Contents

About this Document ........................................................................................................................................... 5
Getting Started with Oracle Field Service Cloud ............................................................................................ 7

Chapter 1: Introduction To OFSC Routing ......................................................................................................... 9
  Benefits of using the OFSC Routing Module .................................................................................................... 10
  How the OFSC Routing Module Works ........................................................................................................... 10
  Relationship Between OFSC Routing and OFSC Capacity ........................................................................... 12

Chapter 2: Preparing OFSC for Routing ............................................................................................................... 13
  Preparing the Resource Tree for Routing ......................................................................................................... 14
  Preparing Resource Calendars for Routing ...................................................................................................... 14
  Preparing Work Skills and Work Skill Conditions for Routing ...................................................................... 14
  Preparing Work Zones for Routing ............................................................................................................... 14
  Prepare Resource Start and End Locations for Routing ............................................................................... 15
  Preparing Quota for Routing ......................................................................................................................... 15
  Preparing Activity Types for Routing ............................................................................................................ 15
  Creating a Filter ............................................................................................................................................. 17
    Using Multiple Filters or Multiple Conditions ............................................................................................ 19

Chapter 3: Setting up Routing Profiles and Plans ............................................................................................. 21
  Adding a Routing Profile to the System ............................................................................................................ 22
    Creating a New Routing Profile .................................................................................................................. 22
    Cloning an Existing Routing Profile .......................................................................................................... 22
    Modifying a Routing Profile ......................................................................................................................... 23
    Activating and Deactivating Routing Profiles .......................................................................................... 23
  Adding a Routing Plan to a Routing Profile .................................................................................................... 23
    Choosing the Routing Plans to Assign to a Routing Profile ...................................................................... 23
    Creating a New Routing Plan ..................................................................................................................... 24
    Cloning an Existing Routing Plan .............................................................................................................. 24
    Modifying a Routing Plan .......................................................................................................................... 25
    Activating and Deactivating Routing Plans ............................................................................................... 25
  Assigning a Routing Profile to a Bucket .......................................................................................................... 25

Chapter 4: Configuring a Routing Plan ............................................................................................................... 27
  Configuring the Routing Plan Section of a Routing Plan ............................................................................ 28
  Configuring the Run Schedule for the Routing Plan ..................................................................................... 28
  Using Assignment Parameters to Fine-Tune the Routing Plan ....................................................................... 29
  Adding an Activity Filter to a Routing Plan ..................................................................................................... 32
  Configuring an Activity Filter for Routing .................................................................................................... 34
  Reoptimizing Routes through the Routing Plan ............................................................................................. 35
  Using Dynamic Routing on a Routing Plan .................................................................................................... 36
  Controlling Overtime (Resource Overtime) through a Routing Plan ............................................................ 37
  Controlling Travel Time through the Routing Plan ....................................................................................... 38

Chapter 5: Testing a Routing Strategy ................................................................................................................. 39
  Identifying Errors in a Routing Run ............................................................................................................... 40
About this Document

This document describes the general principles on which the Oracle Field Service Cloud (OFSC) system is based. It is intended for the personnel who work with OFSC.

**Important:** This document explains how to accomplish tasks in the Sunrise demo instance of OFSC. If your instance of OFSC is configured differently or if you have customized your instance, your screens, labels, and processes may differ from those described in this guide.

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Documentation Accessibility


Oracle Field Service Cloud (OFSC) can help you complete your day-to-day tasks faster and more accurately than traditional or manual workforce management tools. In particular, you can use OFSC to:

- **Understand what is happening in the field right now.** Use the Time View to see at a glance where resources are working and what they are working on. You can easily see who is at a job site and who is traveling as well as the status of their activities.

- **Reduce calls to and from the field looking for a resource to take a new job.** At a glance, you can tell whether the resource has time available for additional work.

- **Place new work on a route quickly and easily.** If the resource does have time, you can move work to the route.

- **Respond to jeopardy situations immediately.** When an activity is a risk, you can move it to avoid the service window being missed.
Chapter 1

Introduction To OFSC Routing

Topics:

- Benefits of using the OFSC Routing Module
- How the OFSC Routing Module Works

The OFSC Routing module assigns activities to resources based on location, skill set, work order history and proximity to customer.
Benefits of using the OFSC Routing Module

With continued use, the OFSC Routing module provides the following benefits over manual routing and most other routing tools on the market:

- Satisfies more customer activities within the promised service window.
- Ensures that properly skilled resources are assigned activities within their geographical areas.
- Minimizes the cost of delivering service.
- Reduces expenses by minimizing resource travel time, work time, idle time and overtime.
- Balances the workload across all resources.
- Automates many routing tasks, making the process faster and easier.

How the OFSC Routing Module Works

The OFSC Routing module leverages a sophisticated algorithm to optimize resource utilization. The OFSC Routing module learns about your resources and activities through information you enter into OFSC and through the real-time data that it collects about resources and activities. The OFSC Routing module then uses that information to generate routes that optimize the mobile workforce.

The picture below shows the data flow of the routing process:
Activities are received by OFSC from the activity booking system. OFSC identifies the necessary skills and skill levels for the activity as well as any other requirements and then identifies resources with a matching set of skills and skill levels. Then OFSC assigns the activity to the resource that best matches the requirements. The company realizes cost savings through efficiencies, resources receive routes that are tailored to their skill levels and their locations, and customers receive quality service on time.

When routing begins, OFSC first considers the requirements established in the work skills, work zones, and resources calendars. After that, it considers the settings in the routing plan.

**Note:** OFSC optimizes routes using a number of different goals, not just the ones that you select. For example, if you build a routing strategy that optimizes travel time and work, OFSC prioritizes the optimization of travel time and work, but it also optimizes for uniformity as a secondary priority.
Relationship Between OFSC Routing and OFSC Capacity

OFSC Routing and OFSC Capacity each perform important but very different roles in the efficient management of your mobile workforce.

**OFSC Capacity:** Focuses on optimizing the booking of activities. It uses predicted activity completion time and the quota that you set for each category to calculate the time used by booked activities and the time remaining for additional activities.

**OFSC Routing:** Matches booked activities with properly skilled and available resources. It combines the activities for each resource into routes that are optimized against your business goals.
The OFSC Routing module uses a number of settings to make decisions about how to match activities to resources. Your configuration of these settings can have a significant influence on the routing results.
Preparing the Resource Tree for Routing

Verify that the resources that should receive the activities are in the same bucket as the activities that you want them to receive.

When organizing the Resource Tree, consider the following limitations:

• You can only route activities from buckets to resources, or from bucket to bucket.
• You can group resources inside a bucket using either groups or buckets. You can route from a bucket to a direct child resource or to a succeeding generation resource.

See OFSC Core Manage User Guide for detailed instructions on configuring the Resource Tree.

Preparing Resource Calendars for Routing

Verify that calendars are current and accurate. The OFSC Routing module uses this information to determine whether a qualified resource is available to take an activity.

Important: Resources inherit calendars from parent objects like groups or buckets unless you override the settings at a lower level.

Tip: Put all of the resources that you want to use the same calendar in one bucket and assign the calendar to the bucket. The resources inherit the calendar settings from the bucket and you only have to configure the calendar once.

See the OFSC Core Manage User Guide for detailed instructions for configuring Resources Calendar.

Preparing Work Skills and Work Skill Conditions for Routing

Verify that the work skills, work skill levels, and the work skill conditions that you configured in OFSC are accurate.

Important: If you do not assign work skills to a resource, OFSC assumes that the resource has all of the work skills at the highest level.

Work skill conditions: identify the work skills that are necessary to complete each activity.

Work skills: identify the expertise that a resource has. They are the link that enables OFSC to match activities with resources.

The required level setting and the preferable level settings in the work skill have a strong impact on routing. The required level identifies the minimum work skill level that the resource must have to be eligible for the activity. The preferable level determines how early in the routing process the activity is routed. The earlier the activity is routed, the larger the pool of resources to choose from is. A larger pool of resources typically results in a better match.

For best results, assign a higher preferable level to an activity that requires advanced skills or skills that are difficult to find. This strategy ensures that the activity is staffed from the largest possible pool of resources.

Tip: If OFSC Routing is not able to match activities to resources, consider relaxing your work skill levels and work skill conditions so that more resources match the work skills and work skill levels required by the activities.

See the OFSC Capacity User Guide for detailed instructions for configuring work skills and work skill conditions.

Preparing Work Zones for Routing

If using work zones, verify that work zones are accurately configured for your resources.
If OFSC Routing is not able to match activities to resources, consider assigning each work zone to more resources so that more resources are available for the activities in that work zone.

If resources are assigned to a lot of work zones, you can use work zone levels to influence which work zones they receive work in. Assign a higher level to more desirable work zones and a lower level to less desirable work zones.

**Important:** Resources inherit work zones from parent objects like groups or buckets unless you override the setting at a lower level.

**Tip:** Put all of the resources that you want to use the same work zones in one bucket and assign the work zone to the bucket. The resources inherit the work zone settings from the bucket, and you only need to configure the work zone once.

See the OFSC Core Manage User Guide for detailed instructions for configuring Work Zones.

### Prepare Resource Start and End Locations for Routing

Start and End locations can be defined for a resource. Routing will use these locations to assign the first activity close to start location and last activity close to end location.

To configure locations select Resource Settings from the main menu and choose Resource Locations. Home zone center locations can also be defined here.

See the OFSC Core Manage User Guide for detailed instructions for configuring Locations.

### Preparing Quota for Routing

For best results, your OFSC Capacity strategy should map closely to your routing strategy.

Verify that you are booking the number of activities that your resources can reasonably complete. If you overbook activities, you will not have enough resources to handle all of the activities. In this case, the OFSC Routing module cannot route all activities. If you underbook activities, the OFSC Routing module can easily find matches for the activities, but your resources will have idle time.

See the OFSC Core Manage User Guide for detailed instructions for adding and managing quota.

###Preparing Activity Types for Routing

You can specify preferred resources for different activities. The OFSC Routing module will take these requirements into account when routing activities. These settings are enabled in the activity type and are set on the individual activity.

OFSC provides the following preference settings:

- **Required:** Only resources identified as required can be assigned these activities.
- **Preferred:** When no resources are identified as Required, then any resource defined as Preferred is given priority over the rest of the pool of resources.
- **Forbidden:** Any resource defined as Forbidden for an activity cannot be assigned the activity.

To enable the use of preferred resources for a particular activity type:

1. Click Company Configuration, and then select Activity Types from the drop-down. The Activity Types screen displays.
2. Find the row for the activity type that you want to add preferences to and click **Modify**. The **Modify activity type** screen displays.

   **Note:** You can also add a new activity type. At the top of the Activity Type screen, click **Add activity type**.

3. Under Features, click the checkbox next to **Support of preferred resources**. The **Activity Type Details** screen displays.

   Set the resource preferences for an individual activity:

Creating a Filter

You can use filters as a part of the routing process to prioritize certain groups of resources or activities above others. First you must create the filter. Then you can add it to a routing plan and configure it for that plan.

Filters can help you reduce the number of routing plans that you need to run against a bucket. Instead of using routing plans to prioritize certain types of activities or resources above others, you can use filters.

For example, if you want to route trouble tickets before all other types of activities, you can use a filter to tell the routing plan to prioritize activities that have the trouble ticket type above activities with any other activity type.

You can also use filters to prioritize certain types of resources above others. For example, if you want to minimize the use of contractors because they are more expensive, you can assign contractors a high cost and in-house employees a low cost. The routing plan then chooses in-house employees before choosing contractors.

To create a filter:

1. Click Company Settings and select Filters from the drop-down menu. The list of existing filters displays.
2. Click the Add new button from the toolbar.
3. Complete the fields as shown below.

Filter: Provide a name for the filter. In our example, the name of the filter is Routing - Installs.
Language: Select your native language. For this example, we chose English.
Applicable for: Select Activity or Technician. In our example, this filter applies to an Activity (since we are filtering on Installs activity). To enable OFSC Routing to differentiate one resource type from another select Technician from the drop-down.
List/Time/Map/Daily: Check these options if you want to have the filter available in these views.
Routing: Check this option to so that the filter is available for OFSC Routing
Restriction on visible activities: Do not check this option if used only for filters that tie in with display profiles, some of which can limit the number of activities that a resource can see along their daily route. This option is not applicable to routing plans.
**User Types:** Select the user types that have access to this filter. For example, if this filter is used for routing, the user type for the person who performs routing must have be able to access the filter.

4. Click the **Ok** button to save the filter. The new filter is added to the list of filters.

5. Click the **Conditions** link located in the **Actions** column for the Routing - Installs filter.

6. Click the **Add new** button to create a new condition for this filter.

7. Complete the following fields:

**Field:** Select the field that applies to this condition from the drop-down. In our example, we are selecting the field Work Order Type (WO_TYPE) from the activity record. The fields that display here depend on the entity type selected for the filter. If “Technician” were selected, then the field options would be those that are associated with resource entities.
Condition: Select the operator that is used to compare the field to the value. In our example, we used the condition where the value indicated needs to be in the field.

Value: Add the value that filters this record. In our example, we use the value/code IN, which is our code for an Install.

8. Click the Add button to save the condition within the filter.

9. Optional: Add additional conditions or additional filters if necessary. To determine whether you should use multiple filters or multiple conditions, see Using Multiple Filters or Multiple Conditions below.

Note: After you create the filter, you must add it to the routing plan and configure it for routing. See Adding an Activity Filter to a Routing Plan and Configuring an Activity Filter for Routing for detailed instructions.

Using Multiple Filters or Multiple Conditions

You can use multiple filters or multiple conditions to further refine the results of the filter. When you add multiple conditions to a single filter, the filter returns options that meet any of the conditions, but not necessarily all of them. When you use multiple filters, the filter returns only the options that meet all of the conditions.

If you create two conditions, one for installations and one for in-house employees, the filter finds the activities that require the installation skill or an in-house employee, or both. When you use two filters, one for installations and one for in-house employees, the filter returns activities that require both installation skills and an in-house employee.
You can create or modify a custom routing profile or plan.
Adding a Routing Profile to the System

Routing profiles contain the routing plan or plans that run against the bucket. You can use routing profiles to group more than one routing plan together so that you can run them all against one bucket.

Creating a New Routing Profile

To create a new routing profile:

1. Click Company Settings and select Routing Profiles from the drop-down list. The Routing Profiles window displays.

2. Click the Add routing profile button located on the toolbar. The Add routing profile dialog box displays.
3. In the Routing profile name field, type the name of the routing profile.
4. Check the checkbox next to Active.
5. Click Add. The new profile displays in the Routing Profiles list.

Cloning an Existing Routing Profile

If you want to add a routing profile that is similar to an existing routing profile, you can create a clone. A clone is an exact copy of the existing routing profile. You can change the clone to differentiate it from the existing routing profile.

To clone a profile:

1. Click Company Settings and select Routing Profiles from the drop-down list. The Routing Profiles window displays.

2. Find the routing profile that you want to clone in the list.
3. Click Clone. The Clone Routing Profile dialog box displays. In the Routing profile name field, type the name of the new routing profile.
4. Check the checkbox next to Active.
5. Click Clone. The new profile displays in the Routing Profiles list.
Modifying a Routing Profile
You can modify a routing profile on the Routing Profiles screen.

Follow these steps to modify a routing profile:

1. Click Company Settings and select Routing Profiles from the drop-down list. The Routing Profiles window displays.

   ![Routing Profiles window]

2. Find the routing profile that you want to modify in the list.
3. Click Modify to display the Modify Routing Profile dialog box.
4. Make the changes and then click Update.

Activating and Deactivating Routing Profiles
Active routing profiles are used to route activities to resources. Inactive routing profiles are not used.

You might want to deactivate a routing profile if you want to save it for future use, but you don’t want to use it right now.

Follow these steps to activate or deactivate a routing profile:

1. Click Company Settings and select Routing Profiles from the drop-down menu. The list of routing profiles and routing plans displays.
2. Find the row for the routing profile that you want to activate or deactivate and click Modify.
3. Check or clear the box next to Active.
4. Click Update.

Adding a Routing Plan to a Routing Profile
Routing plans provide the rules that OFSC uses to route activities to resources. They are based on the business goals of your organization. Routing plans are assigned to routing profiles. Routing profiles are assigned to the buckets that you run the routing plan against.

Choosing the Routing Plans to Assign to a Routing Profile
Routing profiles are used to group more than one routing plan together so that you can run them all against the same bucket.

By default, OFSC assigns one routing plan to each routing profile. If necessary, you can assign more routing plans to a routing profile so that you have more plans available to run against a bucket.

Be cautious when running more than one plan against a bucket to avoid conflict between plans for shared resources and activities. When plans conflict with each other or try to use the same resources and activities, the routing results are typically less than optimal.

For best results:

Use caution when running multiple routing plans against the same resources. Second and later generation routing plans will yield less successful results because they run against the resources remaining from the previous runs. Do run the same resources through multiple plans that run against the same bucket, but do so with caution.

For example, run one routing plan against the bucket in the evening to assign most of the activities for the day. Then run a second routing plan against the bucket around mid-morning. This second run might find openings for some of the activities that were not assigned in the first run. It can also assign the activities that came in after the first run.
Do use the fewest number of routing plans necessary. Doing so can minimize the chances of accidental sharing of resources and activities across plans.

Do run routing plans against large groups of resources and activities. When the pool of resources and activities is small, OFSC has fewer options for making a good match. As a result, routes will be less optimal and more activities will be unassigned.

**Creating a New Routing Plan**

You must create a Routing Profile first. See *Adding a Routing Profile* for details.

Routing plans provide OFSC with the rules to use when deciding how to route activities to resources. When you create a new routing plan, you select the routing profile to assign it to in the first step.

1. Click **Company Settings** and select **Routing Profiles** from the drop-down menu. The list of routing profiles and routing plans displays.

2. Find the routing profile to which you want to add the routing plan.

3. Click **Add routing plan** in the Actions column. A new routing plan template displays.

4. Add values as necessary. See *Configuring a Routing Plan* for instructions for each section.

5. Click **Add**. Before you can run a routing plan against a bucket, you must assign the routing profile that contains the routing plan to the bucket. See *Assigning a Routing Profile to a Bucket* for details.

**Cloning an Existing Routing Plan**

If you want to add a routing plan that is similar to an existing routing plan, you can create a clone. A clone is an exact copy of the existing routing plan. After you create the clone, you can change it to differentiate from the original routing plan.

1. Click **Company Settings** and select **Routing Profiles** from the drop-down menu. The list of routing profiles and routing plans displays.

2. Find the routing plan that you want to clone.

3. In the Actions column, click **Clone**. The plan that you want to clone displays.

4. Change the values as necessary. See *Configuring a Routing Plan* for instructions for each section.

5. Click **Clone**.

Before you can run a routing plan against a bucket, you must assign the routing profile that contains the routing plan to the bucket. See *Assigning a Routing Profile to a Bucket* for details.
Modifying a Routing Plan

You can modify a routing plan from the Routing Profiles screen.

1. Click Company Settings.
2. Select Routing Profiles from the drop-down menu. The list of routing profiles and routing plans displays. Find the routing plan that you want to modify.
3. Click Modify in the Actions column. The routing plan displays.

4. Change the values as necessary. See Configuring a Routing Plan for instructions for each section.
5. Click Update.

Note: Before you can run a routing plan against a bucket, you must assign the routing profile that contains the routing plan to the bucket. See Assigning a Routing Profile to a Bucket for details.

Activating and Deactivating Routing Plans

Active routing plans are used to route activities to resources. Inactive routing plans are not used.

You might decide to deactivate a routing plan if you want to save it for future use, but you don’t want to use it right now.

To activate or deactivate a routing plan:

1. Click Company Settings and select Routing Profiles from the drop-down menu. The list of routing profiles and routing plans displays.
2. Locate the row for the routing plan that you want to activate or deactivate. Click Modify in that row.
3. Click Routing plan to expand the section.
4. Check or clear the checkbox next to Active.
5. Click Update.

Assigning a Routing Profile to a Bucket

You must assign a routing profile to the bucket so that the routing plans in that profile can run against the bucket.

To assign a routing profile to a bucket:

1. Select the bucket that you want to assign the routing profile to from the resource tree.
2. Open the Dispatch tab and select Routing from the drop-down.
3. Click Change routing profile. The Select Routing Profile screen displays.
4. Select the routing profile that you want to assign to this bucket from the drop-down.
5. Click Update.
Chapter 4

Configuring a Routing Plan

After you add or clone a routing plan, you must configure it. This includes defining the run schedule and creating filters that will prioritize activities based on a variety of conditions and situational factors.
Configuring the Routing Plan Section of a Routing Plan

Provide general details about the plan including the profile on which it is based, the routing method and the number of minutes and seconds it will run.

1. Navigate to the routing plan that you want to configure.
2. Click **Routing Plan** to expand that section.

3. Identify the routing name and profile and provide other basic details.
   - **Routing plan name**: Enter a name that makes this plan easy to identify.
   - **Routing profile**: Identify the profile to which this routing plan belongs.
   - **Active**: Check the box to make this plan available for routing. Clear the check box to deactivate the plan. You can deactivate a routing plan to avoid running it accidentally. For example, if you have routing plans that you run during certain seasons or other busy times of the year, you can make them inactive until you are ready to use them.
   - **Time Limit**: The maximum number of minutes and seconds that the routing plan will run before producing a result. When OFSC launches a routing plan, it runs the plan over and over again until it either finds the best match or the time limit expires, whichever comes first.
   - Three minutes is usually sufficient. The maximum time limit possible is 20 minutes.
4. Click **Add**.
   - **Tip**: If you find that routing is regularly running until the time limit, consider increasing the time limit and monitor the results to see if they are more efficient.

Configuring the Run Schedule for the Routing Plan

The run schedule identifies when you want the plan to run and how often you want to run it. You can also specify the day’s activities to run the plan against.

- **Tip**: The run schedule that you choose has an effect on the information you can share with your customers through notifications. For example, if you want to launch a notification the afternoon before an activity, but you don’t run routing until the evening, your notification will not include the time slot.

To configure the run schedule:

1. Navigate to the routing plan that you want to configure.
2. Expand **Run Schedule** section.
3. Select one of three options for running the plan:
   - **Manual only**: Routing can only be started manually. Routing is not performed automatically.
   - **Once a day**: Routing runs once each day at a specified time. You can specify the days of the week that it will run.
     If you choose to run routing once a day, verify that the value you enter in the for __activities field corresponds to the time of day field. For example: if you choose to run routing for today’s activities, the time of day is typically in the morning. If you choose to run routing for tomorrow’s activities, the time of day is typically in the evening.
   - **Recurrent**: Routing runs on a recurring basis throughout the day. You can specify the times, dates and days of the week that you want routing to run.
     When you choose to run routing recurrently, choose today’s in the for __ activities field. This field specifies the day’s activities to run the plan against.

4. Enter the Time Limit in both minutes and seconds.
5. Click **Add**.

---

**Using Assignment Parameters to Fine-Tune the Routing Plan**

Set Assignment Parameters to further customize the routing process.

1. Navigate to the routing plan that you want to configure.
2. Expand the **Assignment Parameters** section.
Check or clear the options as necessary.

- **Enable Routing by Inventory:** When this checkbox is checked, then routing takes into account required inventories for all activities that are sent to routing, and assigns activities only to resources that can meet these requirements. This could result in some activities left unassigned.

  Activities which have no inventory requirements are not affected by this setting. They will be routed in the same way as before.

  Activities will be left unassigned if there are no resources which meet their inventory requirements. Such activities will be rejected with reason code: 6003 and message: *no appropriate resources.*

  **Note:** Regular activity filters and resource filters, workzone, workskill restrictions apply as usual. For example if a resource which has the inventory X is not selected by filter for the activity that requires inventory X, then that activity will not be assigned to that resource.

- **Dynamic Routing:** enables you to set limits on how long the module will run based on the number of minutes and/or the number of activities routed. The image (below) shows a different location for setting minutes/activities (described as the Dynamic Routing tab of the Add/Edit routing plan dialog).

  - **Try to schedule activities to service window start:** This option (formerly named Route Uniformity) instructs OFSC Routing to schedule activities as close to the start of service windows as possible. As a result, routing options will typically include a broader selection of resources and the possibility of burdening some resources with many activities and under-utilizing others is minimized. Note, however, that there are consequences as described on the selection screen.
    - Idle time may collect closer to the end of the service window.
    - Summary travel time may increase.
    - Summary work time may increase.
    - Activities may be assigned to more resources.
• **Center point home zone support:** This option defines the home zone radius, that is, the number of miles in any direction from the starting point and the penalty to be applied if a resource must leave the home zone to complete an activity. The default penalty (Overstep Weight) is 4.

• **Automatic ordering:** This option places activities without service windows on the route in the most efficient order. If cleared, OFSC Routing places these activities on the route, but does not assign a time slot. In this case, resources decide when to do the work.

  Automatic Ordering can help you complete more activities over the course of the day, but it also reduces the resources’ ability to use their own judgement in completing activities.

• **Limit work by points:** This option is only necessary if you use points to estimate activities. It limits the number of activities assigned to a resource based on the maximum points allowed within a resource’s shift. You must also enable Points Support in Business Rules, enable a Points property, and send the point value for the activity to OFSC through the API.

When you close **Assignment Parameters**, you’ll see your selections summarized on screen.

1. Open the Reoptimization section of the Routing Plan.

2. Click **Add reoptimization filter** to go back to the bucket and “re-balance” the route by favoring certain activities over others.
When the **Set of activities to be assigned** displays, use the drop-down to select the preferred Activities that should be given priority. Under Destination for unassigned activities let the system know what you want to do with the other activities, the ones that get bumped.

Then rerun the routing plan to see how the filter has changed your results.

**Note:** Reoptimization does not change the original routing plan. It simply adds an additional filter – a mini-routing plan – that will be available the next time you want to reoptimize.

### Adding an Activity Filter to a Routing Plan

You can use filters to prioritize certain types of activities or resources over others during the routing process. Filters are an alternative to using another routing plan for prioritization.

Routing uses two different and very powerful filter to prioritize activities based on value or cost.

- **Activity** – These filters prioritize certain types of activities for assignment based on order of consideration, late arrival penalties, lateness tolerance levels, and cost of non-assignment.

- **Resource** – These filters enable assignment decisions based on the cost differences between resources.

**Note:** When working with routing filters, it is important to understand how they influence processing and affect the assignment decisions that OFSC Routing makes. For example: Pay attention to the order of multiple filters in a routing plan. The first filter that an activity encounters will determine how it is processed. Even though the activity might meet the criteria of more than one filter, the first one will override the others.

- The * (Other) filter, typically used to define the rules for “the rest” of possible activities (activities that do not match any of the filters), always displays last and cannot be re-ordered.
• Clicking Delete removes a filter from the specific routing plan only. It does not remove the filter from any other routing plans or from OFSC.

You must create the filter, set the conditions, and make the filter available for routing first. See Creating a Filter for more information.

To add an activity filter to a routing plan:

1. Navigate to the Routing Profiles screen and find the routing plan that you want to add the filter to.
2. Click Modify.
3. Expand the Filters section of the Edit Routing Plan screen.

4. Click Add activity filter. The Set of activities to be assigned popup box displays.

5. Select the filter that you want to add to the routing plan from the drop-down under Activities. In some cases, a second drop-down also displays.

6. Select from this second drop-down (if any) the type of activities to which the filter should be applied. The following options are available:
   • Non-scheduled activities in the routing bucket. These activities are not currently on any route. They are not assigned to time slots or resources. Routing will attempt to route them during the next run.
   • Activities in the routing bucket. These activities are not currently on any route. They are assigned to time slots, but are not assigned to resources. Routing will attempt to route them during the next run.
   • Preassigned non-scheduled activities. These activities are already assigned to resources, but they are not assigned to time slots. You can use reoptimization to automatically move these activities during the routing process.
   • Activities in existing routes. These activities are already assigned to resources and time slots. You can use reoptimization to automatically move these activities during the routing process.
7. **Optional:** Under Assignment Cost, assign a cost to this filter. In general, the higher the cost, the less desirable the assignment. If you select **Do not assign**, activities of that type can never be assigned to a resource that meets this filter condition.

8. Repeat these steps to add additional filters to the routing plan. Arrange the filters in the order that you want them to be applied using drag and drop. The filters are applied in chronological order starting at the top of the list. The * (Other) filter is always applied last.

9. Click **OK**.

**Example: Assignment Cost for Multiple Activity Filters**

In this example, the routing strategy is:

- Do not assign work to contractors.
- Assign activities to In-house resources before all others.

The contractor filter has the assignment cost “Do not assign” so that activities are never assigned to contractors. The In-House filter has a lower assignment cost than the * (Other) filter so that in-house personnel receive activities before all other resources.

**Configuring an Activity Filter for Routing**

Once you have added a filter to a plan, you can adjust some additional settings that affect how the OFSC Routing module processes the filtered activities.

**Important:** Carefully evaluate these settings before changing them. They add constraints to the routing process that can significantly restrict the number of activities that are assigned to routes.

To configure an activity filter:

1. Navigate to the Routing Profiles screen and click Filters to expand that section.
2. Find the filter that you want to configure and click **Settings**.

The **Filter Parameters** screen displays.
Select options for this filter based on your business goals.

- **Late arrival penalty:** The weighting options regarding lateness penalties range from “minimal” to “highest.” Examples are provided to assist in selecting the best option. OFSC Routing uses this information to weigh activity assignment decisions when there’s a chance that a resource will arrive late to an activity.

- **Assigning activities which are about to be late:** You can set a “lateness tolerance” that OFSC Routing will accommodate when assigning new activities to resources.

- **Cost of not assigning an activity:** If there is a chance that an activity that meets the conditions of this filter might not be assigned, then this option provides OFSC Routing with a setting that it will weigh against other considerations to determine who will be assigned which jobs – and which might remain in the bucket. In essence, this helps OFSC Routing prioritize certain types of activities.

  **Tip:** The normal setting sometimes leaves too many activities unassigned. When this happens, test your results with the high setting or the highest setting.

---

### Reoptimizing Routes through the Routing Plan

You can use reoptimization filters to make automatic adjustments to existing routes.

Reoptimization filters compare routing results with the activities in the bucket and reassign activities based on the priorities set in the new filters. Reoptimization gives you the chance to re-evaluate routes with another set of priorities and new activities.

The following examples illustrate situations in which reoptimization might be useful:

- When the bucket contains a small number of technicians, each with very different skills.
- When you receive emergency activities or other activities that must be prioritized above already routed activities.
- When you receive activities that require equipment that is only available in certain technicians’ inventory.

  **Important:** You cannot reoptimize mass activities or repeating activities.

- You must create the filter, set the conditions, and make the filter available for routing first. See **Creating a Filter** for more information.
- You must assign the filter to the set of activities that you want to run it against. See **Configuring an Activity Filter for Routing** for details.
- Before activities can be reoptimized, you must enable the Activity Types to be moved and created. Under **Company Configuration** on the **Activity Types** screen, verify that the following settings are selected:
  - Allow creation in buckets
  - Allow move between resources
• Allow non-scheduled

To add a reoptimization filter to a routing plan:

1. Navigate to the Routing Profiles screen locate the routing plan to which you are adding a filter. Click Modify.

2. Click Reoptimization on the Edit Routing Plan screen, to expand that section Click Add reoptimization filter. The set of activities to be assigned screen displays.

3. Under Activities, select the filter that you want to run against the activities in the bucket. Under Destination for unassigned activities, select the status that you want to assign to activities that are not assigned to routes and are, instead, returned to the bucket.

4. Click OK. The next time the routing plan runs, OFSC Routing applies the reoptimization filter to the activities in the bucket.

**Using Dynamic Routing on a Routing Plan**

Dynamic routing enables you to control the number of activities or the amount of time on a resource’s schedule that should be routed from this plan. Dynamic routing plans are typically run frequently throughout the day.
X number of minutes: This setting defines the number of minutes you want to fill in the resources’ schedules. OFSC starts filling the schedule from the time the routing plan starts. If an activity is expected to start outside of this period, then it is not assigned to a resource. For example, if the routing plan runs at 8:00 am, the routing plan runs immediately and adds activities to the resources’ schedules that will start between 8:00 am and 10:00 am. If an activity is expected to start at 10:15, it is not added to a schedule.

Tip: When you specify the number of minutes to fill on the resources’ calendars, be sure to run the routing plan frequently enough to ensure that resources do not run out of activities before you add more to the routes. For example, if you fill 120 minutes of the schedules with activities, you might want to run the routing plan every 30 to 60 minutes.

Note: When you use dynamic routing to limiting the number of activities being scheduled understand that it also affects what dispatch or resources can see i.e., they will see number of activities on the Gantt table. If you prefer to have an entire route scheduled – so dispatch can view the entire day - but limit the number of activities that a resource can see, then you can create a user type for resources that shows them a limited number of activities at a time.

X number of activities: This restricts the number of ‘pending’ activities on a resource’s route.

If both of these options are enabled, then an additional group of radio buttons that define how the restrictions should be combined will display:

• Stop loading when any limit is exceeded
• Stop loading when both limits are exceeded

For example, if you load resources for 120 minutes (no activity load specified), then:

• If routing starts 120 minutes earlier than the resource’s working day starts, then nothing will be added.
• If the resource has 120 minutes of work before routing starts, then nothing will be added.

Controlling Overtime (Resource Overtime) through a Routing Plan

Overtime is calculated differently by each organization. Therefore, the OFSC Routing module does not calculate overtime as an absolute dollar value, but instead calculates it as time beyond a resource’s assigned work schedule that might be required to fulfill an activity.

Using the Resource overtime options within the routing plan enables you to determine how OFSC Routing should handle activities that, if assigned, might extend past the end of the resource’s shift.

Choose from the following options:
• **Assign activities even if the assignment causes overtime:** This option provides the best chance of getting many activities assigned, though some may extend past the end of a shift.

For best results, do not use this setting if you have significantly more work than resources can complete in a regular workday. If you do the routing results will include a large amount of overtime. This setting is most useful for certain types of work where you are willing to incur the additional cost, for example VIP work.

• **Do not assign overtime activities and leave them in the bucket:** This means that any jobs that have service windows and/or predicted durations that could push a resource into overtime are left in the bucket.

• **Do not assign activities with more than _____ min. overtime:** This enables you to control the amount of overtime allowed, essentially extending a shift in order to accommodate more work assignments.

• **Do not assign activities that are unlikely to be finished ____ min. before end of resource’s day:** This also limits the possibility of overtime, but with the consideration of whether a resource needs additional time (return to depot, drive home, etc.) before the end of their shift.

  Note: OFSC Routing finds fewer good matches when you use restrictive overtime settings. As a result, more activities could be left in the bucket to be routed manually.

**Controlling Travel Time through the Routing Plan**

This option enables you to limit the amount of travel time a resource should drive to reach an activity.

OFSC provides two options:

• **Minimize summary travel even if some activities require long travel times.** This option is the default option and results in the most optimized routes. A few activities might require lengthy travel, but the total travel time for the entire bucket is optimal.

• **Avoid travel longer than ____ minutes, even though some activities might not be assigned and summary travel might increase.** This option enables you to limit the amount of time a resource can spend travelling for any one activity. This results in fewer assigned activities and less optimal routes, but eliminates any travel that is beyond the specified amount of time.
Chapter 5

Testing a Routing Strategy

Topics:
• Identifying Errors in a Routing Run
• Comparing two Routing Runs
• Assessing Summary Data about Routing Strategies
• Rolling Back a Routing Run
• Routing Visualization (Smart Routing)

After you set up a new routing strategy or make changes to an existing routing strategy you can review the effectiveness using three different reports.

OFSC provides the following reports that you can use to assess your routing results and, if necessary, to decide what changes to make to your routing profiles:

• **Routing Execution Log**: This report displays the results of the routing run. See *Identifying Errors in a Routing Run* for more information.

• **Routing Comparison Report**: This report displays the same statistical data about two separate routing runs so that you can compare the results. See *Comparing two Routing Runs* for more information.

• **Routing Module Report**: This report displays statistics about the routing results so that you can assess the effectiveness of your routing strategy. See *Assessing Summary Data about Routing Strategies* for more information.

**Note**: Do not make changes to your routing strategy until you have accumulated at least five days of data. The more data the system has to interpret, the more meaningful the results are.

**Note**: Change one routing setting at a time. If you change more than one setting at a time, you cannot be sure which setting caused the effect you see in the results.
Identifying Errors in a Routing Run

You can view routing results in the Routing Execution log, which is located in the lower part of the routing window. The report displays any errors that OFSC might have encountered during the routing process.

To view the results of a routing run:

1. In the Resource Tree, select the bucket that you are routing.
2. Navigate to the Routing screen.
3. Under Routing execution log, find the row for the run that you want to view and click Report.

The routing results screen is displayed, listing where each activity was routed from and which resource it was routed to. Errors are displayed at the top of this list. See Routing Message Codes for an explanation of each error code.

Routing Message Codes

The following message codes might be displayed in the Routing Execution Log:

Table 1: Error Codes

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Error</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>6000</td>
<td>Dynamic cut</td>
<td>This is a common error that you can expect to see when using dynamic routing. It means the activity was filtered out because it falls outside the dynamic routing time or activity limitations. If you want to route the activity, change either the dynamic routing time or activity limitations, or turn dynamic routing off.</td>
</tr>
<tr>
<td>6001</td>
<td>Both work length and key are undefined</td>
<td>This is a data validation error. The OFSC Routing module needs to know the estimated activity length. It can be specified either through stats or directly in</td>
</tr>
<tr>
<td>Error Code</td>
<td>Error</td>
<td>Explanation</td>
</tr>
<tr>
<td>------------</td>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the case of activities. If this error message displays it means this value is not specified and therefore the activity cannot be routed. You should never see this error message under normal circumstances. To correct this error specify the estimated activity length.</td>
</tr>
<tr>
<td>6002</td>
<td>Negative cost is not allowed</td>
<td>This is a data validation error. Activity cost is used as a multiplier for all activity related penalties and to implement activity priorities. You should never see this error message under normal circumstances.</td>
</tr>
</tbody>
</table>
| 6003       | No appropriate resources | This means that the activity has requirements that cannot be met by any available resources. This message does not necessarily indicate an error. It informs you that OFSC could not find a matching resource for the activity. Check the following settings to confirm that they are accurate for your mobile workforce:  
  - Work Zones  
  - Work Skills  
  - Points (if you use them)  
  - Resources Calendars |
<p>| 6004       | Zero work length is not allowed | Unused. Left in place for compatibility by error codes. You should never obtain this error. |
| 6005       | Service window start is greater than service window end | This is a data validation error. The service window end time falls before the service window start time on the activity. |
| 6006       | Failed | Reserved code: OFSC Routing does not currently use this code. |
| 6007       | Unacceptable overdue | The activity was not scheduled because it would be late and would start after the lateness settings specified in the filter parameters. Check the settings in the filter parameters. Go to the Filters section of the routing plan and click Settings to view filter parameters. |
| 6008       | Resource overloaded or has not enough resources | The activity was left unscheduled because of the Limit work by points parameter. The assignment of this job would have caused a tech to incur more points than his max threshold. You can adjust the resource’s point allotment in Daily View. |
| 6009       | Resource workday stop | The activity was left unscheduled because it would have caused overtime for the resource. If you want to allow overtime for resources, change the Resource Overtime settings in the routing plan. |
| 6010       | Unacceptable travel time | The activity was left unscheduled because the travel time would have exceeded the maximum travel time allowed. If you want to allow longer travel, change the Travel time settings in the routing plan. |
| 6011       | Cascade over activity link | Activity was unscheduled due to the master activity in the linked activities (activity link) hierarchy. |
| 6012       | Link Cycle | Activity was unscheduled for break dependency cycle between linked activities (activity link). |
| 6013       | Unable to fit activity link | Activity was unscheduled because OFSC Routing was unable to find route that didn't violate linked activity requirements. |
| 6014       | Effective service window start is greater than effective service window end | This is a data validation error. After applying all time related constraints, the activity should be ended before it can be started. Usually, this occurs because of a error in the data. |</p>
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Error</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>6015</td>
<td>SLA window start is greater than SLA window end</td>
<td>This is a data validation error. Activity claims that the SLA window will end before/earlier than the SLA window will start. Usually, this occurs because of an error in the data.</td>
</tr>
<tr>
<td>6016</td>
<td>May cause SLA violation</td>
<td>Activity was unscheduled because it would cause a SLA violation by another following activity. It is normal to obtain this unscheduling reason when using SLA windows.</td>
</tr>
<tr>
<td>6017</td>
<td>Other</td>
<td>Reserved for cases where there are no other specific or precise unscheduling reasons. There is a very low chance to see this error code.</td>
</tr>
<tr>
<td>6018</td>
<td>Too expensive</td>
<td>Activity is found to be too expensive to be done by itself or by its consequences.</td>
</tr>
<tr>
<td>6019</td>
<td>Unacceptable SLA overdue</td>
<td>Corresponds to the Unacceptable SLA Overdue protection.</td>
</tr>
</tbody>
</table>

### Comparing two Routing Runs

You can compare two runs on the same day to see which run was more optimal. This information can help you determine the routing strategy or routing settings that are best for your organization.

This report is most helpful when you use it to compare runs that use the same set of resources and activities. This minimizes the likelihood that influences other than the routing plan are affecting the results.

**Note:** Run this report in the Training instance where the set of activities and resources changes only once every 24 hours. Compare runs that have limited differences so that you can easily identify the setting having the desired effect.

- Run this report in the Training instance where the set of activities and resources changes only once every 24 hours.
- Compare runs that have limited differences so that you can easily identify the setting having the desired effect.

To compare two routing runs:

1. In the Resource Tree, select the bucket for which you want to see routing results.
2. Navigate to the **Routing** screen.
3. Select the day that the routing runs occurred.

**Note:** A list of the routing runs displays under the Routing Execution Log. Find the rows for the routing runs that you want to compare and click the checkboxes.

4. At the top of the list, click **Compare**. The Routing Comparison Report displays.
5. Review the results. Results with a green checkmark are the most optimal. Results with a red X are the least optimal.
Assessing Summary Data about Routing Strategies

The Routing Report provides statistics about the results of your routing runs. It is difficult to assess the success of your routing strategy when looking at individual runs or routes. This report consolidates the information from several runs and demonstrates the combined results so that you can measure productivity and drive time.

You can report on data over almost any time frame and include both historical data and future data.

Among other pieces of data, this report presents travel time, work time, and number of activities. This report displays route statistics for each resource in the bucket and a summary of the statistics for the entire bucket.

The report helps you:

• Determine the quality of routes.
• Understand past routing performance and the acceptability of future routes in an objective manner.
• Measure performance of the routing engine over time.

The Routing Report presents a summary of the following information about each resource’s route:

• Minutes of travel
• Work
• Activity fit %
• Overtime
• Idle time

The report presents either the data for pending activities or the data for completed activities, depending on the time of day that you run it.

End of the day, or days later: Completed activities

Beginning of the day: Pending activities

Mid-day: Part pending activities, part completed activities

To view the Routing Report:

1. Select a routing bucket from the Resource Tree.
2. Click Reports and select All Reports in the drop-down list.
3. Locate **Routing Report** in the list and click **Show**.

   ![Routing Report screenshot]

4. The report matrix displays. Click the **View** button and select the date range the report.

   ![Routing Report matrix screenshot]

5. **Optional**: To change the number of visible report rows, change the value in the **Rows** field.

6. Click **Apply**. The **Routing Report** displays in the Work Area. At the bottom of the report, totals for both the page displayed and the report in aggregate displays.
This information is broken down by resource and includes the following sections:

**Aggregator:** The name of the group to which the resource is assigned.

**Technician:** Resource’s name as it appears on the Resource Tree.

**Date:** Date of route in Month/Day/Year format.

**Jobs:** Number of jobs on the resource’s route for that day.

**Travel:** Resource’s travel time for the day.

> **Note:** Travel time represents total travel time to and from known locations. If an activity (such as lunch) is not a known location, OFSC will not represent that time in travel time. Similarly, time spent on activities (meetings or lunch), is not represented in the Routing Report

**Work:** Resource’s time spent working on activities for the day.

**Job Fit %:** Percentage of appropriate fit of resource based on his / her skills compared to the skills required by the activities.

**Overtime:** The number of minutes estimated to exceed the resource’s shift for that day.

> **Note:** OFSC defines overtime as any work performed outside the resource’s shift for that day. OFSC does not take into account the hours worked earlier in the week or the length of shift scheduled for that day. OFSC just looks for work that is performed outside the shift represented in that day’s working calendar.

**Idle Time:** The number of minutes on the route not allocated to activities or travel time.

## Rolling Back a Routing Run

OFSC provides the opportunity to return your activities and resources to the state they were in before a routing run. This feature returns routed activities to the bucket and removes routes from resources’ calendars. You might want to rollback a routing run during testing or when a configuration mistake causes routing results that are not optimal.

**Important:** The following conditions must be met for a rollback to be successful:

- The activities must still be in Pending status.
- The activities must still be assigned to the resources that OFSC assigned them to.

Any activities that do not meet these conditions will remain in place on the resources’ routes after the rollback. You can move them back to the bucket manually.

To rollback a routing run:

1. In the Resource Tree, select the bucket used for the routing run.
2. Navigate to the **Routing** screen. Under **Routing Execution Log**, find the row for the run that you want to rollback.
3. Click **Rollback**.
4. Click **OK**.
Routing Visualization (Smart Routing)

In addition to the existing Routing screen in the OFSC GUI where Routing Plans can be managed and monitored, there is a new Smart Routing screen which gives a more graphic, visual, and transparent display of what is actually happening in the Routing module. Looking at the Smart Routing screen, the user can see the summary of the Routing Plans assigned to the selected bucket, the autorouting efficiency ratio, the resource utilization ratio and the actual savings achieved as the result of Routing. The information included in the Routing execution log is also presented on the Smart Routing screen.

The Smart Routing screen is accessible by selecting the Smart Routing option from the Main Menu.

The Smart Routing screen consists of the Resource Tree, the Summary Bar and the Routing execution log.

The Resource Tree in the left part of the screen allows selecting buckets for which data is to be displayed. When a bucket is selected, the screen shows the Routing status of the bucket. The Resource Tree has a hierarchical structure, that is, when a parent bucket or group is selected, the screen shows aggregated data of its child buckets.
The calendar widget in the top part of the screen is used to select the date for which Routing data is to be displayed.

![Calendar widget]

### Configuring Smart Routing

The *Routing Visualization* feature is another form of visual representation of the Routing progress and results. It is based on the same functionality and, therefore, the underlying Routing configuration (Routing Profiles and Plans, Resource Types, Statistics Parameters, and Activity Types) is the same, whether Routing Visualization is used or not.

However, the enhanced functionality shows the savings achieved for the selected bucket as the result of Routing runs. This requires setting the average company parameters based on the existing statistics of the company business. In Oracle Field Service Cloud these parameters are called *Baseline Settings*.

The *Baseline Settings* can be found in the drop-down menu appearing on a click on the *Savings* block on the *Smart Routing* screen.

![Baseline Settings]

Clicking the *Baseline Settings* link opens the list of parameters which need to be configured for the savings to be calculated and displayed.
The following parameters are to be set:

- **Fully-loaded tech. hourly cost**: Cost of 1 hour of the resource's work based on the resource's salary, benefits, training, overhead costs, equipment costs or depreciation in US dollars. When the *Time savings view* is selected, this setting is disabled as it has no influence on time savings.
- **Cost per mile**: Cost of 1 mile of the resource's travel in US dollars. When the *Time savings view* is selected, this setting is disabled as it has no influence on time savings.
- **Overtime increase**: Resource's hourly cost increase in case of overtime in per cent.
- **Average tech. daily worktime**: Average time the resource spends on activities performance in a day in hours.
- **Average tech. daily travel time**: Average time the resource spends on travel between activities in a day in hours.
- **Average technician overtime**: Average acceptable overtime per resource in hours.
- **Travel speed**: Average speed with which resources travel in miles per hour.

**Summary Bar**

The Summary Bar shows the Routing results for the selected bucket or group. In each case, the data shown in the Summary Bar is the aggregated data of all individual resources' routes created as the result of Routing runs.
Note: The Resource Utilization and Savings blocks also show data for individual resources, when such resources are selected in the Resource Tree. These parameters are calculated per each resource and aggregated when a bucket or group is selected.

Routing Plans

The Routing Plans block shows the number of scheduled Routing Plans, the number of currently running Routing Plans, and the number of completed and failed Routing Plans. The number next to the puzzle icon is the number of Routing Plans assigned to the selected bucket.

Clicking the Routing Plans block opens the summary of Routing Plans assigned to the selected bucket and their statuses. The following data is displayed:

- **Number of routing plans**: Total number of Routing Plans assigned to the selected bucket and its child buckets
- **Buckets with routing plans**: Number of child buckets to which at least one Routing Plan is assigned. If the selected bucket has no child buckets, this parameter shows '1'
- **Routing plans summary**: Aggregated data of the statuses of the Routing Plans assigned to the selected bucket. The following statuses are available:
  - **Scheduled**: Routing Plans to be run according to the schedule
  - **Completed**: Finished Routing Plans
  - **Running**: Routing Plans run currently in progress
  - **Rolled back**: Routing Plan runs which were not accepted by the user. When a Routing Plan run is rolled back, all activities are returned to the bucket and can be assigned again in the next Routing Plan run
  - **Stopped**: Routing Plan runs interrupted manually
  - **Skipped**: Finished Routing Plan runs in which no activities were assigned, for example, due to absence of activities in the bucket
  - **Failed**: Routing Plan runs in which no server response was received

Autorouting

The Autorouting block shows the efficiency of automatic Routing in percent. The Autorouting efficiency is calculated as the ratio of the number of autorouted activities to the total number of routed activities (both automatically and manually). This statistics takes into account the number of operations resulting in 'meaningful' changes to the activity routing, that is, changes to the date of the route or the resource to whose route the activity has been assigned.
Operations bringing no changes to the activity date or resource to which the activity is assigned, are ignored. Similarly, reverse operations resulting in no change to the initial activity assignment are ignored, as well.

The figures shown in the Autorouting block are aggregated results of all resources in the selected bucket and its child buckets, if any. If no activities were routed manually, the Autorouting efficiency is 100%.

The Autorouting drop-down contains the following data:

- **Without change**: Number of auto-routed activities
- **Manually processed**: Number of manually routed activities

  **Note**: The sum of Without change and Manually processed is the total number of activities routed in the selected bucket.

- **By Dispatcher / By Technician**: Selector that allows viewing the number of manual operations performed by the dispatcher or by the technician. This section contains the breakdown of manual operations in the following types:
  - **Assigned**: Activities moved from the bucket to resources’ routes
  - **Reassigned**: Activities moved between resources
  - **Unassigned**: Activities moved from resources’ routes to the bucket
  - **Reordered**: Activities moved to a different position in the route. The Reordered category is not available when the By Technician option is selected

**Resource Utilization**

The Resource Utilization block shows the efficiency of resources working time use in percent. The resource utilization ratio is calculated as the ratio of the actual resource useful time to the useful time defined by the baseline settings. The figure shown in the block is the aggregated result of all routes created as the result of Routing in the selected bucket.
The Useful Time shown in the Resource Utilization drop-down window consists of the Service Time and Travel Time. The Service Time consists of the Working Time (the time spent by the resources for actual activities performance) and the Overtime. The window also includes the Idle Time created as the result of the Routing run which is the waiting time between activities.

Savings

The Savings block shows the value of savings achieved by the Routing runs in the selected bucket. It is possible to view the cost savings, that is, the money which the company can save by applying the Routing results, or the time savings, that is, the working time which can be gained or travel time and overtime which can be reduced by applying the Routing results. The savings amount is calculated on the basis of the Baseline Settings defined in the same window.
Both the *Cost savings* and the *Time savings* options show the total savings and their breakdown as follows:

- **Work time increase:** Increase of the time spent on actual activities performance which can be represented as actual time in hours and minutes (Time savings) or converted to money according to the Baseline Settings (Cost savings)
- **Travel time reduction:** Reduction of the time spent on travel between activities which can be represented as actual time in hours and minutes (Time savings) or converted to money according to the Baseline Settings (Cost savings)
- **Overtime reduction:** Reduction of the overtime created for the resources as the result of Routing run which can be represented as actual time in hours and minutes (Time savings) or converted to money according to the Baseline Settings (Cost savings)

The value in the 'Savings' block is the sum of the above-mentioned three values.

In some cases savings values may be negative when some technicians in the bucket were not assigned enough activities to earn their daily salary. However, such negative result may be compensated by other optimizations and the overall Routing result may be positive.

**Manual and Automatic Routing Run**

Routing Plans scheduled to run according to the *Run schedule* settings are run automatically at the scheduled time. However, each Routing Plan assigned to the selected bucket can be started manually when necessary.

**Manual Routing Run**

The *Activities* screen (Time View, List View and Map View) now has a button that allows starting a Routing Plan manually for a bucket. When a bucket is selected in the Resource Tree, a *puzzle* button appears next to the bucket name in the *Activities* view.
Note: When a resource other than bucket is selected, this button is hidden.

The button is controlled by the general Routing visibility and the Smart Routing visibility. When either or both visibilities are disabled for the user, the puzzle button is hidden, therefore, the user is unable to start routing plans manually.

Clicking on the puzzle button opens the list of all routing plans assigned to the bucket. The list also shows the number of non-assigned activities in the bucket and the number of available technicians. The Run link allows starting that Routing Plan manually. When Run is clicked, a confirmation window appears where the user is requested to confirm that the selected plan is to be started manually.

The Manual Routing Plans list corresponds to the Routing Plans list in the Routing window where each Routing Plan can similarly be started by clicking Start manually.

When a Routing Plan has been started manually, the Manual Routing window appears.
The title of the Manual Routing window contains the Routing Plan name and ID. During the Routing Plan run the window shows a shuffling puzzle representing the Routing run progress. The right-hand part of the window shows the Routing run statistics. The current Routing run can be interrupted by clicking **Stop**. When a Routing run is interrupted, all activities remain in the bucket.

The effect of the **Stop** button is the same as that of the **Stop process** action link in the Routing execution log which stops a running Routing Plan returning all activities to the bucket.

When the Routing Plan run has been completed, the results window is displayed.
The manual Routing results window shows the following data:

- **Technicians used**: The total number of resources to which activities have been assigned
- **Routed activities**: The total number of activities assigned by Routing. This section also includes the percentage of the assigned activities in the total number of activities in the bucket and the percentage of activities assigned with SLA overdue
- **Non-Routed activities**: The total number of activities not assigned by Routing in the current run with their breakdown by non-routing reasons
- **Rejected activities**: The number of activities which could never be assigned in the current conditions and the reasons for their non-assignment. For example, if some activities cannot be assigned as no resource in the selected bucket meets all their requirements, such activities will be rejected. The number of rejected activities is included in the total number of non-routed activities
- **Average working time**: The average time resources spend on performing activities in a working day and its ratio against the baseline figure
- **Average overtime**: The average overtime created as the result of the Routing run and its ratio against the baseline figure
- **Average travel time**: The average travel to be performed by resources as the result of the Routing run and its ratio against the baseline figure
- **Average down time**: The average idle time created as the result of the Routing run and its ratio against the baseline figure
- **Resource utilization**: Efficiency of resources working time use in per cent
- **Routing run time**: Time in which the Routing run was completed
- **Technicians**: Total number of resources in the bucket
- **Activities**: Total number of activities in the bucket
- **Savings**: Financial savings achieved by the Routing run broken down into:
  - **Working time optimization savings**: Savings achieved as the result of resources’ working time increase
  - **Overtime optimization savings**: Savings achieved as the result of overtime reduction
  - **Travel time optimization savings**: Savings achieved as the result of travel time reduction

The *Total savings* figure is the sum of Working time optimization savings, Overtime optimization savings, and Travel time optimization savings.
Upon the Routing run completion, its results are immediately applied, that is, the activities are placed in the resources' routes. If needed, the Routing run results can be rejected by clicking Rollback (the activities will be returned to the bucket). The Rollback action is similar to that of the Rollback action link of the Routing execution log on the Routing screen.

**Automatic Routing Run**

Automatic Routing runs require no user actions to start. When a Routing Plan is run automatically, no pop-up windows appear. The Routing Plans block on the Smart Routing screen shows the number of currently running Routing Plans and they are also shown in the Running status in the Routing execution log. Clicking the line of a running Routing Plan opens the Automatic Routing window with the behavior and functionality similar to that of the Manual Routing window described above.
The Routing execution log is organized as a table with the following columns:

- **Time:** Time of the Routing run. When this column shows only the time, the Routing run belongs to the current day. When both date and time are shown, the Routing run belongs to a day in the past
- **Bucket:** Bucket from which activities are assigned
- **Routing Plan:** Name of the Routing Plan
- **Type:** Automatic or manual
- **Activities:** Number of assigned activities (for Completed Routing Plans) or the number of activities in the bucket (for Routing Plans of other statuses)
- **Technicians:** Number of resources to which activities have been assigned (for Completed Routing Plans) or the number of technicians under the bucket (for Routing Plans of other statuses)
- **State:** Routing Plan run status

Clicking a Routing Plan line opens its status window. The following Routing Plan statuses are available:

- **Scheduled:** Routing Plan to be run according to the schedule.
  
  The window contains the bucket name, the Routing run status (scheduled) and the date and time for which the Routing run is scheduled.

- **Completed:** Finished Routing Plan
  
  The window contains the Routing run results and the Rollback button to return activities to the bucket if needed.
• **Running**: Routing Plan run currently in progress.
  
The window contains the Routing run statistics and the *Stop* button to interrupt the process.

• **Rolled back**: Routing Plan run the results of which were not accepted by the user. When a Routing Plan run is rolled back, all activities are returned to the bucket and can be assigned again in the next Routing Plan run.

  The window contains the bucket name, the Routing run status (rolled back) and the Routing run start and end date and time.
• **Stopped:** Routing Plan run interrupted manually.

   The window contains the bucket name, the Routing run status (stopped) and the Routing run start and end date and time.

   ![Automatic Routing](image)

   

• **Skipped:** Finished Routing Plan run in which no activities were assigned, for example, due to absence of activities in the bucket.

   The window contains the bucket name, the Routing run status (skipped), the description of the reason why the Routing Plan has been skipped and the Routing run start and end date and time.

   ![Automatic Routing](image)

• **Failed:** Routing Plan run in which no server response was received.

   The window contains the bucket name, the Routing run status (failed), the description of the reason why the Routing Plan has failed and the Routing run start and end date and time.

   ![Automatic Routing](image)
Receiving Routing Advice from Oracle

Oracle provides services to assist you in assessing your routing needs, developing a routing strategy, and implementing that strategy in OFSC. Oracle representatives can also assess your current routing strategy and assist you in improving the results that you receive from OFSC. For details about these services, contact Oracle support.
If your routing strategy includes running the routing module automatically, the routing process requires little in the way of management. In special circumstances, you might need to fine-tune the routing results, or run routing manually.

The section includes instructions for performing manual routing tasks.
Starting a Routing Plan Automatically

You can configure routing to run automatically.

Starting a Routing Plan Manually

Routing is typically run automatically at specific times as determined by your business goals. On occasion, however, you may need to run routing manually.

For example, you might want to run routing manually during the testing phase or if the bucket unexpectedly fills up mid-shift. You can manually run any routing plan, even a plan that is typically runs automatically or that is scheduled to recur.

To start routing manually:

1. In the Resource Tree, click the bucket for which you want to run routing. In the menu, choose Routing.

2. Locate the row for the routing plan that you want to start.
3. Click Start manually.

4. Click OK.
5. Review the routing results in the routing execution log to verify that there are no errors. See Identifying Errors in a Routing Run for detailed instructions.

Manually Routing an Individual Activity

If an activity is not routed during a routing run, or if you are not satisfied with the way it was routed, you can manually move it to a resource’s route. For detailed instructions for moving an activity, see “Moving an Activity” in the OFSC Core Manage User Guide.

Important: If a scheduled activity is not completed before the end of the day, you must recreate it for the following day. The activity cannot be moved or routed after the end of the day.
Chapter 7

Trouble-Shooting Routing

Topics:

- *Routing*

If the routing results are not what you expect, try the solutions in this section.
Table 2: Resources

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Explanations and Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than one resource is in the same neighborhood over the course of</td>
<td>• OFSC considers a number of factors when routing activities, including work skills and preferred resources. The resource</td>
</tr>
<tr>
<td>the day. How can this be the most efficient route?</td>
<td>that was already in the neighborhood might not be qualified to take the other activity in the neighborhood, or might be</td>
</tr>
<tr>
<td>Resources are crossing paths over the course of the day. How can this</td>
<td>required on an activity at the same time in another location.</td>
</tr>
<tr>
<td>be an efficient route?</td>
<td>• OFSC optimizes routing for the entire workforce, not just one or two individual resources. As a result, you might</td>
</tr>
<tr>
<td>A resource is travelling a long distance to reach an activity even</td>
<td>occasionally notice an individual route that seems to be less than optimal, but overall, the results of the entire routing</td>
</tr>
<tr>
<td>though another resource appears to be closer to the activity. How can</td>
<td>run are optimized.</td>
</tr>
<tr>
<td>this be an efficient route?</td>
<td>• To verify the optimization of the routing run for the entire bucket, view the statistics in the Routing Report. See</td>
</tr>
<tr>
<td>A resource’s activities seem to be all over the map. How can this</td>
<td>Assessing Summary Data about Routing Strategies for detailed instructions.</td>
</tr>
<tr>
<td>be an efficient route?</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Routing Results

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Explanations and Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>When I ran routing a second time, the results were not the same.</td>
<td>• The OFSC Routing module considers many factors when routing activities, many of which are continually changing. As the system learns more about your resources, their skill levels and your activities, it makes different, more informed, choices.</td>
</tr>
<tr>
<td></td>
<td>• There are a high number of possible routing combinations. OFSC considers all of your business goals and then provides a routing result that is as close to your goals as possible. Sometimes there are several routing results that are equally efficient. The results of two routing runs are rarely exactly the same, even with all of the same inputs.</td>
</tr>
</tbody>
</table>

Table 4: Routing does not run

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Explanations and Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routing does not run at the time of day or frequency that I expected</td>
<td>The Run Schedule is not configured correctly. See Configuring the Run Schedule for the Routing Plan for more information.</td>
</tr>
</tbody>
</table>

Table 5: Automatic: not all activities assigned

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Explanations and Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic routing ran but not all activities were assigned to resources.</td>
<td>• OFSC did not find a resource whose qualifications and availability match the activity.</td>
</tr>
<tr>
<td></td>
<td>• An error occurred during the routing process.</td>
</tr>
<tr>
<td></td>
<td>• View the Routing execution log to view messages that can help you identify why the activities were not assigned to resources. See Identifying Errors in a Routing Run for more information.</td>
</tr>
</tbody>
</table>
Table 6: Activity not routed to the resource

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Explanations and Solutions</th>
</tr>
</thead>
</table>
| An activity was not routed to the resource that I expected.             | • The resource and the activity are not in the same bucket. Check the Resource Tree to verify that the resource is in the same bucket to which the activity was sent.  
• The resource is either not qualified or not available to take the activity. Verify that work zones, work skills, work skill conditions and resource calendars are all accurate. See the following sections for more information:  
  • Preparing Work Zones for Routing  
  • Preparing Work Skills and Work Skill Conditions for Routing  
  • Preparing Resource Calendars for Routing  
• OFSC uses a complex algorithm to optimize the routes for the entire workforce, not just individual routes. Also, OFSC considers a number of factors when routing activities. After considering all parameters for the entire workforce, that resource was not the best match. |
Glossary

Action Link

A connection that opens a screen where you can perform an action in the OFSC system. Common examples include Add Activity, View Details, Delete, and Modify. Links are configured in Action Management.

Action Management

A screen in OFSC where action links are configured. The information in this screen determines which links appear in which locations in the interface.

Activate Queue

A link or button that starts the resource’s workday in OFSC. For OFSC to monitor delivery in real time and respond to updates, a resource must activate his or her queue, or route.

Activity

Any time consuming work performed by a resource (such as: customer-related job, network maintenance, lunch break, warehouse visit, meeting, etc). Every Activity has Type, start and end time. Activity type defines specific parameters of the activity (flow, attributes, color on screen, etc)

- A **Non-scheduled Activity** is an Activity not assigned to a specific date.
- A **Not-ordered Activity** is an Activity that its order of execution in the queue is not defined at the moment, so it can be executed at any time during the working day; Not-ordered activities do not have ETA and Delivery window defined.
- An **Ordered Activity** is an Activity that its place in the queue is defined, and it has to be performed in the correspondent moment of the working day. Order of activities can be changed; Ordered activities can be set not-ordered and the other way round.

Activity Status

Defines a stage in the activity flow. Not to be confused with an Activity type. Possible values:

- **Pending**: Activity is planned to be executed, resource has not arrived on site yet. This is the initial status an activity has on creation. From this status, an activity can be started, canceled or deleted
- **Started**: Resource has arrived to the place of activity. Only one activity can be started in a resource's route at a given time. Started activities can change status either to suspended, completed or not done.
- **Completed**: Resource has successfully finished work. This is a final status and can't be changed (only the Reopen command can be applied for this activity)
- **Not done**: Resource could not finish work successfully. This is a final status and can't be changed (only the Reopen command can be applied for this activity)
- **Suspended**: Activity could not be finished successfully but resource plans to return later and resume work. Activity gets to this status using the Suspend command that creates a clone of this activity in the same queue (as a Not ordered activity with pending status)
- **Canceled**: Customer asked to cancel the activity or it was canceled for a different reason. This is a final status and can't be changed (only the Reopen command can be applied for this activity)
• **Deleted:** Similar to canceled but such activities are not shown in OFSC. They look like they have been physically erased.

### Activity Type

A label that defines the specific parameters of the activity. Activities can be of one of the following types:

- **Regular:** Typical activity. Originally every work comes as regular activity (this is not clear/irad)
- **Prework:** Activity created by the Prework command. This command is applied to a regular activity and creates a clone of it with the type prework to distinguish between the two. Prework activities are created as already started (see activity status).
- **Reopened:** activity created by the Reopen command applied to some completed, not done or canceled activity (see activity status). This command clones the activity creating a new Not ordered activity with type reopen and status pending for the same resource.

The following activity types are used for the different entities that share the same database table:

- **Activity:** this is an activity that does not have a customer associated with it. Usually it is a break, assistance another resource or non-customer related work (network maintenance). See Activity for more details.
- **Team work:** this is specific type of activity where one resource assists another resource (is a member of the team). See Team work for details.

### Add Time

A feature in OFSC that allows a resource or other user to add additional time to an activity when the activity extends beyond the estimated end time.

### Agent

Any standalone application that interacts with the OFSC platform via the OFSC API or OFSC kernel

### Aggregator

A high level entity on the resource tree that functions as a parent directory for other resources. An Aggregator cannot be assigned activities.

### All Day Activity

An activity that can be done any time during the day without violating any obligations of the company. In OFSC terminology, All-day activities are activities without a Service window. Pay attention that sometimes people mix All-day activity (without service window) and Not ordered activity (without ETA).

### API

An Application Programming Interface (API) is a particular set of rules and specifications that a software program can follow to access and make use of the services and resources provided by another particular software program that implements that API. It serves as an interface between different software programs and facilitates their interaction, similar to the way the user interface facilitates interaction between humans and computers. All OFSC APIs are based on standard protocol – SOAP (version 1.1). The interfaces process SOAP requests received by HTTP protocol. APIs have no limitations on the location, technology or platform used for integration (i.e.: Java, . Net, C/C++ on Windows or Unix).
### Appointment

See *Activity*.

### Assigning

Attaching an individual activity or a queue of activities to a resource.

### Assistant

In a Teamwork activity, the resource that assists another resource. In the Resource Tree, the arrow points away from the Assistant. See *Teamwork* and *Team Leader* for more information.

### Billing System

System where customer details are held, customer billing takes place, and/or activities are entered.

### Booked Activities

The number of activities that are either in an OFSC bucket or located on a route.

### Bucket

Element of the Resource tree representing place where jobs are kept before they are assigned (manually or automatically) to specific resources.

### Business Rules

A number of settings in OFSC that align the functions of the system with the strategies and practices of your company.

### Calendar

A view of the schedule for a resource, group or bucket.

### Capacity

The workforce with the necessary work skills to manage the *activities* of a defined period of time.

### Capacity Bucket

*Bucket* used for Quota management.
Capacity Categories
A set of work skills and time slots that are bundled together to estimate the time and skills required for a particular task. This information is sent through an API to your company’s activity system so that agents can tell whether qualified resources are available before they book an activity.

Capacity Management
A process of managing a workforce to ensure that a company has enough people with the specific skills to do a certain amount of work. There is a related process, Quota management, that defines the reverse relationship.

Company Boundaries
The area where your company performs customer service. Company boundaries are defined under Business Rules. Use the coordinates of the upper left corner and the lower right corner to define the area.

Company Settings
A screen in OFSC that contains many of the configuration settings. Companies may have different access levels to affect company settings. If you are unable to change your configuration settings, contact Oracle support.

Compliance
Following the route as predicted by OFSC. A resource is in compliance if he or she starts the activity at the estimated arrival time, completes the activity at the estimated completion time, has minimal idle time, and does not detour from the calculated driving directions.

CSR
Customer Service Representative. A person who speaks with customers and sets activities.

Customer-Facing Activity
A task that must be performed at the customer’s home or business. Examples include installations, upgrades, and deliveries. See Activity for more information.

Daily View
A view that shows the calendar of a resource, group, or bucket for a whole week. This view is useful for making small changes to individual calendars in the current week.

Delivery Window
The time that OFSC estimates that the resource is expected to arrive at the customer’s home or business. The window includes a buffer to account for travel time and the potential for delay. This timeframe is shorter than the Service Window.
### Dispatcher
A person who allocates activities and monitors the progress of activities and resources.

### Display
A screen in OFSC that contains configuration settings used to control what properties and layout structures users can see within the forms of the interface. These settings also control the format of some information, for example, the first day of the week in calendar views.

### Equipment
See *Inventory*.

### Estimation
A term used in Capacity Management also referred to as "capacity estimation" which determines the number of man-minutes available for a particular time slot based on resource calendars.

### ETA
**Estimated Time of Arrival** The time that OFSC predicts that the resource will arrive at the customer’s location. ETA for pending activities is calculated dynamically from historical data. For completed activities, the ETA is the time when the resource actually arrives at the customer’s location.

### Field
Property present in the system by default

### Filters
A set of parameters used to reduce the results of a search. Filters are also used in routing plans to predefine the information that routing uses to distribute activities to resources.

### Forecasting
New feature of OFSC allowing to forecast the company workload on the basis of historical data

### Glossary
The configuration dictionary that maps default names, labels, and phrases used in the interface to the client’s preferred names, labels, and phrases. **Note:** Property names are managed in the Properties screen.

### GUI
Graphical User Interface, allowing people to use software by manipulating images rather than by issuing text commands.
**Group**

A container in the *Resource Tree* used to sort and organize the other items in the Resource Tree. Groups are typically used to sort resources by location. Groups cannot own a route and you cannot assign activities to them.

**Hint**

A pop-up window that displays additional information about the activity or resource that you select. Hints also contain actions links that can take you directly to the action that you want to perform on the item.

**Historical data**

Data of the past periods available in the database or from other sources.

**Holidays**

A screen in OFSC where you can define the dates that outgoing communications of notifications are blocked, due to customer unavailability on that date.

**Idle Time**

Any time that a resource spends not in transit or not working on an activity.

**Internal Activity**

A task that is not performed directly for the customer. Internal activities typically do not take place at the customer’s home or business. Examples include vehicle maintenance and company meetings. See *Activity* for more information.

**Inventory**

A list of items managed within OFSC and can include various inventory pools as well as serialized and non-serialized parts. See *Inventory Pools, Trunk stock, Non-serialized Inventory*, and *Serialized Inventory* for more information.

**Inventory Pools**

Items associated with a resource, typically *Trunk stock*, end customer, or warehouse.

**Jeopardy Situation**

A situation in which OFSC predicts that the activity will miss its promised service window. Predicted jeopardy situations are colored pink in the OFSC interface.

**List View**

A chronological list of the day’s activities for the selected resource, group or bucket. Activities are ordered by estimated start time.
Login Policies
A screen in OFSC that sets the requirements for logging in and for usernames and passwords.

Manage
The core module of OFSC. Includes all of the main functions including monitoring, routing, and reporting.

Map View
A view of the day’s activities for the selected resource, group, or bucket. This view displays the activities on a map.

Mass Activity
An activity involving 2 or more resources.

Max Available
The maximum capacity available by calendar on the selected day, time slot or capacity category.

Message Scenarios
A set of rules that specifies how to process a message notification or transaction. Message Scenarios are launched by Notification Triggers. See Notification Triggers for more information.

Min quota
The minimum number of minutes to be allocated for booking of the activities belonging to the selected time slot (only on time slot and capacity category level).

Mobility
The user interface for OFSC that is accessed through a mobile device. Field service representatives typically use this interface. It is a separate module of OFSC.

Non-Instantiated Activities
All activities not part of quota management (for which no capacity category associated with work skills exists)

Non-Scheduled Activity
An activity that is not assigned to a specific date.
Non-Serialized Inventory

Inventory associated with a part that is generically defined within OFSC so that Trunk stock might be decremented based on required inventory associated with activities. (Note: Any part can be defined as "non-serialized inventory" even those parts with serial numbers on them. For example, a cable modem with a serial number, can be "Non-serialized inventory" within OFSC so that Trunk stock inventory levels can be managed daily and associated with a route). See *Serialized Inventory* and *Required Inventory* for more information.

Non-Working Reasons

A calendar setting used when a resource is absent. Typical non-working reasons include illness, vacation and bereavement.

Not Done Activity

A status used to identify an activity that cannot be completed today. For activities that cannot be completed right away, but can be completed today. See *Suspend* for more information.

Not Ordered activities

*Activities* that do not have ETA. Resource, dispatcher or routing may define the order (for example command change order in mobile interface or edit activity command in web interface).

Notification

*Message* activity related information sent by OFSC to a customer, a resource, a dispatcher, or another system. Notification can be received through telephone, email or SMS.

Notification Triggers

Workflow events that invoke Message Scenarios when a particular internal event occurs. As a result, messages are delivered to customers. For example, if you use a post activity survey, you might have a notification trigger to launch the post activity survey message. In this case, when a customer-facing activity is completed, a Notification Trigger launches a Message Scenario that sends the post activity survey message to the customer. See *Message Scenarios* for more information.

OFSC Collaboration

A separate module for OFSC that provides a real-time, context-aware collaboration tool for all OFSC users. A user can, for example, locate nearby, working resource and share details about a resource, activity, or inventory item. Also, OFSC Collaboration supports a confirm-receipt process for moving an activities or inventory which is always valuable but even more so when resources are in remote locations and potentially off line.

OFSC Smart Location

OFSC Location uses geo-location information to display a resource’s actual location on a map in real time. In addition, the feature can compare the resource’s actual route to the projected route within OFSC. Resource location can be derived either from a vehicle-installed GPS device communicating via API to OFSC and / or through a GPS-enabled mobile phone with an open HTML5 browser.
**Ordered activities**

Means that the order of execution is defined - resource, OFSC Routing or dispatcher have already defined that this activity will be executed after another defined activity. In this case activity gets an estimated time of arrival and is classified as ordered.

**Other activities**

All repeating, mass and shift activities, including those without instances, which are not part of Quota management.

**PAS**

*Post Activity Survey.* A survey that you might send to your customer after the activity is completed to measure their satisfaction.

**Pending Activity**

An activity status used for activities that are scheduled but not yet started.

**Percent Quota**

Percent of the capacity that is available for booking.

**Percentage to Stop Booking**

The percentage of the used quota at which activities booking is to be stopped.

**Permissions**

A screen in OFSC where you can configure which features users can see and use. Permissions are applied to Profiles, not individual users. See *Profiles* for more information.

**Placeholder ID**

A number used to identify names, labels, and phrases used in the OFSC interface. Each name, label, and phrase has a unique number.

**Planning**

Company's estimation of the workforce or workload required at a certain moment.

**Profiles**

A screen in OFSC where you can configure groups of users. Those groups are then assigned Permissions to control which features they can see and use. See *Permissions* for more information.
Properties
A screen in OFSC where user interface fields are defined. You can specify details such as field length, field type, and valid values.

Provider
See Resource

Quota
A limitation set on the number of activities booked within a selected day, time slot or capacity category.

Quota Management
A process of defining the amount of work (per work skill and time slot) that a company should perform for a specific area (example: bucket) for a specific day. There is a related process, Capacity management, that defines the reverse relationship.

Quota Matrix
Grid that displays Quota and Capacity information for a period of time defined by the user. Data can filtered and displayed by day, time slots, or capacity categories.

Regular Work Zone
A region where a resource’s activities are typically located.

Repeating Activity
An activity recurring with a predefined frequency in a predefined period.

Required Inventory
When a particular resource's route includes activities associated with non-serialized inventory, OFSC can highlight where Trunk stock is insufficient. In the event that a resource's Truck stock is insufficient for a particular route, required inventory highlights the job and indicates which Non-serialized inventory components are missing.

Resource
An element in the resource tree representing a defined company asset. A Resource is the OFSC entity representing someone (or something) which provides service on behalf of the company.

Resource Calendars
A view that displays the details about an individual resource’s schedule. This view is useful for making changes that involve more than one day or more than one resource. See Calendar and Daily View for more information.
Resource Tree
A hierarchical view of the organization’s resources, typically sorted by geographical region. It is displayed on the left side of the screen in Manage.

Resource Types
A set of characteristics that you can apply to a resource. Default Resource Types are Groups, Buckets, and Resources. See Group, Bucket, and Resource for more information. If you want to change the Resource Types that you use in OFSC, contact Oracle support.

Route
A list of activities assigned to a resource for a specific date, or a list of non-scheduled activities assigned to a resource.

Route by Inventory
A concept within OFSC that limits routing options based on each resource's trunk stock and those activities associated with non-serialized inventory.

Routing
The act of assigning activities to resources. OFSC routes activities to resources using a sophisticated algorithm that considers a number of factors including calendars, work zones, and work skills.

Routing Plans
Provides the rules that OFSC uses to route activities to resources. Routing plans work together with the other OFSC components to apply your business goals and strategies to the routing process.

Routing Profiles
Containers that hold routing plans. Routing Profiles can be assigned to buckets. You can use Routing Profiles to assign several routing plans at once.

Scheduled Activity
An activity that is assigned to a particular day and a particular time slot.

Scheduled, Not Ordered Activity
An activity that is assigned to a particular day, but is not assigned to a particular time slot.
Serialized Inventory

Inventory parts that are unique and cannot be decremented based on a route's activities. See also: Non-serialized inventory, Required inventory.

Service Level Agreement

The time window that the activity must be completed in. This window is promised to the customer.

Service Window

The time window that the activity must be started in. This window is promised to the customer. This time frame is longer than the Delivery Window.

Shifts

Patterns of working time. You can create separate shifts for each of the different working time patterns within your organization.

Statistical Parameters

A screen in OFSC where you can configure the elements used when collecting and analyzing statistics. OFSC uses statistical data on actual activity and travel duration to calculate estimated time of arrival and delivery window. Additionally, Routing uses the statistics to assign activities to resources in the most effective manner.

Status

A term with specific and different meanings depending on the OFSC module used.

- Capacity and Quota management status refers to a specific work zone and whether it is open or closed.
- OFSC Core Manage and OFSC Mobility, the term "activity status" (but sometimes shortened to "status") refers to whether a routed job is pending, started, completed, not done, suspended, canceled, or deleted. See Activity Status for more information.

Suspend

An activity status that allows an activity to be postponed if the work cannot be completed right away. Suspend allows the activity to be completed at a later time during the day. For activities that cannot be completed in the same day. See Not Done Activities for more information.

Team Leader

In a Teamwork activity, the resource who is being assisted. In the Resource Tree, the arrow points to the Team Leader. See Teamwork on page 79 and Assistant for more information.
**Teamwork**

An activity that is performed by two resources. One resource is the Team Leader and the other resource is the Assistant. See *Team Leader* and *Assistant* for more information.

**Technician**

A resource that performs technical services on behalf of the company.

**Time Slots**

Intervals that define when an activity has to be started; this time is typically agreed to between the customer and client.

- A fixed service window defined with a name and label, specifying when certain types of activities can be performed.
- Service Window (if the activity type does not support time slots)

**Time View**

A view of the day’s activities for the selected resource, group or bucket on a Gantt table. Activities are displayed on timelines, with each activity as a block of time.

**Travel Areas**

Define the maximum allowed travel territory for a company.

**Truck**

A default Resource Type. See *Resource Type* for more information.

**Trunk Stock**

Inventory carried in a vehicle. See *Inventory pools* for more information.

**Unscheduled Activity**

An activity that could take more than one day to complete.

**Used**

A term in Capacity and Quota management representing the duration of all activities booked for the selected day, time slot or capacity category.

**Used Quota Percentage**

The percentage of the quota used by the booked activities.
User

A person who uses OFSC, or an entity used for authentication and authorization, allowing people or external software to access OFSC.

Visit

A group of activities that are all performed at the same location on the same day.

Web Services Description Language

WSDL, an XML-based interface description language that is used for describing the functionality offered by a web service. A WSDL description of a web service (also referred to as a WSDL file) provides a machine-readable description of how the service can be called, what parameters it expects, and what data structures it returns.

Work Schedules

Work schedules are templates made up of a combination of shifts and non-working times. When grouped as a work schedule, these shifts and non-working times can be applied all at once to a bucket or to an individual resource. To change, add, or remove Work Schedules, contact Oracle support.

Work Skill

Work skills are sets of skills or competencies that resources are qualified to perform. Companies may have different access levels to affect Work Skills. If you are unable to change, add, or remove Work Skills, contact Oracle support.

Work Skill Conditions

The data that OFSC uses to assign work skills to activities.

Work Skill Levels

OFSC matches resources to activities through shared work skills and work skill levels. As a result, the way you configure work skills and work skill levels has a direct impact on the matches that OFSC creates between resources and activities.

- An activity that a resource is qualified to perform (resource property)
- The qualification required to perform an activity (activity property)

Work Zone

The defined geographical area in which a resource can perform an activity.

Work Zone Dictionary

A screen in OFSC where Work Zones are defined. The Work Zone Dictionary lists all defined work zones and their associated keys. To add, change, or remove work zones, contact Oracle support.