

Status: Active

Is definitive: Yes

3. Link all the properties that you need to maintain within your maintenance plan (via **Link properties**).
4. Compile your maintenance plan for the properties you have linked.

Preparations in Technical assets

For all assets and building elements that require maintenance, the **Is planned maintenance required?** field must be set to **Yes**. Also, a standard service plan must be linked to the asset(s) or an asset specific service plan created with at least one activity. To do so, refer to [Working with Maintenance Library](#).

Working with Maintenance Library

This section describes the processes and tasks that can be performed with the **Maintenance Library**.

See also

[Maintenance planner](#)

Adding a maintenance library

You can create a maintenance library by adding a set of standard service plans with standard activity definitions. These standard service plans and their standard activity definitions can subsequently be linked to assets. Once a link is established between an asset and one or more standard service plans, they are ready to be used to compile a maintenance plan in **Maintenance Planner**.

Procedure

1. At **Maintenance libraries**, click **Add**.
2. In the data section, complete the **Code** and **Description** fields.
3. Click **Save**.

You can now add standard service plans to this maintenance library at **Standard service plans**.

See also

[Compiling a property-based maintenance plan](#)

Adding a standard service plan to a maintenance library

Use the following procedure to add a standard service plan to a maintenance library.

Procedure

1. On the **Maintenance Library > Standard service plans** selection level, click **Add**.
2. In the data section, complete the relevant fields. For a description of these fields, refer to [Standard service plan fields](#)
3. Click **Save**.
4. If required, add more standard service plans to the selected maintenance library by repeating steps 1 to 3 above.

Once you have finished adding standard service plans, you can start adding standard maintenance activities to a selected standard service plan at the **Standard maintenance activities** selection level.

Copying a maintenance library

You can make a duplicate of an existing maintenance library, excluding linked standard service plans and standard activity definitions.

Procedure

1. Go to **Maintenance Library > Maintenance libraries**.
2. Select the maintenance library you want to copy.
3. In the **Maintenance libraries** action menu, click **Copy**.

A copy of the maintenance library is made.

Deep copying a maintenance library

You can duplicate an existing maintenance library, including linked standard service plans, standard activity definitions and schedules. Copying linked expected costs and check list items is optional.

Procedure

1. Go to **Maintenance Library > Maintenance libraries**.
2. Select the maintenance library you want to deep copy.
3. In the **Maintenance libraries** action menu, click **Deep copy**.

The **Copying** dialog box is displayed.

4. To copy checklist items and/or any linked costs, select the relevant options.
5. Click **OK**.

A comprehensive copy of the maintenance library is made.

Copying a standard service plan

Use the following procedure to duplicate a standard service plan in a maintenance library, excluding linked standard activity definitions, expected costs, checklist items and schedules.

Procedure

1. Go to **Maintenance Library > Standard service plans**.
2. Select the standard service plan you want to copy.
3. In the **Standard service plans** action menu, click **Copy**.

A copy of the standard service plan is made.

Deep copying a standard service plan

You can duplicate a standard service plan in a maintenance library, including linked standard activity definitions, expected costs, checklist items, schedules.

Procedure

1. Go to **Maintenance Library > Standard service plans**.
2. Select the standard service plan you want to deep copy.
3. In the **Standard service plans** action menu, click **Deep copy**.

The **Copying** dialog box is displayed.

4. To copy checklist items and/or any linked costs, select the relevant options.
5. If required, modify the copy's data, such as its **Description**.
6. Click **OK**.

A comprehensive copy of the standard service plan is made.



Assets that are linked to the original standard service plan are not copied to the new standard service plan.
If the standard service plans include standard activity definitions that overrule other standard activity definitions, the deep copy will mirror that.

See also

[Overruling activity definition](#)

Linking standard service plans to assets

You can link standard service plans to an asset.



For more information on assets, see *Assets*.

Procedure

1. Go to **Maintenance Planner** > **Asset filters**.
2. In **Maintenance Planner** go to **Activity filters** > **Assets** and select the asset to which you want to link standard service plans.
3. On the **Links** action menu, click **Link standard service plans**.
The **Link standard service plans** dialog box appears.
4. In **Available**, select the standard service plans you want to link to the selected asset.



If a large number of standard service plans is shown in **Available**, you can locate the required standard service plans more efficiently by filtering on classification group or asset classification. You do this by selecting the relevant option in conjunction with criteria you can specify in the search filter.

5. Click the right arrow button to transfer the standard service plans you selected to **In use**.
6. Click **OK**.

The standard service plans are now linked to the selected asset.

Linking assets to a standard service plan

You can link several assets to a standard service plan.

Procedure

1. At the **Maintenance Library > Standard service plans** selection level, select the standard service plan to which you want to link assets.
2. On the action panel, click **Link assets**. The **Link assets** dialog box appears. The **Available** section lists the assets available in Planon ProCenter to be linked to the selected standard service plan. The **In use** section lists the assets already linked to the standard service plan.



Use the filter options to filter out assets in the context that you require:

All: filters out all assets that are in use and not archived;

Classification group: filters out all assets with the same classification group as the standard service plan.

3. Click the arrow buttons to move assets from **Available** to **In use** or vice versa as required and then click **OK** to close the dialog box.

The assets listed in **In use** are now linked to the standard service plan.

Linking standard service plans to a building element

You can link standard service plans to a building element.

Procedure

1. In **Maintenance Planner** go to **Activity filters > Assets** and select the building element to which you want to link standard service plans.
2. On the **Links** action menu, click **Link standard service plans**.

The **Link standard service plans** dialog box appears.

3. In **Available**, select the standard service plans you want to link to the selected building element.



If a large number of standard service plans are shown in **Available**, to locate the required standard service plans more efficiently, you can choose to only display those service plans belonging to a specified classification group or asset classification by selecting the appropriate option in conjunction with criteria you can specify in the search filter.

4. Click the right arrow button to transfer the standard service plans you selected to **In use**.
5. Click **OK**.

The standard service plans are now linked to the selected building element.

Linking building elements to a standard service plan

You can link several building elements to a standard service plan.

Procedure

1. At the **Maintenance Library > Standard service plans** selection level, in the elements list, select the standard service plan to which you want to link building elements.
2. On the action menu, click **Link building elements**. The **Link building elements** dialog box appears in which **Available** lists the building elements available in Planon ProCenter to be linked to the selected standard service plan and **In use** lists the building elements already linked to the standard service plan.



Use the filter options to filter out building elements in the context that you require:

All: filters out all building elements that are in use and not archived;

Classification group: filters out all building elements with the same classification group as the standard service plan.

3. Click the arrow buttons to move building elements from **Available** to **In use** or vice versa as required and then click **OK** to close the dialog box.

The building elements listed in **In use** are now linked to the standard service plan.

Adding a standard activity definition to a standard service plan

To add a standard activity definition to a standard service plan, refer to the procedure for [Adding an activity definition](#).

Subsequently, you can proceed setting a schedule for the standard activity definition.

Finally, at **Details**, you can add expected costs or checklist items to the standard activity definition.

See also

[Standard activity definition](#)

[Adding expected costs to a maintenance activity definition](#)

Deep copying a standard activity definition

You can make a comprehensive duplicate of a standard activity definition in a standard service plan.

Procedure

1. Go to **Maintenance Library > Standard activity definitions**.
2. Select the standard activity definition you want to deep copy.
3. In the **Standard activity definitions** action menu, click **Deep copy**.

In the **Copying** dialog box, select the expected costs and / or checklist items that you want to include in the deep copy.

4. If required, modify the copy's data, such as its **Description**.

The standard activity definition is copied. The following elements are included in the copy:

- The selected expected costs;
- If selected: the checklist items;
- The linked schedule.



If you only want to make a regular copy of the standard activity definition – that is excluding linked schedule or expected costs - select the **Copy** option in the action menu instead of the **Deep copy** option.

Adding checklist items to a standard activity definition

You can add checklist items to a standard activity definition. After a maintenance plan is compiled, standard activity definitions are transferred to it, including any available checklist information. Once maintenance orders are generated from the maintenance plan, the checklist items are transferred to the **Order subdetails** selection level in **Service Manager**. The checklist information is used by the tradesperson carrying out the maintenance orders generated from a maintenance plan. Using the **Report Manager**, a form (job ticket) can be created with the checklist information.

Procedure

1. At **Standard activity definitions**, select the standard activity definition to which you want to add checklist items.
2. Go to **Details > Checklist items**.
3. On the **Standard checklist items** action menu, click **Add**.
4. In the data section, complete the relevant fields.

For a description of these fields, refer to [Checklist item fields](#).

5. Click **Save**.

The checklist item is now added to the selected standard activity definition.

6. If required, repeat steps 3 to 5 to add more checklist items.

See also

[Checklist items](#)

[Generating maintenance orders](#)

[Compiling a property-based maintenance plan](#)

Working with Maintenance Planner

This section describes the processes and tasks that can be performed in **Maintenance Planner**.

See also

[Maintenance planner](#)

Adding a maintenance plan

You can add a new maintenance plan.

Procedure

1. Go to **Maintenance plans**.
2. On the action menu, click **Add**.
3. In the data section, complete the relevant fields.
For a description of these fields, refer to [Maintenance plan fields](#)
4. Click **Save**.

Linking properties to a maintenance plan

Use the following procedure to link one or more properties to a maintenance plan.

Procedure

1. Go to **Maintenance plans** and select a maintenance plan.
2. On the **Links** action menu, click **Link properties**.
The **Link properties** dialog box opens.
3. At **Available**, select the property or properties containing the assets that you want to link to the maintenance plan.
4. Click the right arrow button to transfer the properties to **In use**.



To unlink properties from the maintenance plan again: select the relevant properties in **In use** and click the left arrow button.

5. Click **OK**.

The selected properties are now linked to the maintenance plan. You can verify this by keeping the maintenance plan selected and descending to **Properties**.



If a property for which activity definitions have already been created is unlinked from a maintenance plan, the activity definitions corresponding to this property are deleted!

See also

[Maintenance plan](#)

Adding an activity definition to a service plan

In addition to the generated activity definitions in a compiled maintenance plan, you can also add separate, specific activity definitions in **Maintenance Planner**.

This feature is useful if:

- you want to add an incidental activity definition to your existing maintenance plan

Start **Maintenance Planner** and go to **Maintenance plans**. Select the maintenance plan to which you want to add activity definitions. Link the relevant properties to this plan before navigating to **Definitions & Schedules > Activity definitions**.

Procedure

1. At **Activity definitions**, click **Add** on the action panel.
2. In the data section, complete the relevant fields.

For a description of these fields, refer to [Activity definition fields](#).

3. Click **Save**.

You have now added an activity definition to the selected service plan and can proceed to setting a schedule for the activity definition.

4. Click **Schedule time-based activities**.

See also

[Activity type](#)

[Overruling activity definition](#)

[Maintenance regime is time-based](#)

[Viewing generated maintenance orders](#)

Maintenance regime is time-based

A time-based schedule allows a maintenance activity to be set to occur hourly, daily, weekly, monthly, yearly or on specific dates.

You selected a time-based maintenance regime. The **Schedule** dialog box appears.

Procedure

1. At **Frequency** select one of the following options:

Hourly, Daily, Weekly, Monthly, Yearly or **Calendar**.

- In **Occurrences**, specify how often and if relevant, on what day maintenance activities should recur within this frequency.

Examples:

- Hourly schedule, every 4 hours;
- Daily schedule, every 3 days;
- Weekly schedule, every 2 weeks on a Monday;
- Monthly schedule, every 3rd month, on day 2;
- Monthly schedule, every 12 months, on the first Tuesday;
- Yearly schedule, every 2 years;
- On a specific date that can be picked from the calendar.

See also

[Adding an activity definition to a service plan](#)

[Overruling activity definition](#)

[Maintenance regime is time-based](#)

[Maintenance regime is time-based](#)

Manually setting a schedule for a time-based activity definition

You can manually set a schedule for an existing activity definition whose **Maintenance regime** is time-based. Consequently, recurring maintenance activities are created for the activity definition, which are displayed in the graphical planner.

Activity definitions can be saved without setting a schedule. The scheduling functionality can be started manually from the action panel in **Maintenance Planner > Definitions & Schedules**.

Procedure

- At **Definitions & Schedules**, select the activity definition for which you want to set a schedule. Make sure that the selected **Maintenance regime** is **Time-based**.
- On the **Maintenance activity definitions** action panel, click **Schedule time-based activities**.
The **Schedule** dialog box appears.
- In **Frequency** select one of the following options:
Hourly, Daily, Weekly, Monthly, Yearly or **Calendar**.
- In **Occurrences**, specify how often and if relevant, on what day activities should recur within this frequency.

Examples:

- Hourly schedule, every 4 hours;
- Daily schedule, every 3 days;

- Weekly schedule, every 2 weeks on a Monday;
- Monthly schedule, every 3rd month, on day 2;
- Monthly schedule, every 12 months, on the first Tuesday;
- Yearly schedule, every 2 years;
- On a specific date that can be picked from the calendar.

5. Click **OK**.

The specified schedule is now set for the selected activity definition. Consequently, recurring activities are placed in the graphical planner on the **Definitions & schedules** selection step, taking into account the linked schedule and the start date-time and end date-time of the activity definition.



If you select an activity definition that already has a schedule, and then click **Schedule time-based activities** on the action panel, you can partly or fully replace the schedule with a new schedule. Refer to [Replacing part of an existing schedule](#) for more information.

See also

[Viewing the schedule and activities of an activity definition](#)

Viewing the schedule and activities of an activity definition

You can view a read-only schedule of a selected activity definition at:

- **Maintenance Planner > Definitions & Schedules;**
- **Maintenance Library > Standard activity definitions;**

• Procedure

1. At **Definitions & Schedules**, select the activity definition whose schedule and activities you want to view.
2. Click **View schedule & activities** on the action panel and view the information.
3. Click **Cancel** to close the dialog box.

See also

[Manually setting a schedule for a time-based activity definition](#)

Replacing part of an existing time-based schedule

You can partly replace an existing schedule of a selected activity definition. The part of the schedule which includes time-based maintenance activities for which maintenance orders are already generated, is not replaced and remains unaffected.

This feature is available for the activity definitions that exist in a compiled maintenance plan. You can partly replace the schedule of a selected activity definition in **Maintenance Planner > Definitions & Schedules**.

Procedure

1. At **Definitions & Schedules**, select the activity definition whose existing schedule you want to partly replace.
2. On the **Maintenance activity definitions** action menu, click **Schedule time-based activities**.

The **Schedule** dialog box appears:

The screenshot shows a 'Schedule' dialog box with the following settings:

- Frequency:** Monthly (selected), Hourly, Daily, Weekly, Yearly, Calendar.
- Occurrences:** Every 1 month(s), on day 1 (selected); Every 1 month(s), every first (dropdown).
- Days:** Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday (all unselected).
- Replace options:** Replace whole schedule (unselected), Replace schedule starting on: 23/12/2016 11:02 (selected).

3. Select a start date-time for the new schedule in **Replace schedule starting on**.



You can only set a new schedule for recurring activities within the sequence for which no maintenance orders are generated. So the start date-time of the new schedule must be later than either:

- the start date-time of the selected activity definition;
 - the start date-time of the last generated maintenance order;
 - the system date-time;
 - depending on which of these three date-times is latest.
4. In **Frequency**, select a frequency for the new schedule.
 5. In **Occurrences**, specify how often and, if relevant, on what day activities should recur in the new schedule.
 6. Click **OK**.

A new schedule is applied to the selected activity definition as of the selected start date.

Deep copying an activity definition

You can duplicate an activity definition in a service plan, including any linked schedules and expected costs.

Procedure

1. Go to **Maintenance Planner > Activity definitions**.
2. Select the activity definition you want to deep copy.
3. On the action menu, click **Deep copy**.
4. To copy any linked expected costs, select the relevant options.

5. If required, modify the copy's data, such as its **Description**.
6. Click **OK**.

A comprehensive copy is made of the activity definition. The following elements are included in the deep copy:

- The selected expected costs;
- Linked schedule (with recurring and non-recurring activities).



If you only want to make a regular copy of the activity definition – excluding the linked schedule or expected costs - select the **Copy** option in the action menu instead of the **Deep copy** option.

Adding expected costs to a maintenance activity definition

You can specify the expected maintenance costs in a maintenance activity definition. There are three types of expected maintenance costs: additional costs, material costs and man-hour costs. The expected costs of the selected activity definition are copied to the estimates of the generated maintenance orders in **Work Orders**.

Go to **Maintenance Planner > Definitions & Schedules**. Select the activity definition to which you want to add expected costs, before going to **Details > Expected costs**.

Procedure

1. At **Details > Expected costs**, select the activity definition to which you want to add expected costs.
2. On the action panel, click **Add material costs**, **Add additional costs** or **Add man-hours**.
3. In the data section, complete the relevant fields.

For a description of these fields, refer to [Expected costs fields](#)

4. Click **Save**.

The expected costs are now added to the selected activity definition. When maintenance orders are generated, the expected costs are transferred to the order lines and estimates of the generated maintenance orders.



Expected costs can be linked to only one of the two types of activity definition: either to an asset activity definition, to a standard activity definition or to a specific activity definition.

See also

[Adding a standard activity definition to a standard service plan](#)

Manually adding standard activity definition(s) to a property maintenance plan

Use the following procedure to manually add standard activity definitions to a property maintenance plan.

Some configuration steps are required before you can manually add standard activity definition(s) to a property maintenance plan.

Procedure

1. [Adding a standard activity definition to a property maintenance plan](#)

Adding a standard activity definition to a property maintenance plan

This is a final step in adding standard maintenance activity definition(s) to a property maintenance plan.

1. In **Maintenance Planner**, go to **Maintenance Plans** and select a plan from the list.
2. Go to **Definitions & Schedules** level.
3. On the action menu, click **Apply standard maintenance activity definitions**. Planon ProCenter will list the applicable standard activity definitions from the **Maintenance Library**.
4. In the dialog box, select one or more standard activity definitions that you want to add to your maintenance plan.
5. In the **Property** field, select the property to which this maintenance plan applies.
6. Click the check boxes (optional) to copy the various cost components and click **OK**.

The activity definitions and their cost components (optional) are copied to the maintenance plan.

7. Press F5 or click **Refresh list** to update the list.

Work balancing in the graphical planner

This section describes the Maintenance Management processes and tasks that can be performed by applying *work balancing* in the graphical planner.

See the links below for more information:

- [Opening the graphical planner](#)
- [Customizing the view of the graphical planner](#)
- [Visual presentation of activities in the graphical planner](#)
- [Viewing activity details in the graphical planner](#)
- [Hiding empty rows from the graphical planner](#)
- [Adding non-recurring activities in the graphical planner](#)
- [Selecting future activities in the graphical planner](#)
- [Outlining an activity's start date-time in the graphical planner](#)
- [Moving activities in the graphical planner](#)
- [Deactivating activities in the graphical planner](#)
- [Modifying activity definition data in the graphical planner](#)
- [Grouping activity definitions in the graphical planner](#)
- [Action on selection in the graphical planner](#)
- [Modifying an activity status in the graphical planner](#)
- [Viewing costs and man-hours in the Graphical planner](#)
- [Grouping activity definitions in the graphical planner](#)
- [Printing an overview of maintenance activities from the graphical planner](#)



The graphical planner does not support browser zooming. Zooming can affect the functionality of the graphical planner, such as not being able to move items.

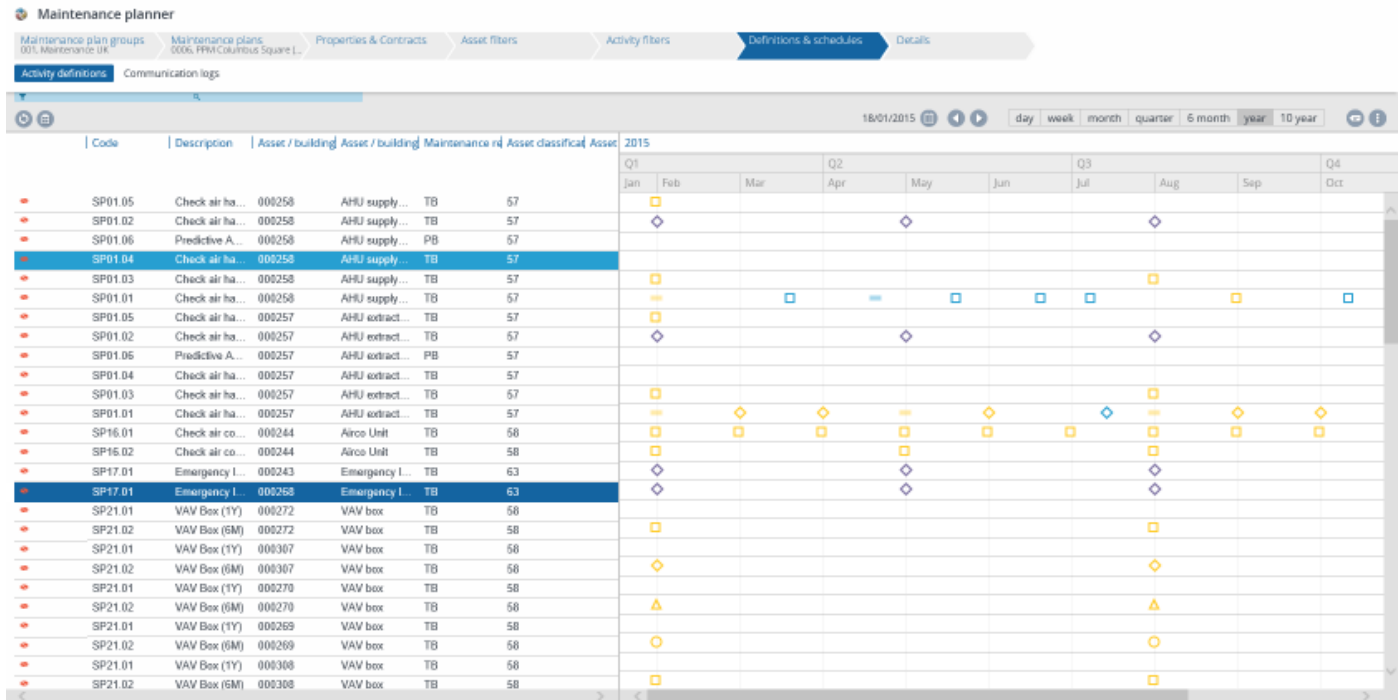
Opening the graphical planner

Use the following procedure to open the graphical planner in Maintenance Planner:

Procedure

1. Select a *compiled* maintenance plan and the relevant activity filters and asset filters on the foremost selection levels in Maintenance Planner.
2. Go to the **Definition & schedules** selection level.
3. Click the **Graphical planner** button.

The graphical planner opens, displaying all activities planned for the corresponding activity definitions.



'Pagination' is applied in the graphical planner, to ensure that large numbers of activities can be loaded quickly and switching between views (day, week, month etc.) will proceed adequately. Attention: pagination between the data view and the graphical view is not synchronized.

Activity definitions in the graphical planner

If you open the **Graphical planner** view in **Maintenance Planner > Definitions & schedules**, the activity definitions are loaded and displayed on the left side of your screen. Which activity definitions are displayed in the list, depends on the selections you made on previous selection levels (drill-down behavior) and on filtering. If there are many activity definitions in your selection, pagination is applied to the list. You can customize the list further, for example by changing the sorting order of the list, by applying grouping criteria or by showing / hiding columns.

It is also possible to edit the data of one or more activity definitions from within the graphical planner.

Refer to the following topics for more information:

[Grouping activity definitions in the graphical planner](#)

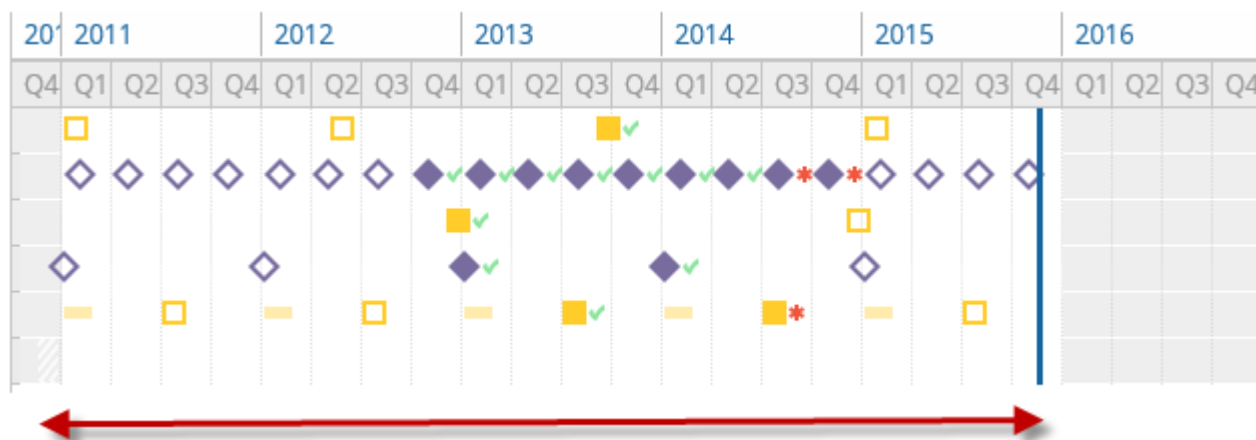
[Modifying activity definition data in the graphical planner](#)

[Grouping activity definitions in the graphical planner](#)

[Action on selection in the graphical planner](#)

Displaying an activity definition's duration

In **Maintenance Planner > Definitions & schedules**, selected activity definitions are displayed in the element list. The **Graphical planner** grid displays the various maintenance activities that are planned for these activity definitions. The duration of the corresponding activity definition is indicated in the grid by a white background color. The gray background color marks the time before and after the activity definition's duration. These background colors are just a visual aid for planning. Plotting / moving activities in the gray area is allowed.



Grouping activity definitions in the graphical planner

You can group activity definitions in the graphical planner.

Procedure

1. Go to **Maintenance Planner** and select the relevant maintenance plan.
2. Make relevant selections on other levels, such as **Asset filters** and **Activity filters** and then go to **Definitions & schedules**.
3. Click the **Graphical planner** button on the right.
4. In the header area of the element list, point to the column header you want to use for grouping the list of activity definitions and click the drop-down symbol next to it.

For example, to group the activity definitions by their codes, you point to the **Code** column and click the drop-down symbol.

5. Select the **Group by this field** option.

The list of activity definitions in the graphical planner is grouped by the selected criterion.

Modifying activity definition data in the graphical planner

You can edit the data of a maintenance activity definition from within the graphical planner, for example field data, status, maintenance regime and so on.

Procedure

1. Go to **Maintenance Planner**.
2. Make relevant selections on the various preceding levels and then go to **Definitions & schedules**.
3. Click the **Graphical planner** button.

4. In the element list, select the activity definition whose data you want to change.
5. Right-click and select **Edit maintenance activity definition**,
or
6. Double-click the activity definition.

The **Maintenance activity definitions** dialog box appears.



For better ease of use, re-size the dialog box before selecting the relevant feature.

7. Make the relevant changes in the data fields or on the action panel of this dialog box and click **Save > Exit**.
The activity definition is changed.

Modifying multiple activity definitions in the graphical planner

You can edit the data of multiple maintenance activity definitions in one go, from within the graphical planner.

Procedure

1. Go to **Maintenance Planner**.
2. Make relevant selections on the various preceding levels and then go to **Definitions & schedules**.
3. Click the **Graphical planner** button.
4. In the elements panel, select the activity definitions whose data you want to change in one go.



if there are many activity definitions in your selection, the elements panel will consist of *multiple pages*, as indicated at the bottom of the screen. To retain your selection over multiple pages, use **CTRL+click** to select elements.

5. Right-click and select **Modify within selection**.
The **Modify within selection** dialog box appears.
6. Check the check boxes of the relevant fields.
7. Make the relevant changes in those fields and click **OK**.
The **Question** dialog box is displayed, warning you how many fields will be affected by the change.
8. If you agree with the changes, click **OK** to proceed.
The changes are applied to the selected activity definitions.

You may receive error messages if any conflicts arise because of the changes. You can now either select:

- **Skip** to skip individual changes
- **Skip all** to skip all changes with conflicts
- **Stop**, to stop implementing the changes altogether

Action on selection in the graphical planner

You can perform actions on multiple maintenance activity definitions in one go, from within the graphical planner.

Procedure

1. Go to **Maintenance Planner**.
2. Make relevant selections on the various preceding levels and then go to **Definitions & schedules**.
3. Click the **Graphical planner** button.
4. On the elements panel, select the activity definitions whose data you want to change in one go.



if there are many activity definitions in your selection, the elements panel will consist of *multiple pages*, as indicated at the bottom of the screen. To retain your selection over multiple pages, use **CTRL+click** to select elements.

5. Right-click and select **Action on selection**.
The **Action on selection** dialog box appears.
6. Select the action or status transition you want to apply to the selected activity definitions.
The **Question** dialog box is displayed, warning you how many activity definitions will be affected by the selected action.
7. Click **OK** to proceed.
Depending on the action selected, other dialog boxes may be displayed, prompting you to enter additional data, such as dates.
8. Enter the relevant additional data and click **OK**.
The action is applied to the selected activity definitions.


Customizing the period view of the graphical planner

The graphical planner facilitates work balancing in **Maintenance Planner**. The graphical planner is displayed upon clicking the **Graphical planner** button at the **Definitions & schedules** selection level.

The graphical planner contains a number of toolbar controls enabling you to customize the period view. The view settings are retained and applied next time you log on to Planon ProCenter.

Setting a date

By default, the activities are shown as of the current system date. A date picker enables you to select a different date.


01/06/2016 

The graphical planner's header displays the selected date on the left of the **Select a date** button.

Setting a period

The period buttons enable you to specify the period shown in the graphical planner. You can select the following values:

- 1 day
- 1 week
- 1 month
- 1 quarter
- 6 months
- 1 year
- 10 years

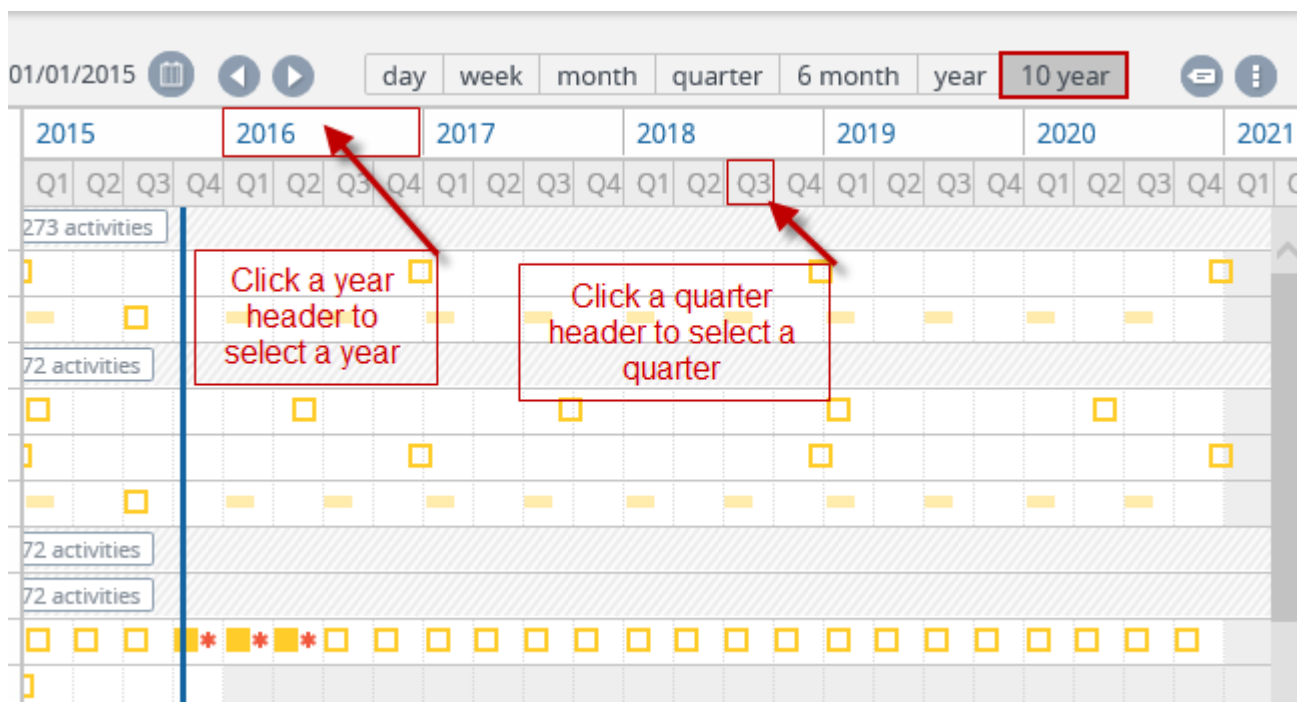
The navigation buttons  allow you to move back and forth in accordance with the selected time unit.

Changing the view by clicking column headers

You can quickly zoom in to a smaller unit of time in the graphical planner by clicking a relevant column header. The following example starts with the **10 year** view selected.

Procedure

1. In the graphical planner, with the **10 year** view selected, click on the column header of a specific year or quarter.



The graphical planner zooms in to that specific year or quarter.

2. If required, change the view to smaller units of time, such as specific months, week numbers and days by clicking on the relevant column headers.

The graphical planner will adjust the view accordingly.


Display of activities in the graphical planner

The following image displays the various shapes and colors maintenance activities on the graphical planner can take. The shapes, colors and shades denote the activity type, scheduling method and so on:





Click the **Legend** button in the header to retrieve a legend explaining the meaning of the various shapes and colors:





Shape

-  Statutory
-  Other mandatory
-  Replacement
-  Routine
-  Overruled

Color

-  Variable method
-  Fixed method
-  Fixed completion method
-  Single or moved activity

Fill

-  Linked to order
-  Planned, no order linked

Faded

-  Cancelled/Deactivated/Postponed





Other

-  Current date

In the graphical planner, the **Activity type** is represented by a shape and the **Scheduling method** by the color of the shape.

If an activity is **Overruled** you will see a flat rectangle. Deactivated activities become faded. If orders are generated for a maintenance activity definition, the icon gets a solid fill.

The **Status** of generated maintenance activities is also shown in the graphical planner:

-  Planned
-  In progress
-  Completed
-  Cancelled

Viewing activity details in the graphical planner

You can check an activity's details before performing an action in the graphical planner.

Procedure

1. Go to **Maintenance Planner > Definitions & schedules**.
2. Click the **Graphical planner** button.
3. In the graphical planner, hover over the activity whose details you want to view.
4. A tooltip with the relevant details is displayed.


Viewing costs and man-hours in the graphical planner

You can view an activity's expected man-hours and costs in the graphical planner by:

- viewing the tooltip information on expected costs and man-hours, by hovering over an individual activity
- displaying labels on the activities with the data of the total costs (including or excluding tax) / man-hours
- displaying a bar chart with various cost / man-hour totals at the bottom of your screen

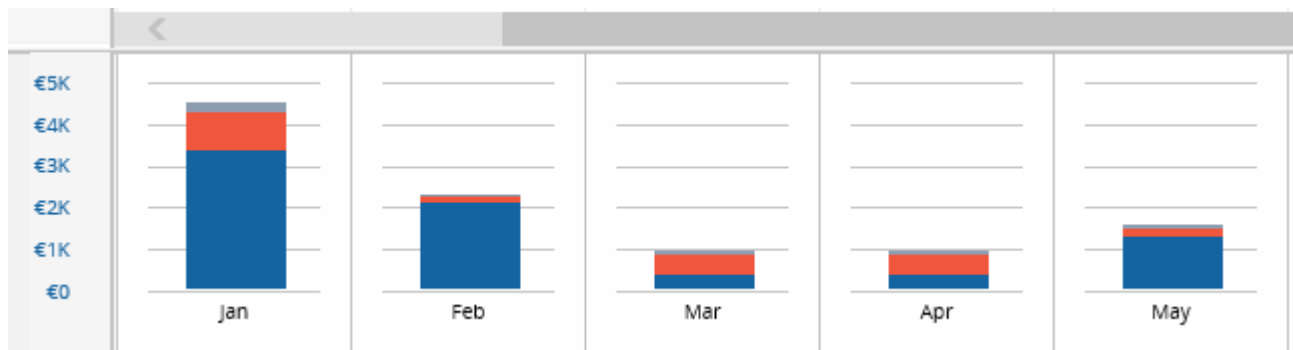
The procedure is about using the last two options.

Procedure

1. After making relevant selections on previous selection levels, go to **Maintenance Planner > Definitions & schedules**.
2. Click the **Graphical planner** button and select the relevant period view.
3. In order to display labels on activities and display the bar chart, click the **Select label options** button in the graphical planner's header .
4. Select one of the options: **Total costs excl. VAT**, **Total costs incl. VAT**, **Total man-hours** (in hours). The graphical planner shows *labels* on the activities, displaying the rounded cost amounts or, if you selected the **Total man-hours** option, the number of man-hours.



A bar chart at the bottom of your screen shows the *totals* of the expected costs (including or excluding tax) or the expected total man-hours, for the selected period. Hover your cursor over the chart to summon tooltips with information on the individual layers of the stacked bars.



5. Use the check boxes in the bar chart's legend to show / hide specific types of expected costs from the totals. The following options are available: **Display total additional costs**, **Display total material costs** or **Display total man-hour costs**.

- Display total additional costs
- Display total material costs
- Display total man-hour costs


The totals are displayed as follows for the selected period views:

- a. 10 years: totals per year
 - b. 1 year: totals per month
 - c. 6 months: totals per month
 - d. 1 quarter: totals per week
 - e. 1 month: totals per week
 - f. 1 week: totals per week
6. To switch the labels and bar chart off, click **Select label options** > **No details**.

Hiding empty rows from the graphical planner

You can hide rows without activities from the graphical planner, in order to compress the selected view and only display those activity definitions for which activities are planned.

Procedure

1. Go to **Maintenance Planner** > **Definitions & Schedules**.
2. Click the **Graphical planner** button.
3. Select a relevant period view, for example 10 years, 1 year, 6 months etc.
If any activity definitions occur for which no activities are planned, empty rows are displayed on the graphical planner.
4. To hide these empty rows, click the **Hide empty rows** button on the element section header .
Empty rows are no longer displayed.
5. To show the empty rows again, disable the **Hide empty rows** button.

Selecting multiple maintenance activities in the graphical planner

You can select multiple maintenance activities in the graphical planner.

Procedure

1. Go to **Maintenance Planner**.
2. Make relevant selections on the various preceding levels and then go to **Definitions & schedules**.
3. Click the **Graphical planner** button.
4. In the graphical planner, in the time line of the relevant activity definition, press **CTRL + click** and select multiple maintenance activities.

Multiple activity occurrences are selected. You can now apply options from the context menu, such as (de)activating or outlining.

See [Moving multiple activities in the graphical planner](#) for information about moving a sequence of activities on the planner.

Selecting future activities in the graphical planner

You can select an activity and all its future occurrences in the graphical planner.

Procedure

1. Go to **Maintenance Planner**.
2. Make relevant selections on the various preceding levels and then go to **Definitions & schedules**.
3. Click the **Graphical planner** button.
4. In the graphical planner, select the activity whose future activities you want to select.
5. Right-click and from the context menu select **Select future activities** or press **CTRL + SHIFT**.

The activity and all its future occurrences are selected. You can now apply options from the context menu, such as (de)activating or outlining.

See [Moving multiple activities in the graphical planner](#) for information about moving a sequence of activities on the planner.

Outlining an activity's start date-time in the graphical planner

Instead of dragging and dropping an activity to reschedule it, you can also manually enter an activity's start date-time and thus *outline* it on the graphical planner. This method provides greater accuracy. You can also select multiple activities within the same iteration and outline their start date-times in one go. In that case, the selected activities must have the same maintenance regime and scheduling method. Also, there should be no orders generated yet for these activities.

Procedure

1. Go to **Maintenance Planner**.
2. Make relevant selections on the various preceding levels and then go to **Definitions & schedules**.
3. Click the **Graphical planner** button.
4. In the graphical planner, select the single activity (**click**), multiple activities (**CTRL+click**) or activity sequence (**right-click**, followed by clicking **Select future activities**) whose start date-time(s) you want to adjust.



Refer to [Selecting future activities in the graphical planner](#) for information on selecting an activity's future sequence.

5. Right-click and select **Outline activities**.



This option is not available if orders have been generated for the activity.

6. From the date picker, select a new start date-time for the activity. If you selected a sequence of activities, the first activity is the reference. All future occurrences are rescheduled with the same interval as the first activity in the sequence.

The activity is rescheduled to the new date-time.

See [Moving multiple activities in the graphical planner](#) for information about moving a sequence of activities on the planner.

Moving activities in the graphical planner

You can change the start date-time and end date-time of recurring or non-recurring activities by moving them in the graphical planner.



In the graphical planner, both recurring activities and non-recurring activities can be scheduled. Moving one recurring activity may affect the other activities in the same iteration. Within an iteration, you cannot move activities to a date that is earlier than the start date of activities for which orders are already generated. Furthermore, the scheduling method also influences how activities can be moved in the graphical planner.

See the following topics for the procedures:

[Moving a single activity in the graphical planner.](#)

[Moving multiple activities in the graphical planner](#)

Moving a single activity in the graphical planner

You can move a single activity (non-recurring or recurring) in the graphical planner.

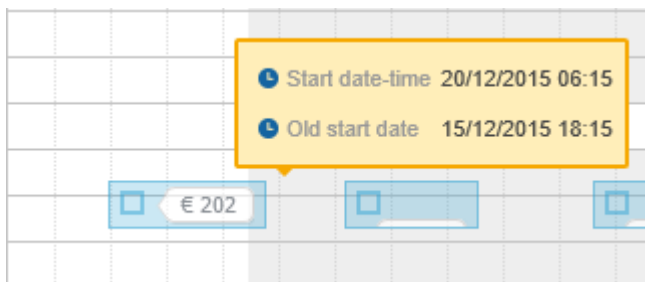
Procedure

1. Go to **Maintenance Planner > Definitions & schedules**.
2. Click the **Graphical planner** button.
3. Select the activity you want to move in the graphical planner.

In this case the following applies:

- If you move a non-recurring activity in the graphical planner, only this non-recurring activity is moved and it does not affect other activities.
 - If a recurring activity starts at the same time as a non-recurring activity belonging to the same activity definition, the latter will always remain in place on the planner. However, this results in only one order being generated.
4. Drag and drop the activity on the required date-time in the graphical planner.

A tooltip displays the activity's 'old' start date-time and the 'new' start date-time. The new start-date-time is dynamic, so it is adjusted while you are scrolling.



The graphical planner also indicates whether you are plotting activities within the range of the maintenance activity definition. The activity definition's duration is marked by a white background. A gray background indicates the periods beyond the activity definition's duration: before its start date-time or after its end date-time.

Depending on the activity's scheduling method the following applies:

- If the corresponding activity definition belongs to the **Fixed** scheduling method: moving a recurring activity in the graphical planner will cause only future recurring activities to be moved along, with the same interval.
- If the corresponding activity definition belongs to the **Variable** scheduling method: moving a single recurring activity in the graphical planner will have no effect on other recurring activities.
- If the corresponding activity definition belongs to the **Fixed completion** scheduling method: recurring activities cannot be moved in the graphical planner. However, any adjustments to a maintenance order's completion date (a delay or an advance) will have consequences for the start dates of future activities that are planned for this activity definition.

Moving multiple activities in the graphical planner

You can move multiple activities (belonging to the **Fixed** or **Variable** scheduling method) on the time line of an activity definition.

Procedure

1. To move an horizontal sequence of activities (iteration), select the activity on the graphical planner whose future sequence you want to move.
2. Press CTRL+SHIFT.
The whole sequence is selected, from that activity until the end of the time line.
3. Drag the whole sequence forward or backward to the required date-time and release the mouse button.
All recurring and non-recurring activities within the selection are moved.



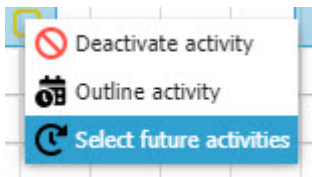
In order to move multiple, individually selected activities in time, press the CTRL key while clicking these activities. In this way, you can also make vertical selections and move the activities forward or backward to the required date-time. You can also use the **CTRL** + click operation to deselect activities.

Deactivating activities in the graphical planner

You can exclude an activity from order generation.

Procedure

1. Go to **Maintenance Planner > Definitions & schedules**.
2. Click the **Graphical planner** button.
3. In the graphical planner, right-click the activity you want to deactivate:



4. Click **Deactivate activity**.

The activity is now deactivated. The symbol will be faded. If you generate maintenance orders for the corresponding activity definition, no maintenance order will be generated for this particular activity.



Deactivated activities can be activated again by right-clicking them and selecting **Activate**.

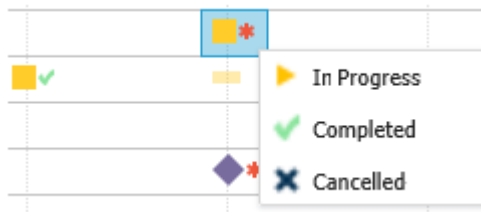
Modifying an activity status in the graphical planner

If orders have been generated for a maintenance activity, you can change this activity's status in the graphical planner. You can recognize activities for which orders have been generated by their symbols, as they are filled solid.

Procedure

1. Go to **Maintenance Planner**.

2. Make relevant selections on the various preceding levels and then go to **Definitions & schedules**.
3. Click the **Graphical planner** button.
4. In the time line of the relevant activity definition, select the activity whose status you want to change.
5. Right-click and select one of the available statuses: **Planned, Completed, Canceled, In progress**.



The symbol representing the activity's status is changed.

Printing an overview of maintenance activities from the graphical planner

After having set all relevant filters and views, you can print out the maintenance activity overview and detailed information as displayed on your screen. The maximum number of maintenance activities that can be printed is 2,000.



- In the Microsoft Internet Explorer browser, you must enable *Print Background Colors and Images* in the **Print > Page set-up** settings, otherwise you will not see the activities on the print.
- Microsoft Edge does not support headers / footers / css.

Procedure

1. Go to **Maintenance Planner** and select the relevant maintenance plan.
2. Make the required selections on subsequent levels, such as **Asset filters** and **Activity filters** and then go to **Definitions & schedules**.

3. Click the **Graphical planner** button at the top right.

The graphical planner displays the maintenance activities matching your selection criteria and display settings.

4. In the header area of the graphical planner, click the **Print chart** button.

The **Print settings** dialog is displayed.

5. In the dialog, make the relevant settings.

Export title

By default, the code and description of the maintenance plan are entered, but you can edit the title.

Schedule range

Set the timespan that must be visible on the printed document. The following options are available:

- **Complete schedule:** the timespan selected on the planner is included in the print.
- **Complete schedule (for all events):** the current timespan is adjusted to only print the selected period in as far as activities are scheduled.
- **Date range:** limit the timespan to be printed even further, by providing **Export from** and **Export to** dates.
- **Visible schedule:** the currently visible horizontal part of the schedule is printed.

Select columns

Select the columns you want to print.

Paper format

Select a relevant ISO paper size. The default is A3.

Orientation

Select either **Landscape** or **Portrait**.

DPI (dots per inch)

Enter the required DPI value in relation with the selected paper format.

Show header

Mark the check box to display the header on the print.

6. Click **Print**.
7. On the **Print** page, make the relevant print settings and click **Change** to select a printing destination:
 - select a printer or application and click **Print**;
 - select **Save as PDF > Save**, if you want to save the overview as PDF.

Executing maintenance plans

This section lists the processes and tasks that can be performed to execute maintenance plans.

Compiling a property-based maintenance plan

- A relevant maintenance plan is available in **Maintenance Planner > Maintenance plans**, (see [Adding a maintenance plan to a maintenance plan group](#)). This maintenance plan is linked to one or more properties;
- Relevant standard service plans / standard activity definitions are available in **Maintenance Library**.

You can populate the selected maintenance plan with both the [standard service plans / standard activity definitions](#) that are linked to properties in the maintenance plan. Any costs and schedules specified in the standard activity definitions or asset activity definitions are also included in the maintenance plan.

Procedure

1. At **Maintenance Planner > Maintenance plans**, select the relevant maintenance plan.
2. On the action menu, click **Compile property-based plan**.
If you linked several properties or a building complex to the maintenance plan, the **Properties** dialog box appears.
3. Select the property or properties that contain the assets / building elements for which you want to compile the maintenance plan.



If you only select the top hierarchical level of a property (property complex), no compilation takes place.

4. Check the result at **Definitions & schedules > Activity definitions**.
All standard service plans / standard activity definitions, asset service plans / asset activity definitions and contract service plans / contract activity definitions that are linked to the properties in the maintenance plan are added to the maintenance plan.

See also

[Contract service plan](#)

[Standard service plan](#)

[Adding a maintenance library](#)

[Adding checklist items to a standard activity definition](#)

Checking start and end date-times of activity definitions after compiling

You can view the influence of an [activity type](#) on automatically populated fields by *Planon ProCenter* after a maintenance plan is compiled. The following criteria are applied to determine the values with which these fields are populated. For example: the start and end date-times of standard activity definitions and asset activity definitions, once they are transferred to a compiled maintenance plan.

Activity type of asset activity definition or standard activity definition	Available start & end date-times of asset activity definition or standard activity definition before compiling	Results in the following start & end date-times of activity definitions after compiling
Other than Replacement	If no start date-time is specified in either the relevant asset activity definition or standard activity definition, and no value is specified in the Maintenance start date field of a linked asset /building element:	The start date of the activity definition is set to be the same as the start date of the maintenance plan.
Other than Replacement	If start date-times are specified in both the Maintenance start date field of the linked asset (or building element) and in the asset activity definition / standard activity definition:	The latest start date-time of the two is set to be the start date-time in the compiled maintenance plan.
Other than Replacement	If end date-times are specified in both the Maintenance end date field of the linked asset (or building element) and in the asset activity definition / standard activity definition:	The earliest end date-time of the two is set to be the end date-time in the compiled maintenance plan.
Activity type of asset activity definition or standard activity definition	Available date-times of linked asset before compiling:	Results in the following start & end date-times of activity definitions after compiling
Replacement	If the Expected economic end date is unspecified:	The Expected technical end date of the linked asset (or building element) is set to be the start date-time in the compiled maintenance plan.
Replacement	If the Expected technical end date is unspecified:	The Expected economic end date of the linked asset (or building element) is set to be the start date-time in the compiled maintenance plan.
Replacement	If no Expected economic end date or Expected technical end date is available:	The start date of the activity definition is the sum of the value in the Date first used field of the asset (or building element) and the Frequency specified in the schedule of the asset activity definition / standard activity definition.

Activity type of asset activity definition or standard activity definition	Available start & end date-times of asset activity definition or standard activity definition before compiling	Results in the following start & end date-times of activity definitions after compiling
Replacement	If no Date first used is available for the linked asset (or building element):	The start date of the activity definition is the sum of the value in the Date of manufacture / construction field of the asset (or building element) and the Frequency specified in the schedule of the asset activity definition / standard activity definition.
Replacement	If no Date of manufacture / construction is available for the linked asset (or building element):	The start date of the activity definition is the sum of the value in the Maintenance start date field of the asset (or building element) and the Frequency specified in the schedule of the asset activity definition / standard activity definition.
Replacement	If date-times are available in one of the above-mentioned fields of the linked asset (or building element): - Expected technical end date - Expected economic end date - Date first used - Date of manufacture / construction and in the asset activity definition / standard activity definition:	The latest date-time of the two is set to be the start date-time of the activity definition in the compiled maintenance plan.
Replacement	If no date-times are available in one of the above-mentioned fields of the linked asset (or building element), nor in the asset activity definition / standard activity definition or if the above-mentioned dates are earlier than the start date of the maintenance plan:	The start date of the activity definition is set to be the same as the start date of the maintenance plan.

Airco Unit (with a maintenance start date of 1-4-2015)

Maintenance activity definition 1: three monthly service check

Maintenance activity definition 2: annual legal check

Suppress first activity = YES results in the following schedule: Maintenance activity definition 1: 1-7-2015, 1-10-2015, 1-1-2016 etc. Maintenance activity definition 2: 1-4-2016, 1-4-2017 etc. The first activity, scheduled on 1-4-2015 is skipped in both cases. Since this setting can be applied per maintenance activity definition, it is possible to deviate between maintenance activity definitions within a maintenance service plan.

Recompiling a maintenance plan

You can populate a previously compiled maintenance plan with standard service plans and standard activity definitions that are not yet included in the plan. This functionality is useful if the associated standard service plans were updated since the current maintenance plan was compiled.

Procedure

1. At **Maintenance plans**, select the relevant maintenance plan.
2. On the action menu, click **Compile maintenance plan**.
The **Properties** dialog box appears.
3. Select the relevant property / properties.
4. Since a maintenance plan was already compiled previously, the following message is displayed.
5. Select **Yes** and click **Proceed**.

The maintenance plan is recompiled. It is populated with the standard service plans and corresponding activity definitions that previously were not available in the maintenance plan.

Deep copying a maintenance plan

To duplicate a complete, existing maintenance plan to a new maintenance plan in order to avoid repetitive data entry. Copying maintenance plans can either be used to create various scenarios for your maintenance plan or to make future maintenance plans. The data copied includes: service plans, activity definitions (all types), expected costs and schedules (recurring and non-recurring activities).

Procedure

1. At **Maintenance plans**, click **Deep copy** in the action menu.
2. The **Enter values** dialog box appears.
3. Enter a start date and an end date for the deep copy.
4. Click **OK**.

The maintenance plan, together with all its contents (linked properties, service plans and activity definitions) is now copied.



To be included in the deep copy, the start and end date-times of copied activity definitions must be between the start and end date of the new maintenance plan. However, activity definitions with a start date-time later than the end date of the new maintenance plan are copied too. The main reason for this is asset replacement. Suppose an asset must be replaced on July 1st 2010. An activity definition regarding the replacement already exists in the maintenance plan of 2008. If this plan is copied to 2009, the activity to replace the asset must also become available in the 2009 plan, although it will not be carried out within the time span of that plan.

If you deep copy a maintenance plan that is final, because the **Definitive** field is set to **Yes**, any copies of the maintenance plan become scenarios, with the **Definitive** field value set to **No**. To make a copy final, change the setting of the **Definitive** field to **Yes**.

Changing the status of a maintenance plan

You can indicate that a maintenance plan has entered another phase.

Procedure

1. At **Maintenance plans**, select the maintenance plan whose status you want to change.
2. On the **Status transitions** action menu, select the relevant status (**In preparation**, **Active**, or **Closed**).
The maintenance plan is now assigned the selected status.
3. In order to be able to generate maintenance orders, select **Active** and make the maintenance plan definitive by selecting **Yes** in the **Definitive (Y/N)** field.



Once maintenance orders are generated for the selected maintenance plan, you cannot change its status back from **Active** to **In preparation**.

See also

[Maintenance plan status](#)

Generating maintenance orders

You can generate a PPM / maintenance order for each recurring or non-recurring activity of an activity definition. The linked standard order is used as a template for order generation.



- If you do not want to generate a maintenance order for each individual activity, you can cluster activities by certain criteria and generate only one clustered order, or a few (depending on the criteria). See [Generating maintenance orders for clustered activities](#).

Procedure

1. At **Maintenance Planner > Definitions & schedules > Activity definitions**, select the activity definition(s) for which you want to generate orders.

Ensure that a relevant schedule is linked to the activity definition.

2. On the action panel, click **Generate orders** (or, if you selected multiple activity definitions select **Action on selection Generate orders** and click **OK**.)

The **Enter values** dialog box appears, with default start date-time *today, 00:00*.

3. Enter a relevant start date-time and end date-time between which you want to generate maintenance orders.

Maintenance orders are now generated in the Work Orders TSI for each recurring and non-recurring activity in the graphical planner from the selected start date until the selected end date, and in accordance with the frequency specified in the linked schedule.

See also

[Maintenance order](#)

[Adding checklist items to a standard activity definition](#)

[Adding non-recurring activities in the graphical planner](#)

Viewing generated maintenance orders

It is possible to view the maintenance orders generated from recurring or non-recurring activities.

Procedure

1. Go to Work Orders .
2. At **Properties**, select the property whose orders you want to view.
3. At **Orders**, view the elements list.

The maintenance orders that you generated are available in the elements list. Any expected costs that are linked to the activity definition are copied to the maintenance order's estimates and order lines.



You can only delete maintenance orders with a **Canceled** status. If you delete a maintenance order, then the corresponding maintenance activities (in **Maintenance Planner > Definitions & schedules > Activity definitions > Maintenance activities**) are also deleted. For **Fixed completion method** activity definitions, you can only delete the last maintenance activity.



In Work Orders you can add suborders to a generated maintenance order.



For maintenance activities that are deactivated in the graphical planner, no maintenance orders are generated.

After maintenance orders are generated, the linked schedule can no longer be changed. If the start date-time of a recurring activity coincides with the start date-time of a non-recurring activity within the same activity definition, a maintenance order is generated for the recurring activity only. The non-recurring activity is deleted.

See also

[Adding an activity definition to a service plan](#)

Generating maintenance orders for clustered activities

You can group several maintenance activities together, using certain *fixed* and optional *additional criteria*, until a certain end date, with the purpose of generating one maintenance order for each cluster of activities that is formed.



The Planon administrator must create special standard orders in the **Standard orders** TSI that can be used to generate maintenance orders with clustered activities.

Go to **Maintenance Planner > Definitions & schedules** to cluster activities. Once maintenance orders are generated with clustered activities, they become available in Work Orders .



If you want generate maintenance orders with clustered activities, make the following settings: set the corresponding maintenance plan to **Definitive** and select the **Active** status. Also set the **Clustering allowed (Y/N)** field of the selected activity definitions to **Yes**.

Fixed criteria

The activities of selected activity definitions are automatically clustered according to the following *fixed* criteria:

- Standard order
- Property
 - Default: **Property** - maintenance activities are clustered per property
 - optional: **Property level 1** - clustering by the property's main level: all activities related to properties on the first level, related second level and related third level in the property tree are clustered
 - optional: **Property level 2** - clustering by the property's second level: all activities related to properties on the second level and related third level in the property tree are clustered

Example

The activities of four selected activity definitions share the same standard order and property. They are consequently clustered under one maintenance order. However, if one of the four activity definitions in the selection has a different trade than the other three, its activities are clustered under a separate maintenance order and thus two maintenance orders will be generated instead of one.

Additional criteria

Apart from the automatic clustering criteria, you can also select additional criteria:

- Trade
- Order group
- Floors
- Item groups
- Main asset - the maintenance activities of the main asset and all subassets are clustered together
- Work type
- Maintenance activity definition





If you select reference fields such as space or asset as a clustering criteria, the corresponding field in a generated order is automatically populated.

Procedure

1. At **Definitions & schedules**, select the activity definitions whose activities you want to cluster into one or more maintenance orders.
2. On the toolbar, click **Generate clustered orders**.

The **Generate clustered maintenance orders** dialog box appears.

Generate maintenance orders until

★ Start date-time	1/1/2020 07:00	
★ End date-time	1/1/2021 07:00	

Time span for clustering

- by day
 by week
 by month
 by year

Property level criteria

Property ▼

Additional clustering criteria (see online help about fixed criteria)

- | | |
|--|---|
| <input checked="" type="checkbox"/> Floors | <input checked="" type="checkbox"/> Order group |
| <input type="checkbox"/> Item groups | <input type="checkbox"/> Space |
| <input type="checkbox"/> Asset classification | <input checked="" type="checkbox"/> Trade |
| <input type="checkbox"/> Asset / building element | <input type="checkbox"/> Work type |
| <input type="checkbox"/> Maintenance activity definition | <input type="checkbox"/> Main asset (level 1) |
| <input type="checkbox"/> Service plan | |

- In **Generate maintenance orders until** specify the end date-time until which you want to generate maintenance orders for the selected activity definitions.
- At **Property level criteria**, select the property level by which you want to cluster.
- In **Time span for clustering** and **Additional clustering criteria** select criteria by which you want to cluster the activities. For example: if you select **by month**, by **Order group** and by **Trade**, activities are clustered by month of execution, by order group and by trade. Each cluster that is subsequently formed is assigned to a single maintenance order.

Depending on the fixed and additional, optional clustering criteria, one or more maintenance orders are generated.

- At Work Orders **Orders**, the generated maintenance orders become available.

The individual activities of a selected maintenance order are displayed as read-only items at **Order details > Maintenance activities**.

- At **Order details > Maintenance activities**, on the **Status transitions** action panel, you can change the status of individual activities. If the maintenance order status is changed to **Technically completed** or **Administratively completed** the corresponding activities are also assigned the **Completed** status.

If a planned maintenance order is completed (administratively or technically), the open subrequisition for materials is also set to **Administratively completed** or **Technically completed**.

If a planned maintenance order is canceled, any open subrequisitions for materials are also set to **Canceled**.

See also

[Clustering](#)

Deleting maintenance activities from clustered orders

It is possible to delete maintenance activities from clustered orders, in case there was a mistake at the time of generating the maintenance order. The deleted maintenance activity will again be added in the next order generation phase.

This feature is useful to complete the maintenance orders in time.

Procedure

1. On the **Maintenance plan > Definitions & schedules > Details**, select the maintenance activity(-ies) you want to delete.
2. On the action panel, click **Delete**.
 - The activity must have the **Canceled** status.
 - More than one maintenance activity must be linked to the clustered order.



If you delete a maintenance activity that is based on a maintenance activity definition *with costs*, the related order lines are also deleted.

Completing an activity

You can change the status of an activity to **Completed** when it has been carried out.

Procedure

1. At **Maintenance Planner > Details > Maintenance activities**, select the activity you want to complete.
2. On the action panel, click **Completed**.

The maintenance activity now is in the **Completed** status. It will also be assigned this status if the corresponding maintenance order is assigned either the **Administratively completed** or **Technically completed** status.



You cannot change the status of the activity definition with a **Fixed completion** scheduling method, after completing the activity.



If an activity definition is assigned the **Fixed completion** scheduling method, only 1 maintenance order can be manually generated at a time and only if the previous maintenance order is in **Technically completed** / **Administratively completed** status. If relevant, the start dates of future activities are moved forward or put back in accordance with the changes to the intervals between the activities.



If a maintenance activity in a **Fixed completion** sequence has already been executed, but setting this activity to the **Completed** status takes longer than anticipated, the actual completion is moved

to a later date. As a result, future activities are also delayed. If this is not what you want, you can *antedate* the completion of this latest maintenance activity, by giving it a completion date prior to that of the order. You do this via the **Actual completion date** field of the maintenance activity. Antedating the activity will not affect the **Technically completed** date of the related maintenance order. However, it will make sure that the start date of next activity in line is based on the correct **Actual completion date** of the previous maintenance activity.

See also

[Activity status](#)

See also

[Activity status](#)

[Activity status](#)

Canceling an activity

You can prevent an activity from being executed.

Procedure

1. At **Maintenance Planner > Details > Maintenance activities**, select the activity that you want to cancel.
2. On the action panel, click **Cancel**.

The **Enter values** dialog box is displayed.

3. Enter relevant text in the **Reason for cancellation** field.
4. Click **OK**.

The text is also displayed in the **Reason for cancellation** field of the activity.



If a maintenance order is canceled, the corresponding maintenance activity is also canceled.

See also

[Activity status](#)

Viewing maintenance costs in order lines

For each generated maintenance order, order lines are automatically created and populated in **Work Orders**. They are based on the expected costs linked to the activity definition. One order line is created for each item in the list of expected costs linked to an activity definition.



If the maintenance activities of an activity definition are clustered, one order line is created per expected costs item of the activity definition. Example: you have created an activity definition with two expected costs items and a daily schedule. The activities in this activity definition are clustered

per week. After the order generation, seven activities are clustered per maintenance order, and each maintenance order has 14 order lines.

Go to Work Orders > **Orders**. Select the maintenance order whose order lines you want to view. Then go to **Order details** > **Order lines**.



Each order line of a maintenance order displays the type of the expected costs it is based upon in the **Expected costs from activity definition** field.

For detailed information on how expected costs are used to calculate the order line costs, see [Expected costs fields](#).

The following tables specify how various types of expected costs of a maintenance activity definition are inherited by order line fields in Work Orders :

Man-hour costs

If the [scheduling method](#) of the activity definition is **Variable**:

Expected costs fields	Order line fields
Produced quantity * Required quantity	Quantity
Hourly wage	Price excl. tax / VAT
Tax / VAT	Tax / VAT tariff

If the [scheduling method](#) of the activity definition is **Fixed**:

Expected costs fields	Order line fields
Required quantity	Quantity
Hourly wage	Price excl. tax / VAT

Material costs

The following fields of material costs are inherited to an order line field or used to calculate a value in an order line field:

If the scheduling method of the activity definition is **Variable**:

Expected costs fields	Order line fields
Produced quantity * Required quantity	Quantity
Price per unit	Price excl. tax / VAT

If the scheduling method of the activity definition is **Fixed**:

Expected costs fields	Order line fields
Required quantity	Quantity

Expected costs fields**Order line fields**

Price per unit

Price excl. tax / VAT

Additional costs

The following fields of additional costs are inherited to an order line field or used to calculate a value in an order line field:

If the scheduling method of the activity definition is **Variable**:

Expected costs fields**Order line fields**

Produced quantity * Required quantity

Quantity

Price per unit

Price excl. tax / VAT

If the scheduling method of the activity definition is **Fixed**:

Expected costs fields**Order line fields**

Required quantity

Quantity

Price per unit

Price excl. tax / VAT

Reporting in Maintenance Planner

You can use **Report Manager** in Planon ProCenter to create, edit and print reports. The various action panels in **Maintenance Planner** give access to the **Report** feature which enables you to report on selected items.

In the **Reporting** dialog box, the **User reports** tab provides functionality you can use to create your own report definitions or use pre-defined report definitions.



For details on creating user report definitions, see *Report Manager*.

The **System reports** tab gives access to system reports that are pre-programmed by Planon. It is possible for Planon ProCenter administrators to create report settings for system report business objects in **FieldDefiner**.

Additionally, in the **Reporting** dialog box, you can make several settings regarding the presentation and output of a system report.



Note that totals in the report do not always match the sum of the individual amounts. This is due to amount rounding.

The Long-range cost survey report

At **Maintenance Planner > Definitions & schedules > Activity definitions**, you can access the **Long-range cost survey** system report, via **Report** on the action panel.

The **Long-range cost survey** report enables you to forecast the total cost of a selection of activity definitions over a given period, starting from a given start date.



Note that amounts in the report are always rounded up or down to the nearest whole number.

Settings of the Long-range cost survey report

You can make a number of report settings in the **Reporting** window, on the **System reports** tab. Select the **Edit report settings** option from the action menu to open the **Settings** dialog box. The various settings are described in the following sections.



The Planon administrator can configure the layout of this **Settings** dialog box in **Layout Manager**.

Grouping options

There are four levels on which you can group the report data:

- **Main grouping**

The field **Main grouping** allows you to specify the way in which activity costs are to be grouped in the report.

Example: Property

- **Subgrouping**

The field **Sub grouping** is used to make a subdivision in the classification selected in the field **Main grouping**.

Example: Budget

- **Detailed grouping**

The field **Detailed grouping** is used to make yet another subdivision in the classifications selected in the fields **Main grouping** and **Subgrouping**.

Example: Trade

- **Maintenance activity definition details**

If **Y** (yes) is selected in the **Maintenance activity definition details** field, even more details are shown about individual maintenance activity definitions within the selected grouping of the report. The information on the maintenance activity definitions includes: code, description, asset ID, asset description, quantity, dimension code, percentage to be completed.

For the first three grouping levels, a pick list is available with the following options:

- No grouping
- Asset classification
- Trade
- Work type
- Budget
- Property
- Property (Level 1)
- Property (Level 2)
- Property (Level 3)
- Technical classification
- Asset
- Activity



If you wish to start each classification group on a new page, set the **Page break per group** option to **Yes**.

Start date

The field **Start date** allows you to specify the date on which the report should start.

Period

The field **Period** allows you to select the type of period to be covered in the report: **Week**, **Month** or **Year**.

Number of

The field **Number of** allows you to select the number of periods to be printed in the report. You may specify any value between 1 and 12.

Details

There are three possible values for the read-only field **Details**: **Whole report**, **Hide details** and **Totals only**. The displayed read-only value is a default value that can be set in **FieldDefiner** for the **Report settings — Long-range cost survey** business object.



Refer to the *FieldDefiner* for more information on setting default values for a business object's fields.

Only print lines that contain costs

In the field **Only print lines that contain costs** you can specify whether you want to print maintenance activities with empty cost lines or not.

Include activities starting after reported period

In the field **Include activities starting after reported period**, you can specify whether you want to print maintenance activities that have a start date *after* the reported period. By default, this setting is set to **No**, to exclude these activities from the report. If you want to include them, you must select **Yes**. Maintenance activities with later start dates will be printed in the report with empty cost lines. If the setting **Only print lines that contain costs** is set to **Yes** and this setting is also set to **Yes**, this setting takes precedence, to allow the printing of empty cost lines.

Including VAT

The field **Including VAT** allows you to specify whether the costs in the report should be including or excluding VAT (tax).

Title

The field **Title** allows you to specify your own title for the report. If you leave this field unspecified, the default Planon-defined title "Long-range cost survey" is used. If you specify your own title, this title will be used instead of the Planon-defined title.

Subtitle

The field **Subtitle** allows you to specify a subtitle for the report.

Forecasted resources for Maintenance Planner activities

In **Maintenance Planner**, at **Definitions & schedules**, you can access the **Forecasted resources for Maintenance Planner activities** system report via the **Report** option on the action panel.

The **Forecasted resources for Maintenance Planner activities** system report enables you to forecast the resources, i.e. total costs and man-hours, needed for maintenance planning for a specific period.

Settings of the Forecasted resources for maintenance planner activities report

You can make a number of report settings in the **Reporting** window on the **System reports** tab. Select the **Edit report settings** option from the action menu to open the **Settings** dialog box. The various settings are described in the following sections.



The Planon administrator can configure the layout of the **Settings** dialog box in **Layout Manager**.

The various settings are described in the following sections.

Main grouping

The field **Main grouping** allows you to specify the way in which forecasted activity costs are to be grouped in the report. The options are:

- Property
- Asset
- Property and asset
- Asset and property

Group by activities

If the **Group by activities** option is set to **Yes**, activities related to the same maintenance activity definition in one period are grouped. If set to **No**, all activities are displayed separately.

Period

The field **Period** allows you to select the type of period to be printed in the report: **Day** or **Week**.

Number of periods

The field **Number of periods** allows you to select the number of periods to be printed in the report.

Page break per group

If you wish to start each group (period) on a new page, set the **Page break per group** option to **Yes**.

Only print lines that contain costs

The field **Only print lines that contain costs** allows you to specify whether you want to print maintenance activity cost lines without costs.

Including VAT

The field **Including VAT** allows you to specify whether the costs in the report should be including or excluding VAT (tax).

Display [...] costs

The **Display additional costs**, **Display man-hour costs** and **Display material costs** fields allow you to select the cost type you want to be displayed in your report. Note that at least one cost type should be selected.

Start date

The field **Start date** allows you to specify the date on which the report should start.

Title

The field **Title** allows you to specify your own title for the report. If you leave this field unspecified, the default Planon defined title "Forecasted resources for Maintenance Planner activities" is used. If you specify your own title, this title will be used instead of the Planon defined title.

Subtitle

The field **Subtitle** allows you to specify a subtitle for the report.

The Maintenance orders to be generated report

At **Maintenance Planner > Definitions & schedules**, you can access the **Maintenance orders to be generated** system report via the action panel, by clicking **Report > System reports**.

The **Maintenance orders to be generated** report enables you to view maintenance activity definitions for which maintenance orders are yet to be generated. If you select a period in the past, you can see which orders may have been overlooked that should have been generated.

Settings for the Maintenance orders to be generated report

1. In the **Reporting** dialog box, on the **System reports** tab, select **Maintenance orders to be generated**.
2. On the **System reports** action menu, click **Edit report settings**. The **Report settings – Maintenance orders to be generated** dialog box appears.

The settings you can make in this dialog box are as follows:

Field	Description
Grouping Options- Main grouping	Allows you to specify the way in which activity definitions are grouped in the report. Example: Property
Grouping Options - Subgrouping	Use this field to subgroup the classification selected in the field Main grouping . Example: Budget
Start date	Specify the report's start date.
Period type	Select the type of period to be covered in the report: Day, Week, Month or Year .
Number of periods	Select the number of periods to be printed in the report.
Title	Specify the title of the report. If you leave this field unspecified, the default Planon-defined title "Maintenance orders to be generated" is used.
Subtitle	Specify a subtitle for the report, if required.

The Planned maintenance activities report

At **Maintenance Planner > Definitions & schedules**, you can access the **Planned maintenance activities** system report by clicking **Report > System reports**.

The **Planned maintenance activities** report enables you to view all planned maintenance activity definitions. This includes those for which orders are yet to be generated and those for which orders are already generated.

Settings for the Planned maintenance activities report

1. In the **Reporting** dialog box, on the **System reports** tab, select **Planned maintenance activities**.
2. On the **System reports** action menu, click **Edit report settings**. The **Report settings – Planned maintenance activities** dialog box appears.

The settings you can make in this dialog box are as follows:

Field	Description
Grouping Options- Main grouping	Allows you to specify the way in which activity definitions are grouped in the report. Example: Property
Grouping Options - Subgrouping	Use this field to subgroup the classification selected in the field Main grouping . Example: Budget
Start date	Specify the report's start date.
Period type	Select the type of period to be covered in the report: Day, Week, Month or Year .
Number of periods	Select the number of periods to be printed in the report.
Title	Specify the title of the report. If you leave this field unspecified, the default Planon-defined title "Planned maintenance activities" is used.
Subtitle	Specify a subtitle for the report, if required.

The Maintenance activities - schedule & costs report

At **Maintenance Planner > Definitions & schedules**, you can access the **Maintenance activities - schedule & costs** system report by clicking **Report > System reports** on the action panel. This *data-only* report has no styling and is especially designed for the export of maintenance activity data.

You can save the **Maintenance activities - schedule & costs** report in various file formats. To export the data including their expected costs to a spreadsheet, use the available **Save as ... > XLS:[...]** and **XSLs:[...]** options. You can use the exported data for Business Intelligence analytics.

Settings for the Maintenance activities - schedule & costs report

In the Reporting dialog box, on the System reports tab, select Maintenance activities - schedule & costs. On the System reports action panel, click Edit report settings. The Report settings - Maintenance activities - schedule & costs dialog box appears. The settings you can make in this dialog box are as follows:

Field	Description
Title	Enter a title for the report.
Subtitle	Enter a subtitle for the report, if required.
Start date	Enter a start date for the report.
Number of periods	Enter the number of days, weeks, months or year you want to include in the report.

Field	Description
Period type	Select the type of period you want to report about: Day, Week, Month, Year.

Planned Maintenance – Field Descriptions

Standard service plan fields

Field	Description
Code	Enter a code for the standard service plan.
Description	Enter a description of the standard service plan.
Classification group	Click the pick list button in this field to open the Classification group dialog box in which you can specify the asset classification group (as defined in Asset Management) to which the new service plan applies.

Checklist item fields

Field	Description
Code	Enter a code for the checklist item.
Standard activity definition	Select a relevant standard activity definition from the dialog box.
Description	Enter a relevant description for the checklist item.
Sequence	Enter a number that reflects the order in which the checklist item must be carried out.
Mandatory?	Select Yes to make the checklist item a mandatory part of completing the order.


Maintenance plan fields


Field	Description
Code	Enter a code for the maintenance plan.
Description	Enter a description of the maintenance plan.
Responsible person	Select the person who is responsible for the maintenance plan.
Start date	Enter a start date for the maintenance plan. The start date can no longer be changed after maintenance orders are generated for a maintenance plan.
End date	Enter an end date for the maintenance plan. After maintenance orders are generated for a maintenance plan, its end date can only be

Field	Description
	modified to a date that is identical to or later than the start date of the last generated maintenance order.
Definitive (Y/N)	The default value in this field is No . As long as the field value is No , your maintenance plan is only a <i>scenario</i> . To finalize the selected maintenance plan, select Yes in this field. After you have selected Yes , the maintenance plan is official. Other maintenance plans linked to the same properties or contracts within the same period can now no longer be finalized.
System status	This field displays the current status of the maintenance plan: In preparation, Active or Closed .
Property details	This field displays detailed information on the property / properties linked a the property-based maintenance plan and its most recent compilation date.

Activity definition fields

Field	Description
General	
Maintenance plan	Displays the selected maintenance plan. You can select another maintenance plan, if required.
Property	Displays the property in which the asset, for which the maintenance activity definition is created (MAD), is located. When the asset is moved to a different property, on compiling the plan/generating the PPM order, the MADs of this asset in the plan are updated with the new property. If the new property is not within the maintenance plan, nothing is changed.
Asset / building element	Select an asset or building element for which you want to schedule maintenance activities. If this field is left empty, the maintenance activity definition will apply to the entire property instead of to a specific asset or building element. However, under the following conditions, this field becomes mandatory: <ul style="list-style-type: none"> • If the maintenance activity definition is <i>condition- based</i>. • If the maintenance activity definition is based on a <i>survey activity definition</i> (from Condition Survey). If you click the browse button next to the field, you can only select assets / building elements whose Is planned maintenance required? (Y/N) field in Technical assets is set to Yes and which do not have the Disposed of status.

Field	Description
	 Use the filter options to quickly find the relevant asset or building element.
Activity	
Code	Enter a code for the activity definition.
Description	Enter a description of the activity definition.
Activity details	
Activity type	Enter the type of maintenance that applies to the activities generated from an activity definition: routine, statutory, other mandatory or replacement.
Scheduling method	Select a scheduling method for the activity definition. There are three methods available: Variable method , Fixed method and Fixed completion method . The Scheduling method can only be changed if a maintenance order has not yet been generated, or if all corresponding maintenance activities are in either the Completed or the Canceled status.
Quantity	Enter a quantity for the value that you entered in the Unit field. For example the number of square feet of an asset that needs to be painted.
Unit	Select a unit of measurement. This field refers to the value specified in the Quantity field.
Percentage to be completed	Enter a value that represents the percentage of work planned to be completed in the selected maintenance plan.
Clustering allowed?	Specify if the clustering of scheduled activities is permitted or not.
Suppress first activity?	You can use this setting to suppress the first activity in the schedule's sequence, preventing it from starting directly on the asset's maintenance start date-time. The setting applies to: Standard maintenance activity definitions, Asset activity definitions and Contract activity definitions. If you select Yes in this field, an extra iteration is added to the start date-time of the activity definition upon compiling the maintenance plan, which results in the first activity (on the maintenance start date) being skipped.
Maintenance period	
Start date-time	Enter a start date-time for the activity definition.
End date-time	Enter an end date-time for the activity definition.

Field	Description
Override offset	
Overruled by schedule from...	<p>If you linked several activity definitions to the same asset, which include equivalent work (activities), but which have a different schedule, it is possible to let the activities of the selected activity definition be overruled (for a specific period) by activities of another activity definition within the same service plan. You can select an overruling activity definition in this field.</p> <p>Example:</p> <p>The asset is a lease car. It is linked to activity definitions A and B. Activity definition A, 'Annual motor vehicle inspection', has a yearly schedule. Activity definition B, 'Check tire pressure', has a monthly schedule. Both activity definitions involve an activity in which the tire pressure is checked. Each time activities from A and B overlap, you can choose to have activity B overrule activity A. This prevents the same task from being carried out twice.</p>
Period of overruling schedule	<p>Specify a period of time to be deducted from the start date-time and added to the end date-time of the selected activity definition, to define a period within which the overruling activity definition is valid.</p>
Standard order	<p>Select a relevant standard maintenance order. This field must be completed to generate orders.</p>
	<div style="border: 1px solid orange; padding: 10px;"> <p> If you selected Yes in the Apply product requisition process field and if material costs are present, the standard PPM order used to generate planned maintenance orders and the material costs are added directly as requisition line(s) under the generated PPM order. The standard order does not require a suborder. See Generating maintenance orders for more information.</p> </div>
Total additional costs excl. VAT	<p>This read-only displays the total of the additional costs per generated activity, excluding VAT.</p>
Total additional costs incl. VAT	<p>This read-only displays the total of additional costs per generated activity, including VAT.</p>
Total costs excl. VAT	<p>This read-only displays the total of all material, additional and man-hour costs per generated activity, excluding VAT.</p>
Total costs incl. VAT	<p>This read-only displays the total of all material, additional and man-hour costs per generated activity, including VAT.</p>
Total man-hours	<p>This read-only displays the total number of man-hours spent per generated activity.</p>

Field	Description
Total man-hour cost excl. VAT	This read-only displays the total man-hour cost per generated activity, excluding VAT.
Total man-hour cost incl. VAT	This read-only displays the total man-hour cost per generated activity, including VAT.
Total material cost excl. VAT	This read-only displays the total material cost per generated activity, excluding VAT.
Total material cost incl. VAT	This read-only displays the total material cost per generated activity, including VAT.
Trade	Displays the selected trade. You can select another trade from the dialog box available in this field.
Work type	Displays the selected work type. You can select another work type from the dialog box available in this field.

Expected costs fields

Field	Description
General	
Type	Displays the type of expected costs: Material, Additional or Man-hours .
Description	Enter an appropriate description of the expected costs.
Required quantity	<p>Enter the quantity referring to the purchase item or number of man-hours which is needed to complete the activity on one asset.</p> <p>Example: replacing 2 filters per air conditioning unit</p> <p>Activity definition:</p> <p>Asset = air conditioning unit</p> <p>Quantity = 3 (air conditioning units)</p> <p>Expected costs:</p> <p>Purchase item = filter</p> <p>Unit = pieces</p> <p>Required quantity = 2</p> <p>Price per unit = \$50</p>
Produced quantity	<p>Enter the same value as the value in the Quantity field in the activity definition. This is the quantity that must be produced by means of the value specified in Required quantity.</p> <p>Example: 3 (air conditioning units).</p>

Field	Description
Unit of required quantity	Select a relevant unit of measurement from the dialog box available in this field. The selected unit applies to the value in the Required quantity field.
Unit of produced quantity	This read-only field displays the unit that applies to the value in the Produced quantity field.
Standard cost category	Select a standard cost category from the dialog box available in this field. A standard cost category is a classification of the costs according to function.
Standard cost type	Select a standard cost type from the dialog box available in this field. A standard cost type is a classification of the costs according to type.
Cost type	<p>Select a cost type. There are two options: Fixed costs or Variable costs. If you select Variable, the costs are calculated taking into account the quantity specified on the maintenance activity definition. If you select Fixed, costs are calculated <i>without</i> taking into account the quantity specified on the maintenance activity definition.</p> <p>Fixed cost calculation</p> <p>Fixed costs (excluding tax / VAT) are calculated as follows: $(\text{Percentage to be completed (of the activity)} / 100) * (\text{Required Quantity} * \text{Price per Unit})$</p> <p>The price including VAT is calculated by multiplying the result $* ((100 + \text{VAT percentage}) / 100)$</p> <p>Variable cost calculation</p> <p>Variable costs (excluding VAT) are calculated as follows: $(\text{Percentage to be completed (of the activity)} / 100) * \text{Quantity (of the activity)} * (\text{Required Quantity} / \text{Produced Quantity} * \text{Price per Unit})$</p> <p>The price including VAT is calculated by multiplying the result $* ((100 + \text{VAT percentage}) / 100)$</p> <p>Example</p> <ul style="list-style-type: none"> • Percentage to be completed = 75% • Required quantity = 0.25 • Produced quantity = 1 • Quantity (of the activity) = 2 • Price per unit = 10 • VAT = 21% <p>--- Fixed cost calculation --- Excluding VAT: $(75 / 100) * (0,25 * 10) = 1,88$ Including VAT: $1,88 * (100 + 21) / 100 = 2,27$</p> <p>--- Variable cost calculation --- Excluding VAT: $(75 / 100) * 2 * (0,25 / 1 * 10) = 3,75$ Including VAT: $3,75 * (100 + 21) / 100 = 4,54$</p>

Field	Description
Tax / VAT	Select the appropriate tax rate / VAT rate.
Activity definition	If you want to link the expected costs to a specific activity definition in Maintenance Planner , select an activity definition from the dialog box available in this field.
Standard activity definition	If you want to link the expected costs to a standard activity definition from the Maintenance Library , select a standard activity definition in this field.
Material	
Price per unit	Enter the price per unit of the product that you entered in the Purchase item field. Example: \$50 for an air conditioning filter.
Standard order quantity	This read-only field displays the prescribed number of purchase items that must be ordered.
Man-hours	
Hourly wage	If you are adding man-hour costs, enter the relevant hourly wage in this field.
Tariff group	If you are adding man-hour costs, select the tariff group that applies to the hourly wage.

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