# Table of Content

1 Document Purpose and Scope............................................................................................................... 3
2 Glossary.................................................................................................................................................. 3
3 Introduction to Capacity and Quota Management.................................................................................. 4
4 Basis for Capacity and Quota Management .......................................................................................... 4
   4.1 Levels Quota Can Be Defined at........................................................................................................ 5
5 Capacity Bucket Configuration.............................................................................................................. 5
   5.1 Levels of Quota Definition................................................................................................................ 6
   5.2 Settings of Quota Definition at Day Level........................................................................................ 7
   5.3 Settings of Quota Definition at Time Slot Level............................................................................... 8
   5.4 Settings of Quota Definition at Capacity Category Level............................................................. 9
6 Quota View............................................................................................................................................. 10
   6.1 Quota Views..................................................................................................................................... 11
      6.1.1 Day Quota.................................................................................................................................. 12
         6.1.1.1 Day Level Filters................................................................................................................ 14
      6.1.2 Time Slot Quota....................................................................................................................... 15
         6.1.2.1 Time Slot Level Filters........................................................................................................ 18
      6.1.3 Capacity Category Quota Level.................................................................................................. 19
         6.1.3.1 Capacity Category Level Filters.......................................................................................... 23
   6.2 Quota Map View............................................................................................................................... 24
   6.3 Quota Closing 'N' Days before......................................................................................................... 27
   6.4 Multi-Bucket Mode............................................................................................................................ 28
   6.5 Quota History................................................................................................................................... 29
   6.6 Close Time History............................................................................................................................ 31
   6.7 'Mass Populate' Functionality.......................................................................................................... 32
   6.8 Auto-Adjustment Locking................................................................................................................. 36
   6.9 'Recurring Autofill' Functionality...................................................................................................... 37
   6.10 Major and Critical Capacity Usage................................................................................................ 38
7 Resource Capacity Categories Determination...................................................................................... 39
8 Defining Units of Measurement for Quota............................................................................................ 40
9 Recalculation of Available Capacity and Dependent Quota Values ..................................................... 40
10 'Start Time' Statistics.......................................................................................................................... 41
11 Calculation Methods............................................................................................................................. 42
   11.1 'Other Activities' Calculation Method............................................................................................ 42
   11.2 Quota Calculation on the Basis of Historical Data......................................................................... 42

This document contains proprietary and confidential information of TOA Technologies and shall not be reproduced or transferred to other documents, disclosed to others, or used for any other purpose other than that for which it is furnished, without the prior written consent of TOA Technologies. It shall be returned to TOA Technologies upon request. The trademark and logo of TOA Technologies are the exclusive property of TOA Technologies, and may not be used without permission. All other marks mentioned in this material are the property of their respective owners.
1 Document Purpose and Scope

This document is intended as a description of Capacity Based Quota Management – a new feature of ETAdirect introduced in version 4.5 to be used by the personnel engaged in quota analysis, planning, workforce management and workload distribution.

The document is up-to-date with version 4.5.12 of ETAdirect.

2 Glossary

The glossary below contains the basic ETAdirect terms used in this document.

<table>
<thead>
<tr>
<th>Term</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>Any time-consuming work performed by a resource</td>
</tr>
<tr>
<td>API</td>
<td>Application Programming Interface – a particular set of rules and specifications that software programs follow to communicate and interact with each other</td>
</tr>
<tr>
<td>Capacity</td>
<td>Workforce possessing the necessary work skills available at a certain moment of time.</td>
</tr>
<tr>
<td>Capacity bucket</td>
<td>Bucket used for Quota management</td>
</tr>
<tr>
<td>Capacity category</td>
<td>Predefined set of work skills, work skill groups and time slots within which they are considered by the Capacity API</td>
</tr>
<tr>
<td>GUI</td>
<td>Graphical User Interface, allowing people to use software by manipulating images rather than by issuing text commands</td>
</tr>
<tr>
<td>Historical data</td>
<td>Data of the past periods available in the database or from other sources</td>
</tr>
<tr>
<td>Mass Activity</td>
<td>An activity involving 2 or more resources</td>
</tr>
<tr>
<td>Other activities</td>
<td>All repeating, mass and shift activities, including those without instances, which are not part of Quota management</td>
</tr>
<tr>
<td>Quota</td>
<td>Amount of work that can be accepted for the bucket</td>
</tr>
<tr>
<td>Resource</td>
<td>An element in the resource tree representing a defined company asset</td>
</tr>
<tr>
<td>Repeating activity</td>
<td>An activity recurring with a predefined frequency in a predefined period</td>
</tr>
<tr>
<td>Route</td>
<td>A list of activities assigned to a resource for a specific date, or a list of non-scheduled activities assigned to a resource</td>
</tr>
</tbody>
</table>
| Time Slot          | 1) A fixed service window, defined with a name and label, specifying when certain types of activities can be performed  
                      2) Service Window (if the activity type does not support time slots) |
| User               | 1) A person using ETAdirect  
                      2) An entity used for authentication and authorization, allowing people or external software to access ETAdirect |
| Work Skill         | 1) An activity that a resource is qualified to perform (resource property)  
                      2) The qualification required to perform an activity (activity property) |
| Work Zone          | The defined geographical area in which a resource can perform an activity     |
3 Introduction to Capacity and Quota Management

Capacity management is the process of managing the volume of workforce – making sure there are enough field resources with all proper work skills required to perform the anticipated amount and level of work.

Quota Management is a reverse process defining how the work should be allocated across the various work skills and time-slots relative to the field resource availability.

Quota can be defined manually in the 'Quota' screen or as percentage of the available capacity. Quota definition may be based on the historical data using the patterns and trends of the previous periods.

Once Quota is defined, the Capacity Management process may use the Quota values to determine whether the company’s resources are sufficient to perform the work. The capacity data (the actual number of minutes available for the work performance) is calculated on the basis of the resources' calendars and is shown per time slot and capacity category. This way, the user can see in real time how many minutes of working time of technicians with certain work skills are available at certain time slot.

As soon as any activities are booked, the capacity required for their performance is subtracted from the available capacity and added to the used capacity. The used capacity is compared to the quota values to make sure that orders for new activities are only accepted when capacity is still available.

The available capacity can also be retrieved by the Capacity Management API to be used in an external CRM system for activities booking.

4 Basis for Capacity and Quota Management

The Capacity and Quota are managed on the basis of several key parameters – work skills and their conditions, capacity categories and time slots. When configured properly, these parameters help determine the available resources with the required work skills at the particular time.

- **Work skills and work skills conditions:** Work skills are client-specific sets of skills assigned to resources, designating their skills and their skill level. When any work skills are assigned to a resource, it means that the resource is qualified to perform such work with a certain skill level.

  Work Skills and their levels are assigned to resources manually or via the Resource Management API. Work skills and any required and/or preferable levels are automatically calculated for each activity. Work Skill Conditions are the rules used to perform the calculations. Work skill condition define the activity properties settings requiring certain work skills and their required and preferable levels.

- **Time slots:** Time slots are fixed time intervals specified by beginning and end times with the definition of work skills available and activity types which can be performed during such time intervals.

  According to the work skills set for a time slot, the time slot is assigned capacity categories corresponding to the work skills. Alternatively, time slots can be added to other existing capacity categories manually.
• **Capacity categories**: Capacity categories are logical groups of activities joined by common work skills and their levels and time slots. Capacity categories are intended for use in the Quota management as "units" for which quota is defined.

A capacity category consists of one or more work skills with their levels defined, if necessary. Time slots set for a capacity category define the time slots in which the workforce possessing the work skills is available and can be used in capacity and quota management. For example, if a capacity category consists of Install (level 100) and Deinstall (level 50) work skills and is assigned time slots 08-10 and 10-12, this in fact means that activities requiring the Install work skill of level 100 and/or Deinstall work skill of level 50 can be accepted for performance between 08:00 and 12:00. This capacity category will be shown in the corresponding time slot sections of the Quota grid.

### 4.1 Levels Quota Can Be Defined at

In ETAdirect quota can be defined and managed at the level of day, time slot and capacity category.

**The Day Quota:**

- restricts the total value of the "Used" capacity for a whole day within the given capacity bucket so that it does not exceed the workforce available on such day
- serves as the basis for the Time Slot quota when it is defined as percentage of the Day quota.

**The Time Slot quota will be calculated and recalculated according to the Day quota value**

**The Time Slot Quota:**

- restricts the capacity on the time slot level when the total quota for capacity categories within such time slot exceeds the available resources during such period of time
- serves as the basis for the Capacity Category quota when it is defined as percentage of the Time Slot quota. **The Capacity Category quota will be calculated and recalculated according to the Time Slot quota value**
- simplifies the configuration of capacity buckets where all technicians have the same set of skills, therefore, capacity categories are not necessary

**The Capacity Category quota:**

- is the basic level of quota management
- restricts the capacity at the capacity category and time slot level

### 5 Capacity Bucket Configuration

Capacity and Quota management works with buckets which must be defined as capacity buckets to be processed by the Capacity and Quota management.

For a bucket to be included in the Quota management, it has to have 'Quota management' enabled in its 'Resource & Bucket Info' screen (Figure 1).
The quota-related settings can be defined as part of the capacity bucket settings in the 'Technician/Bucket info' screen. Due to a large number of sub-sections and parameters in the 'Quota Management' section of the 'Resource and Bucket Info' screen, the description of the screen is broken down into sections for easier reference.

### 5.1 Levels of Quota Definition

Depending on the company policy, the capacity bucket may be configured so that quota is entered or closed on the day, time slot or capacity category level and the maximum capacity is estimated at the day, time slot, capacity category, or work zone level. This section configuration affects the layout of the 'Quota' screen – the columns appearing in the Quota grid (Figure 2).

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time slots</td>
<td>Time slots to be used in the Quota for the selected bucket</td>
</tr>
<tr>
<td>Capacity categories</td>
<td>Capacity categories to be used in the Quota for the selected bucket</td>
</tr>
<tr>
<td>Quota is entered for:</td>
<td>Checkboxes defining the levels on which quota is defined. This selection determines the visibility of the 'Day', 'Time slot' and 'Capacity category' sections of the 'Technician/Bucket Info' screen and of the corresponding sections of the Quota View.</td>
</tr>
<tr>
<td>• day</td>
<td></td>
</tr>
<tr>
<td>• time slot</td>
<td></td>
</tr>
<tr>
<td>• capacity category</td>
<td></td>
</tr>
<tr>
<td>Quota can be closed for:</td>
<td>Checkboxes defining the levels on which quota can be closed.</td>
</tr>
<tr>
<td>• day</td>
<td></td>
</tr>
<tr>
<td>• time slot</td>
<td></td>
</tr>
<tr>
<td>• capacity category</td>
<td></td>
</tr>
<tr>
<td>• work zone</td>
<td></td>
</tr>
<tr>
<td>Estimate maximum capacity for:</td>
<td>Checkboxes defining the levels for which the maximum capacity should be estimated. Maximum capacity is the maximum number of minutes available for activities booking. ETAdirect checks that the total duration of the</td>
</tr>
<tr>
<td>• day</td>
<td></td>
</tr>
<tr>
<td>• time slot</td>
<td></td>
</tr>
<tr>
<td>• capacity category</td>
<td></td>
</tr>
</tbody>
</table>
booked activities (the Used Capacity) plus the total duration of other activities does not exceed the maximum capacity. Maximum capacity is used as the base of quota definition when quota is defined as percentage of the available capacity. The maximum capacity is estimated as follows:

- **day**: the maximum capacity is the total working time of technicians in a given capacity bucket on a given day
- **time slot**: the estimated maximum capacity is calculated as the sum of minutes in the period where the time slot interval and the technicians’ working hours overlap
- **capacity category**: the estimated maximum capacity is calculated as the sum of minutes in the period where the time slot interval overlaps the working hours of the technicians having such capacity category

### 5.2 Settings of Quota Definition at Day Level

The 'Day' section is visible when the 'Quota is entered for' parameter is set for 'day', otherwise it is hidden (Figure 3). This section is intended for configuring the quota management settings at the day level.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quota is entered:</td>
<td>Radio buttons defining the method to be used to define the quota. When 'in minutes' is selected, Quota is to be entered manually as the number of minutes to be used for activities booking. When 'as % of capacity available by calendar' is selected, the user must enter the percentage of the total available capacity to be used for activities booking, and the 'Quota' value in minutes will be calculated automatically.</td>
</tr>
<tr>
<td>• in minutes</td>
<td></td>
</tr>
<tr>
<td>• as % of capacity available by calendar</td>
<td></td>
</tr>
<tr>
<td>Other activities:</td>
<td>Checkboxes defining whether the system should estimate the capacity used by activities that are not part of the Quota Management and how to use this value. 'Other activities' include all repeating, mass and shift activities already assigned on the selected day. When 'Subtract these activities from the maximum capacity of this day before calculation of quota' is selected, the amount of minutes allocated to other activities is subtracted from the maximum available capacity, and the quota is calculated on the basis of the resulting value. This option is only available when quota is defined</td>
</tr>
<tr>
<td>• Estimate capacity used by activities that are not a part of the Quota Management</td>
<td></td>
</tr>
<tr>
<td>• Subtract these activities from the maximum capacity of this day before calculation of quota</td>
<td></td>
</tr>
</tbody>
</table>

*Figure 3: Settings of Quota definition at Day level*
5.3 Settings of Quota Definition at Time Slot Level

The 'Time Slot' section is visible when the 'Quota is entered for' parameter is set for 'time slot', otherwise it is hidden. This section is intended for configuring the quota management settings at the time slot level (Figure 4).

![Figure 4: Settings of Quota definition at Time Slot level](image)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quota is entered:</td>
<td>Radio buttons defining the method to be used to define the quota.</td>
</tr>
<tr>
<td>• in minutes</td>
<td>When 'in minutes' is selected, Quota is to be entered manually as the number of minutes to be used for activities booking.</td>
</tr>
<tr>
<td>• as % of the maximum time slot capacity</td>
<td>When 'as % of the maximum time slot capacity' is selected, the quota is defined as percentage of the maximum capacity at the time slot level. The user must enter the required percentage, and the quota will be calculated automatically. The option is only available if the maximum capacity is estimated on this level.</td>
</tr>
<tr>
<td>• as % of the daily quota</td>
<td>When 'as % of the daily quota' is selected, the quota at the time slot level is calculated as percentage of the quota defined at the day level. The user must enter the required percentage, and the quota for each time slot will be calculated automatically. This option is visible when the day level quota is in use.</td>
</tr>
</tbody>
</table>

Other activities: Checkboxes defining whether the system should estimate the...
### Settings of Quota Definition at Time Slot Level

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Estimate capacity used by activities that that might affect capacity in this time slot</td>
<td></td>
</tr>
<tr>
<td>• Subtract these activities from the maximum time slot capacity before calculation of quota</td>
<td></td>
</tr>
</tbody>
</table>

- capacity used by activities that are not part of the Quota Management and how to use this value. ‘Other activities’ include all repeating, mass and shift activities already assigned to the selected time slot.
- The second item is only visible if quota is based on the maximum capacity estimated at this level. Also, this functionality depends on the method used to estimate the maximum capacity (the 'Estimate maximum capacity for' option). Therefore, it is not available when the maximum capacity is not calculated.

#### Calculation method

- Automatically adjust '% Quota' values to keep their total equal to 100%

- Checkbox defining if the total sum of the '% Quota' values should always be equal to 100%. It is only visible if the 'as % of the daily quota' option is selected.
- When this option is selected, changes to the '% Quota' value of any time slot will cause '% Quota' values for other time slots to change proportionally, so that their sum is always equal to 100%.

- Allow to close based on % of the daily quota that is currently in use

- Checkbox defining whether the system should allow to stop booking activities belonging to the selected time slot on the basis of the percentage of the daily quota that is currently in use. This restriction works in addition to the quota.
- It is only visible if the day level quota is in use.

### 5.4 Settings of Quota Definition at Capacity Category Level

The 'Capacity category' section is visible when the 'Quota is entered for' parameter is set for 'capacity category', otherwise it is hidden. This section is intended for configuring the quota management settings at the capacity category level (Figure 5).

![Figure 5: Settings for Quota definition at Capacity Category level](image)

### Name | Description
---|---
Quota is entered: | Radio buttons defining the method to be used for defining the
## Quota Management

### Settings of Quota Definition at Capacity Category Level

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>• in minutes</td>
<td>The 'as % of the maximum capacity available in this category' option is only available if the capacity category level quota is in use.</td>
</tr>
<tr>
<td>• as % of the maximum capacity available in</td>
<td>The 'as % of the maximum capacity available in this category' option is only available if the capacity category level quota is in use.</td>
</tr>
<tr>
<td>this category</td>
<td>The 'as % of the maximum capacity available in this category' option is only available if the capacity category level quota is in use.</td>
</tr>
<tr>
<td>• as % of the time slot quota</td>
<td>The 'as % of the time slot quota' option is only available if the time slot level quota is in use.</td>
</tr>
</tbody>
</table>

### Estimate quota based on historical data

- Checkbox defining if the system should estimate the '% Quota' values on the basis of the historical data. It is only available if the quota is defined 'as % of the time slot quota'.

### Historical values to be used:

- Quota %
- Used quota %

### Process historical data (same weekdays) for period of:

- one week
- one month
- two months

### Automatically adjust '% Quota' values to keep their total equal to 100%

- Checkbox defining if the total sum of the '% Quota' values within the same time slot should always be equal to 100%. It is only visible if the 'as % of the time slot quota' option is selected.

### Allow to close based on % of the time slot quota that is currently in use

- Checkbox defining whether the system should allow to stop booking activities belonging to the selected capacity category on the basis of percentage of the time slot quota that is currently in use. This restriction works in addition to the quota. This option is only visible if the capacity category level quota is in use.

## 6 Quota View

The 'Quota Management' functionality can be accessed by selecting 'Quota' in the 'Dispatch' main menu item (Figure 6).

![Figure 6: 'Quota' selection from main menu](image-url)
The Quota screen includes the Resource Tree and the Quota grid (Figure 7).

![Figure 7: Quota screen overview](image)

In order to view the Quota for a certain bucket, that bucket needs to be selected in the Resource Tree. The Resource Tree can be displayed by clicking \( \text{View} \) or hidden by clicking \( \text{Hide} \). The buckets are arranged in the hierarchical structure with the root resource on top. When there are no capacity buckets in the system, the screen will show the 'Unable to get capacity data' message and no Resource Tree will be displayed.

### 6.1 Quota Views

Because of significant number of parameters which can be shown at the same time on each of the levels, the Quota View provides separate tables for the 'day', 'time slot', and 'capacity category' parameters. The Quota level can be selected from the drop-down list in the 'View' filter (Figure 8).

![Figure 8: Quota level selection](image)

The period for which Quota is to be displayed and managed can be selected in the Calendar at the top of the screen.

The calendar in the Quota View offers four options to view the quotas – 'Day', 'Week', 'Month' and 'Custom' (Figure 9).
When 'Day', 'Week' or 'Month' is chosen, the quota is displayed and can be managed for the selected day, week or month, respectively, starting from the date selected in the calendar. The 'Custom' option allows to select and view individual days in the calendar. For example, if the company situation requires quota processing for Mondays and Thursdays only or for the first 10 days of a month, this can be achieved by using the 'Custom' calendar option. When the 'Custom' option is activated, the days are selected by clicking the dates directly in the calendar.

At the same time the Quota screen displays the quota values at the selected level (day, time slot or capacity category).

### 6.1.1 Day Quota

The Day Quota table provides an overview of the capacity situation for a day and allows to restrict the 'Used' capacity value so that it does not exceed the workforce available on the selected day (Figure 10).

#### Day level quota parameters:

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max available</td>
<td>The maximum capacity available by the calendar which is calculated as the sum of the technicians' working time in the selected capacity bucket on the selected day. This value serves as the base for quota when quota is defined as percentage of the available capacity. The 'Max available' column is hidden when 'Estimate maximum capacity for' is disabled at the day level in the capacity bucket configuration. The 'Max available' value is recalculated on a periodical basis according to the settings in 'Business rules'.</td>
</tr>
</tbody>
</table>
### Other activities

The capacity allocated to activities that are not part of capacity management (mass, repeating and shift activities). The 'Other activities' column is only shown when the 'Estimate capacity used by activities that are not a part of the Quota Management' is set in the capacity bucket configuration. The 'Other activities' value is recalculated on a periodical basis according to the settings in 'Business rules'.

### % Quota

Percentage of the maximum capacity available for activities booking. The '% Quota' value is to be entered manually by the user. The '% Quota' value is restricted to the interval of 0-999.99. The '% Quota' column is only visible when 'Quota is entered' parameter is set to 'as % of capacity available by calendar' in the capacity bucket configuration. '% Quota' affects the value of the 'Quota' column.

### Min quota

The minimum allowed value of the quota to be entered manually by the user. The valid range for the 'Min quota' value is 0-16,777,215. The 'Min quota' parameter is only used when quota is defined as percentage of the capacity and is intended for situations when the calculated quota value might be less than the duration of a single activity. In this case, the 'Min quota' value is used instead of the calculated quota value, as otherwise quota calculation has no practical purpose. The 'Min quota' column is only visible when 'Quota is entered' parameter is set to 'as % of capacity available by calendar' in the capacity bucket configuration.

### Quota

The quota for activities booking on the selected day which can be either entered manually or calculated as percentage of the available capacity. The valid range for the 'Quota' value is 0-16,777,215. Depending on the settings of the 'Quota is entered' parameter in the capacity bucket configuration, the 'Quota' cell can be editable (when quota is entered in minutes) or non-editable (when quota is entered as % of capacity available by calendar).

#### Examples:

##### Quota entered in minutes (manually):

<table>
<thead>
<tr>
<th></th>
<th>Max available</th>
<th>Other activities</th>
<th>Quota</th>
<th>Booked activities</th>
<th>Used</th>
<th>Used quota %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wednesday, October 16th, 2013</strong></td>
<td>51180</td>
<td>60</td>
<td>49220</td>
<td>712</td>
<td>36263</td>
<td>73.72%</td>
</tr>
</tbody>
</table>

Here the 'Quota' cell is editable and allows entering the quota in minutes. The 'Max available' and 'Other activities' values do not affect the 'Quota' value directly.

##### Quota entered as % of capacity available by calendar:

<table>
<thead>
<tr>
<th></th>
<th>Max available</th>
<th>Other activities</th>
<th>% Quota</th>
<th>Min quota</th>
<th>Quota</th>
<th>Booked activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wednesday, October 16th, 2013</strong></td>
<td>51180</td>
<td>60</td>
<td>100%</td>
<td>51120</td>
<td>712</td>
<td></td>
</tr>
</tbody>
</table>

In this case the user is to enter the '% Quota', and the 'Quota' value will be calculated automatically. The 'Quota' cell is non-editable. In this example the 'Subtract these activities [other activities] from the maximum capacity of this day before calculation of quota' option is enabled, and the 'Other activities' value (60) is subtracted from 'Max available' (51180) resulting in 100% quota of 51120.

### Booked activities

Number of activities already booked in the selected bucket for the selected day. This value is recalculated immediately when any activities are added, rescheduled or canceled.

### Used

The total duration of the activities already booked in the selected bucket for the selected day. This value includes the activities duration and travel time.
and is recalculated immediately when any activities are added, rescheduled or canceled.

| Used quota % | The percentage of the day quota used by the booked activities (the ratio of 'Used' to 'Quota'). The method of quota definition (manual or as percentage of capacity) has no effect on this value. |
| Status | Open or closed status of quota for the selected day. Clicking in this cell allows manual immediate opening or closing the quota for the entire day. |

Closing or opening of quota at the day will close or open quota at the lower levels (time slot and capacity category).

| Close time | Time when the quota is to be closed automatically for the entire day. Clicking this cell allows manual setting or changing the close time for the day. At the selected time the value of the 'Status' cell is changed to 'Closed'. |

Setting the close time at the day level will cause quota to close at the lower levels (time slot and capacity category) at the same time. If a different close time has been set at a lower level, quota will be closed at whichever moment is earlier.

For the description of quota closing day selection please refer to the dedicated section.

### 6.1.1.1 Day Level Filters

The contents of the quota grid can be filtered by selecting the desired elements in the 'View' window.

The checkboxes define which columns are to be displayed in the Quota grid. However, the list of available columns varies depending on the selected method of quota definition and other capacity bucket settings. The filter contains only the columns relevant to the selected method and configuration.
Day Level Filters

( Figures 11-12 ).

6.1.2 Time Slot Quota

The Time Slot Quota table provides an overview of the capacity situation per time slot and allows to restrict the capacity for a particular time slot if the total quota of the capacity categories within such time slot may exceed the resources available in such period (Figure 13).

<table>
<thead>
<tr>
<th>Planning</th>
<th>Wednesday, January 15th, 2014</th>
<th>View</th>
<th>Quota history</th>
<th>Close time history</th>
<th>Mass population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time slot</td>
<td>Max available</td>
<td>Other activities</td>
<td>% Quota</td>
<td>Min quota</td>
<td>Quota</td>
</tr>
<tr>
<td>Day</td>
<td>51180</td>
<td>11040</td>
<td>11040</td>
<td>11640</td>
<td>11640</td>
</tr>
<tr>
<td>08-10</td>
<td>11040</td>
<td>14.67%</td>
<td>47597</td>
<td>711</td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>11040</td>
<td>55%</td>
<td>26554</td>
<td>191</td>
<td>8462</td>
</tr>
<tr>
<td>13-15</td>
<td>11640</td>
<td>14.67%</td>
<td>6982</td>
<td>237</td>
<td>12923</td>
</tr>
<tr>
<td>15-17</td>
<td>11640</td>
<td>14.67%</td>
<td>5982</td>
<td>70</td>
<td>3176</td>
</tr>
<tr>
<td>Total</td>
<td>45360</td>
<td>47597</td>
<td>711</td>
<td>36146</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 13: Time Slot Quota table**

**Time Slot level quota parameters:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max available</td>
<td>The maximum capacity available by the calendar which is calculated as the sum of the technicians' working time in the selected capacity bucket in the selected time slot. This value serves as the base for quota when quota is defined as percentage of the available capacity. The 'Max available' column is hidden when 'Estimate maximum capacity for' is disabled both at the day and time slot level in the capacity bucket configuration. If this option is disabled at the time slot level only, the 'Max available' column is visible, but its values are not calculated. The 'Max available' value is recalculated on a periodical basis according to the 'Business rules' settings.</td>
</tr>
<tr>
<td>Other activities</td>
<td>The capacity allocated to activities that are not part of capacity management</td>
</tr>
</tbody>
</table>
Quota Management

Time Slot Quota

(mass, repeating and shift activities). The 'Other activities' column is shown when the 'Estimate capacity used by activities that might affect capacity in this time slot' is set at the day and time slot level in the capacity bucket configuration, otherwise it is hidden. However, if this option is disabled only the time slot level, the column is visible but its values are not calculated. The 'Other activities' value is recalculated on a periodical basis according to the 'Business rules' settings.

### % Quota

Percentage of the day or time slot quota (depending on the capacity bucket configuration settings) available for booking of activities in the selected time slot.

- When quota is entered in minutes (according to the capacity bucket configuration), the '% Quota' value is non-editable by the user and is calculated as percentage of the total quota allocated to a time slot. The percentage is adjusted in proportion to the quota values, so that the total sum of all time slots is 100%.
- When quota is entered 'as % of the maximum time slot capacity' (according to the capacity bucket configuration), the '% Quota' value is to be entered by the user. This value affects the 'Quota' value which is calculated as the percentage of the 'Max available' value for the selected time slot. The '% Quota' value is restricted to the interval of 0-999.99.
- When quota is entered 'as % of the daily quota' (according to the capacity bucket configuration), the '% Quota' value value is to be entered by the user. This value affects the 'Quota' value which is calculated as the percentage of the 'Quota' value for the day.

### Min quota

The minimum allowed value of the quota to be entered manually by the user. The valid range for the 'Min quota' value is 0-16,777,215. The 'Min quota' parameter is only used when quota is defined as percentage of the time slot capacity or daily quota and is intended for situations when the calculated quota value might be less than the duration of a single activity. In this case, the 'Min quota' value is used instead of the calculated quota value, as otherwise quota calculation has no practical purpose. The 'Min quota' column is only visible when 'Quota is entered' parameter is set to 'as % of the maximum time slot capacity' or 'as % of the daily quota' in the capacity bucket configuration.

### Quota

The quota for booking of activities having the selected time slot. The valid range for the 'Quota' value is 0-16,777,215. Depending on the settings of the 'Quota is entered' parameter in the capacity bucket configuration, the 'Quota' cell can be editable (when quota is entered in minutes) or non-editable (when quota is entered 'as % of the maximum time slot capacity' or 'as % of the daily quota').

Depending on the methods of quota definition, the following three cases are possible:

#### Examples

### Quota entered in minutes (manually):

<table>
<thead>
<tr>
<th>Time Slot</th>
<th>Max available</th>
<th>Other activities</th>
<th>% Quota</th>
<th>Quota</th>
<th>Booked activities</th>
<th>Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>06-10</td>
<td>11040</td>
<td>24</td>
<td>23.97%</td>
<td>12200</td>
<td>200</td>
<td>9580</td>
</tr>
<tr>
<td>10-12</td>
<td>11040</td>
<td>18</td>
<td>21.81%</td>
<td>11000</td>
<td>190</td>
<td>9008</td>
</tr>
<tr>
<td>13-15</td>
<td>11040</td>
<td>2</td>
<td>26.92%</td>
<td>13700</td>
<td>235</td>
<td>12554</td>
</tr>
<tr>
<td>16-17</td>
<td>11040</td>
<td></td>
<td>27.5%</td>
<td>14000</td>
<td>70</td>
<td>3688</td>
</tr>
<tr>
<td>Total</td>
<td>45360</td>
<td>42</td>
<td></td>
<td>50900</td>
<td>695</td>
<td>35430</td>
</tr>
</tbody>
</table>

Here the 'Quota' cells are editable and allow entering the quota in minutes. The 'Max available' and 'Other activities' values do not affect the 'Quota' value.
The '% Quota' values are calculated automatically in proportion to the 'Quota' values so that their total equals 100%.

**Quota entered as % of the maximum time slot capacity:**

<table>
<thead>
<tr>
<th>Time Slot</th>
<th>Max available</th>
<th>Other activities</th>
<th>% Quota</th>
<th>Quota</th>
<th>Booked activities</th>
<th>Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day</td>
<td>51180</td>
<td>60</td>
<td>100%</td>
<td>51120</td>
<td>712</td>
<td>36283</td>
</tr>
<tr>
<td>08-10</td>
<td>11040</td>
<td>24</td>
<td>100%</td>
<td>11016</td>
<td>200</td>
<td>9580</td>
</tr>
<tr>
<td>10-12</td>
<td>11040</td>
<td>16</td>
<td>95%</td>
<td>10472</td>
<td>190</td>
<td>9008</td>
</tr>
<tr>
<td>13-15</td>
<td>11640</td>
<td>2</td>
<td>100%</td>
<td>11638</td>
<td>235</td>
<td>12554</td>
</tr>
<tr>
<td>15-17</td>
<td>11640</td>
<td></td>
<td>81%</td>
<td>9428</td>
<td>70</td>
<td>3688</td>
</tr>
<tr>
<td>Total</td>
<td>45360</td>
<td>42</td>
<td></td>
<td>42554</td>
<td>695</td>
<td>35430</td>
</tr>
</tbody>
</table>

In this case the user is to enter the '% Quota', and the 'Quota' value will be calculated automatically on the basis of the 'Max available' values of the corresponding time slots. 'Quota' cells are non-editable. In this example the 'Subtract these activities [other activities] from the maximum time slot capacity before calculation of quota' option is enabled, and the 'Other activities' value (24) for time slot '08-10' is subtracted from 'Max available' (11040) resulting in 100% quota of 11016.

**Quota entered as % of the daily quota:**

<table>
<thead>
<tr>
<th>Time Slot</th>
<th>Max available</th>
<th>Other activities</th>
<th>% Quota</th>
<th>Quota</th>
<th>Booked activities</th>
<th>Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day</td>
<td>51180</td>
<td>60</td>
<td>15%</td>
<td>7568</td>
<td>200</td>
<td>9580</td>
</tr>
<tr>
<td>08-10</td>
<td>11040</td>
<td></td>
<td>25%</td>
<td>12760</td>
<td>190</td>
<td>9008</td>
</tr>
<tr>
<td>10-12</td>
<td>11040</td>
<td></td>
<td>35%</td>
<td>17892</td>
<td>235</td>
<td>12554</td>
</tr>
<tr>
<td>13-15</td>
<td>11640</td>
<td></td>
<td>26%</td>
<td>12780</td>
<td>70</td>
<td>3688</td>
</tr>
<tr>
<td>15-17</td>
<td>11640</td>
<td></td>
<td></td>
<td>51120</td>
<td>695</td>
<td>35430</td>
</tr>
</tbody>
</table>

When this option is selected, the user is to enter the '% Quota', and the 'Quota' value will be calculated automatically on the basis of the 'Quota' value for the day. 'Quota' cells for time slots are non-editable.

**Booked activities**
- Number of activities already booked in the selected bucket for the selected time slot. This value is recalculated immediately when any activities are added, rescheduled or canceled.

**Used**
- The total duration of the activities already booked in the selected bucket for the selected time slot. This value includes the activities duration and travel time and is recalculated immediately when any activities are added, rescheduled or canceled.
<table>
<thead>
<tr>
<th><strong>Used quota %</strong></th>
<th>The percentage of the time slot quota used by the booked activities (the ratio of 'Used' to 'Quota'). The method of quota definition (manual or as percentage of capacity) has no effect on this value.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>% to stop booking at</strong></td>
<td>Percentage of the used day quota at which no more activities are to be booked for the selected time slot. This value is to be entered manually by the user. The '% to stop booking at' value is restricted to the interval of 0-999.99. The value of this parameter does not in fact change the 'Quota status'. This parameter is used for the Capacity API – when the set percentage has been reached, the 'get_capacity' function will no longer return quota for the time slot.</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>Open or closed status of quota for the selected time slot. Clicking in this cell allows manual immediate opening or closing the quota for the entire time slot.</td>
</tr>
<tr>
<td><strong>Close time</strong></td>
<td>Time when the quota is to be closed automatically for the selected time slot. Clicking this cell allows manual setting or changing the close time for the time slot. At the selected time the value of the 'Status' cell is changed to 'Closed'. Setting the close time at the time slot level will cause quota to close at the lower level (capacity category).</td>
</tr>
</tbody>
</table>
capacity category level at the same time. If a different close time has been set for a capacity category, quota will be closed at whichever moment is earlier.
For the description of quota closing day selection please refer to the dedicated section.

6.1.2.1 Time Slot Level Filters
The contents of the quota grid can be filtered by selecting the desired elements in the 'View' window. At the Time Slot level the Quota View can be restricted to show only one time slot by selecting the desired value from the 'Time Slot' drop-down list (Figure 14).

![Figure 14: Filter options for Time Slot quota level](image)

6.1.3 Capacity Category Quota Level
The Quota definition at the Capacity Category level which has been in use in the earlier versions of ETAdirect, is used to define the Quota for certain combinations of capacity categories and time slots. A bucket must be assigned capacity categories for the Quota management (Figure 15).
### Capacity Category level quota parameters:

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max available</td>
<td>The maximum capacity available by the calendar which is calculated as the sum of the technicians' working time in the selected capacity bucket in the combination of the selected capacity category and time slot. This value serves as the base for quota when quota is defined as percentage of the available capacity. The 'Max available' column is hidden when 'Estimate maximum capacity for' is disabled both at the time slot and capacity category level in the capacity bucket configuration. If this option is disabled at the capacity category level only, the 'Max available' column is visible, but its values are not calculated. The 'Max available' value is recalculated on a periodical basis according to the 'Business Rules' settings.</td>
</tr>
</tbody>
</table>
| % Quota | Percentage of the time slot or capacity category quota (depending on the capacity bucket configuration settings) available for booking of activities in the selected capacity category.  
When quota is entered in minutes (according to the capacity bucket configuration), the '% Quota' value is non-editable by the user and is calculated as percentage of the time slot quota allocated to a capacity category on the basis of the number of minutes entered in the 'Quota' column. The percentage is adjusted in proportion to the quota values, so that the total sum of all time slots is 100%.  
When quota is entered 'as % of the maximum capacity available in this category' (according to the capacity bucket configuration), the '% Quota' value is to be entered by the user. This value affects the 'Quota' value which is calculated as the percentage of the 'Max available' value for the selected capacity category and time slot. The '% Quota' value is restricted to the interval of 0-999.99.  
When quota is entered 'as % of time slot quota' (according to the capacity bucket configuration), the '% Quota' value is to be entered by the user. This value affects the 'Quota' value which is calculated as the percentage of the 'Quota' value for the time slot.|
| Min quota | The minimum allowed value of the quota to be entered manually by the user. The valid range for the 'Min quota' value is 0-16,777,215. The 'Min quota' parameter is only used when quota is defined as percentage of the capacity in a category or time slot quota and is intended for situations when the calculated quota value might be less than the duration of a single activity. In this case, the 'Min quota' value is used instead of the calculated quota value, as otherwise quota calculation has no practical purpose. |
| Plan | The 'Plan' values taken from the 'Forecasting' screen, when Plan is calculated in Forecasting and 'Show Plan Column' is enabled in the 'Display' screen. |
| Quota | The quota for booking of activities having the selected capacity category. |
valid range for the 'Quota' value is 0-16,777,215. Depending on the settings of the 'Quota is entered' parameter in the capacity bucket configuration, the 'Quota' cell can be editable (when quota is entered in minutes) or non-editable (when quota is entered 'as % of the maximum capacity available in this category' or 'as % of the time slot quota').

Depending on the methods of quota definition, the following three cases are possible:

**Examples:**

**Quota entered in minutes (manually):**

<table>
<thead>
<tr>
<th>Time Slot</th>
<th>Capacity Categories</th>
<th>Max available</th>
<th>% Quota</th>
<th>Quota</th>
<th>Booked activities</th>
<th>Used</th>
<th>Used quota %</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-12</td>
<td>Install</td>
<td>10440</td>
<td>25%</td>
<td>12780</td>
<td>191</td>
<td>8465</td>
<td>66.24%</td>
</tr>
<tr>
<td></td>
<td>Troubleshoot</td>
<td>10440</td>
<td>9.84%</td>
<td>1067</td>
<td>20</td>
<td>895</td>
<td>83.86%</td>
</tr>
<tr>
<td></td>
<td>Upgrade</td>
<td>11040</td>
<td>20.78%</td>
<td>2254</td>
<td>48</td>
<td>1895</td>
<td>84.07%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>31920</td>
<td></td>
<td></td>
<td>10848</td>
<td>188</td>
<td>73.22%</td>
</tr>
</tbody>
</table>

Here the 'Quota' cells are editable and allow entering the quota in minutes. The 'Max available' values do not affect the 'Quota' values directly. The '% Quota' values are calculated automatically in proportion to the 'Quota' values so that their total equals 100%.

**Quota entered as % of the maximum capacity available in this category:**

<table>
<thead>
<tr>
<th>Time Slot</th>
<th>Capacity Categories</th>
<th>Max available</th>
<th>% Quota</th>
<th>Quota</th>
<th>Booked activities</th>
<th>Used</th>
<th>Used quota %</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-12</td>
<td>Install</td>
<td>10440</td>
<td>25%</td>
<td>12780</td>
<td>191</td>
<td>8465</td>
<td>66.24%</td>
</tr>
<tr>
<td></td>
<td>Troubleshoot</td>
<td>10440</td>
<td>84%</td>
<td>8762</td>
<td>20</td>
<td>895</td>
<td>10.21%</td>
</tr>
<tr>
<td></td>
<td>Upgrade</td>
<td>11040</td>
<td>76%</td>
<td>7534</td>
<td>48</td>
<td>1895</td>
<td>23.88%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>31920</td>
<td></td>
<td></td>
<td>28639</td>
<td>188</td>
<td>83.01%</td>
</tr>
</tbody>
</table>

In this case the user is to enter the '% Quota', and the 'Quota' value will be calculated automatically on the basis of the 'Max available' values of the corresponding capacity categories. 'Quota' cells are non-editable.

**Quota entered as % of time slot quota:**
When this option is selected, the user is to enter the '% Quota', and the 'Quota' value will be calculated automatically on the basis of the 'Quota' value for the time slot. 'Quota' cells are non-editable.

<table>
<thead>
<tr>
<th>Time Slot</th>
<th>Capacity Categories</th>
<th>Max available</th>
<th>% Quota</th>
<th>Quota</th>
<th>Booked activities</th>
<th>Used</th>
<th>Used quota %</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-12</td>
<td>Install</td>
<td>10440</td>
<td>25%</td>
<td>12780</td>
<td>191</td>
<td>8405</td>
<td>68.24%</td>
</tr>
<tr>
<td></td>
<td>Trouble Call</td>
<td>10440</td>
<td>25%</td>
<td>3195</td>
<td>48</td>
<td>1895</td>
<td>59.31%</td>
</tr>
<tr>
<td></td>
<td>Upgrade</td>
<td>11040</td>
<td>40%</td>
<td>5112</td>
<td>120</td>
<td>5511</td>
<td>107.81%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>31920</td>
<td></td>
<td></td>
<td>12780</td>
<td>188</td>
<td>63.01%</td>
</tr>
<tr>
<td>13-16</td>
<td>Install</td>
<td>11640</td>
<td>36%</td>
<td>17892</td>
<td>237</td>
<td>12923</td>
<td>72.23%</td>
</tr>
<tr>
<td></td>
<td>Trouble Call</td>
<td>11640</td>
<td>25%</td>
<td>4473</td>
<td>86</td>
<td>4733</td>
<td>105.81%</td>
</tr>
<tr>
<td></td>
<td>Upgrade</td>
<td>11640</td>
<td>35%</td>
<td>6262</td>
<td>77</td>
<td>4057</td>
<td>64.79%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>33720</td>
<td></td>
<td></td>
<td>17891</td>
<td>207</td>
<td>51.06%</td>
</tr>
</tbody>
</table>

Booked activities: Number of activities already booked in the selected bucket for the selected combination of time slot and capacity category. This value is recalculated immediately when any activities are added, rescheduled or canceled.

Used: The total duration of the activities already booked in the selected bucket for the selected combination of time slot and capacity category. This value includes the activities duration and travel time and is recalculated immediately when any activities are added, rescheduled or canceled.

Used quota %: The percentage of the capacity category quota used by the booked activities (the ratio of 'Used' to 'Quota'). The method of quota definition (manual or as percentage of capacity) has no effect on this value.

% to stop booking at: Percentage of the used time slot quota at which no more activities are to be booked for the selected capacity category. This value is to be entered manually by the user. The '% to stop booking at' value is restricted to the interval of 0-999.99. The value of this parameter does not in fact change the 'Quota status'. This parameter is used for the Capacity API – when the set percentage has been reached, the 'get_capacity' function will no longer return quota for the capacity category in the selected time slot.

Weight: Weight of the selected capacity category calculated on the basis of historical data. This column is visible when the 'Estimate quota based on historical data' option is enabled at the capacity category level. The weight value is represented as percentage.

Depending on the capacity bucket configuration, the weight is calculated as the relation of either '% Quota' or 'Used quota %' to the 'Max available' value on the same weekday(s) in the past for the selected period (one week, one month or two months).

'Weight' is used as a prediction tool to calculate the 'Estimated quota %' value based on historical data.

Estimated quota %: Percentage of the time slot quota expected to be allocated for booking of activities having the selected capacity category. This value is calculated as the product of Weight and the 'Max available' value for the selected capacity category and time slot.

'Estimated quota %' is quota forecast calculated on the basis of historical data (quota used or set for the same weekday(s) in the historical period of one week, one month or two months).

The 'Estimated quota %' value is used for information and reference in determining quota for future periods.
<table>
<thead>
<tr>
<th>Status</th>
<th>Open or closed status of quota for the selected capacity category and time slot. Clicking in this cell allows manual immediate opening or closing the quota.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close time</td>
<td>Time when the quota is to be closed automatically for the selected capacity category and time slot. Clicking this cell allows manual setting or changing the close time. At the selected time the value of the 'Status' cell is changed to 'Closed'.</td>
</tr>
</tbody>
</table>

At the Capacity Category level quota can be opened or closed per individual work zones by selecting the corresponding checkboxes or for the entire capacity category in the selected time slot by clicking 'Open all' or 'Close all'.

**Note:** Deactivated work zones are not shown in the work zones list.
'Close Time' can be set per individual work zone by selecting the corresponding field or for the entire capacity category in the selected time slot by entering the close time value in the 'Close quota automatically by work zone at:' field.

If different 'Close time' is set for the capacity category and a work zone, the close time value defined at the work zone level has priority over the close time set at the level of capacity category.

For the description of quota closing day selection please refer to the dedicated section.

**Note:** Deactivated work zones are not shown in the work zones list.

### 6.1.3.1 Capacity Category Level Filters

The contents of the quota grid can be filtered by selecting the desired elements in the 'View' window.

At the Capacity Category level the Quota View can be restricted to show only one time slot and/or one capacity category by selecting the desired values from the 'Time Slot' and 'Category' drop-down lists.

The checkboxes define which columns are to be displayed in the Quota grid. However, the list of available columns varies depending on the selected method of quota definition and other capacity bucket settings. The filter contains only the columns relevant to the selected method and configuration (Figures 16-17).
6.2 Quota Map View

In order to enhance the usability and visual clarity of the Quota data, the Quota screen is supported by the Map view (Figure 18).

The Map view displays the work zones defined in the system and their quota status.
The Map view is accessed by clicking the 'Map' option in the 'View' filter (Figure 19).

![Figure 18: Quota Map View](image)

![Figure 19: Map View selection](image)
When the Map View is selected, the Map opens already focused on the work zones of the selected capacity bucket.

The work zones displayed on the Map are shown in different colors depending on the corresponding quota status and aggregated used quota %:

- quota closed with no activities – light gray
- quota closed with activities – gray
- quota open with no activities – light green
- quota open less than 90% – green
- quota open more than 90% – yellow
- quota open with more than 100% – red

The percent value mentioned above is calculated as the ratio of the aggregated 'Used' to aggregated 'Quota' values for the lowest level of quota definition (as defined in the 'Resource Info' screen).

Upon clicking on a work zone on the map, the hint will appear which indicates the name and ID of the work zone selected (Figure 20).

The Map view access is controlled by a special permission (Manage → Quota → Map) (Figure 21).
6.3 Quota Closing 'N' Days before

The Quota Management functionality supports closing the quota not only at the specified time, but also the specified number of days before. Depending on the company's requirements, quota for certain combinations of time slot, capacity category and work zone can be closed certain number of days before.

For this purpose the 'Close time' popup window at all quota levels has a drop-down list from which the user can select number of days to close the quota before the selected day or time slot. The list has the following options (Figure 22):

- the same day (quota is closed on the actual day)
- 1 day before
- 2 days before
- 3 days before
- 4 days before
- 5 days before

![Figure 22: Quota close day selection]

The same option is available for individual work zones at the 'Capacity Category' level (Figure 23).
Quota Closing 'N' Days before

When quota is closed several days before, the corresponding cell in the 'Close time' column will contain both the close time and the date when the quota is to be closed (Figure 24).

6.4 Multi-Bucket Mode

The Quota Management functionality has been enhanced by adding the multi-bucket mode which allows viewing the data of all active child buckets in the same quota grid. When the company structure includes parent and child buckets, with the multi-bucket functionality implemented, the user is able to select the parent resource and view the aggregated data for all its active child resources.

For this purpose the 'View' window now contains the 'Show aggregated results' checkbox (Figure 25). Disabling of this option enables multi-bucket display.

---

Figure 23: Quota close time selection for individual work zone

![Figure 23: Quota close time selection for individual work zone](image)

Figure 24: Quota close date and time

![Figure 24: Quota close date and time](image)

<table>
<thead>
<tr>
<th>Time slot Capacity categories</th>
<th>Wednesday, January 15th, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quota</td>
</tr>
<tr>
<td>08-10</td>
<td>54</td>
</tr>
<tr>
<td>Install</td>
<td>54</td>
</tr>
<tr>
<td>Trouble Call</td>
<td></td>
</tr>
<tr>
<td>Upgrade</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
</tr>
</tbody>
</table>

---
When the multi-bucket mode is switched on, a new column, 'Capacity bucket', is added to the quota grid where the active child buckets of the selected parent bucket are listed. The quota grid shows the data for each bucket in separate lines (Figure 26).

**Figure 26: Multi-bucket view**

### 6.5 Quota History

The Quota History stores data on any changes performed to the Quota screen. The Quota History functionality allows viewing the quota history with different filters applied, when necessary, as well as exporting the Quota History in the file format selected as the 'Default export format' in the 'My Display' settings (Figure 27).
Quota History

The Quota History displays the data organized in the columns as follows:

**Date** – date of the action.

**Time Slot** – time slot to which the changes apply. The values in the 'Time Slot' column can be filtered by selecting or deselecting some or all of the time slots used in Quota Management.

**Capacity Category** – capacity category to which the changes apply. The values in the 'Capacity Category' column can be filtered by selecting or deselecting some or all of the capacity categories used in Quota Management.

**Work zone** – work zone to which the changes apply. The values in the 'Work zone' column can be filtered by selecting or deselecting some or all of the time zones used in Quota Management.

**Action** – action performed in the Quota Management screen. The values in the 'Action' column can be filtered by selecting or deselecting some or all of the following options:

- Change – changes to the values of the 'Quota', '% Quota', 'Min quota', '% to stop booking at' cells on any Quota level
- Close – Quota closing for any day, time slot, capacity category or work zone
- Open – Quota opening for any day, time slot, capacity category or work zone
- Remove work zone specific settings – quota opening or closing for particular work zones

**Action time** – time of the action performed in the Quota Management screen. The values in the 'Action time' column are shown in the time zone of the selected capacity bucket. The values in the 'Action time' column can be filtered to display the actions performed within the last 4 hours, last 8 hours, last day or last 2 days. Additionally, sorting in the ascending or descending order is possible.

**% Quota, Min quota** – these columns are only shown when the Quota is defined as percent of the available capacity according to the configuration of the capacity bucket. They show the corresponding
values.

**Quota** – changes to the Quota values.

**% to stop booking at** – this column is only shown when the '% to stop booking at' option is enabled at the Time Slot or Capacity Category level according to the configuration of the capacity bucket.

**User** – user which made changes to the quota. The values in the 'User' column can be filtered by selecting or deselecting some or all of the user names. Additionally, alphabetical sorting in the ascending or descending order is possible. When a change has been performed automatically according to the settings (for example, automatic closing of the quota at the predefined time), the 'User' column will contain no value for such change.

**Note: 'Quota history' is not available in the multi-bucket mode.**

### 6.6 Close Time History

Changes related to quota close time are shown in the 'Close Time History' (Figure 28). The Close Time History functionality allows viewing the close time history with different filters applied, when necessary, as well as exporting the Close Time History in the file format selected as the 'Default export format' in the 'My Display' settings.

![Close Time History](image)

**Figure 28: Close Time History**

The Close Time History displays the data organized in the columns as follows:

**Time Slot** – time slot for which close time was changed. The values in the 'Time Slot' column can be filtered by selecting or deselecting some or all of the time slots used in Quota Management.

**Capacity Category** – capacity category for which close time was changed. The values in the 'Capacity Category' column can be filtered by selecting or deselecting some or all of the capacity categories used in Quota Management.

**Work zone** – work zone for which close time was changed. The values in the 'Work Zone' column can be filtered by selecting or deselecting some or all of the work zones for which close time was changed.

**Action** – action performed to the close time. The values in the 'Action' column can be filtered by selecting or deselecting some or all of the following options:

- Change close time – changes to the close time on any Quota level
Close Time History

– Change close time for work zone – changes to the close time of individual work zones

**Action time** – time of the action performed to the close time. The values in the 'Action time' column are shown in the time zone of the selected capacity bucket. The values in the 'Action time' column can be filtered to display the actions performed within the last 4 hours, last 8 hours, last day or last 2 days. Additionally, sorting in the ascending or descending order is possible.

**Close Time** – resulting value of close time. The values in the 'Close time' column can be filtered to display changes made within any 2-hour period of the day by selecting some or all of the options. Additionally, sorting in the ascending or descending order is possible.

**User** – user which made changes to the quota. The values in the 'User' column can be filtered by selecting or deselecting some or all of the user names. Additionally, alphabetical sorting in the ascending or descending order is possible. When a change has been performed automatically according to the settings (for example, automated closing of the quota at the predefined time), the 'User' column will contain no value for such change.

### 6.7 'Mass Populate' Functionality

'Mass populate' has replaced the previously existing 'Automatic fill' functionality (Figure 29). This name better describes the actual nature of the operation which is, in fact, completely manual.

This functionality is intended to fill multiple future quota cells using historical data. Such estimation can be made either on the basis of the quota of the previous periods or the actual quota used.

![Figure 29: 'Mass populate' window](image)

The fields populated with the 'Mass populate' function differ depending on the quota level. Below is the complete list of fields used in 'Mass populate':

**Day**

- Quota
- Min quota
- % Quota
Quota Management

'Mass Populate' Functionality

- Status
- 'Locked' flag

**Time slot**
- Quota
- Min quota
- % Quota
- % to stop booking at
- Status
- 'Locked' flag

**Capacity category**
- Quota
- Min quota
- % Quota
- % to stop booking at
- Status
- 'Locked' flag

**Work zone**
- Status

The actual fields available in the 'Field' drop-down list of the 'Mass populate' window depend on the capacity bucket configuration at the specific quota level. For example, if for the 'Time slot' level quota is set to be entered 'in minutes', the 'Field' list will contain 4 options – 'Quota', '% to stop booking at', 'status' and 'Locked flag' (Figure 30). This means that in such bucket configuration only these 4 fields can be mass-populated.

The 'Operation' selector allows choosing the operation to be performed to mass-populate the selected field.

The following table contains the complete list of operations that can be performed. Availability of a particular operation depends on the selected field.

![Figure 30: 'Field' options for 'Time slot' quota level with quota entered in minutes](image-url)
<table>
<thead>
<tr>
<th>Operation</th>
<th>Fields</th>
<th>Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>copy day-to-day</td>
<td>All</td>
<td>date to be copied</td>
<td>This operation allows to copy values of the given field from one day to one or multiple days.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Note</strong>: there is no restriction on the day that can be used as the source of data for this operation. It can belong either to past or to future.</td>
</tr>
<tr>
<td>copy week-to-week</td>
<td>All</td>
<td>week to be copied</td>
<td>This operation allows to copy values of the given field from one week to one or multiple weeks. The values are copied between the same days of week ('Monday' to 'Monday', 'Tuesday' to 'Tuesday', etc.).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Note</strong>: there is no restriction on the week that can be used as the source of data for this operation. It can belong either to past or to future. The corresponding calendar control allows to select the week by clicking any day of this week. The week is represented by its first day (based on the corresponding configuration).</td>
</tr>
<tr>
<td>shift forward by</td>
<td>All</td>
<td>None</td>
<td>This operation shifts values of the given field one day forward. The corresponding option is only available if a continuous interval of days is selected on the Quota view.</td>
</tr>
<tr>
<td>one day</td>
<td></td>
<td></td>
<td><strong>Note</strong>: there is a common rule that requires that a 'Mass-populate' operation should update all dates that are currently selected on the Quota view. Therefore, in case of the shift forward operation, the value of the first selected/visible date is updated with the value from the previous day (which is invisible).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>If the view contains both past and future days, the future date will be the first one to be updated. It is updated with the value from the latest past date.</td>
</tr>
<tr>
<td>shift backward by</td>
<td>All</td>
<td>None</td>
<td>This operation shifts values of the given field one day backward. Please note that it is mainly intended to &quot;rollback&quot; results of a previous forward shift.</td>
</tr>
<tr>
<td>one day</td>
<td></td>
<td></td>
<td><strong>Note</strong>: there is a common rule that requires that a 'Mass-populate' operation should update all dates that are currently selected on the Quota view. Therefore, in case of the shift backward operation, the value of the last selected/visible date is updated with the value from the next day (which is invisible).</td>
</tr>
<tr>
<td>next day value =</td>
<td>•</td>
<td>% to stop booking at:</td>
<td>As well as the shift forward/backward operations, this operation is only available</td>
</tr>
<tr>
<td>previous day</td>
<td>percent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Function</td>
<td>Parameters</td>
<td>Description</td>
<td>Notes</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>value * percent</strong></td>
<td>• Quota</td>
<td>if a continuous interval of days is selected on the Quota view. In this case, it takes the value of the given field from the day before the first selected one and, on its basis, calculates values of this field for all other next days. The value for the next day is calculated as the value of the previous day multiplied by the specified percent.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Min quota</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• % Quota</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>use estimation</strong></td>
<td>% Quota (category)</td>
<td>None</td>
<td>This operation copies values from the 'Estimated % quota' field to the '% Quota' ones.</td>
</tr>
<tr>
<td><strong>estimate future values based on past data</strong></td>
<td>Quota</td>
<td>number of previous days • field to be used: 'Quota' or 'Used'</td>
<td>This operation allows to estimate values of the given field for one or several future days using the linear extrapolation algorithm. The maximum number of source days is limited to 1000.</td>
</tr>
<tr>
<td>(day-to-day)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>estimate future values based on past data</strong></td>
<td>Quota</td>
<td>number of previous weeks • field to be used: 'Quota' or 'Used'</td>
<td>This operation allows to estimate values of the given field for one or several future weeks using the linear extrapolation algorithm. A separate extrapolation trend is created for each day of week (Monday, Tuesday, etc.). The maximum number of source weeks is limited to 150.</td>
</tr>
<tr>
<td>(week-to-week)</td>
<td></td>
<td></td>
<td><strong>Note:</strong> this option is only allowed if one or several whole weeks are shown in the Quota View.</td>
</tr>
<tr>
<td><strong>close all</strong></td>
<td>Status</td>
<td>None</td>
<td>This operation allows to close all currently visible quota cells simultaneously. The option is available on all Quota levels – day, time slot, and capacity category.</td>
</tr>
<tr>
<td><strong>open all</strong></td>
<td>Status</td>
<td>None</td>
<td>This operation allows to open all currently visible quota cells simultaneously. The option is available on all Quota levels – day, time slot, and capacity category.</td>
</tr>
<tr>
<td><strong>close work zone</strong></td>
<td>Status</td>
<td>work zone to be closed</td>
<td>This operation allows to close the selected work zone for multiple days, time slots, or capacity categories at the same time. The deactivated work zones are not available for selection. <strong>Note:</strong> this option is only available on the capacity category level.</td>
</tr>
<tr>
<td><strong>open work zone</strong></td>
<td>Status</td>
<td>work zone to be opened</td>
<td>This operation allows to open the selected work zone for multiple days, time slots or capacity categories at the same time. The deactivated work zones are not available for selection. <strong>Note:</strong> this option is only available on the capacity category level.</td>
</tr>
</tbody>
</table>

Please also note that all these operations ignore the 'Locked' flag.

The 'Target dates' field is used to define the dates on which the fields are to be mass-populated. The
range depends on the 'Calendar' selection.

'Source date' contains the date or the range of dates to be used as the source for mass-populating the selected field.

'Source' is the field the values of which are to be used as the source for mass-populating. The available source field(s) depend on the capacity bucket configuration at the corresponding level and on the 'Field' selection.

**Note:** the 'Mass populate' operation only updates the values on the Quota View, it does not update the database. The values updated by 'Mass populate' are marked with 'changed' indicators. To apply the changes the user must click 'Save'.

Access to the 'Mass populate' functionality is controlled by the 'Mass populate' permission. If the permission is set to ReadOnly, the 'Mass populate' button is not displayed in the Quota screen.

### 6.8 Auto-Adjustment Locking

A Quota cell can be locked for automatic adjustment if the actual situation so requires. If a cell is locked, it can only be changed directly by the user, but no changes of other cells will have any effect on the locked cell value.

A cell can be locked by means of the 'Locked' checkbox in the hint appearing on a click in the cell (Figure 31).

![Figure 31: 'Locked' checkbox](image)

Once a cell is locked, it is shown on a dark-gray background (Figure 32). If the locked cell is the 'Total' cell, changes of the Quota cells are distributed proportionally among other cells keeping the 'Total' unchanged. If all other cells are locked, the newly entered value is changed to the closest possible or remains unchanged.

![Figure 32: Locked cell](image)
6.9 'Recurring Autofill' Functionality

The 'Recurring Autofill' functionality is intended to avoid manual operations related to recurrent mass adjustments of quota parameters. The idea behind it is the same as for the 'Mass populate' functionality, except the quota grid cells are populated automatically according to the settings.

The 'Recurring Autofill' functionality allows to define or modify the rules of cells populating. Each rule is unique for each combination of:

- field, time slot and capacity category at the Capacity Category level
- field and time slot level at the Time Slot level
- field at the Day level

The 'Recurring Autofill' functionality is accessible as a popup window opened from the hint in a Quota cell (Figure 33).

![Figure 33: 'Recurring autofill' option in cell hint](image)

The hint contains the 'Recurring autofill enabled' checkbox enabling or disabling the functionality and the 'Modify' link allowing to set or modify the recurring autofill rules. Clicking 'Modify' opens the 'Recurring Autofill' window (Figure 34).

![Figure 34: 'Recurring autofill' window](image)

- 'Apply' – the field defining the schedule of autofill recurrence. Available values: 'Daily' (the operation is repeated daily) or 'every {WEEKDAY}' (the operation is repeated weekly on the
selected day. This section includes also the field to define the recurring autofill time

- 'Last run', 'Next run' – the last and next recurring autofill runs. These fields are hidden when there is no data to show (no last and/or next recurring autofill runs exist)

- 'Operation' – the operation to be used for recurring autofill

- 'Target dates' – the rule to calculate the dates on which the cells are to be autofilled. The first value indicates the number of days the autofill rule to be applied for. The second value is the offset period (the interval after which the rule is to be applied). In the example above the selected cell will be autofilled for 24 consecutive days starting from 15 days from now. The maximum value of target dates/weeks is 1000 days or 150 weeks, respectively. The maximum value of target date/week offset period is 100

- 'Source date' – the date to be used as the source. The maximum value of source date/weeks is 1000 days or 150 weeks. The value of source date offset period is limited to the range from -1000 to 1000.

**Note:** If ‘0’ is entered as the value for the target and/or source date offset period, the current day/week will be used as the target and/or source date.

- 'Source’ – the value to be used as the source

- 'Autofill enabled' – the checkbox enabling of disabling the 'Recurring Autofill' functionality

The list of operations available in the 'Recurring Autofill' functionality is the same as that for 'Mass populate'. Please refer to the list in the corresponding section.

### 6.10 Major and Critical Capacity Usage

There are two capacity levels, which make capacity display in different colors, depending on the level. These levels can be configured by going to Company Settings → Display → Quota Settings (Figure 35).

If Used capacity is less than Major Capacity Usage, capacity is shown in green color.

If Used capacity is more than Major Capacity Usage and less than Critical Capacity Usage at the same time, capacity is shown in brown color.

If Used capacity is more than Critical Capacity Usage and less than Quota value at the same time, capacity is shown in orange color.

If Used capacity is more than Quota value, capacity is shown in red color (Figure 36).
7 Resource Capacity Categories Determination

When the maximum available capacity is to be calculated at the capacity category level, the capacity categories per resource should be determined (Figure 37).

A resource is assigned certain work skills with their respective levels. On the other hand, capacity categories existing in the system include work skills for which the minimum required level can be defined, or work skill groups. A resource matches a capacity category if their work skills are equal or greater than those defined for the capacity category. If minimum work skill levels are used, the resource matches the capacity category, if their work skill levels are equal or greater than those defined in the capacity category. When a capacity category includes work skill groups, a resource matches such capacity category if it has at least one of the work skills of the group.

When no work skills are assigned to a capacity category, such capacity category includes all activities with no required work skills. Such activities can be assigned to any resource having any work skills, therefore, to all resources in the system. Consequently, resources with no work skills defined (effectively, having all work skills at the highest level) match all capacity categories in the system.

The resource work skills can be viewed in the 'Resource Info' screen or resource hint.

The capacity categories of resources are recalculated in the following situations:

- on application server start
Resource Capacity Categories Determination

– on resource cache reload
– on resource work skills modifications
– on the 'Recalculate activities' action performed in the 'Capacity categories' and 'Work skill groups' screens

8 Defining Units of Measurement for Quota

ETAdirect supports the option of choosing the units of measurement to display Quota/Used values. For this purpose the 'Business Rules' screen now has a special 'Quota management' section (Figure 38).

![Figure 38: Units of measurement of Quota and Used values](image)

This section allows setting the unit of measurement for quota and capacity. There are three possible options – hours, man-days and minutes. Internally, all values are calculated in minutes anyway, and are converted to the selected unit when the corresponding value is displayed in the Quota View.

When 'man-days' is selected as the unit of measurement, the 'Number of hours per man day is' field appears where the correlation between man-days and hours can be defined. Ultimately, this parameter is used to convert 'man-hours into 'minutes'.

9 Recalculation of Available Capacity and Dependent Quota Values

When the Quota is defined as percentage of the capacity available by calendar, sometimes it requires adjustment. For example, quota recalculation is needed in the following cases:

- new technicians creation
- technicians move between capacity buckets (sub-buckets can also be moved)
- technicians activation/deactivation
- resource tree reorganization (directly in the database) during a product upgrade or an implementation package installation
- change of the set of technician's work skills
- change of the content of an already used work skill group
- change of the set of work skills within a capacity category

To perform the adjustment the system should estimate the capacity available by calendar, process the already booked activities (to calculate the "Other activities" value), and, finally, recalculate the "Quota in minutes" using the defined percentage value.

Quota recalculation is a complex operation and, therefore, it should be performed only once in a predefined time interval. Such interval can be defined as the 'The 'Max available' and 'Other activities'
parameters are automatically recalculated every [   ] minutes' parameter on the 'Business rules' screen (Figure 39).

![Figure 39: Capacity recalculation settings](image)

The recalculation interval in minutes can be defined in the range of 1 to 1,440. By default, it is set to 10 minutes.

The quota and capacity are recalculated for a predefined future period. The period is defined as the number of days or calendar weeks. The maximum value is 99 days or 15 calendar weeks. The recalculation start day can be selected from among 'current day', 'tomorrow', 'day after tomorrow'.

The 'calendar week' option is processed according to the 'Week starts on' parameter set in the 'Display' screen. If the recalculation period is set to 1 calendar week, the recalculation will be performed for all remaining days of the current week (unless the start day is the week start day) plus all days of the following week. On the contrary, if the recalculation period is set to 7 days, the recalculation will be performed for exactly 7 days.

### 10 'Start Time' Statistics

The Quota Management now provides a new type of statistics – Start Time. This statistics allows to determine the probability of the activity start within the selected hour. Such prediction can be used for estimating the capacity required for the selected time interval. The approach used in the Start-time statistics is the same as the one used in the Duration and Travel time.

For scheduled activities, the probability is calculated on the basis of the statistics collected for similar records in the past. 'Other' activities (all repeating, mass and shift activities, including those without instances) scheduled for the same day are not taken into account.

The calculation uses the resource key (grouping resources by a certain criterion allowing to collect separate statistics) and the activity key (grouping activities into company-specific logical groups allowing to process such groups separately).

The start-time statistics keys can be defined in 'Company Settings' → 'Statistics parameters' (Figure 40).

![Figure 40: 'Activity start-time stats fields' in 'Statistics Parameters'](image)

All activity custom fields as well as the primary activity fields (activity type, base type, state, city, ZIP, duration) can be used for statistics calculation.
All resource custom fields as well as the primary resource fields (internal ID, external ID and resource type) can be used for statistics calculation (Figure 41).

![Figure 41: 'Technician start-time stats fields' in 'Statistics Parameters']

11 Calculation Methods

11.1 'Other Activities' Calculation Method

The 'Other activities' parameter is calculated to obtain the following value:

- Maximum capacity - Other activities = Activities that can be booked within this time slot.

The calculated value might include activities that:

- are not part of capacity management
- belong to other time slots

The algorithm performs the following actions for the selected capacity time slot and activity:

- It determines the interval of working hours (including overnight) affected by such capacity time slot. The interval is the same as is used for the 'Maximum capacity' calculation.
- On the other hand, it calculates the expected used capacity for the selected activity using the algorithm estimating its used capacity for a particular hour as an expected value of the probability that this activity will be started within such hour. The result of this step is the expected used capacity calculated on an hourly basis.
- The resulting 'Other activities' value is calculated as the sum of the expected used capacity values for the hours affected by this time slot.

The 'Other activities' value consists of all repeating, mass and shift activities including those without 'instances'. Changes related to the activities with instances are processed immediately, that is, in the same manner as regular booked activities. Activities without instances are processed on a periodical basis. They are handled by the same process which performs periodical recalculation of the 'Max available' and 'Quota' values.

11.2 Quota Calculation on the Basis of Historical Data

The estimation is based on the capacity category 'Weight' coefficients and available workforce.

The 'Weight' coefficients are calculated on the basis of the historical data. These coefficients are normalized on the basis of the workforce that was available on the selected past days. Therefore, they do not depend on the available workforce. The application of these coefficients to the currently available workforce allows to estimate the 'Quota %' values.

The historical data is processed by the Application server on the periodical basis. It checks whether
recalculation is required once every minute. The historical data recalculation produces the capacity category 'Weight' coefficients.

These coefficients are calculated for every day within the last eight full weeks and per valid combination of capacity bucket, time slot, and capacity category. For each such combination, the system calculates two coefficients based on 'Quota' and 'Used quota %'.

The calculation is performed regardless of the values of the 'Historical values to be used' and 'Process historical data (same weekdays) for period of' parameters defined for the bucket. At the same time, the process does not take into account the 'Estimate quota based on historical data' and 'Quota is entered' options. Such approach allows to enable this functionality, change the interval of analysis ('one week', 'one month', 'two months'), or switch between coefficient types ('Quota' or 'Used quota %') for the existing capacity bucket without having to reprocess the historical data.

**Weight calculation formula:**

\[
\text{Weight} = \frac{(\text{Quota} \div \text{Total quota})}{\text{Max available \%}}
\]

OR

\[
\text{Weight} = \frac{(\text{Used} \div \text{Total used})}{\text{Max available \%}}
\]

where \(\text{Max available \%} = \frac{\text{Max available (capacity category)}}{\text{Max available (time slot)}}\)

Quota calculation on the basis of historical data produces two fields, 'Weight' and 'Estimated quota %', which correspond to this functionality and can be shown on the 'Quota view' for the current or future day.

The application server periodically recalculates the 'Max available' values and, as the result, adjusts the 'Weight' coefficients for such days.

To adjust the coefficients, it aggregates the 'Weight' coefficients for the number of days defined using the 'Historical values to be used' parameter. A particular day is only included if it belongs to the same week day.

**Formula:**

\[
\% \text{ Quota} = \text{Avg. weight} \times \text{Max available \%}
\]

If the 'Automatically adjust % Quota' values to keep their total equal to 100%' option is enabled, the calculated 'Quota %' values are normalized.