Infor LN Resource Management Workbench User Guide

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About this guide

This guide provides a functional description about the Infor LN Resource Management Workbench. It also describes the various modes of planning and the related functionality. This guide also explains the options and settings available for the planner to enhance the scheduling process.

Intended Audience

This guide is intended for the planner who creates and maintains the schedules using the Infor LN Resource Management Workbench.

Contacting Infor

If you have questions about Infor products, go to the Infor Xtreme Support portal at www.infor.com/inforxtreme.

If we update this document after the product release, we will post the new version on this Web site. We recommend that you check this Web site periodically for updated documentation.

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Chapter 1 Introduction

1

Resource Management workbench allows you to plan and schedule the service activities, work order activities, project activities, job shop operations, and project (PCS) activities. These activities can be scheduled and assigned based on the various attributes such as skills, availability, locations and so on. You can use this workbench to view the activities assigned to an employee. The workbench displays a graphical view of the activities assigned to the respective employees. This helps to plan the activities of the employees efficiently and also provide enhanced visibility of the activities.

The data is displayed in the workbench, based on the Origins selected on the **General** tab in the User Settings window. The data is retrieved from the following sessions:

1. Service Order Activity (tssoc2110m100) and Service Engineer Assignments (tssoc2505m000) (for Service Order Activities)
2. Work Order Activities (tswcs2110m000) and Service Engineer Assignments (tssoc2505m000) (for Depot Repairs)
3. Project Order Activity (tppss2100m000), Project Activity Budget (Labor) (tpptc2630m000) and Assignment (tpptc2170m000)
4. Job Shop Operation (tisfc0110m000) and Operation – Employees (tisfc0115m000)
5. Project (PCS) Activity (tipcs4101m000) and Activity – Employees (tipcs4115m000)

The activities can be scheduled and released based on the conditions such as skills, availability, and locations.

The Resource Management Workbench is positioned with the Planning functionality in Common. The functionality includes:

- Preventive Maintenance Planning
- Group Planning

The Resource Management Workbench is used to link the plans generated by the Group Planning functionality.

You can generate a pre-plan using the Group Planning functionality. After the group plan is transferred for execution, the details and exceptions are planned and scheduled using the Resource Management Workbench.

Planning modes

Primarily, there are two planning modes in the Resource Management Workbench:

- Employee-based planning

- Installation Group-based planning

Employee-based planning

This type of planning is used to assign the service order activities, work order activities, planned activities, project activities, job shop operations, and project (PCS) activities, to employees. The activities can be assigned/unassigned/reassigned to employees based on following planning methods:

Plan based on the availability of the employee

This planning method depends on the availability of the employee to visit the customer. You must select an activity and using the drag-and-drop feature, to add the activity to the Gantt chart. The workbench calculates the new planned start and finish time. However, the time may deviate from the requested time of the activity.

Plan based on the requested time of the activity

This plan is based on the availability of the employee to perform the activity, based on the requested planned start and finish time. When you select an unassigned activity, a list of skilled employees available to perform the activity, is displayed. Using the drag-and-drop feature link the activity to the required employee. This process is executed to ensure that the planned start and finish time is not modified.

Plan based on a geographical selection

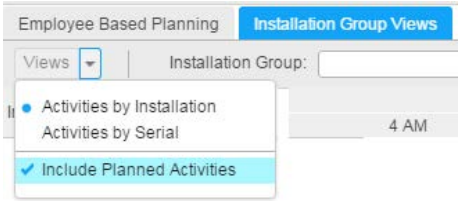
This plan is used to group the activities in a specific region, to reduce the travel time. Only applicable for the Origin, Service. Using the map, you must select the activities for a required region. In the grid, you must select the unassigned activities for the region, and using the drag-and-drop option, add the activities to the Gantt chart. Optionally, the activities can be sequentially planned simultaneously.

Installation Group-based planning

Installation Group based planning enables you to view and plan service order activities and planned activities for the specific installation group or the item and serial. To enable this feature, the Installation Group Based Planning option must be enabled in the User Settings.

This planning is applicable only for service origin. Using this planning method, you can plan the service order activities and planned activities, based on the Installation group or serialized items. In this view, you can effectively perform preventive maintenance by the Installation group or serial and accordingly plan the service activities for the group.

The **Views** menu on the toolbar in the Installation Group Views section allows you to switch between various options.



In this view, a Gantt chart and a Grid are used to display the service and planned activities. The grid helps the planner to locate or select an activity and view the data on the Gantt chart. The planner can also apply various column filters on the grid and use the Apply Filter to Gantt to view the current data on the Gantt chart.

The column filters on the grid can be persisted or managed using the Filters option on the Grid view's toolbar.

Activities by Installation

When you view the activities based on the installation group, the service order activities and the planned activities are displayed for the respective installation groups. You can reschedule the activities and save the changes to the application.

Activities by Serials

When you view the activities based on the serials, the service order activities and the planned activities are displayed for the respective item serials. You can reschedule the activities and save the changes to the application.

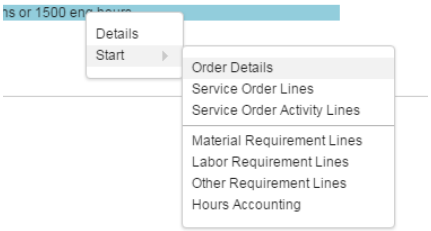
Include Planned Activities

This option in the Views menu allows you to include or exclude planned activities. If you select the Include Planned Activities option, the planned activities are retrieved and displayed on the Gantt chart and in the Grid.

Note: To ensure that planned activities are always fetched, the Include Planned Activities setting must be set in User Settings

Drill back options

Drill back sessions enable you to access the various Infor LN sessions from the Workbench. Double click an activity to start the Details session of the service or planned activity.



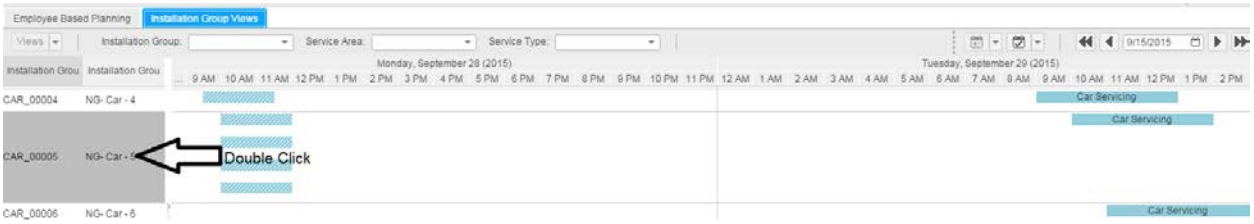
View Activities by Serial

To view the activities by serial number for a specific Installation group, use the right-click menu on the Installation Group.

When you use this option, the view is switched to Activities by serial and a filter is applied for the selected Installation group.

Zoom to fit

Double-click the installation/serial on the left panel of the Gantt chart to adjust the time scale to display all the activities for the installation or serials.



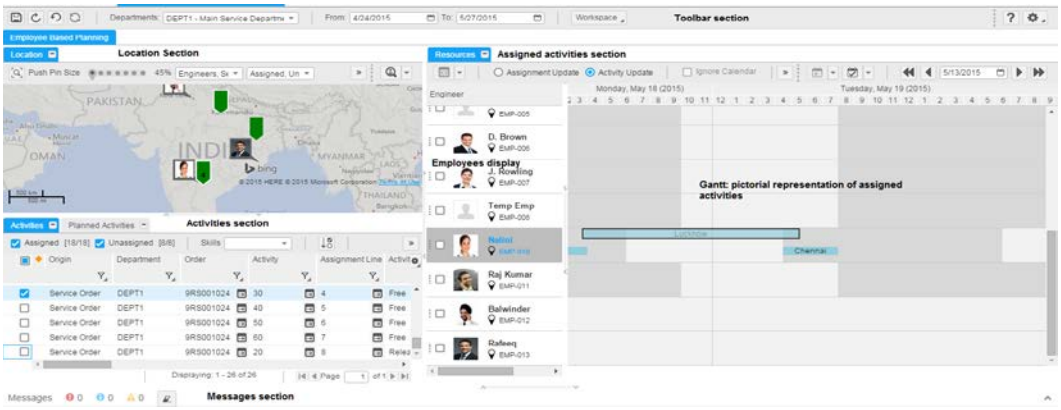
Layout

The data is displayed in the workbench based on the origins selected in the User Setting section.

For Service related origins, the data related to Service departments linked to the user profile is retrieved. Service departments are linked to a user in the Service Departments by User Profile (tsmdm1155m000) session. Based on the selected origins, Work Centers, Project Management Offices and departments of the type Purchase Office, Sales Office and Accounting Office that have Service Department check box selected are also displayed in the Departments.

The employees are displayed based on the selected Departments and the assignments linked to the employees are displayed, for the selected origins.

The workbench includes these sections:



Note: It is important that the capacity required for the service activities is matched with the available capacity.

The activities/assignments, the employees and the availability time of the employees are displayed in the workbench.

Toolbar section

This section is used to save, refresh, revert, and filter the data.

- **Save**: Submits the workbench changes to Infor LN.
- **Refresh**: Retrieves the data from Infor LN, based on the selected departments and the specified Start and End Date.
- **Manual Refresh**: This option allows you to retrieve the activities from Infor LN since the last refresh. It is enabled when the Auto Save option is set to ON and Auto Refresh is set to OFF in the User Settings section.
  Note: Auto Refresh and Manual Refresh are only supported for Service Order and Work Order origins.

- **Revert**: Reverts the changes made to the selected assignments.
  Note: In Employee based planning, if you use the Revert option, the selected object is reverted to the last committed state. However, when working with the Serial or Installation Group based planning, using the Revert action reverts the modifications of the entire data.
- **Departments**: The departments defined in Infor LN are displayed in a list based on the selected origins. Initially, the data of the departments linked to the user profile and other selected departments is retrieved. Next, the list of employees linked to the selected departments is retrieved. Finally, the activities of selected origins, or both assigned to the department or employees are retrieved, irrespective of the departments to which these orders and activities are linked.
  Note: When you click Save Defaults, the Work Centers, PMOs, Purchase Offices, Sales Offices and Accounting Offices linked to the origins other than Service are saved and displayed when you access the workbench next time. For Service, the service departments are always retrieved based on the service user profile.
- **Start Date – End Date**: A date range is selected using the Start and End date fields. The user can specify the required time span between the start and end date using the Time Horizon option in the User Settings section.
- **Auto Refresh**: When Auto Refresh is set to ON in the User Settings section, the indicator displays if Auto Refresh is in progress (Green = On and Grey = Off).
- **Workspace**: The Workspace menu contains the pre-defined layouts that the users can set and save as required. Users can also adjust, or resize, or minimize the sections and save the layout of their choice.
  Example: The user can first select the Full Gantt On Top layout, minimize the map section, and re-arrange the planned activities section of the layout. The image shows the layout. Select the Save Defaults option to retain this layout.
  Note: When using the Installation based planning mode with Employee based planning, the toolbar options work independently for the respective section.

Settings Menu

The menu on the toolbar contains these options:

- **User Settings**: Displays the User settings screen using which you can configure the required options and settings.
- **Save Defaults**: Use this option to save the workbench settings. The settings include:
  - User Settings
  - Layout Personalization
  - Grid Personalization
  - Grid filters

  When any setting or UI layout is changed, an indicator is displayed.
- **Clear Defaults**: Clears the user settings data for the current user from Infor LN.
- **Get Defaults**: Discards the unsaved changes made to the user settings and applies the last saved settings to the workbench.
- **About**: Displays the version of the workbench.

Messages section

The Messages section is an expandable pane. By default, this pane is expanded when an error is reported in the workbench.

To clear the messages, click . To minimize the pane, click the message header.

Chapter 2 Assigned Activities - Gantt

2

This Assigned Activities section displays a graphical view of the activities of selected origins based on the planned start and finish time of the assignment. The user can view all the employees in the left panel and the activities assigned to the employees (assignments) in the right panel. The employee's availability and non-availability, based on the calendar data, is also displayed. The first and second row of the Gantt chart display the activity constraints of a selected activity, including the planned Start/Finish Time, Earliest Start/Latest Finish Time, the calendar assigned to the Installation Group, and so on.

Assigned Activities section: Additional features

These are the additional features supported by the Resource Management.

Employee section

A list of employees for each selected department is displayed on the Gantt chart. The Employee widget displays this information:

- **Selection:** If this checkbox selected, the employee's location is highlighted on the map. This check box is selected if the employee is selected on the map.
- **Picture:** Displays the photograph of the employee. This is an optional feature and can be set using the Show Picture option in the Gantt tab in the User Settings section.
  See Appendix: Adding Employee Picture.
- **Get Current Location:** Retrieves the latest location of the employee from the application and refreshes the location data on the map.

Activity Constraints

You can use this feature to check if the earliest start time, latest finish time, the calendar assigned to the Installation Group, planned start time, planned finish time, and ATP are synchronized or if there is a deviation.

In case a service order or work order activity is selected, the first two rows in the Gantt chart display an activity bar for each row. The activity bar in the Planned Timeline represents the planned start time and planned finish time of the activity. The activity bar in the Earlier Start-Latest Finish Timeline represents the earliest start time and latest finish time of the activity. An indicator is also displayed for the ATP date. The Installation Group Calendar information is highlighted in the second row. If

there is conflict for the activity, an indicator is displayed on the activity bar. To view the reason for the conflict hover over the indicator.

In case of a project activity, the earliest – latest indicator is mapped to the scheduled start and finish time of the project activity and the planned indicators are populated based on the planned times specified for the labor budget line.

In case of job shop operation, no activity constraints are shown.

In case of project (PCS) activity, the earliest – latest indicator is mapped to Earliest Start Date and Latest End Date of the activity. If these dates are not specified, project start and completion dates are used. These are filled when “Generate Network Planning” is done. Planned timeline doesn’t exist for project pcs.

This data is displayed in the first two rows titled, Planned Timeline and Earlier Start-Latest Finish Timeline, on the Gantt chart.

Use the Show Activity Constraints option in the User Settings section to enable or disable this option.

You can select the colors for the activity bars on the Planned Timeline and Earlier Start-Latest Finish Timeline, using the ATP indicator option in the User settings section, on the Colors tab.

Zoom options

You can use the Zoom option (CTRL + Scroll Wheel) for a Gantt Time scale.

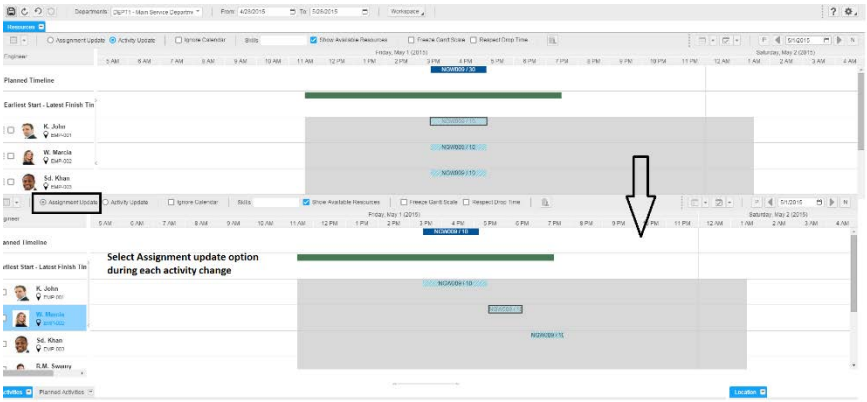
Double-click the time interval to zoom in on the chart.

When a particular activity must always be displayed in the visible region, point on that activity and select CTRL + Scroll Wheel.

To zoom to fit, double-click the employee panel on the Gantt chart. The time scale is adjusted to display all the assignments for the employee.

Assignment Update

Use this option to plan for each assignment individually. For example, there are 3 assignment lines for an activity. You can schedule these 3 assignments with the durations 2 hours, 2 hours, and 1 hour respectively. When the plan is saved, the planned start and planned finish times of all the three assignments are updated in Infor LN. However, the activity duration, activity planned start, and activity planned finish times are not modified.



Activity Update

Use this option to plan for all assignments for an activity at a given time. For example, the activity's duration is of 5 hours and the activity has 3 assignment lines. You can schedule the 3 assignments with the duration of 7 hours. When the plan is saved, the planned start and planned finish times of all the three assignments are updated to the application. Also the new values are applied to the activity duration, activity planned start, and activity planned finish times in the application.

After an activity update is completed and the user changes to an assignment update or vice versa, all the changes are saved, even if the Auto Save check box is not selected in the User Settings section.

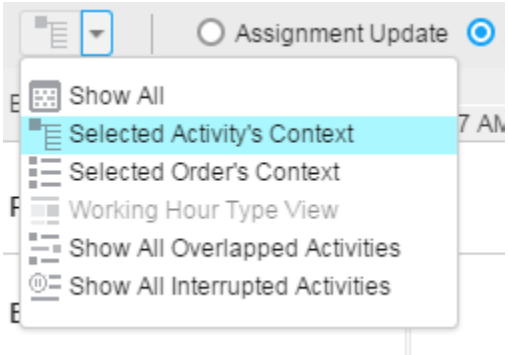
Note:

- In case of a Project Activity, Job Shop Operation & Project (PCS) Activity only Assignments are updated.
- When a Project Activity or Job Shop Operation or Project (PCS) Activity is selected on the workbench, these options on the Gantt toolbar are disabled.

Various views in a Gantt chart

You can select various options to display the data using these filters:

- **Selected Activity's Context**: All employees assigned to the selected activity are displayed in the left panel of the Gantt chart. Only the selected activity and the related assignments are displayed in the right panel. The options such as Unassign, Cut, and Copy are disabled in this view.



- **Selected Order's Context**: All employees assigned to all activities for the selected order are displayed in the left panel of the Gantt chart. Only the selected order and the related activities and assignments are displayed in the panel section. Features such as Unassign, Cut, and Copy are disabled in this view.
- **Show All Overlapped Activities**: All the overlapped activities in the selected time frame (for a day, week, or month) are displayed on the Gantt chart. To exit from this view, select the Show All option.
- **Show All**: By default, this view is displayed. In this view, all the service employees are displayed. When the data is updated (refreshed) or an unassigned activity from the grid is selected, the view changes to the default view.
- **WHT (Working Hour Type) View**: When you select the display color for the Working Hour types in the User settings, the Working Hour Type View icon is enabled. Click the Working hour icon. All the employees available for the configured working hour types are filtered and displayed. This option helps in planning the weekend duties, new product duties and so on.

Activity bar context menu options

Right-click the activity bar, on the Gantt chart, to open a context menu with these options:

- **UnAssign:** Use this option to unassign an assigned activity. You can also unassign multiple activities. After the assignment(s) for an activity are unassigned, the assignment(s) are either removed or converted to unassigned activities, only if the activity belongs to the selected department.
- **Cut, Copy, and Paste**: When you add an activity to the Gantt chart using the Cut and Paste option, the activity's planned start time is considered as the scheduled start time. If the Cut and Paste (Respect drop time) option is selected, the time defined for the activity is used. The same is applicable for the activity's planned start time for the assignment.
  See Multi Activity Planning for Assigned Activities section.

Supervisor Assignment

A supervisor is a service employee, to whom several service employees report. If you select an unassigned activity, using the drag-and-drop feature, and assign the same to a supervisor, the

Supervisor Assignment option is enabled. If this option is selected, additional assignments for each of the service employees assigned to the supervisor are created

After the Assign action is complete, the view mode changes to the Selected Activity's Context and the newly created assignments are displayed on the Gantt chart in a single screen The Supervisor Assignment option can also be enabled using the Copy/Paste option.

Show Route

When you select multiple activities of the same employee, the Show Route option is enabled. This option draws a route on the map starting with the first activity in the sequence till the last activity. The GPS co-ordinates of the activity's location address are considered for drawing the route. The route is based on the Assignment Plan Start Time.

Release

A Free or Planned, the activity status can be set to Released using the Release option.

Set Assignment Status

This option is context based and helps the user toggle between the Project assignment status Free to Assigned and vice-versa.

Drill back options

These are the available options:

- **Service Order**: Drill to Service Order, Drill to Service order lines, Drill to Service order activity lines, and Drill to Service order activity details.
- **Work Order**: Drill to Work Order, Drill to Work order lines, Drill to Work order activity lines, and Drill to Work order activity details.
- **Drill to Service employees**, and **Drill to Appointment** options are also available. All these options enable you to access the Infor LN sessions. For the drill back sessions such as order details, order lines, Activity details, and Activity lines, if the data in Infor LN is modified the changes are updated to the workbench.
- **Projects**: Drill to Project Activity, Drill to Budget Line (Labor), Drill to Assignment.
- **Job Shop Operations**: Drill to Operation, Drill to Operation Employees, Drill to Operation Assignments
- **Project (PCS) Activities**: Drill to Activities, Drill to Activity Employees, Drill to Activity Assignments.

Gantt Context Menu options

Right-click a blank area on the Gantt chart, the context menu with these options is displayed:

Create or Change Working Hour

Use this option to change the status of the working hours of an employee to Available or Unavailable.

Create Service Order

You can generate a service order from the workbench using the Create Service Order option. An Infor LN session is started from the workbench; wherein the planned date is transferred from the workbench. You must create a new activity. By default, the current employee is assigned to an activity. To view the new order on the Gantt chart, click Save and Exit (Ctrl + L) in the Infor LN session.

Create Work Order

You can insert a work order from the workbench using the Create Work Order option. An Infor LN session is started from the workbench; wherein the planned date is transferred from the workbench. You must create a new activity. By default, the current employee is assigned to an activity. To view the new order on the Gantt chart, click Save and Exit (Ctrl + L) in the Infor LN session.

Drill back sessions

Drill back sessions such as Drill to Employee details, Drill to Skills by Employee, Drill to Hours accounting, Drill to General hours accounting, and Drill to Open Infor LN Calendar are used to access the Infor LN calendar and enable you to access the Infor LN sessions from the Workbench.

Chapter 3 Activities Section

3

The unassigned and assigned activities of the selected origins are displayed in the grid view. The user can view the activities in the grid and also use the column filters to filter the activities.

For example, the user can filter the Activity Status column based on the status Free, Planned, and Released.

Planned activities are displayed on the Planned Activities tab.

You can assign planned or unassigned activities to the required employee using the Gantt chart and the drag-and-drop option. See “Assigning an Employee” on page 31.

Activities section

The Activities grid displays the assigned, unassigned activities for the given time horizon as supplied by you on the toolbar. Use the filters available for each column, to filter the data and view a limited set of selection. The ‘Origin’ column indicates the Origin type of the respective record if it is a Service Order, a Work Order or a Project and so on.

Planned Activities section

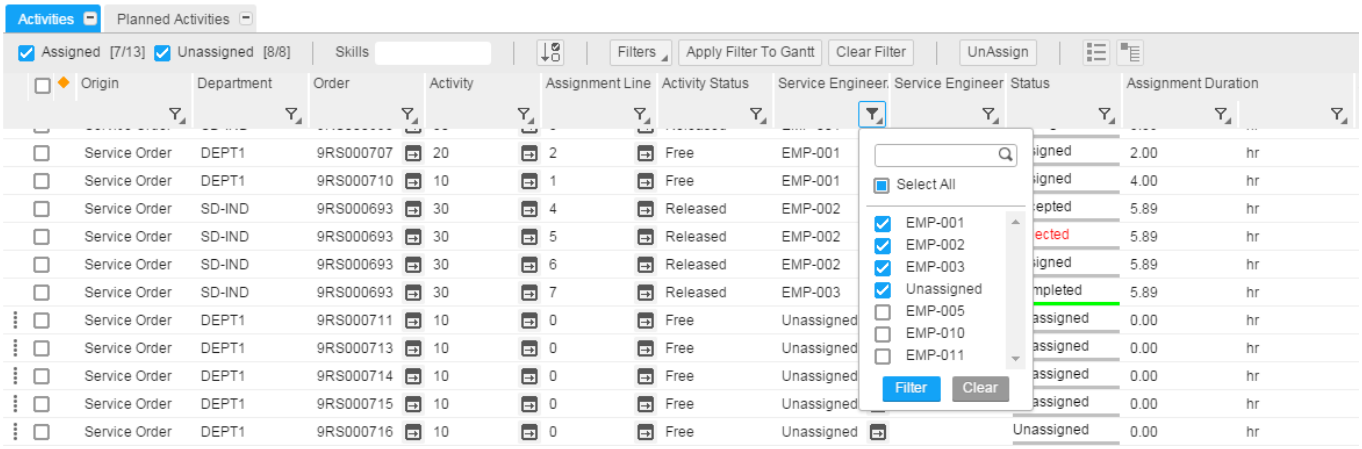
Planned activities are used to list the activities planned for a serialized item or Installation Group and improves the long term preventive maintenance process.

When a planned activity is selected, the required skills are populated in the Skill combo section and the employees with matching skills are displayed on the Gantt chart.

To transfer a planned activity to a service order, drag the selected planned activity to the Gantt area of a corresponding employee and for the required time.

Other Features

Grid Filter: This option is provided for each column in the grid. Using these filters, you can filter the data by selecting and clearing the data available in the columns.



Saving Filters: The planner can add a combination of column filters and save the same to the User Settings. For example, if a planner regularly filters data based on the Service Type, '001' and the Activity status 'Free' and 'Released', these steps are required:

1 Apply the required column filters on the grid.

2 In the 'Filters' list on the grid toolbar, select Add.

3 A dialog box is displayed with a list of selected filter columns and the respective values. Specify a filter name and select Add. Saved filters are displayed as menus in the Filters list.

To apply the filter, click the required filter name and the filter is applied to the respective columns of the grid. The filters and the selected filter can also be saved to user settings along with the 'Save Settings' option. This ensures that the next time the workbench is started, the last selected filter is applied to the grid.

These are the options to manage the filters:

- **Add:** A new filter with the specified name is added.
- **Update:** The current filter is updated with the latest changes.
- **Remove:** The current filter is deleted.

This functionality is available in the grids for Employee Based Planning and for Installation group, Serial based planning or both.

When the filters are applied to the grid, a filter icon is displayed on the Filters on the grid toolbar. This indicates that a filtered set is displayed.

Special Filter for Service Employee and Assignment Line Column

When using the filter for the Service Employee or Assignment Line column, by default, unassigned records are filtered in.

Apply Filter To Gantt

Use this option to apply the data from the grid to the Map and Gantt section of the workbench, and enable you to improve the planning with the limited or filtered data.

Clear Filter: Use this option to clear all the filters applied on the grid. In case, the filter is also applied to the Gantt and map, then this option resets data in all the views to the default state.

Unassign: Use this option to unassign an assigned activity. You can also unassign multiple activities. After the assignment(s) for an activity are unassigned, the assignment(s) are either removed or converted to unassigned activities, only if the activity belongs to the selected department.

Assign/Unassign Counters: The counters display the assigned and unassigned records against the records after filtering.

Sort by Selected Activities: Use this option to group the selected activities.

Skills: Use the Skills option to list the required skills for the selected activity in the grid. Mandatory skills are displayed with a Red asterisk (*).

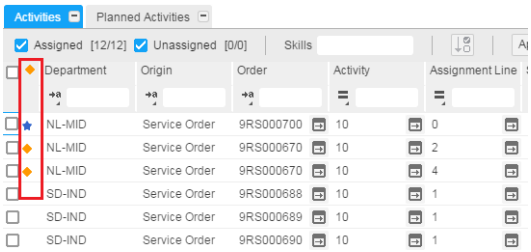
Select Order Activities: Use this option to select all the activities/assignments that belong to the selected order.

Select Activity Assignments: Use this option to select all the assignments that belong to the selected order-activity.

State Indicators: State Indicators help to easily identify the edit state of activities in the grid, based on different criteria:

1. A modified activity is indicated by an orange diamond icon.
2. A new assignment line added using the Copy/Paste or Drag-and-drop option from the unassigned list to the Gantt chart is indicated by a blue star icon.

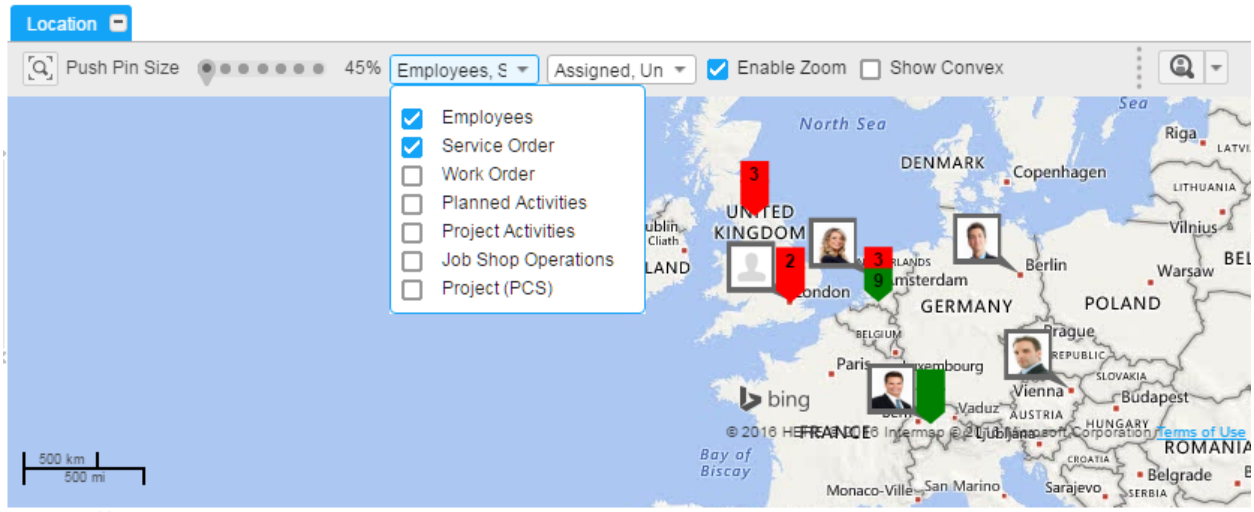
The activities are displayed with indicators:



Chapter 4 Location section

4

This section provides a map view of the employees and activities (assigned/unassigned/planned), which helps in easily identifying the location of the employee and the activity.



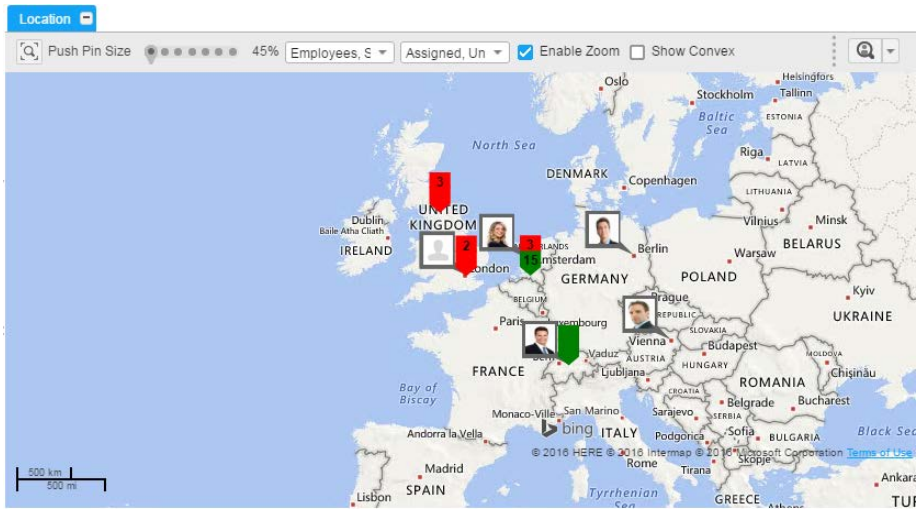
You can filter the data to be displayed using the options available in the two **lists**. The image displays the filter applied on the employee and the service order. Similarly, you can filter the assigned activities, unassigned activities, and the employee's locations that must be displayed on the map.

Icons

Icon	Description
	Activity pushpin: Represents the assigned and unassigned activities of all origins. User can hover over the pushpin to view the tooltip.
	Employee Pushpin: Represents the location of the employee.
	Planned Activity Pushpin: Represents the planned activities. User can hover over the pushpin to view the tooltip.

Location Section – additional features

The Map/Location section displays the pushpins to represent the employee, assigned activities of all origins unassigned activities of all origins, and planned activity.



Pushpin Selections and Zoom options

- To remove all selections, click on a blank area of the map.
- Press Shift + Click to select multiple activities.
- When you zoom to a particular location, only the activities available for the location are displayed.
- To select a region or group of activities, you can also press CTRL and drag the pointer to create a box over the required region or activity.
- To zoom to a particular region or activity's location, press SHIFT and drag the pointer to create a box over the required area.
- Activities are displayed as pushpins on the map. You can define the size of the pushpins.
- For a group of activities with the same location address or the same area or when you zoom out of an area or a location, a single pushpin represents the region. The pushpin displays the number of activities (assigned and unassigned). You can define the colors for the pushpin in the User Settings > Map Pushpin section on the Colors tab.
- Use the Enable Zoom option to zoom in on the activity address. When this option is cleared, the map remains at the level already selected by you and you cannot zoom in further.
- Use the Zoom to Fit option to zoom in and view all the selected activities and employees.
- Use the Show Convex Hull option to indicate the current work area of the employee.

Find Closest Employee

Use this option to locate the employee closest to the selected activities. This option is used to calculate the distance and time that the employee takes to travel to the location address of the activity.

To enable the Closest Employee option:

- Multiple employees and a single activity must be selected. Use the SHIFT + Click option or press CTRL and drag to create a box over the activities and employees, and view the required details.
- The estimated time and distance is populated and an Assign option is displayed. To assign the employee, select the Assign option. The activity is displayed on the Gantt chart. The route to each of the selected activities is displayed in Blue.

Note: Only Service Order selection is supported by the Find Sclosest employee functionality.

Show Convex Hull

Using this functionality, you can view the activities of the employee, spread across a geographical area

To view the Convex Hull:

1. Select the Employee(s) (in the Gantt section or on the Map).
2. On the map toolbar, select the Convex Hull check box. The highlighted geographical area displays the location of the activities for the selected employee(s) in the Gantt's time range.
3. When you move the Gantt scale, the convex hull realigns the current activities on the Gantt (for each the current scale) chart.

Chapter 5 Assigning an Employee

5

Single Unassigned Activity

When a single unassigned activity is selected, these actions are executed:

- The Gantt chart displays the planned times (if applicable based on the origin) of the selected activity. Select the Freeze Gantt Scale option to disable this action.
- The first and second rows display the activity constraints (as applicable) for the selected activity. See “Activity Constraints” section on page 17.
- The Skills list is populated with the mandatory and optional skills required to execute the selected activity. Mandatory skills are displayed marked with Red asterisk (*).
- The list of employees with the skills required for the activity, is populated in the Gantt chart.
- The Show Available Resources option enables you to see the list of employees available to execute the activity during the planned time.
- The Ignore Skills & Available Resources enables to view all employees ignoring the skills and the available resources features.

The workbench planning is based on the calendar information. However, in some cases, planning can be done without the calendar. Use the Ignore Calendar option to ignore the calendar and assign the task during the employee’s non-availability time.

Assigning an activity to an employee:

1. Plan based on the availability of the employee: Check when the employee can visit the customer. Drag the selected unassigned activity from the grid to the Gantt chart and assign the activity to the required employee. The activity’s planned start and finish time are modified.
2. Plan based on the requested time for the activity: Check if an employee is available for the requested date/time. Select the employee(s) from the Gantt and link to the selected activity’s order number or activity number columns of the activity or the employee column in the grid, using the drag-and-drop option. The order number and the related unassigned activities for the order are assigned to the employee. You can also drag the activities in the grid to the Gantt, to be assigned to an engineer.
   Note: You can select multiple employees, if the activity must be shared. You can select multiple activities/operations to be assigned to a single employee.

Smart Planning using the drag option

When you select (drag-and-drop option) an activity wherein the finish time of the existing activity is almost reached, the time difference between the existing activity's assignment finish time and the selected time is less than or equal to five minutes, the activity is automatically sequenced. This feature helps you plan activities without any delay.

Multiple Unassigned Activities

A plan based on the requested time for the activity. You must check if an employee is available for the requested date/time.

- You can select multiple unassigned activities from the Activities section and link the activities, using the drag-and-drop option, to the required employee on the Gantt chart.
- You can select multiple unassigned activities from the Activities section. Then select the required employee(s) on the Gantt. Now, drag-and-drop the employees on the activity number or the order number or the employee in the Activities grid. In case of multi-origin selection (service order or work order with other origin) or origins are selected without service order or work order, to create assignments, the employee(s) must be dragged on the employee.

Chapter 6 Multi-activity Planning

6

Multi-activity Planning enables you to define Time based and Route based planning methods.

Time Based Sequential

This plan enables you to schedule multiple activities sequentially. You can choose either the Forward Planning or the Backward Planning option.

- Forward Planning:
  On the Gantt chart, select the required multiple activities and using the drag-and-drop option, link the first activity to the required time. Based on the first activity's planned start time, all the other activities are planned sequentially. You can also modify the planned start time of the first activity, which ensures that all other activities are planned sequentially.

  Note: An activity, other than the first activity cannot be selected.
- Backward Planning:
  On the Gantt chart, select the required multiple activities and using the drag-and-drop option, link the first activity to the required time. Based on the last activity's planned finish time, all the other activities are planned sequentially. You can also change the planned finish time of the last activity using the drag-and-drop option. There by ensuring that, from the last activity, all other activities are also planned sequentially. An activity, other than the first activity cannot be selected.

Route Based

The Route based method helps you to schedule a group of activities based on the route. The route is created based on the locations of the activities for the group. Travel distance and time are calculated for the activities. Distances are calculated based on the GPS co-ordinates specified for the address. The travel time is combined with the duration of the various activities to be executed at the location.

Note: You can also select work order activity with the service order activity when performing multi planning.

You can maintain the default information required for the multi-activity planning in the Multi Activity Planning section, on the Service tab of User Setting window. You can also define the Planning Method, Distance Calculation Method, Route Start Address, Average Travel Speed, Travel Offset Time, and so on.

Note: Route Based Planning Method is applicable from Infor LN FP8 onwards.

The planning process is executed based on the value of the Planning Method specified in the User Settings.

The Route Based method fields:

- **Distance Calculation Method**: This method is used to calculate the distance between two locations.
  - As The Crow Flies: Distance is calculated using a simple formula
  - Bing Maps: Uses a dedicated web service. An internet connection is required wherein Infor LN requests the Bing maps web service to calculate the distance.
- **Start Address of Route**: The value in this field is used as the starting address for the route based planning.
  - First Activity: Start the route at the first activity. This is the default value.
  - Company: Start the route at the company address.
  - Department: Start the route at the service department address.
  - Employee: Start the route at the service employee address.
- **Keep Sequence Of Activities**: If you select this check box, the application does not change the sequence of the activities when planning for the specified group. A route is defined from the first activity, to the last activity. The order of the activities is not changed. Only the distance and the travel time between the locations of the service orders, are calculated.

  When you select this check box and select the Multi-activity Planning option, the Activity Sequence grid with the list of activities, selected by the user, is enabled. Use the Up and Down arrows to change the sequence of activities. After the sequence is set, click Generate Group Plan.

  When this check box is cleared, the shortest route between the locations is calculated and the order of the activities is updated.
- **Respect Earliest Start Time**: Select this check box to indicate if the earliest start time of a service order activity must be considered.
  - If this check box is selected, the service order activity is planned with Planned Start Time set to the Earliest Start Time.
  - if this check box is cleared, the Planned Start Time can be planned before the Earliest Start Time.
- **Respect Latest Finish Time**: Select this check box to indicate if the latest finish time of a service order activity must be considered.
  - If this check box is selected, the Planned Finish Time cannot be scheduled after the Latest Finish Time. The service order activity is not planned and a warning message is displayed.
  - If this check box is cleared, the Planned Finish Time can be scheduled after the Latest Finish Time.

The **Preview Route Plan** option is used to preview the route plan. You can also change the Start Address of Route, or Average Travel Speed, or select the check boxes (such as **Respect Earliest Start Time** and so on), before you click **Generate Plan**.

When you click the **Preview Route Plan**, the entire route is planned and the complete information such as the Start city of the route, planned travel start and finish times, planned start and finish times, travel duration, travel distance, and End city of the route, are displayed in the Activity Sequence grid. Information about the route start and end city are displayed in a dummy row at the start and end of the Activity Sequence grid. When the Company, or Service Department, or Service employee for the Route start address is defined, the route begins at the respective location address and is completed only on reaching the Company, or Service department, or Service employee location address. The travel finish time to reach the respective locations is displayed with the route end city in a dummy row at the end of the grid.

Start time is based on travel distance and time. Planning is based on the start address of the service employee.

Indicative route on the map based on the locations and sequence.

Note: You can also perform route based planning of the activities starting from a completed activity. This feature is available only from the Multi Activity Planning toolbar option on the Gantt.

Multi Activity Planning for Unassigned Activities

To use this functionality, you must select the Respect Drop Time option, select the multiple unassigned activities and link the activities to an Employee on the Gantt chart, using the drag-and-drop option. Activities are adjusted based on the Planning Method specified in the User Settings

Multi-activity Planning for Assigned Activities

You can use this planning option for the same employee or another employee when the activity is a Reassignment.

Case 1 - Same Employee Assignment

For the same employee, you must select the multiple activities, using the Shift key, on the Gantt chart. Press the Ctrl key and link the first activity to the required date and time, using the drag-and-drop option.
The user selects three activities and links the activities to the required time for the same employee.

If you set the Planning Method to Time Based Sequential, the activities are arranged in a sequence (as displayed). However, even if the selected time is 8:15 AM, the calendar time is considered and the starting time is adjusted to 8:30 AM.

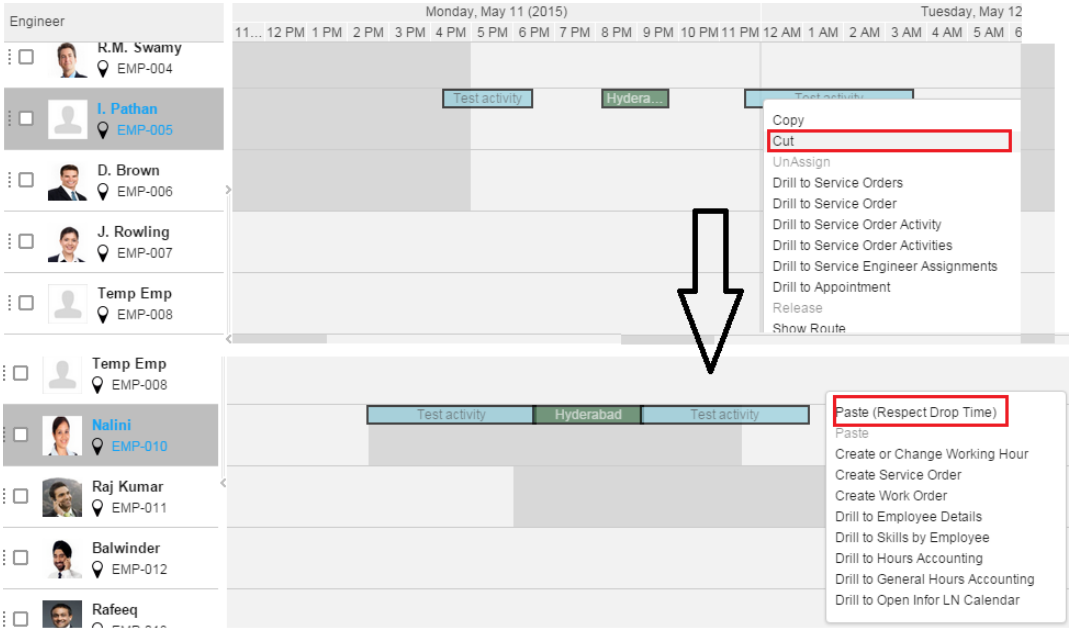
Note: You can also link the selected activity to the required time when using the Forward Planning option (as displayed). Similarly, you can also link the last selected activity to the required time when using the Backward Planning option.

You can also right-click and select the Cut and Paste option (Respect Drop Time) to specify the required time.

Case 2 - Other Employee Assignment:

To reassign the selected activities to another employee and to use multi-activity planning, you must select the Respect Drop Time option and link (using the drag-and-drop option) the selected activities to another employee for the required time. Based on the User Settings, the Multi-activity Planning functionality is used.

You can also right-click and select the Cut and Paste option (Respect Drop Time) to specify the required time.



Chapter 7 User Settings

7

In Resource Management Workbench, the planner can persist (save and use) the workbench layout. You can use this feature to define the grid column width, sequence, grid filters, and docking panes position using the Save Defaults option on the toolbar.

The tabs on the User Settings screen to configure the settings:

General

You can use this tab to plan the resources based on the employees or the installation group. The available settings:

Views

The Views section allows you to select the views that must be displayed in the workbench and also select the items based on the selected origins and the statuses specific for the origins.

You can specify a pattern to differentiate between different objects on the Gantt chart.

Location

Map Zoom Level: You can specify the default zoom level of the map for the Workbench.

Pushpin Size: You can specify the default pushpin size to be displayed on the map.

Enable Zoom: You can use this option to zoom in and zoom out on the map.

GPS Latitude (WGS84), GPS Longitude (WGS84): You can specify the exact location to zoom on the map when the workbench is started.

Others

- **Auto Save**: When the Auto Save Option is set to ON, all the actions executed are immediately saved in the Infor LN backend server. Note: This action cannot be reverted.
- **Auto Refresh**: When the Auto Refresh check box is selected, the changes in the application are periodically updated to the workbench, based on the specified time interval.
  Note: You can specify the refresh time interval only if the **Auto Refresh** check box is selected.

- **Apply Filter to Gantt**: Based on this parameter, the filter from the Activity grid is applied to the Gantt chart.
  - Show in-context employees: All the activities assigned to the employees in the grid are displayed on the Gantt chart.
  - Show grid content only: All the activities that are currently visible in the grid, are displayed on the Gantt chart.

Planning Horizon

- The **Type** field can be set to Fixed or Relative.
- If set to Fixed, data is retrieved for the date specified in the From field.
- If set to Relative, data is retrieved for the current date.
- The Days field can be set to the number of days for which data must be fetched from the Infor LN.

Distance Calculation Inputs

- **Distance Calculation (Closest Employee)**: This method is used to calculate the distance between two locations.
  - As The Crow Flies: The distance is calculated using a simple formula.
  - Bing Maps: Uses a dedicated web service. An internet connection is required wherein Infor LN requests the Bing maps web service to calculate the distance.
- **Average Travel Speed**: The average travel speed that must be used to the calculate the travel time when planning a route.
- **Travel Offset Time**: The travel offset time that must be used to calculate the travel time when planning a route.

Activities (Grid)

Using this option, you can choose to display the assigned, or unassigned, or both types of activities in the Activities section.

Map Pushpins

Allows to defined color of assigned and unassigned pushpins. And also the border color of the pushpin.

Gantt

The Gantt tab enables you to define the display options for the Gantt chart. The available settings:

View Options

You can define the Gantt time scale that must be displayed in the Workbench.

These are the options:

- Today: The Gantt time scale is set to Today. You can also select the Visible units and the Starting Hour.
- Current Week: The Gantt time scale is set to Week. You can also select the Visible units and the Starting Day for Week options. The Starting Day for Week setting is considered only when the Current Week is the selected View, the first time the application is launched.
- Current Month: The Gantt time scale is set to Month. If the Current Month is the selected view option, the time scale is 31 days from the current date.
- Current Quarter: The Gantt time scale is set to Current Quarter.

Others

- **Show Available Resources**: The default value used to display the available resources. The value can be overridden on the gantt.
- **Ignore Skills & Available Resources**: The default value used to ignore the skills and the available resources. The value can be overridden on the gantt.
- **Freeze Gantt Scale**: If this check box is selected, the Freeze Gantt Scale option is enabled.
- **Respect Drop Time**: If this check box is selected, the Respect Drop Time option is enabled.
- **Round Drop Time to**: Use this setting to define the time frame for the granularity of related drop, such as 15 minutes, 30 minutes, or 1 Hour.
- **Show Activity Constraints**: Use this option to display the activity constraints for the selected origins, in the first two rows of the Gantt chart.
- **Show Employees with Effective Skills**: Effective date of the skill is considered when filtering the employees based on skills.
- **Show Picture**: Use this option to display the picture of the employee on the Gantt tab.
- **Show Conflict Indicator on activity bar**: This indicator is displayed on the Planned Timeline. When this option is selected, the Conflict icon is also displayed on the activity bar.
- **Planned Indicator**: Set the color for the activity bar shown in the Planned Timeline.
- **Earliest Latest**: Set the color for the activity bar shown in the Earliest Start-Latest Finish Timeline.
- **Highlight Border**: Set the color for the border of the selected activity bar.

Employee Sequence

You can group employees or define the sequence to ensure that the selected employees are displayed at the top of the Gantt chart. Select a row to enable the Up or Down arrows. Use the arrows, to shift the position of an employee. When you set the sequence, the same is displayed on the Gantt when the Gantt employees' data is updated due to an action such as the selection of Unassigned activity, or changing the filter views, or filtering the data based on skills.

Working Hours Type

WHT (Working Hour Type) View: When you select the display color for the Working Hour types in the User settings, the Working Hour Type View icon is enabled. Click the Working hour icon. All the employees available for the configured working hour types are filtered and displayed. This option helps in planning the weekend duties, new product duties and so on.

Availability

You can select specific colors to indicate the availability and non-availability of the employees.

Legends

This option is used to configure the Legends that must be displayed on the Gantt tab.

Service

To view the Service tab, you must select the Service Order check box on the General tab and re-start the session. The settings available for Service are:

General

- **Show Service User Profile Departments**: When this option is selected, service departments from the service user profile are shown in the Departments drop down list.
- **Activity Block Description**: The selected option is displayed on the activity bar.
- **Color Procedure**: The selected color scheme is used on the gantt chart for coloring the assignments.
- **Exclude Service Employees**: The selected Service employees are excluded from the workbench.
- **Exclude Service Order Series**: The service orders with the specified order series are excluded from the workbench.
- **Exclude Work Order Series**: The work orders with the specified order series are excluded from the workbench.

Status

You can assign specific colors to the status of the service order activity. The colors are displayed on the Gantt chart.

Service Order Activity Tooltip

You can select the attributes that must be displayed in the Service Order Activity tooltips, which are displayed on the Map and Gantt chart.

Service Type

You can assign specific colors to the service type of the service order activity, which is displayed on the Gantt chart.

Multi Activity Planning

- **Planning Method**: You can select the type of planning that must be performed:
    - Time based
    - Route based
- **Distance Calculation Method**: This method is used to calculate the distance between two locations.
    - As The Crow Flies: Distance is calculated using a simple formula
    - Bing Maps: Uses a dedicated web service. An internet connection is required wherein Infor LN requests the Bing maps web service to calculate the distance.
- **Start Address of Route**: The value in this field is used as the starting address for the route based planning.
    - First Activity
      Start the route at the first activity. This is the default value.
    - Company
      Start the route at the company address.
    - Department
      Start the route at the service department address.
    - Employee
      Start the route at the service employee address.
- **Keep Sequence Of Activities**: If you select this check box, the application does not change the sequence of the activities when planning for the specified group. A route is defined from the first activity, to the last activity. The order of the activities is not changed. Only the distance and the travel time between the locations of the service orders, are calculated.

  If this check box is cleared, the shortest route between the locations is calculated and the order of the activities is updated.

- **Respect Earliest Start Time**: Select this check box to indicate if the earliest start time of a service order activity must be considered.
    - If this check box is selected, the service order activity is planned with Planned Start Time set to the Earliest Start Time.
    - if this check box is cleared, the Planned Start Time can be planned before the Earliest Start Time.
- **Respect Latest Finish Time**: Select this check box to indicate if the latest finish time of a service order activity must be considered.
    - If this check box is selected, the Planned Finish Time cannot be scheduled after the Latest Finish Time. The service order activity is not planned and a warning message is displayed.
    - If this check box is cleared, the Planned Finish Time can be scheduled after the Latest Finish Time.

Assignments Times

You can assign specific colors to the assignment times of the service order activity, which is displayed on the Gantt chart.

Work Order Activity Tooltip

You can select the attributes that must be displayed in the Work Order tooltips, which are displayed on the Map and Gantt chart.

Update Indicators

You can specify the type of update that must be performed at the Activity level or the Assignment level.

Indicator Symbols

You can define the symbols for the various order flags in this priority sequence:

- Blocked
- Emergency
- Appointment
- Appointment + Emergency

Planned Activity Tooltip

You can select the attributes that must be displayed in the Planned Activity tooltips, which are displayed on the Map and Gantt.

Installation Group

The settings related to installation group and serials view are displayed. You must select the Installation Group Based Planning check box, on the General tab, to view these settings:

- Activity Block Description: The selected option is displayed on the activity bar.
- Include Planned Activities: If this check box is selected, the planned activities are also included with the service activities when the installation group views are loaded.

Tooltip

You can configure the details to be displayed on the tooltips in the installation or serial view.

Planned Activity Status

You can assign specific colors to the Free and Released status of the planned activities.

Project

To view the Project tab, you must select the **Project Activities** check box on the **General** tab and re-start the session. The settings available on this tab are:

General

- **Activity Block Description**: The selected option is displayed on the activity bar.
- **Exclude Project Series**: The projects with the specified order series are excluded from the workbench.

Tooltip

You can select the attributes that must be displayed in the Project tooltips. The tooltips are displayed on the Map and Gantt chart.

Colors

You can assign specific colors to the status of the project. The colors are displayed on the Gantt chart.

Job Shop

To view the Job Shop tab, you must select the **Job Shop Operations** check box on the General tab and re-start the session. The settings available on this tab are:

General

Activity Block Description: The selected option is displayed on the activity bar.

Tooltip

You can select the attributes that must be displayed in the Job Shop orders tooltips. The tooltips are displayed on the Map and Gantt chart.

Colors

You can assign specific colors to the status of the job shop orders. The colors are displayed on the Gantt chart.

Project (PCS)

To view the Project (PCS) tab, you must select the **Project (PCS)** check box on the General tab and re-start the session. The settings available on this tab are:

General

- **Activity Block Description**: The selected option is displayed on the activity bar.
- **Exclude Project Series**: The projects with the specified order series are excluded from the workbench.

Tooltip

You can select the attributes that must be displayed in the Project (PCS) orders tooltips. The tooltips are displayed on the Map and Gantt chart.

Colors

You can assign specific colors to the status of the project (PCS) orders. The colors are displayed on the Gantt chart.

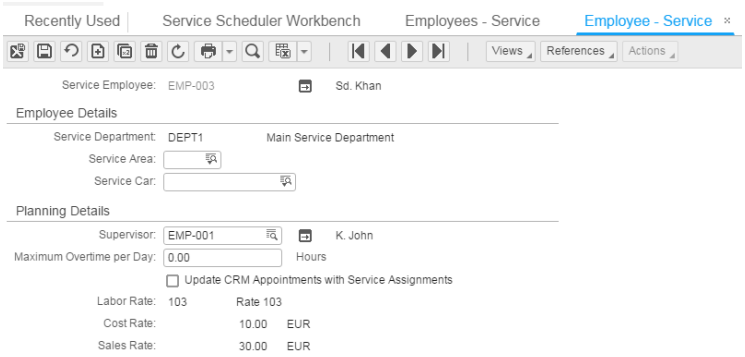
Appendix A Infor LN Settings

A

These settings must be configured to start the Resource Management workbench using the Infor LN:

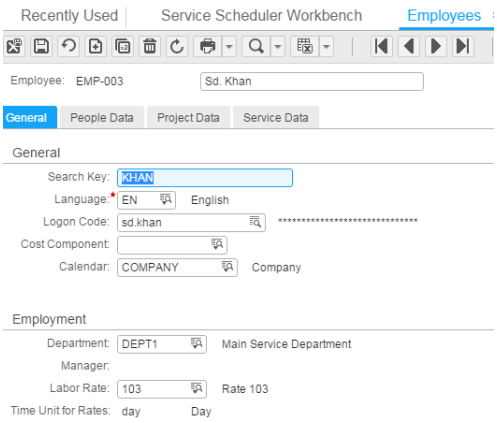
Configure Service Employee

Configure Service Employee using the Employees Service (tsmdm1140m000) or Employee – Service (tsmdm1640m000) sessions.



Link Planner login to Service Employee

Configure Service employee (planner) linked to the login code using the Employees (bpmdm0601m000) session.



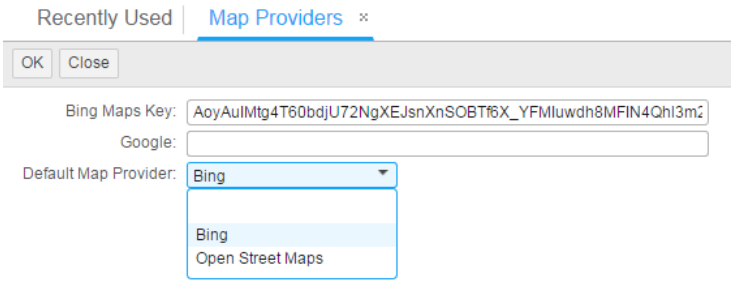
Configure User Profile

Configure the user profile using the Service User Profiles (tsmdm1150m000) session. In the service user profile, link the departments to the employee using the References menu → Service Departments by User Profile.

Note: The system uses the department, defined for the service user data and the departments of the linked User Profile, to retrieve the service date from Infor LN to the workbench.

Map Provider Setting

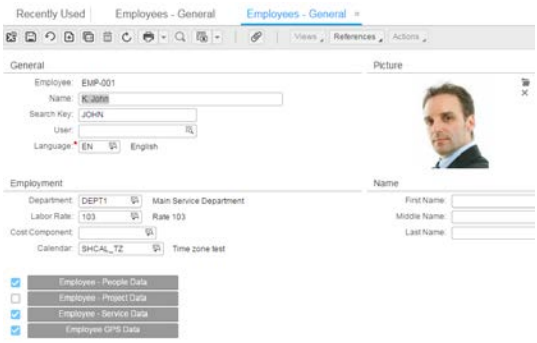
You can select a map provider from the Map Providers (ttaad7132m000) session. A valid Bing map key must be provided if the selected provider is Bing. In all the other cases, by default, the Open Street Map is the default map.



Note: The Resource Management workbench requires an internet connection as Maps are used.

Adding Employee Picture

From Infor LN 10.4 onwards, a picture of the employee can also be added to the Employees – General (tccom0101m000) session.

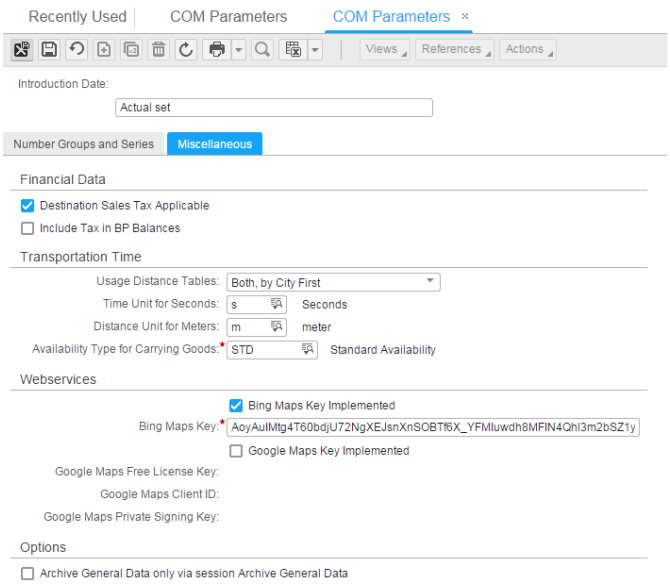


Note: The guidelines for pictures:

- The employee picture that is uploaded to the application must be have 500x500 dimension at the least.
- The picture must be of portrait orientation; landscape pictures are displayed horizontally.
- Resolution must be 300 dpi and above. Lesser Dpi can scatter the image.
- The applicable extensions are.jpg, .gif, or .png.

Bing License key for Map

You can also use the COM Parameters (tccom5000m000) session to specify the Bing License Key.



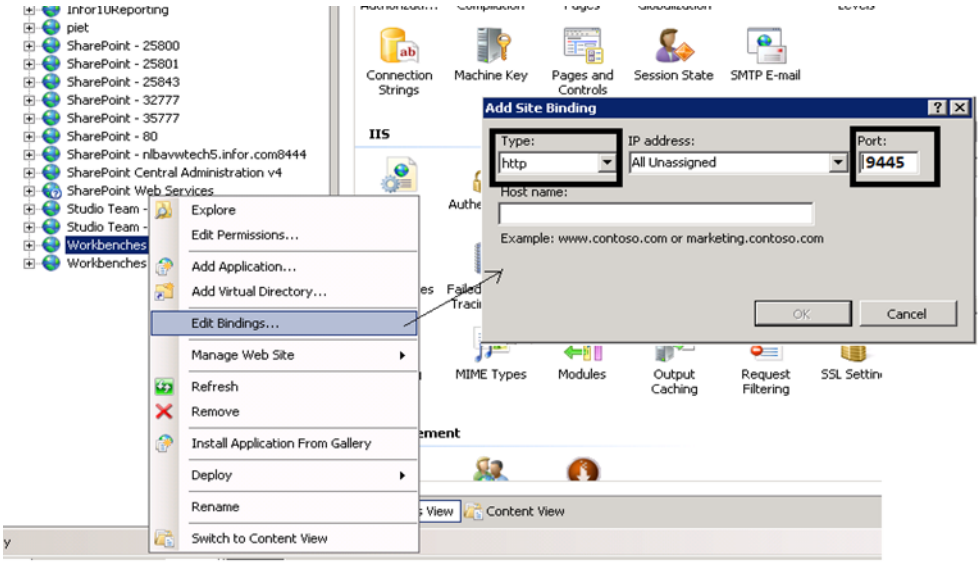
The Bing license key is required to draw routes on the map. Also, the travel time durations are calculated using Bing or Google.

When a key is not inserted; the Open Street Maps are displayed.

http setting for Open Street Map

This is applicable only for version 10.4 and below. To configure the ‘http’ (not https) connection, when using Open Street Maps (not https):

- Open IIS Manager
- In the Connections pane, expand the Sites node, and select the workbench site for which you must add the http binding.



- In the Add Site Binding dialog box, specify the binding information (Type= http) and the new port number of your choice and click OK.
- Start the Infor LN Workbench Web Server (ttaad7530m00) session, and specify the modified Desk Web Server URL with the http as the binding and the new associated port number.