Infor LN Common User Guide for Resource Management

Important Notices

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About this document

This guide describes the purpose of resource planning and the group planning process, workload distribution using workload leveling functionality, resource allocation and CRM synchronization with resource planning.

Document summary

The first chapter, *Introduction*, describes the concepts of Resource Management.

The following chapters deal with the process to use master data, group planning, workload levelling, resource allocation, integrating resource assignments and CRM appointments and enabling synchronization of the appointments with Outlook.

This book describes procedures that users carry out using resource planning or group planning and provides some information on the underlying processes that Infor LN carries out. The most important session windows and fields involved are discussed, but a full description of all software components is outside the scope of this book. For details, refer to the online Help.

How to read this document

This document is assembled from online Help topics.

Text in italics followed by a page number represents a hyperlink to another section in this document.

Underlined terms indicate a link to a glossary definition. If you view this document online, clicking the underlined term takes you to the glossary definition at the end of this document.

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Chapter 1
Introduction

1

Introduction

The Resource Management module enables you to plan, allocate, and schedule resources efficiently. Resource management emphasizes how resources must be managed. The ability to analyze critical resources and the availability of the resources to perform a specific task in a company's sales cycle, is vital. The key resources for consideration are employees, equipment, and assets (machines), Instruments (Quality), subcontractors, and material. The focus is especially on employees. A key factor for detailed resource planning is the ability to make good decisions about which resource to allocate to existing work within the specified time. The employees can be either internal or external. Employees can be involved in combinations of project, service, manufacturing, and quality related work. The employees must have specific skills and competencies that need to be matched with the required task.

Chapter 2
Master Data

2

This chapter explains the overview and data setup for the resource management functionality.

Master Data for Resource Management

Calendar Management

Infor LN uses the Calendar code (tcccp0110m000) session by which the calendars are defined. The available time (working hours) in a day are defined in LN with the combination of a calendar code and an availability type, by a department (office, work center, warehouse, etc.). The calendar is used across packages where you can define the day offs and availability type for the employee.

Skills

Project

Skills and the skill importance can be defined for a task in the Task (tppdm0615m000) and Project Task (tppdm6615m000) sessions. It is also possible to copy the skills while copying a labor cost object.

You can use the skills functionality for:

- Activity budget: When a new activity budget line is created, the skills that are linked to the standard task, are considered. For the default skill, you can modify the **Skill Importance** to **Preferred** or **Mandatory**. New skills can be added and existing skills deleted, in the budget lines. For example, if 3 skills are linked to a specific task, 2 mandatory and 1 preferred for a specific budget line, it is possible to delete one of the defaulted skills, add a new skill that is required, and modify the skill importance from **Preferred** to **Mandatory**.
- Estimate lines: When a new estimate line is created, the skills that are linked to the standard task, are considered. New skills hat are not part of the standard task, can also be added in the estimate line. When you launch the estimate to budget (tpest2200m000) session, the skills are also copied.

Shop Floor Control

When you define operations as a part of routing, skills for a specific task is used. You can define one or more skills for a task in the Task (tirou0603m000) session. For the default skill, you can modify the **Importance** to **Preferred** or **Mandatory**.

If the **Used for Sign-off** check box is selected in the Task (tirou0603m000) session, LN considers the selected skill as Sign-off skill in production order activities. The check box is enabled only if the **Importance** is set to **Mandatory**.

Assignments

In Project, you can create project assignments to identify which employee/s must be linked to the planned work. If planned dates are specified for an activity, the planned dates of the assignment are not considered, as the work cannot start earlier than the activity or finish later. Assignment data can be modified within the duration of the activity.

The **Use Assignments** check box in the Project Planning Parameters (tppss0100s000) session, enables the Assignments functionality for projects.

Note

When you select this check box, the **Availability Type** field is enabled which allows to select the employees available for the assignment.

In Service, the **Use Assignments in Work Orders** check box in the Work Order Parameters (tswcs0100m000) session enables the Assignments functionality for work orders.

CRM synchronization with Resource Assignments

The resource assignments and CRM appointments created in Service, Project, and QM are synchronized with Microsoft Outlook. The synchronization provides a better visibility

Chapter 3
Resource Management Workbench

3

This chapter provides you information about the resource management workbench.

Resource Management Workbench

You can plan and schedule the service activities, work order activities, and project activities using the Resource Management Workbench (tssoc8351m000) session. These activities can be scheduled and released based on the various attribute such as skills, availability, locations and so on. You can use this workbench to view the activities assigned to an employee. The workbench presents a graphical view of the activities assigned to the respective employees. This helps to plan the activities of the employees efficiently as well as provide enhanced visibility of the activities.

The 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:

- Service Order Activity (tssoc2110m100) and Service Engineer Assignments (tssoc2505m000) for Service Order Activities
- Work Order Activities (tswcs2110m000) and Service Engineer Assignments (tssoc2505m000) (for Depot Repairs)
- Activities (tppss2100m000), Activity Budget (Labor) (tpptc2630m000), and Assignments (tpptc2170m000)
- Production Planning (tisfc0110m000) and Operation - Employees (tisfc0115m000)
- Activities (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.

Chapter 4
Group Planning

4

This chapter provides a brief description of the concepts and processes available in Group Planning.

Group planning data set-up

The purpose of Group Planning functionality is to assign a service engineer to a service order or a service department to a work order/planned activity. Group planning prepares groups that are containers of work, that can be assigned to a resource. Within a group, service activities and activity sets are available. For example:

- If group is the tray containing sheets of paper,
- the activity set is the paper clip grouping multiple sheets of paper and
- the activity is the sheet of paper

Group Planning can be time based and route based. Route calculation requires extended calculations since every 'to be planned 'activity must be fitted into the correct node of the existing route. The prerequisite being, GPS coordinates are known for the installation address. Time based calculations are much faster, but the time based calculations do not result in travel times and therefore give a more optimistic view.

Overview

When activities are grouped into activity sets and groups, a service engineer or a service department can be assigned to a group.

Infor LN plans sets of activities where grouping is based on service characteristics. Grouping characteristics can be, for Example, service areas, skill, service type, project, item, contract, installation number, and so on.

Infor LN always plans the set of activities in a sequence. The sequence determines which activity is planned first and influences the fact whether time windows (time constraints) are exceeded. Therefore, the sorting configuration is important. Steps to generate plan:

- Group activities in Groups and Activity Set (depending on configuration)

- Sort the activities
- Plan forward

The groups, group sets, and activity lines for group planning are created when a group planning is generated using the Generate Plan (tsspc3200m000) session. Activities can be added to existing groups or new groups. New orders can be added to the group plan using the service order and work order session. For a group, the activities can have the following Group Planning Activity Status.

Group Planning can broadly be classified into these steps:

1. Generate group planning : You can generate group planning using the Generate Plan (tsspc3200m000) session. You can create groups, group sets, and activity lines for the activities such as service order activities, work order activities, or planned activities. The generated entities are stored in the database. During the generation of the group planning, the start and end dates of the order activities are updated. For service orders, the travel start and end dates of the order activities are also updated.
2. View and update group planning : After you generate the group planning you can view it for each activity using the respective sessions. For example, for service order activities, you can view the group planning using Groups for Service Orders (tsspc3100m000) session or Groups for Service Orders - Dashboard (tsspc3600m300) session; for project activities, you can use the Groups for Projects - Dashboard (tsspc3600m600) session. You can also view the groups and activities based on the characteristics and assigned resources using the Group Planning Planboard (tsspc3260m000) (Gantt chart) session.
3. Plan groups and activity sets: Using the Plan Groups and Activity Sets (tsspc3220m000) session you can plan activities in group planning and you can also set the **Level** for group planning.
4. Release group planning: You can release group planning using the Release Plan (tsspc3240m000) session. When the group planning process is complete, the original service order activities, work order activities, and planned activities can be modified. The updated date/time fields of the group planning activities are copied to the original service order activities, work order activities, and planned activities. For service orders the updated travel date/time fields are also copied to the original service order activities.

Group planning concepts

The entities defined for the group planning functionality:

Service planning parameters

For the group planning functionality, the parameters are defined in the General Service Parameters (tsmdm0100m000) session and in the Service Planning Parameters (tsspc0100m000) session. The parameters can be classified into three groups: parameters for the planning of service order activities, parameters for the planning of work order activities, and parameters for the planning of planned activities.

Note

Route planning is only applicable for service orders and planned activities. Route planning cannot be applied to work orders.

Group sequence

Group sequence defines the sequence of a group attribute. The groups must be sequenced, because a number of group attributes can be used to group activities into groups and activity sets.

Group attribute

Group attribute defines the attribute of an activity or related order header or related master data (for example, item group). All activities with the same value for a given group attribute are grouped into the same group or activity set. For Example when the service area is used as group attribute, all activities with the same service area are grouped into a group or activity set. Group attributes are defined in the Planning Attributes (tsspc0110m000) session. For each attribute, you can define the planning sequences.

Group method

Group method is used to indicate if the group attribute is used to group the service order activities into groups or activity sets. **Group Method** **Parallel** indicates that the service order activities are grouped into separate groups. Groups are created parallel in time and independent of other groups. Planning is for a group. Example the planning of the activities in group GRP000111 is independent from the planning of the activities in group GRP000112. **Group Method** **Sequential** indicates that the service order activities are grouped into separate activity sets within the same group (sequentially in time). Activity sets are created sequentially in the same group.

Activity set sequence

The sequence of the activity sets with the specified attribute values within a group.

Planning attribute values

Specific attribute values are defined for each planning attribute to be used to group the related service order activities, work order activities, or planned activities.

Reference point configuration

A reference point configuration determines which reference point(s) apply to which group of attributes / value pairs. Infor LN determines dynamically the reference point that is closest to the activity location address.

Activity - preferred resource

A preferred resource can be the preferred engineer for service orders or the preferred department for work orders or planned activities. Infor LN assigns these preferred resources to groups.

Group Planning Group

When a group planning is generated, group planning activities are created from service order activities, work order activities or planned activities. The group planning activities are grouped into group planning activity sets.

Attribute values for a group

The attribute values that are used when a Group Planning Group was created. Two or more attribute values can be linked to one group.

Resources for a group planning group

The resources are assigned to a group planning group. Resources cannot be assigned to an activity set or separate activities. Two kinds of resources can be used for group planning: engineers and departments. Two or more engineers can be assigned to one group planning group. Only one department can be assigned to one group planning group.

Note

A single service department can be assigned to a work order or a planned activity. Therefore a single service department can be assigned to a group planning activity that is derived from a work order or a planned activity. One or more service engineers can be assigned to a service order. Therefore, one or more service engineers can be assigned to a group planning activity that is derived from a service order. The limitations and restrictions of service orders, work orders, and planned activities are applicable to the group planning.

Groups for activity/activity sets

The group planning activities are created from service order activities, work order activities, or planned activities that are grouped into activity sets. The activity sets are grouped into group planning groups.

Attribute value for a group planning activity set

The attribute values that are used when a Group Planning Activity Set is created.

Group planning activities

When a group planning is generated, group planning activities are created from service order activities, work order activities or planned activities that are grouped into group planning activity sets. Two or more attribute values can be linked to one activity set.

Note

Groups for service orders, work orders, and planned activities are separate groups that are planned and released separately.

Planning Attributes

The planning attributes define the way in which various activities are grouped into groups and activity sets. The planning attributes are used in the Group Planning process. All activities with the same value for a given group attribute are grouped into the same group or activity set.

The attributes are defined in the Planning Attributes (tsspc0110m000) session. Specific attribute values are defined for each planning attribute to be used to group the related service order activities, work order activities, or planned activities. These are the attributes based on which you can group the activities:

- Non-Conformance Report
- Sold-to BP
- Ship-to BP
- Service Department
- Project Management Office
- Department
- Production Department
- Allocated Engineers
- Preferred Engineer
- Preferred Employee
- Assigned Employee
- Actual Employee
- Activity Manager
- Service Contract
- Contract Service
- Order Service Type
- Work Order
- Reference Activity
- Activity
- Standard Activity
- Task
- Task Type
- Planned Activity

- Coverage Type
- Trade Group
- Activity Usage
- Order Procedure
- Project
- Corrective Action Plan
- Master Routing
- Address
- Reference Point
- Routing Option
- Service Car
- Routing
- Appointment
- Element
- Serialized Item
- Top Serialized Item
- Planned Start Time
- Planned Finish Time
- Earliest Start Time
- Latest Finish Time
- Skill
- Job Shop Order
- Service Area
- From Warehouse
- To Warehouse
- Warehouse
- From Location
- To Location
- Location
- From Workcenter
- To Workcenter
- Work Center
- Machine
- Installation Group
- Item
- Service Item Group
- Activity Group
- Buy-from BP

Group planning process

You can generate group planning for these activities:

- Service Order
- Work Order
- Planned Activity
- Project
- Production Order (JSC)
- Project (PCS)
- Corrective Action Plan
- Non-conformance

The group planning process includes these steps:

Step 1:

Infor LN populates the activities in the group planning based on the planning attributes.

- The group planning populates the selected activities in the groups. For example, service activities are grouped into activity sets and groups, project activities are grouped into activity sets and groups, based on the planning attributes. Activity sets are part of a group.
- Activity groups are planned in parallel with time and activity sets. And the activities within a group are sequentially planned in time. Group sequences with **Group Method** set to **Parallel** are used to generate groups. Group sequences with **Group Method** set to **Sequential** are used to generate activity sets within a group.

Note: If the activity set is frozen, Infor LN does not allow you to add orders to an existing activity, but new orders can be manually added to an activity set. Infor LN allows you to manually add new service orders to an existing plan, even though the activity set is frozen.

Step 2:

Sort the activities.

Infor LN sorts the activities in groups and activity sets. By default, sorting is based on the latest finish time. Each activity set contains one order with the earliest of the latest finish time, that is also the earliest time the activity set can start and be used for sorting.

Step 3:

Plan forward against the calendar.

Infor LN plans the sorted activities, taking the time windows into account. Planning is based on the **Plan Forward** parameter in the Generate Plan (tsspc3200m000) session.

Note: Planning can also be based on the route. You can use the **Plan Method** parameter in the Service Planning Parameters (tsspc0100m000) session.

Step 4:

Modify the plan manually.

Infor LN allows you to modify the plan at two levels:

- At group level: Moves activity sets from one group to another
- Within a group:
  - Modifies the sequence of the activity sets
  - Reschedules from specific activity set from user determined start/end time
  - Splits the activity sets
  - Adds (rush) orders to the activity set
  - Modifies the sequence of the orders in a group

For example, for a day, when the work load within a group is satisfactory, the user can merge all activity sets in a group, resulting in a single group-activity set combination that contains many service orders. These service orders can be sequenced again before the plan is frozen. **Note** Merging of activity sets results in re-sorting and re-planning.

You can use the Group Planning Planboard (tsspc3260m000) (Gantt chart) session to view and modify the planning data such as planned start and finish time. You can also use the sessions for the respective activities to modify the planning data. For example, to modify the planning data for work order activities, you can use the Group for Work Orders (tsspc3600m100) session.

Step 5:

Assign resources.

You can assign engineers to the activity:

- Manually
- Automatically

You can define up to 20 skills for an activity. The activity skills you define must match with the skills of the employee, assigned for the activity between the planned start and finish time of the activity.

Using the Group planning module, you can create a group of activities to be executed, that can be assigned to an employee/resource.

Infor LN allows you to assign the resources at these levels:

- At group level (based on characteristic): Groups are created for activities with similar characteristics or attributes. For Example, all the cleaners, dishwashers, and maintenance men are classified in 3 groups. Cleaners: Marc, John and, Hank; Dishwashers: Peter, Dave; Maintenance Men: Marco. Infor LN assigns the resource if the characteristics of the group and the employee are similar. If multiple resources are similar, Infor LN displays the list of employees and the planner can manually select one of the engineers. If a single resource is similar, Infor LN assigns the resource. Alternately, resources can be assigned based on the priority rule. For more information, refer to *Priority Rule (p. 26)*.
- At activity set level. The resource of the group level is the assigned resource. Individual activity sets cannot be assigned to employees. When an activity set is assigned to another employee, the activity set can be moved to another group that is assigned to another resource. The assignment can also be modified on the service order.

Note Infor LN allows you to generate a default assignment. You can assign an engineer to a service order activity directly, based on the service type. However, the assignment generated by group planning is considered before the default assignment.

Step 6:

Recalculate planned start and finish time.

Infor LN calculates the new start and finish times. When the new planned start and finish times are known, including travel durations, the slack or shortage of time can be displayed to the user (planner) for every group assigned to a resource.

Step 7:

Release group planning.

The group planning activity data is copied to the corresponding service order activities, work order activities, and planned activities.. For service orders, the updated travel date/time fields are also copied. Use the Release Plan (tsspc3240m000) session to release the group plan.

Note Infor LN allows you to delete the groups from group planning when the resources and the planned start and finish time, are updated.

Route-based planning process

Group planning can be time based and route based. When a route is planned for group planning activities, LN calculates travel distances and travel times for the activities. The route execution sequence of the activities is based on the route.

The route planning data is copied from group planning to the original service order activity, when the plan is released from group planning.

Note

Route planning is applicable only for service order activity.

A route can be planned based on the set of orders assigned to the engineers of a group. **Note** When different characteristics must be planned in a route, the characteristics are merged into one activity set. The travel times based on distances can also be calculated using the activity set. The addresses contain GPS co-ordinates that are required to calculate distances and also to locate the current location of the service engineer. The travel time is combined with the duration of the various activities that must be executed on location, that results in the new planned start and planned finish times. The new planned start and planned finish times data is transferred to the standard service orders.

A route can be planned for every activity set of a group, that may or may not be assigned to an engineer. When various activity sets must be planned for a route, the activity sets must be merged before a multi-characteristic route is planned. With the activity set, the travel times based on distances can also be calculated for every location in the activity set. The addresses contain GPS co-ordinates that are

required to calculate distances. You can also plan the home address of an engineer as a part of the route. These distances can be calculated based on various methods such as a crow flies, Bing Maps or Google Maps. The travel time is combined with the duration of the various activities that must be executed on location that results in the updated planned start and planned finish times. The new data are transferred to the standard service orders.

The methods to calculate the route:

- You can use the **Use Provider for Distance Calculations** check box in the Service Planning Parameters (tsspc0100m000) to specify a web service based GPS such as Bing Maps or Google Maps to calculate the distance.
- You can calculate the distance using 'As a crow flies' or a true distance can be calculated using a dedicated web service. When no distance is found for two locations the distance is calculated using a simple formula. For example, the calculation for 'As a crow flies':
- - Given are two points (dlat1,dlong1) and (dlat2,dlong2) in degrees
  - Convert (lat1,long1) and (lat2,long2) to radians using
    angle_radians = angle_degrees × π/ 180
  - R = 6371010 (mean Earth radius in meters)
    Δlat = lat2- lat1
    Δlong = long2- long1
    $a = \sin^2(\Delta lat/2) + \cos(lat1) \times \cos(lat2) \times \sin^2(\Delta long/2)$
    distance = 2 × R × atan2(va, √(1- a))
- You can plan the route based on a Bing map. An internet connection is required where LN sends a request to the bing maps web service to calculate the distance.
- You can perform a route calculation or a distance calculation based on sorted data. For a set of sorted orders, you must enter the group sequence. LN calculates the distance between the various addresses of the activities. Based on the average speed and initial start up time, LN estimates, based on the distance.

```
time(distance) =  distance(km) * speed (km/hr) + initial time (hr)
```

- Take time constraints into account yes or no : The shortest route taken into account. Otherwise the earliest start and latest finish of the activities is considered. You can define the time constraints using the **Respect Earliest Start Time** and **Respect Latest Finish Time** check boxes in the Group for Service Orders (tsspc3600m000) session. If these check boxes are selected, and if the specified locations are not part of the route, Infor LN does not allow you to release the activity; the activity remains in the group plan and the status of the activity is set to Not Planned.
- Take the home address of the service engineer into account yes or no: The time period between departure and arrival. When the service engineer departs from home and arrives at home in the evening, the tour is closed, otherwise it is open ended
- The planner can also manually define the sequence of the route in the Group for Service Orders (tsspc3600m000) session. To do so:
  - Modify the sequence numbers.
  - Select the **Keep Sequence of Activity Sets** check box.
  - Re-plan the route.

  Consequently, Infor LN updates the travel times in a pre-defined sequence. However, this sequence is not optimal and can lead to more travel time and a higher mileage.

Check Resource Availability

LN checks the resource availability if the **Check Resources for Availability** check box is selected in Groups for Service Orders (tsspc3100m000) or Groups for Work Orders (tsspc3100m100) sessions. By default, this field is checked, if the **Check Availability** check box is selected in the Resource Planning Parameters (tsspc0101m000) session.

A resource is available for the Planning Group only if the resource is not allocated to another planning group with an overlapping time period (planned start time and planned finish time) that is smaller than the defined availability percentage. LN populates a list of resources that have matching attributes or matching skills, displayed in the Group - Proposed Resources (tsspc3104m000) session. LN allocates the resource with the highest ranking. Select the **Allocate Resource to Planning Group** check box to allocate the resource to the group.

When a resource is allocated to Group Planning, you can view the resource in the Group - Resources (tsspc3102m000) session. You can also view the list of proposed resources in the Groups for Service Orders - Resource Requirements (tsspc3604m000) session. The session also displays the attributes and skills defined for a group. In this session, the planner can select or clear the required attributes, or skills, or both, to check if more resources with a less rigid criteria can be made available for the group. The planner can also use the Groups for Service Orders - Proposed Resources (tsspc3604m400) session to check if the proposed resources' attributes and skills match the requirements of the group.

If the resource is not fully available in the time period of the specific group, the percentage of availability is calculated.

Example

The specific group starts at 8/28/2011 9:00 and ends at 8/28/2011 13:00.

Proposed resource EMPL-1 is allocated to another group from 8/28/2011 9:00 to 8/28/2011 10:00. Therefore, EMPL-1 is occupied for one hour. The availability percentage is (4-1)/4 * 100% = 75%.

```
The formula used to calculate Availability Percentage (AP):

AP = Available hours * 100% / Required hours

Available hours = number of working hours (based on resource calendar) between
 Planned Start Time and Planned Finish Time of the Planning Group -  ( working
 hours (based on resource calendar) between Planned Start Time and Planned
Finish Time of overlapping Groups where resource has been allocated to).
```

It is possible that the available hours exceed the required hours, the Availability Percentage is > 100%. Therefore, the Availability Percentage is set to 100%.

As soon as a resource is allocated to a planning group, LN recalculates the availability for the resource.

When the resource's availability is less than the **Minimum Availability Percentage** defined in the Resource Planning Parameters (tsspc0101m000) session, LN moves the resource from the proposed resource list.

In case the check availability check box is not selected, LN does not check the availability of the resource. The Availability Percentage is not determined, and is set to 0.0.

Priority Rule

If more than one resource is identified for a planning group, the resources are prioritized based on priority rules. Set the **Proposed Priority** fields in the Resource Planning Parameters (tsspc0101m000) session.

LN ranks the proposed resources based on the priority rules. The ranking or the prioritization enables LN to automatically allocate the resource with the highest ranking. If the **Automatically highest priority** check box, in the Resource Planning Parameters (tsspc0101m000) session is selected, LN allocates the resources with the highest priority. If this check box is cleared, you must manually allocate the resources.

The defined rules:

S.No	Rule
1	Is not allocated to other Planning Groups
2	Has all Planning Group attribute values
3	Has all required skills
4	Has all preferred skills
5	Has Planning Group with earliest finished activity

LN checks all the rules and ranks for the proposed resources of a group. For example, if the first rule is applicable, the resource gets 24 (= 16) points. If the second rule is applicable, the resource gets 23 (= 8) points. If the rule three is applicable, the resource gets 22 (= 4) points. If the rule four is applicable, the resource gets 21 (= 2) points. If the rule five is applicable, the resource gets 20 (= 1) points. The resources have the same priority only if the same rules are applicable.

Resource A: If only rule 1 is applicable, this resource gets 16 points.

Resource B: If only rule 2, 3 and 4 are applicable, this resource gets 8 + 4 + 2 = 14 points.

Resource C: If only rule 1 and 5 are applicable, this resource gets 16 + 1 = 17 points.

Therefore, resource C gets the highest priority.

When resources are sorted on priority, the highest priority is displayed as the last record. To list the resource with highest priority as the first record, LN recalculates the priority based on the formula:

```
priority = 32-priority
```

Example

After the recalculation the priority for the resources is:

Resource A: If only rule 1 is applicable, the resource gets 16 points. Priority = 32 – 16 = 16.

Resource B: If only rule 2, 3 and 4 are applicable, the resource gets 14 points. Priority = 32 – 14 = 18.

Resource C: If only rule 1 and 5 are applicable, the resource gets 17 points. Priority = 32 – 17 = 15.

Description of the Priority Rules:

- **Rule 1- Is not allocated to other Planning Groups**
  This rule is true when, for a resource, no record exists in Group - Resources (tsspc3102m000) session for any other Planning Group.
- **Rule 2- Has all Planning Group attribute values**
  This rule is true when, for a resource, the **Match on Attribute Values** field in the Group - Proposed Resources (tsspc3104m000) session is set to specific.
- **Rule 3- Has all required skills**
  This rule is true when, for a resource, the **Match on Mandatory Skills** check box and the **Match on Preferred Skills** check box in the Group - Proposed Resources (tsspc3104m000) session is selected.
- **Rule 4- Has all preferred skills**
  This rule is true when, for a resource, the **Match on Preferred Skills** check box is selected in the Group - Proposed Resources (tsspc3104m000) session.
- **Rule 5- Has Planning Group with earliest finished activity**
  The rule is true when the resource is allocated to another Planning Group (or groups) in the Group - Resources (tsspc3102m000) session, and the **Planned Finish Time** of the latest Planning Group is earlier than the other proposed resources. When the resource is not yet allocated to a Planning Group, this rule is true.

Resource allocation for group planning

The allocation of resources to planned groups and activity sets is the last step in the Group Planning process. Resources can be service engineers or service departments. The allocation of resources can be executed manually, semi-automatically, wherein, (Infor LN proposes the resource and the user

selects the resource manually), or fully automatically. The allocation can be based on skills, and/or planning attributes.

To allocate resources automatically, the required skills and attributes from the Planning Group are matched with the available skills and attributes of the resources. The Service Planning parameters determine whether resource allocation is based on skills and/or attribute values. Use the Planning Attributes (tsspc0110m000) session to indicates if the attribute must be used for resource allocation.

Skills and attributes can be defined by service engineer and by service department. Service engineers can be allocated to planning groups with activity origin Service Order. Service departments can be allocated to planning groups with activity origin **Work Order** or **Planned Activity**. When, for a Planning Group, more than one resource is identified, the resources are prioritized based on Priority Rules (For more information, refer to *Priority Rule (p. 26)*). The availability of the resource is also determined. The result of the group planning process, including the resource allocation, is saved in temporary tables, allowing the user to analyze and modify the result. Infor LN allows you to allocate resources to a group, using various sessions, example, Allocate Resources to Planning Groups (tsspc3280m000) session, Group - Proposed Resources (tsspc3104m000) session and so on. Infor LN also allows you to allocate resources automatically.

When the Group Plan is released using the Release Plan (tsspc3240m000) session, the allocated resources are copied to:

- Service engineer assignments, in case of service orders
- Work order activities, in case of work orders (only one department).
- Planned activities, in case of planned activities (only one department).

The resource allocation process comprises of the following steps:

- Set up data.
- Propose resources based on attributes and/or skills.
- Optionally, check the availability of the resource.
- Sequence the resources based on priority.
- Select the resource(s) to be allocated to the Planning Group.
- Allocate the resources to the Planning Group.
- Release the Group Plan.

Data set-up

The data set up for resource planning can be based on attribute values and skills.

Data set-up based on attribute values:

- In the Planning Attributes (tsspc0110m000) session, **Used for Resource Allocation** check box to indicate that the attribute is used for resource allocation.
- In the Attribute Group - Preferred Resources (tsspc0120m100) session, you can maintain the groups of resources based on specific attribute / attribute value combinations. Infor LN adds the default set of attributes to this group. For this default set of attributes, the **Any Value** field is set to Yes. LN assigns the proposed resources to the group. This is the fall back mechanism.

- To allocate resources manually, specific attributes value have to be configured and the **Any Value** check box must be cleared.
- You can add, modify and or delete the attributes.

Note

Infor LN allows you to add attributes that are not defined in the Planning Attributes.

- In the Group - Resources (tsspc3102m000) session, add resources for the Attribute Group. When you add a resource that is already linked to an attribute group, Infor LN generates a warning message.

Data set-up based on skills

Define skill of the type Service Department. When the available skills match with the skills required for the work order activities, or planned activities, resources are proposed during group planning.

Proposed resources

Use the Propose Resources for Planning Groups (tsspc3270m000) session to initiate the process of resource allocation for a range of planning groups. Resources are identified based on attributes and/or skills.

- Allocate resources based on attribute values: You must allocate resources to Planning Groups generated as a result of Group Planning process. Resources are allocated only when the **Check Resource** check box is selected in the Group (Set) - Attribute Values (tsspc3101m000) session. Infor LN searches attribute groups for the set of attributes / attribute values, considering the activity origin of the Planning Group. The number of proposed resources can be modified (conventionally, can be increased) by clearing the **Check Resource** check box for the attribute.
- Allocate resources based on skills : For every skill, the resources can be accessed in the Service Department - Skills (tsmdm1130m000) session, or Service Employee - Skills (tsmdm1135m000) session, based on the activity origin of the Planning Group. When the activity origin is Service Order, the Service Employee - Skills (tsmdm1135m000) session is accessed. When the activity origin is Work Order, or Planned Activity, the Service Department - Skills (tsmdm1130m000) session is accessed. For service employees, the skill is effective when the effective date is equal to or before the planned start time, and the expiry date is on or after the planned finish time of the Planning Group. The **Effective Date** and the **Expiry Date** are defined in the Skills by Employee (tcppl0120m000) session. A resource can only be proposed for group planning when the resource has all the mandatory skills. The **Match on Mandatory Skills** check box in the Group - Proposed Resources (tsspc3104m000) is selected. When the resource has also all preferred skills, the **Match on Preferred Skills** check box is selected.
  - **Note**: When a group does not require skills and the **Check Resources for Skills** check box is selected, for a service order, work order or planned activities, Infor LN displays all the resources on proposed resources for the group.

- **Note**: When Infor LN checks the resources availability for a group, the resources list includes *attribute based match* resources as well as *matching skills* resources.

- Allocate Resources based on Attributes and Skills : In this scenario, resources are allocated based on attributes and on skills.

Resource selection

Use the **Allocate Resource to Planning Group** checkbox in the Group - Proposed Resources (tsspc3104m000) session to indicate that the resource is allocated to the Planning Group. For Planning Groups with activity origin set to **Service Order**, one or more resources can be selected. For Planning Groups with activity origin set to **Work Order**, or **Planned Activity**, only one resource can be selected. When the **Automatically if only one found** check box is selected in the Resource Planning Parameters (tsspc0101m000) session, LN selects the **Allocate Resource to Planning Group** check box in the Group - Proposed Resources (tsspc3104m000) when only one resource is proposed.

When more than one resource is proposed, and the **Automatically highest priority** check box is selected, in the Resource Planning Parameters (tsspc0101m000) session, Infor LN selects the **Allocate Resource to Planning Group** check box for the resource with the highest priority.

Allocate resources

Resource allocation can be executed in the following two ways:

- Using the **Allocate Resources to Planning Groups** option on the **References** menu in the Group - Proposed Resources (tsspc3104m000) session, the resource is allocated to the Planning Group.
- Using a batch session.

Merge/Split planning groups

When Planning Groups are merged, Infor LN merges proposed and/or allocated resources. This is applicable only for Groups with activity origin set to **Service Order**. When Planning Groups are split, you must propose/allocate resources to the new group, that is created.

Release the plan

Use the Release Plan (tsspc3240m000) session to release the plan.

Territory Planning

Use Territory Planning module to perform territory and preferred engineer simulations. You can select the serialized items, which need to be serviced (required capacity) in a certain geographical area, and LN calculates the required capacity on historical and/or already known data.

To calculate available capacity, you also can specify simulation engineers, to have a maximum flexibility. If the calendar and availability type of an engineer is specified, LN calculates the available capacity. If not you must enter this data manually. In a simulation, LN specifies geographical areas as per the selected resources (existing service engineers and/or simulation engineers).

Territory planning process

The territory planning functionality enables you to perform territory and preferred engineer simulations. The objective is to reduce travel by clustering the interchangeable work in geographical areas. The territory engine compares the required capacity for the serials, with the available capacity (the engineers or simulations engineers). The engine calculates the best possible combination of the required capacity for the serialized item and the available capacity. Optionally, an engineer can be made responsible for a territory and the optimal territories can also be calculated.

You can select the serialized items that are to be serviced (required capacity) in a certain geographical area. The engine calculates the required capacity on historical and/or already known data. To check the available capacity, the user can specify existing service engineers, as well as simulation engineers, for maximum flexibility. If the calendar and availability type of an engineer is defined, the engine calculates the available capacity. The user can use the simulation results, to modify the preferred engineer on the serialized item and/or the territory.

Note

The user can also manually change the preferred engineer and the territory of the serialized item.

Step 1:

Determining or calculating the required capacity for a list of serials

In order to determine the required capacity, the user specifies the serialized items for which the capacity requirements must be considered. The user can select the serials that must be part of the geographical clustering calculation based on:

- Top serial
- Service department
- Installation group
- Service area. This information can be obtained from the related installation group (when applicable)
- Serialized item groups
- The manufacturer of the serial
- The sold-to business partner of the serial

Based on these criteria, Infor LN compiles a list of serials. The list can be modified by the user.

The user can trigger the calculation to aggregate the available capacity data into different categories such as planned activities, service orders. After triggering the calculation, LN provides an overview wherein the capacity figures can be maintained manually including the number of visits. The user loads

the known capacity requirements data into the territory plan. For Field Service, LN bases the number of visits on the number of planned activities and service orders. The number of visits determine how much travel time is used for the serial during the simulation. The user has the option to roll up the underlying capacity figures to the top serial item. In case the top serial item is the planning level, it is advised to roll up the capacity of the parts to the top serial. The required capacity is loaded into the territory plan.

Step 2:

Determining the available capacity

The available capacity must be configured by the user:

- Using simulation users for a rough identification of the territories
- Using named resources for a more detailed identification of the territories. To do so, you can either use the actual calendar of the employee or multiplying the number of days with the available hours for a day.

Configuring the available capacity - The available capacity for resources and the number of territories determine the output of the engine. For the input parameter, the number of territories determine the number of geographical clusters into which the total data set is divided. The capacity available for a territory determines whether the set of serials and the related capacity requirements match, (for example, travel as activity duration) This input parameter helps determine the optimal geographical distribution of territories, on the map.

Step 3:

Calculating the capacity allocations

The purpose of the engine is to assign as many required capacities (serialized items) as possible to resources (available capacities, that is the (simulation) employees), taking available capacity, required capacity, and travel time into account. Use the Calculate Capacity Allocations (tsspc4200m000) session to start the territory engine.

The engine can be triggered after configuring the input data:

- The user runs a quick simulation with the average available capacity to be divided over a fixed number of territories. After the simulation, the user can update the territory of the serialized item.
- The simulation can also be performed with actual resources. After the simulation, the territory and the preferred engineer can be updated for the serial item.

Calculation of the territory plan:

- Indicate the territory reference point on the map (starting location) : The reference points are indicated 'on the map' to run the initial calculation. The first calculation of distances in step 2 is based on these reference points.
- Allocate serials to the territory: LN allocates serials to the territory according to the second best algorithm.

- Swap logic: LN finds the longest distance between the (arbitrary) territory reference point and the serial and tries to minimize the long radius by swapping the serial with another territory reference point.
- For a set of serials, determine the center of gravity (Optional): For reference points that are not fixed, the system determines the average longitude and latitude and shifts the reference point to the center of gravity of the territory. After a shift in the territory reference point, the system starts again with step2. This process (reiterating from step 2 – step 4) repeats until no substantial improvements are identified anymore.
- Swap logic for the complete list of serials : For all serialized items, LN verifies if the items can be exchanged with other territories. This is a one-time activity.

Step 4:

Using the output of the engine

The basic output of the calculation is the territory or preferred engineer identified for a serialized item. The territory plan can be used to update these attributes of the serialized item.

- Graphical overview: The output of the engine can be viewed using maps that provide an overview of territories. The information about the serial and the required capacity for the serial, along with the activity duration and travel time, is also included. Various colors are used to indicate various territories. The user can update the preferred engineer of the serial based on the territory. The territory planning session can be used to compare territory scenarios. Scenario 1 is on the left side and Scenario 2 is on the right side of the screen. Dual coloring mechanism is used for the markers on the map. In the marker, the color on the left corresponds to the scenario on the left side and the color on the right corresponds to the scenario on the right side. You can also compare the output of the engine with the actual data. The preferred engineer and territory calculated for a scenario can be compared to the preferred engineer or territory in the serialized item master data.
- Territory and preferred engineer without map : You can view the assigned territory and potentially, the preferred engineer data without the map in the Serialized Item 360 (tscfg2100m100) session. The user can filter and select multiple serials. The serials can be assigned to a preferred engineer using the **Update Engineer and Location Address...** option from the **References** menu.

Step 5:

Recalculating the travel time

When the territory engine is run, you can recalculate the travel time, because the travel time used by the engine is based on the center of gravity. However, the center of gravity is typically, not the home address of the engineer. Therefore, there can be a discrepancy between the calculated and the actual travel times. For example employees are hired to complete assignments in an area that is not, by default, close to the employee's home address resulting in a deviation from the reference point and the center of gravity. This is applicable only for two calculation options:

- Direct (as the crow flies)
- Road-based (using a web service [call to Google or Bing API])

Chapter 5
Workload Leveling

5

This chapter provides you information about the workload distribution, time-based workload leveling, and scheduling.

Workload leveling (scheduling)

For group planning, workload leveling is used to define the number of groups that must be generated for a combination of planning attributes scheduled in parallel. Workload leveling creates multiple groups for one combination of these attributes. For schedule-based workload leveling, the planned start and finish times of the activities are used to distribute the activities across the groups in a group set.

Schedule-based workload leveling comprises of:

- **Selecting the activities**
  Select all the activities for which workload leveling process is to be executed. The selected activities are moved to another group for the workload leveling except:
  - Frozen and firm planned groups
  - Frozen and firm planned activity sets
  - Firm planned activities
- **Sorting the activities**
  Sort the selected activities. The first sort criterion is group set. Within each group set the activities are sorted based on start/finish dates. Activities are sorted, based on:
  - Earliest start time
  - Planned start time
  - Latest start time (calculation of the latest start time of an activity is based on the latest finish, the activity duration, applicable calendar, availability type and the time zone).
  - Planned finish time
  - Latest finish time

Note

If the start date is not specified, the value in this field is defaulted as zero. If the finish date is not specified, the maximum possible value is considered. The activities without a start date are always scheduled first in a plan and activities without a finish date are scheduled last.

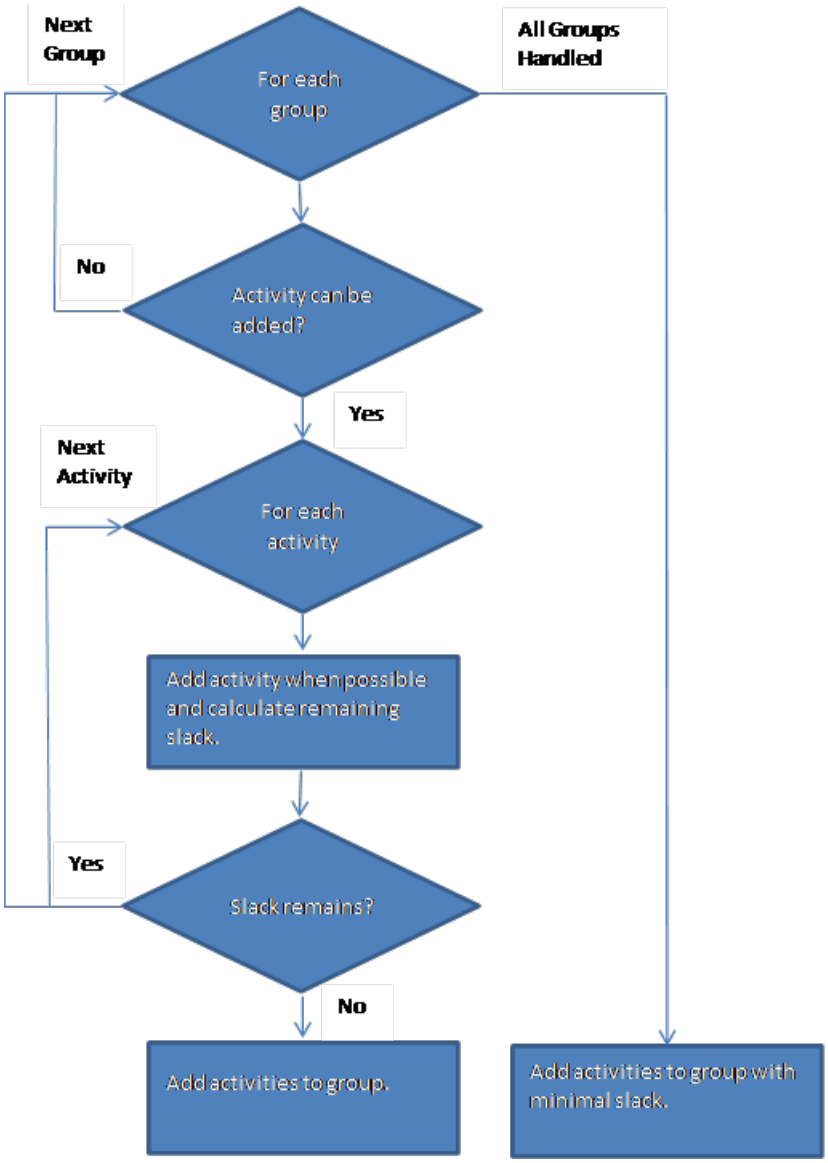
- **Distributing activities over groups**
  The selected activities are distributed across the groups in a group set. Each activity is added to the group with the earliest finish time. The finish time of the group is updated, accordingly. The process continuous until all the activities are added to a group.

  When an activity is shifted or scheduled to an earlier date/time or later date/time, the planned start time and the planned finish time is updated.

Note

If the **Respect Earliest Start Time** check boxes are selected for service order, work order and planned activities in the Resource Planning Parameters (tsspc0101m000) session, an activity can never start before the earliest start time, specified for the activity.

The process of schedule based workload leveling is:



When the **Respect Earliest Start Time** check boxes are selected for the service order, the work order and the planned activities in the Resource Planning Parameters (tsspc0101m000) session, an activity always starts at the latest finish time of the group to which the activity is added. At the time of adding activity to a group, if the earliest start time of an activity is not considered, no slack occurs. After the activity is added, the process continues for the subsequent activities.

When the **Respect Earliest Start Time** check boxes are cleared for service order, work order and planned activities in the Resource Planning Parameters (tsspc0101m000) session, an activity can be started before the earliest start time. Effectively, a slack may occur after adding the activity to a group.

Handling Slack

Handling slack is part of the workload leveling process. Slack may occur after adding an activity to a group. When the **Respect Earliest Start Time** check boxes are cleared for service order, work order and planned activities in the Resource Planning Parameters (tsspc0101m000) session, an activity can be started before the earliest start time. Effectively, slack may occur after adding the activity to a group.

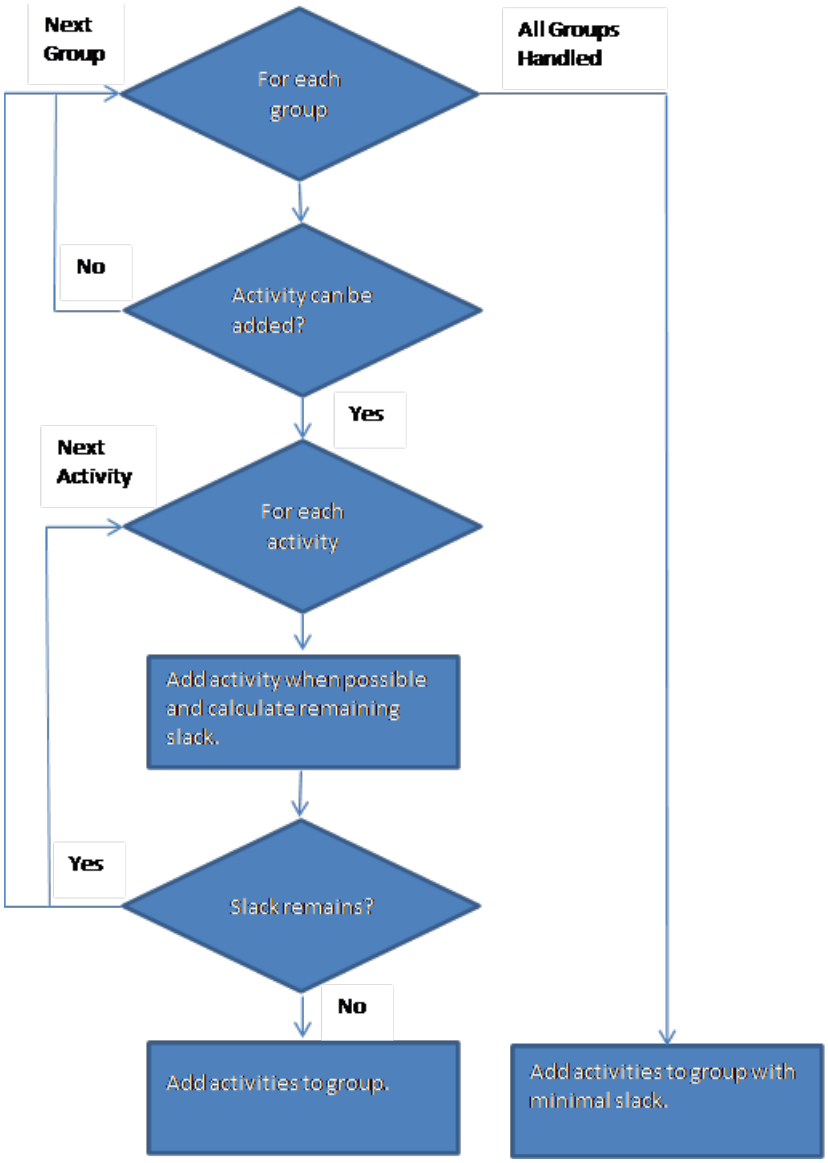
If the respect earliest start time check box is selected, the slack may occur and the slack algorithm is used to assign the activity. The algorithm manages the slack by scheduling activities that are not workload leveled. The slack algorithm is a two step process:

1. Selecting the groups to which the activities are added. The activities must start as early as possible. Therefore activities can be added to only those groups that has finish time earlier than or equal to the earliest start time of the activity.
2. Infor LN implements slack algorithm to minimize the slack for each of the selected groups. All the activities that are not yet workload leveled, are considered and for each activity Infor LN checks if the activities can minimize (partly) the slack. The slack algorithm can be considered complete when:
   - all the activities are checked and no more activities are available to minimize the slack.
   - the slack is completely filled.

Note

The slack calculation is not applicable when the **Sort Method** for service order, work order and planned activities is set to **Earliest Start** in the Resource Planning Parameters (tsspc0101m000) session. The activities are sorted by the earliest start time and hence, no activities are available to fill the slack.

The process of handling slack is:



Workload leveling and modification in the plan.

When loading a new plan

Workload leveling can be performed at the time of creating a new plan. The leveling is performed directly after the activities are loaded. With or without workload leveling, the parallel planning attributes define the groups that are created when a new plan is created. However, without workload leveling, only one group is created for each unique combination of parallel attribute values. With workload leveling, a group set and a group are created for each unique combination of parallel attribute values.

When a new plan is created in combination with workload leveling, the created groups may or may not be part of group sets. Possibly, stand-alone groups are also created. So a new plan can include one or more group sets and one or more stand-alone groups.

The modifications that must be implemented are:

- When the group for an activity is available, Infor LN tries to find a matching attribute set for the group that must be used for workload leveling.
  - When matching attribute set for the group is not available, the group set is also not available. Hence, Workload leveling is ignored.
  - When matching attribute set for the group is available, the group set is also available, Hence, Workload leveling must be performed.

Note

All the activities are currently linked to a single group. When all the activities are loaded, workload leveling is performed. The parallel planning attributes are considered for both; the group set and the group.

When adding activities to an existing plan (re-generate plan)

For a plan, the group sets with multiple groups may exist. The new activities are always added to the first group of a group set. So after loading the new activities, the plan includes existing and new activities.

When new activities are added to the existing plan, the workload leveling is different from the workload leveling performed for a new plan. Following are the possible scenarios:

- Group sets with only one group - These group sets are created when the new activities are loaded. The workload leveling process in this scenario:
  - Create new groups.
  - Distribute the activities of each group set across all groups of the group set.
- Group sets with multiple groups to which no new activities are added. No changes are made to these groups.
- Group sets with multiple groups to which new activities are added. The workload leveling process in this scenario:
  - Check whether new groups must be created for the group set.
  - Distribute the new activities in the group set across all groups of the group set.

When adding activities to an existing plan (keep existing plan)

When new activities are added to an existing plan and the existing plan is not modified (except from adding new activities), Infor LN searches for the correct group for this activities. If the group is available, Infor LN must check:

- If the group is part of a group set . The group in the group set with the earliest finish time is selected. The activity is added to this group.
- If, the group is not part of a group set. The activity is added to this group.

When planning the activities

- The activities in an activity set are sorted before the activities are planned. When workload leveling is performed, the activities can be sorted based on the earliest start time, planned start time, planned finish time and latest finish time. When activities are planned, a new sorting option, the latest start time is included. The latest start time of an activity is calculated from the latest finish time and the activity duration. When the activity is planned backwards from the latest finish time, the latest start time is available. **Note**: The calendar, availability type and time zone of an activity is used to calculate the latest start time.
- When the **Respect Earliest Start Time** check boxes for service order, work order and planned activities are not selected in the Resource Planning Parameters (tsspc0101m000) session, slack may occur between two activities. In this case, the slack algorithm must be performed to minimize the slack as much as possible. **Note**: The difference in running the slack algorithm for workload leveling and during the planning process is:
  - For the planning process, the slack is minimized using the activities in the same activity set. As a result, an activity can never be moved to another activity set or another group.
  - For workload leveling, the slack is minimized using the activities that are not yet assigned to a group. As a result an activity can be moved to another activity set or another group.

Chapter 6
CRM synchronization with Resource Planning

6

This chapter enables you to understand the process to integrate resource assignments with CRM appointments and the synchronization of the appointments with Outlook, for the packages such as Service, Project, and QM.

Service Engineer Assignment - CRM Appointment Synchronization

The Service assignment and CRM appointment are integrated so that service assignments are visible as appointments in CRM. Consequently, the (planned) visits made to the customer and the new task assigned to the service engineer is visible to the CRM representative. The schedule of the service employee can also be synchronized with the Outlook, through the CRM appointments.

Create Service Engineer Assignment

To process service engineer assignment in CRM:

- **Appointment**
  When a service engineer assignment is manually created using the Service Engineer Assignments (tssoc2505m000) session or generated from the orders session and the **Create CRM Appointments for Service Assignments** check box is selected in the Resource Management Parameters (tcrac0100m000) session, an activity of the **Type** **Appointment** is created in the Activities (tccom6100m000) session. The appointment related data is populated in the activities session, with the information such as **Subject**, **Location**, **Status**, **Start Date**, **End Date**, **Show Time As**, **Information** and **Business Partner**.

Note

- The planned start time and planned finish time is synchronized with CRM as the start date and end date.
- The value in the CRM appointment **Business Partner** field in the Activities (tccom6100m000) is defaulted from the sold-to business partner of the service order/MSO.

- **Attendees**
  The value in the meeting **Organizer** field in the Activities (tccom6100m000) session is defaulted from the **Organizer of CRM Appointments** field in the Resource Management Parameters (tcrac0100m000) session. The engineer linked to the assignment acts as the meeting attendee. When the engineer of the assignment is the meeting **Organizer**, only one attendee record is created in the Attendee (tccom6105m000) session.

  Each service engineer assigned to the same order activity is also added as appointment attendee. The email address of these co-workers are not specified in the Attendee (tccom6105m000) session, so that appointments are not displayed in the Outlook, twice.

Note

If the **Include Sold-to Contact as Appointment Attendee** check box is selected in the Resource Management Parameters (tcrac0100m000) session, the Sold-to BP contact of the order is also added as the meeting attendee.

- **References**
  As an appointment reference, the attributes identifying the service assignment, order number, activity line number and assignment number, are specified according to the following mapping in the References by Activity (tccom6115m000) session.
  - **Type**
  - **Sequence**
  - **Remark**

  For an appointment reference, the planned finish time of the service order/work order is displayed as an Appointment Due Date in the Activities (tccom6100m000) session .
- **Order Relations**
  When the appointment is created successfully, the link between the service assignment and the appointment is created in the Related Orders (tsmdm4500m000) session.

Update Service Engineer (Activity) Assignment

You can change the assignment data and the order activity line data. Therefore, these changes must be synchronized to the related CRM appointment. The appointments generated from a service assignment can only be updated from Service. A change in the planned dates in Service always overwrite the CRM appointment dates.

When another engineer is assigned to an existing order assignment, the changes are updated in the Attendee (tccom6105m000) session. The previous engineer is removed as meeting attendee and the new engineer is added as attendee.

The CRM appointments are synchronized if the information on the order header and order activity that is relevant to the CRM appointment is modified. If, on the order header information such as sold-to BP, Ship-to BP, contact or address, is modified, all the related CRM appointments are synchronized. The same applies to the data modified on the activity level. The information about the related appointment is available in the Related Orders (tsmdm4500m000) session.

The changes on the header and activity can trigger an update to multiple CRM appointments. Most of these changes are displayed in the appointment **Information** field in the Appointment (tccom6600m100) session.

Note

When the **Assignment Status** for the service engineers is set to **Completed** in the Service Engineer Assignments (tssoc2505m000) session, the **Status** of the meeting in CRM is set to **Held** in the Activities (tccom6100m000) session.

Delete Service assignment

When a service assignment is deleted, the related CRM appointment is also deleted, if the **Status** of the service or work order is other than **Completed**, **Costed** or **Closed**.

Synchronize CRM Appointment update to Service assignment

The start and end date of the CRM appointment is updated, if meeting organizer modifies the outlook appointment.

When the **Update Service Assignments with CRM Appointment Dates** check box is selected in the Resource Management Parameters (tcrac0100m000) session, the changed appointment start and end date are synchronized to the originating service assignment.

CRM Appointment for Employee Assignment in Project

An employee can be assigned to different activities; hence, it is necessary to have a calendar overview, so that the employee can track the assignments for a certain day, week, or month. The Project assignment and CRM appointment are integrated so that project assignments are displayed as appointments in CRM. By integrating resource assignments and CRM appointments, assignments are displayed as appointments.

Create Employee Assignment

To process employee assignment in CRM:

- **Appointment**
  When the **Create CRM Appointments for Project Assignments** check box is selected in the Resource Management Parameters (tcrac0100m000) session, an activity of the **Type** **Appointment** is created in the Activities (tccom6100m000) session, for each employee assignment specified in the Assignments (tpptc2170m000) session. The appointment related data is populated in the activities session, with the information such as **Subject**, **Location**, **Status**, **Start Date**, **End Date**, **Show Time As**, and **Information**.

Note

The planned start time and planned finish time is synchronized with CRM as the start date and end date.

- **Resource Assignments**
  The **Appointment** field in the Resource Assignments (tcrac1100m000) session can be used to view the assignment origin of the appointment.

- **Attendees**
  The value in the meeting **Organizer** field in the Activities (tccom6100m000) session is defaulted from the **Organizer of CRM Appointments** field in the Resource Management Parameters (tcrac0100m000) session. The employee linked to the assignment acts as the meeting attendee. If the assigned employee is the meeting **Organizer**, only one attendee record is created in the Attendee (tccom6105m000) session.

  Each employee assigned to the same project, plan, activity, and task, is also added as an appointment attendee. The email address of these employees (co-workers) is not specified in the Attendee (tccom6105m000) session, so that appointments are not displayed in the Outlook, twice.

Note

The employee linked to the assignment and the co-workers are added as meeting attendees, only if the **Create CRM Appointments for Assignments** check box is selected in the Employees - People (bpmdm0101m000) session.

- **References**
  As an appointment reference, the attributes identifying the project assignment, plan, activity, line, and sequence, are specified according to the following mapping in the References by Activity (tccom6115m000) session.
  - **Type**
  - **Sequence**
  - **Remark**

Update Project Assignment

You can change the assignment data and the order activity line data. Therefore, these changes must be synchronized to the related CRM appointment. The appointments generated from a project assignment can only be updated from Project. A change in the planned dates in Project always overwrites the CRM appointment dates.

When another employee is assigned to an existing assignment, the modifications are updated in the Attendee (tccom6105m000) session. The previous employee (meeting attendee) is removed and the new employee is added as the attendee. The updates are applicable only if the **Create CRM Appointments for Assignments** check box is selected in the Employees - People (bpmdm0101m000) session.

Delete Project Assignment

When a project assignment is deleted, the related CRM appointment is also deleted.

Creating CRM Appointments for Quality

Quality and CRM appointment are integrated so that inspection order lines, NCRs, and CAP tasks are visible as appointments in CRM. Consequently, the inspection order lines, NCRs and CAP tasks are visible to the CRM representative. The schedule of the employee can also be synchronized with the Outlook, through the CRM appointments.

- **Appointment**
  When **Inspection Order Assignments** check box is selected in the Resource Management Parameters (tcrac0100m000) session, an activity of the **Type** **Appointment** is created in the Activities (tccom6100m000) session, for each inspection order line specified in the Inspection Order (qmptc1100m100) session. The appointment related data is populated in the activities session, with the information such as **Subject**, **Location**, **Status**, **Start Date**, **End Date**, **Show Time As**, and **Information**.

Note

The planned start time and planned finish time is synchronized with CRM as the start date and end date.

- **Attendees**
  The value in the meeting **Organizer** field in the Activities (tccom6100m000) session is defaulted from the **Organizer of CRM Appointments** field in the Resource Management Parameters (tcrac0100m000) session. The employee linked to the inspection order line is the meeting attendee.

  Note: The employee linked to the assignment is added as meeting attendee, only if the **Create CRM Appointments for Assignments** check box is selected in the Employees - People (bpmdm0101m000) session.

- **References**
  As an appointment reference, the attributes identifying the inspection order assignment, order number, and order line number are specified in the References tab of the Appointment (tccom6600m100) session.

Note

This is applicable for material and non-material NCRs and CAP tasks. In case of NCR material, the order line is 1 and for non-material, the order line is 2. For CAP tasks, the order line is the task number.

Update Inspection Order Data

You can change the inspection order line data/NCR/CAP task data. These changes must be synchronized to the related CRM appointment. The appointments generated from a quality assignment can only be updated from Quality. A change in the planned dates in Quality always overwrite the CRM appointment dates.

CRM appointments are synchronized if the information on the inspection order line/NCR/CAP task that is relevant to the CRM appointment, is modified. The changes can trigger an update to a CRM appointment. Most of these changes are displayed in the Appointment tab in the Appointment (tccom6600m100) session.

Note

When the status of the inspection order line is set to **Completed** in the Inspection Order (qmptc1100m100) session, the **Status** of the meeting in CRM is set to **Held** in the Activities (tccom6100m000) and the Appointment (tccom6600m100) session.

Similarly, when the status of the NCR/ CAP task is set to **Completed**, the **Status** of the meeting in CRM is set to **Held** in the Activities (tccom6100m000) and the Appointment (tccom6600m100) session.