

$$\sum_{n=0}^{\infty} \frac{x^n}{n!}$$

$$\sum_{n=0}^{\infty} \frac{x^n}{n!}$$

ORTEC Workforce Scheduling 7

User Manual

Module Time & Attendance



May 2025

e^x

$\frac{1}{\pi}$

$(k!)^4$

π

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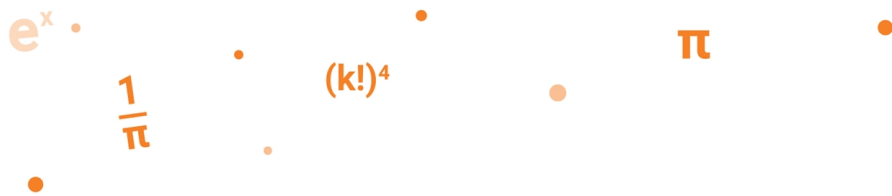
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1 Time and attendance

Using a time clock system, an organization's staff members can register their times of arrival and departure to and from the workplace. Employees hold their personal badges to a badge reader, and a processing unit registers the badge, the time, whether it is an arrival or a departure, as well as any other information entered via a function button on the badge reader. This results in a clocking record, i.e., a record in the time clock system relating to the employee's attendance.

There are two types of clocking records: clocking records for entering (*clock-ins*) and clocking records for leaving (*clock-outs*). In theory, every *clock-in* should be matched by a subsequent *clock-out*, and a pair is called a *clocking*.

Usually, *clockings* relate to shifts with the assumption that the shift period coincides with the clocking period. It is feasible that several *clockings* exist for a single *shift*. This can occur whenever employees clock out and in again for breaks, when working so-called *on-call shifts*, or whenever they leave on business during a shift.

In principle, there are two different options for the use of the *shift-clocking* relationship.

Employees work according to a fixed shift

Clock registration is primarily used to check staff attendance during a fixed shift. In ORTEC Workforce Scheduling terms, this does not necessarily mean that the shift has to have been worked. The only check performed is to establish that the clock times match the shift times, and where this is not the case, a *violation* is flagged. This type of violation flagging is very important for efficient processing.

Employees have flexible working hours

Such a shift is called a *flexible shift*. Shifts worked are adjusted based on recorded clock times and certain *rounding-off* factors. There may potentially be core times for compulsory employee attendance, e.g., from 10 am to noon and from 2 pm to 4 pm. This means that clocking records are then used to actualize *flexible shifts*. In addition, the number of hours and minutes worked each day can vary. The following points can be of importance in this respect:

- Clock times are rounded off according to predefined rules. These rules vary in relation to the clocking time.
- The actualization is performed as follows:
 - Differences between rounded-off times and scheduled times are processed.
 - If required, clocked periods (or portions) are assigned another activity type.
 - Minimum and maximum break lengths can be imposed whereby employees sometimes clock their breaks, and sometimes do not (e.g. compulsory breaks).
 - Maximum and minimum working hours for flexible shifts can be imposed.
 - Maximum limits can be set for the number of consecutive working hours.

- The *worked v. to be worked* balance is maintained over each period starting at the beginning of the month. If this balance becomes too high or too low, this is displayed, and any overtime is recorded.
- In addition, any violations are flagged.

Clockings and their associated properties are displayed in the **Clock times** window. The grid displayed in the window shows the various clockings *horizontally*, and the clocking properties *vertically*. In addition, it is possible to check hours worked by displaying balances from attendance records, which require several special compensation rules.

1.1 Process sequence

The process can be described as follows:

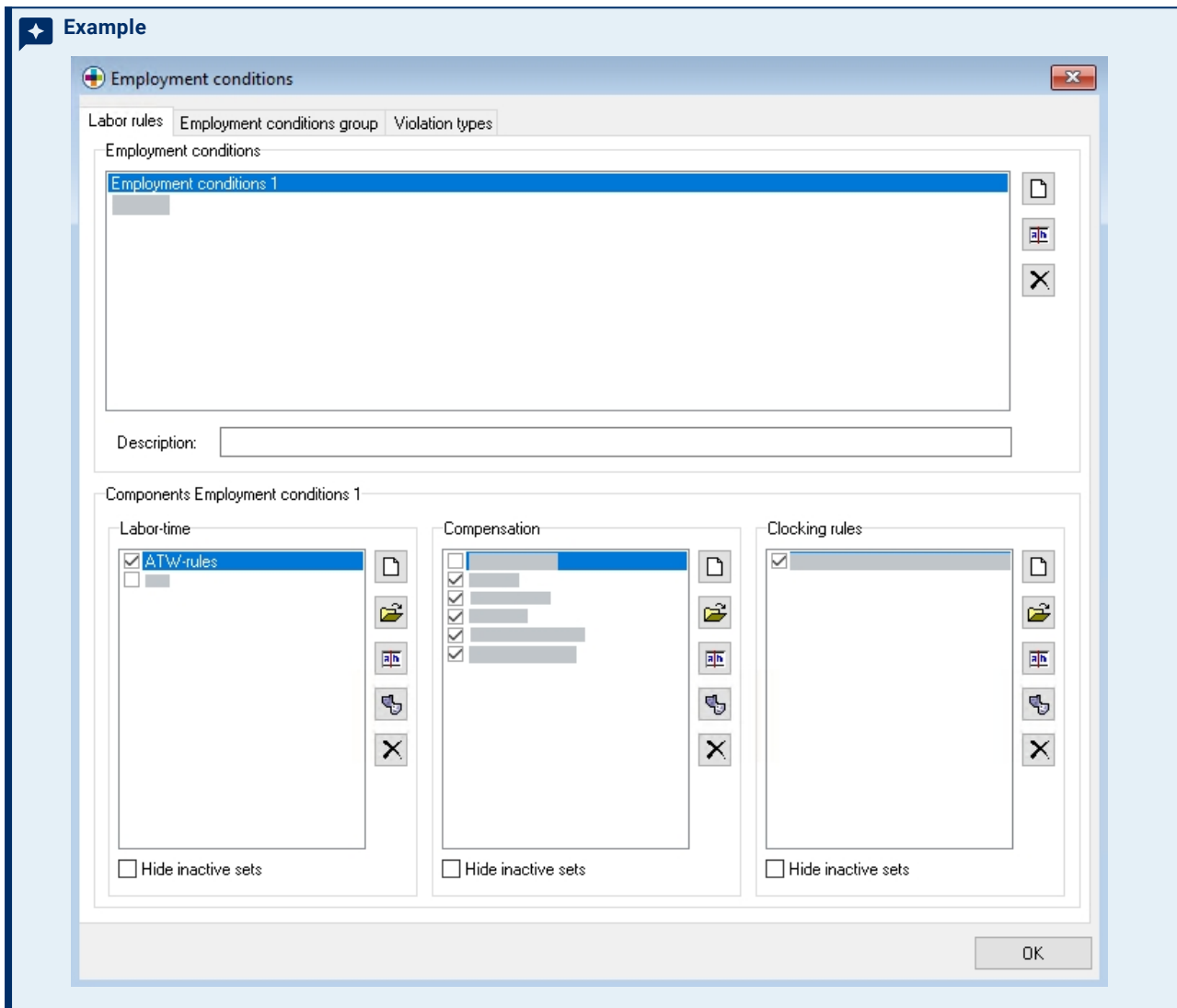
- The employee clocks in or out.
- The clocking record is stored in the time clock system and read into ORTEC Workforce Scheduling via an interface. As indicated above, pairs are formed from the clocking records, consisting of a *clock-in* and a *clock-out*.
- ORTEC Workforce Scheduling calculates the actualization of the shift based on predefined clock rules and the associated clockings.
- Where clocking records require authorization:
 - Employee clocking records are retrieved by an authorized user (e.g. head of department) and displayed in the **Clock times** window.
 - The user adjusts ORTEC Workforce Scheduling's proposals for actualization. If required, the shift is reset to the situation before the clockings were processed.
 - The user authorizes clocking records by clicking the 'Justify' button, and the shift status is raised from 'Published' to 'Justified'.
- Using existing *attendance record* and *compensation rule* mechanisms, the results of the actualization can be viewed. These can also be displayed in the **Clock times** window.

2 How to configure

2.1 Clocking rules

Configure the clocking rules via **Maintenance > Employment conditions > Labor rules tab > Clocking rules** section. The list of clocking processing rules consists of two types of rules:

1. **Clocking actualization rules** that have an effect on the actualization.
2. **Clocking violation rules** that flag and display violations.



2.2 Actualization rules

Practically all actualization rules consist of the following three parameters:

-
- $\neg P$
-
- $\sum_{n=0}^{\infty} \frac{x^n}{n!}$
-

■ Main activity type

This activity type is defined at the highest organizational level. For shift groups, a main activity type is defined as follows for each activity type. Activity types can be assigned a group activity type. These are simply activity types belonging to higher-level organizational units. In turn, these activity types are also assigned a group activity type. This chain can be continued for as long as required. Once an activity type is reached at the highest organizational level, this defines the corresponding *main activity type*.

■ Activity type

Once periods have been determined to which actualization rules will be applied, activity types must then be assigned to these periods. Rounding-off rules consist of two activity types, *Pre* and *PostActivityTypes*.

Two types of clocking actualization rules can again be distinguished: *clocking rounding-off rules* and the remaining *clocking actualization rules*.

■ Sequence number

Clocking actualization rules are assigned sequence numbers. These sequence numbers determine the order in which rules are applied. Sequence numbers are automatically assigned, but can also be adjusted manually.

2.3 Rounding-off rules

A clocking has two records, a corresponding *clock-in* time and a *clock-out* time. These clock-in and clock-out times can be rounded off to the nearest rounding-off marker. These rounding-off periods can be set independently of corresponding scheduled hours. Rounding-off times can also be manually adjusted by the user. For each record, there are four related times, and therefore eight for each clocking:

- **clocked times** (in/out) are retrieved via the interface with the time registration system, and can therefore not be adjusted.
- **rounded-off times** (in/out) are determined based on predefined clocking rounding-off rules.
- **corrected rounded-off times** (in/out) are the rounded-off times adjusted by the user in the **Clock Times** window.
- **scheduled times** (in/out) are matched to the corrected or uncorrected rounded-off times.

Rounding-off rules are used to calculate the rounded-off time based on the type of main activity and the corresponding scheduled times. The main activity type is the corresponding activity type assigned to the shift at the clocked time. This may well be empty. Users can indicate whether the start or end time should be taken into account. The corresponding scheduled time is adjustable for each rounding-off rule. Scheduled times are termed *Planned-in* times and *Planned-out* times for *clock-in* and *clock-out* records respectively. *Planned-in* and *Planned-out* times can be calculated as follows:

- **shift activity start and end times** in which the clocked times fall
- **default shift start or end times** (for *clock-ins* and *clock-outs*)

Rounding-off rules also allow users to assign another activity type to the shift period between the corrected (or uncorrected) rounded-off time and the corresponding scheduled time.

If no activity type is selected, only rounded-off times are calculated.

Default rounding-off rule text:

Specifications

This rule applies to clock in time if the clocking is for one of the following basic activity types: (None).

The corresponding 'Planned in' is the default begin time of the shift.
The time clocked will be decreased with 0 minutes.

Add a new activity with type (None) if the rounded clock time is before Planned in.
Otherwise add an activity with type (None).


Each rounding-off rule consists of five standard parameters (indicated above by white highlighted text):

- **Record type**, with values *clock-in* and *clock-out*, indicates whether *clock-in* or *clock-out* rules apply.
- **Main activity type**. In addition to an activity type, 'None' can also be selected. This allows for activities to be assigned to the *Planned-in* shift.
- **Scheduled times** are either *Planned-in* or *Planned-out* records. Options include 'default shift start time', 'start time as clocked' and 'end time as clocked'.
- **PreActivityType**. The activity type assigned to the period between the rounded-off and scheduled start times for actualization purposes. If the activity type is set to 'None', there is no change.
- **PostActivityType**. The activity type assigned to the period between the rounded-off and scheduled end times for actualization purposes. If the activity type is set to 'None', there is no change.

For each rounding-off rule, a specific text regarding how the rule rounds off can be found at the position indicated by '...':



When the actualization is performed, the rounded-off times are calculated first. This can be performed based on scheduled times. Next, scheduled times can in certain cases be adjusted for the purpose of making assignments to the periods between scheduled and rounded-off times. This can only be performed in instances where a shift is made up of several clock pairs in accordance with the following rules. A *Planned-out* time can never be later than the subsequent rounded-off clock-in time. Similarly, the *Planned-in* time can never be earlier than the previous rounded-off clock-out time. Corrected *Planned-in* and *Planned-out* times are displayed in the **Clock times** window showing which periods have been or will be adjusted.

 It is possible to apply two rounding-off rules to start and end times. These are the rounding-off rules for the previous activity and the subsequent activity. In such cases, the rounding-off rules are applied according to sequence number. The rules with the lowest sequence number are actually applied.

The previous section dealt with the default rounding-off rule text. The specific sections of the various rounding-off rules are explained below.

Rounding Off to Fixed Times

Clocked times are adjusted [Rounding-Off Direction (Up/Down)] by [Rounding-Off Time] minutes.

Explanation

Clocked times are either rounded up or down by a fixed time period. Parameters include:

- *Rounding-Off Direction*. 'Up' or 'Down'. Determines whether times are rounded up or down.
- *Rounding-Off Time*. Predefined number of minutes. The rounded-off time is derived by rounding the clock times *up* or *down* by the *rounding-off time*.

Example

Planned In: 08:00
 Rounding-Off Time: 00:05
 Rounding-Off Direction: Up

Clocked In	Rounded Off In
07:55	08:00
08:01	08:06

Rounding Off to Scheduled Times

Rounded-off times are derived by increasing or decreasing scheduled times by [Rounding-Off Time] minutes.

Rounding off is performed using a threshold of [Threshold Time] minutes.

Explanation

When this rule is applied, clocking records are rounded off according to the following parameters.

- *Rounding-Off Time*. Predefined number of minutes. Clocking records are rounded off to one of the two closest rounding-off markers. Rounding-off times are determined based on corresponding scheduled times. Rounded-off times are derived by successively rounding the scheduled times *up* or *down* by the *rounding-off time*. The rounding-off direction is determined by the *threshold time*, and whether it is a clock-in or clock-out record (see below). If the *rounding-off time* is set to zero, no rounding off is performed.
- *Threshold Time*. Predefined number of minutes. The *threshold time* indicates the degree to which clocked times may deviate from rounding-off markers so that clocked times remain in the employee's favor. This means the following:

- Case 1: Clock-In Record: clocked times are rounded up unless the time since the previous rounding-off marker is less than the *threshold time*.
- Case 2: Clock-Out Record: clocked times are rounded down unless the time until the subsequent rounding-off marker is less than the *threshold time*.

The *threshold time* must be less than the *rounding-off time*.

Example

The *Planned-in* and *Planned-out* times are 08:00 and 16:36 respectively. The *threshold time* and the *rounding-off time* are 5 and 15 minutes respectively. Consequently, the following apply with regard to rounding off.

Clocked in	Rounded Off In	Clocked Out	Rounded Off Out
08:00	08:00	16:36	16:36
07:51	08:00	16:31	16:36
07:50	07:45	16:30	16:21
08:07	08:15	16:45	16:36

Rounding-off markers are:

08:00 - 1 x 00:15 = 07:45
 08:00 + 0 x 00:15 = 08:00
 08:00 + 1 x 00:15 = 08:15

5-minute threshold:

Rounding off is:

07:45, if clock-in is in the period 07:35-07:50
 08:00, if clock-in is in the period 07:50-08:05
 08:15, if clock-in is in the period 08:05-08:20

Rounding Off to a 60-minute Denominator

Rounded-off times are derived by increasing or decreasing scheduled times by [Rounding-Off Time] minutes to the nearest whole hour.

Times are then rounded off [Rounding-Off Direction (Up/Down)].

Explanation

Rounding-off markers are determined based on the clock. The following parameters play a role:

- *Rounding-Off Time*. Predefined number of minutes. Rounded-off times are derived by rounding the scheduled times *up* or *down* by the *rounding-off time based on whole hours*. The *rounding-off time* is then a denominator of 60 minutes.
- *Rounding-Off Direction*. 'Up' or 'Down'. Determines whether times are rounded *up* or *down*.



In certain cases, rounding off takes scheduled times into account. If the clock-in record is earlier than the *Planned-in* time, the rounded-off time may not be rounded up to later than the *Planned-in* time. If this should be the case, the *Planned-in* time is used instead. Similarly, with clock-out records, if the clock-out time is later than the *Planned-out* time, the rounded-off time may not be rounded down to earlier than the *Planned-out* time.

Example


Planned In: 08:00
 Rounding-Off Time: 10 minutes
 Rounding-Off Direction: Up

Rounding-Off Markers:
 07:50, 08:00 and 08:20

Clocked In	Rounded Off In
07:45	07:50
07:50	07:50
07:55	08:00 (see note: if rounded off > planned in, then planned in)
07:59	08:00
08:05	08:10

2.4 Other actualization rules

Once rounding-off rules have been applied, another set of rules can be applied for actualization purposes. These rules are detailed below in the order in which they are applied.

 Each subsequent clocking actualization rule operates on the output of the previously applied rule. The processing sequence is critical. As such, the final rule 'Maximum Working Hours' is applied to the actualization once all other rules have been applied.

For example, compulsory breaks are processed in a similar fashion, as are maximum consecutive working hours if required. Only then, can the actualized working hours be calculated and compared with daily maximums.

Maximum Uninterrupted Working Hours

Main Activity Types [MAINACTIVITYTIMES] are designated as working hours.

After each uninterrupted work period of [WorkingDuration] hours, an activity of [AddedDuration] minutes with activity type [NewActivityType] is created.

Explanation

After each period of a given length, an activity is added with a given activity type.

Activities: Work 1 and Work 2

Period: 04:00

Activity to be added: 5-minute break

Example

Shift:

09:00-13:30 Work 1 (=4.5 hours)

13:30-18:00 Work 2 (=4.5 hours)

is adjusted as follows:

09:00-13:00 Work 1

13:00-13:05 Break

13:05-13:30 Work 1

13:30-17:30 Work 2

17:30-17:35 Break

17:35-18:00 Work 2

Exceeding Maximum Daily Shift Limits

If the total duration of main activity types [MAINACTIVITYTYPES] exceeds the maximum daily shift limit, the excess is assigned an activity type [NewActivityType].

Explanation

This rule caps the excess hours worked by assigning the excess working hours a given activity type (NewActivityType).

Compulsory Break

Main Activity Types [MAINACTIVITYTIMES] are assigned as breaks.

In the event that less than [MinimumDuration] minutes' break are taken, the shortfall is assigned the main activity type [MAINACTIVITYTYPES]. Breaks taken are first added together [Consolidate Y/N] before being compared to minimum break periods.

In the event that no break is taken, [CompulsoryDuration] minutes are incorporated as a break.

Explanation

If no or too few breaks are taken, the actualization incorporates a break of a given length. Activities belonging to adjustable main activity types are then viewed as breaks. Parameters include:

- *Minimum Duration*. Predefined number of minutes. In the event that clocking records indicate breaks taken to be less than minimum durations, a break is incorporated during actualization corresponding to the minimum duration.
- Consolidate, Yes/No. If yes, all breaks taken are added up and compared to the given minimum and maximum durations. If no, each break taken is compared individually.
- *Compulsory Duration*, predefined number of minutes. In the event that no break is taken, a break of this duration is incorporated half way through the shift.

Replace Excessive Working Periods

If a period with main activity types [MAINACTIVITYTYPES] is longer than [MaximumDuration] minutes, the excess is replaced with activity type [NewActivityType].

Explanation

This rule is related to the rules for compulsory breaks and maximum working hours, i.e., that excess working hours are capped. This can be assigned as being a break, or potentially, as overtime. The last portion of the period is replaced by a defined activity type. The added parameter is:

- *Maximum Duration.* In the event that the maximum duration is exceeded, the excess is replaced by a given activity type.

Replace Clocked-In Time, Y/N

The [ClockedInYes/No] clocked-in time for main activity types [MAINACTIVITYTYPES] is replaced with the activity type [PostActivityType].

2.5 Violation rules

In addition to clocking actualization rules, there are also clocking violation rules. These rules flag violations in the **Clock times** window. If the mouse cursor is placed over the red text, a pop-up note appears indicating what type of clocking time violation has occurred.

Example

Clock times Engineering

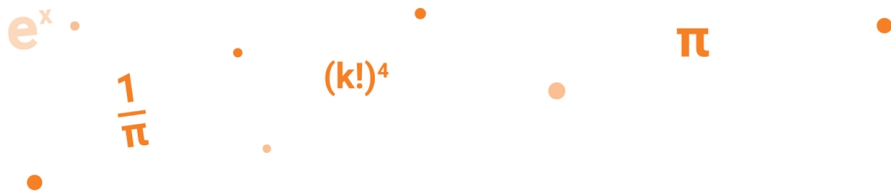
Selection: Department: Engineering, Employee: (All employees)

Period: From 01-01-2007 00:00, until 01-08-2007 00:00

Filter on: Confirmed, Different, Incomplete, Processed

Date	Employee	Shift	Planned in	Planned out	Def In	Def Out	Time in	Time out	Rounded off to	Rou
12-04-2007	Garcia, J.									
12-04-2007	Gibson, J.	EESB	06:00	14:30	00:00	00:00				
12-04-2007	Martin, T.	EESB	06:00	14:30	00:00	00:00				
12-04-2007	Harris, N.	ELSB	14:00	22:30	00:00	00:00				
12-04-2007	Martinez, J.	ELSB	14:00	22:30	00:00	00:00				
12-04-2007	O'Connells, L.	ELSB	14:00	22:30	00:00	00:00				
12-04-2007	Thompson, J.	ELSB	14:00	22:30	00:00	00:00				
13-04-2007	Harris, N.									
13-04-2007	Gibson, J.	EESB	06:00	14:30	00:00	00:00				
13-04-2007	Martin, T.	ELSB	14:00	22:30	00:00	00:00				
13-04-2007	Martinez, J.	ELSB	14:00	22:30	00:00	00:00				
13-04-2007	Thompson, J.	ELSB	14:00	22:30	00:00	00:00				
13-04-2007	O'Connells, L.	ELSB	14:00	22:30	00:00	00:00				
13-04-2007	Garcia, J.	EESP	16:00	00:00	00:00	00:00				
14-04-2007	Gibson, J.	EESB	06:00	14:30	00:00	00:00				
14-04-2007	Harris, N.	EESB	06:00	14:30	00:00	00:00				

Buttons: Time and attendance, Select categories, OK



For each clocking violation rule, it is possible to indicate whether the rule name should be displayed as a description of the violation.

Use the name of the rule as violation text.

A list of ORTEC Workforce Scheduling clocking violation rules is given below.

Shift Minimum and Maximum Limit Clocking Violations

A violation is flagged whenever one of the following rules has been broken.

Check the actualized time in the main activity types [MAINACTIVITYTYPES].

The total duration should be [NoMore/NoLess] than the shift [DailyMinimum/DailyMaximum/DefaultTime].

Explanation

This rule assesses how the actualized times relate to given shift minimum and maximum limits.

Activity During Clocking Violations

A violation is flagged whenever one of the following rules has been broken.

Check the actualized time in the main activity types [MAINACTIVITYTYPES].

The total duration should be [NoLess/NoMore] than [hh:mm].

Explanation

This rule assesses how much time within an actualized shift is made up of certain activity types.

Function Button Clocking Violation

This rule applies to [ClockIn/ClockOutRecords]. Flags a violation whenever the function button has been used with a certain value [characters].

Explanation

The rule flags a clocking violation if the function button was used during clock-in or clock-out with a certain value.

Minimum/Maximum Attendance Balance Clocking Violation

A violation is flagged whenever one of the following rules has been broken.

The attendance record card [Card] balance and category [Category] should be [Less/Greater] than [hh:mm] hours per [Day/Month].

Inter-Clocking Duration Violation

A violation is flagged whenever one of the following rules has been broken.

The rounded-off clock-out time between two shift clockings must be [NoMore/NoLess] than [hh:mm] hours.

Explanation

This rule assesses the periods between various shift clock times. If such a period is too long or too short, a violation is flagged.

Clocked Duration Violation

A violation is flagged whenever one of the following rules has been broken.

Check the rounded-off clocked times in the main activity types [MAINACTIVITYTYPES]. The clocked duration should be [NoMore/NoLess] than [hh:mm] hours. All shift clock times are counted [Together/Individually].

Explanation

This rule flags a violation if the rounded-off clocked period is too long or too short. If required, multiple shift clock times can be added together. With this rule, it is also possible to see that certain shifts have no corresponding clock times.

Clocked Time Violation

A violation is flagged whenever one of the following rules has been broken.

This rule applies to [ClockIn/ClockOutRecords]. Rounded-off times must fall [Within/Outside] one of the main activity types [MAINACTIVITYTYPES]. Rounded-off times may coincide with [neither start nor end points/start point/end point/start or end point] of one of the above-mentioned period types.

Explanation

This rule flags violations dependent on the rounded-off time's corresponding main activity type. These include the core times. Within these hours, it is usually not permitted to clock in or out.

Default Rule End

Use the rule name in the violation description.

Display Violations in the Shift Schedule

It is possible to configure for which schedule status [Scenario/Planning/Published/Justified or higher] violations should be displayed in the shift roster.

2.6 Compensation rules

2.6.1 Clocking Records with Function Button

This rule applies to [ClockIn/ClockOutRecords] and is applied in the event that clocked times belong to one of the following main activity types [MAINACTIVITYTYPES].

In the event that the function button [STRING] is selected, a value [Number] is recorded.



2.6.2 Clocking Records: normal, minimum, maximum

These rules adjust the shift [Normal/DailyMinimum/DailyMaximum] times. The actual labor times should be used instead of the normal hours in the event that:

[x] the shift has processed clock times

[x] the normal time is equal to 0:00

3 How to use

3.1 Clock times window

The **Clock times** window can be found underneath **Overview** and presents information regarding clock times. In addition to information regarding the clock times, the screen also displays balances from one or more attendance record cards.

3.1.1 Information to be displayed

The **Clock times** window displays clock times for one or more staff members from a shift group. Staff members can be filtered if required.

In addition, the period to be displayed can be set using a day and time option. All clockings with rounded-off times corresponding to the given period are displayed. If there are shifts without clockings corresponding to the given period, these are also displayed.

Furthermore, at least one rule is displayed for each calendar day, which will be empty in the event that there are no corresponding shifts.

Finally, it is also possible to filter based on certain clock properties. If the checkbox is disabled, it is not possible to filter based on a certain criterion. Possible properties include the following:

- **Different.** These are clockings with violations.
- **Confirmed.** These are clockings for which 'OK' has been checked.
- **Incomplete.** These are clockings without either a clock-in record or a clock-out record.
- **Processed.** These clockings have been actualized.

The results are not updated until the *Refresh* button has been selected.

3.1.2 Properties to be displayed

The window contains a grid displaying rows of information. This data holds information regarding clockings (normal situation) or the shift name without clockings. Once the clocking has been processed or rejected, it is then disabled. If a clocking contains a violation, the font color is red instead of black. In addition, the clocking type can be displayed if the cursor is held above the clocking text.

Clockings have many different properties. Right-clicking on the grid displays all the options with a checkmark in front of them.

The following properties can be displayed for clockings:

- **Date.** The day on which the shift began, and if there is no shift, the day of the corrected or uncorrected rounded-off clock-in time.

- **Employee.** The staff member to whom the clocking is assigned via his/her badge.
- **Shift.** The shift associated with the clocking. If the clocking spans two shifts, the shift with the greater overlap is taken. This assignment occurs automatically, but can be adjusted through correction of the rounded-off times.
- **Clock In, Planned In, Default In, Rounded-Off In and Corrected In.** The clock-in time, the Planned-in time, the default shift start time, the calculated rounded-off clock-in time, and the rounded-off time adjusted by the user, respectively.
- **Clock Out, Planned Out, Default Out, Rounded-Off Out and Corrected Out.** As above, but for end times.
- **Pre, Post and Interim Activity Type.** The activity types allocated to the periods between corrected or uncorrected rounded-off clock-in times and *Planned-in* times, and the periods between corrected or uncorrected rounded-off clock-out times and *Planned-out* time, and the period generated by the 'Maximum Working Hours' rule. The latter is always entered once the clocking has been processed.
- **Pre <>, Post <> and Interim <>.** The respective lengths of each of the periods mentioned above. If *Pre <>* is negative, the rounded-off start time is later than the *Planned-in* time. If *Post <>* is negative, the rounded-off start time is earlier than the *Planned-out* time. The first two named columns offer another option for adjusting the rounded-off times.
- **In and Out Button.** The function buttons used for clocking in and clocking out respectively.
- **Badge Number.** The clock-in or clock-out record badge number.
- **OK.** Only if 'OK' has not been checked, can the clocking be adjusted manually. All clockings for which 'OK' has been checked and for which 'Processed' is set to 'No' will be processed if the user indicates this to be required. On opening the screen, all clockings to be processed are displayed with 'OK' checked.
- **Processed.** Clocking status. 'No': clocking is not processed. 'Rejected': automatic attempts to process the clocking failed. 'Manual': clocking is to be/has been manually processed. 'Automatic': clocking has been automatically processed.



- As stated, all shifts without clocking records are displayed on the window for as long as filtering permits this. Such rows will nearly always be devoid of any properties. If required, manual clocking records can be created for the shift.
- All cells in the **Clock times** window that have been manually adjusted by the user, which differ from their original calculated values are flagged with an asterisk (*). The asterisk disappears if the original value is re-entered.
- The first three columns (Date, Employee, and Shift) are fixed and remain permanently visible if the screen is scrolled to the right.

3.1.3 Attendance records

In addition to the display of clocking properties, it is vital that the attendance record balances can be viewed simultaneously. Users can select the attendance record to be displayed. A screen is then

displayed showing the various attendance records, which may be selected. Selected attendance records are stored for each user and shift group. Users can indicate whether selected attendance records should be interpreted as default lists or default shift group lists.

3.1.4 Clocking processing feasibility

Processing of clockings is understood to mean the actualization of the corresponding shift. This must be performed with a high degree of precision. Before shift clockings can be processed, the integrity of the clockings must first be determined. A number of checks are performed for each shift clocking. These checks can result in a clocking being 'rejected', or remaining unprocessed. In such a case, the shift cannot be actualized. This also means that none of the other shift clockings can be processed.

The reasons for rejection and non-processing are detailed below. The clocked period is understood to mean the period between the corrected or uncorrected rounded-off start and end times, and the scheduled period between the *Planned-in* and *Planned-out* times. Finally, the actualized period is derived through adjustment of the scheduled period forward and back by the clocked period where the clocked periods have been assigned *PreActivity* and *PostActivityTypes* respectively, and when the clocked period starts earlier than the scheduled period.

Reasons for rejecting clockings include the following:

1. The clocked period does not correspond with the scheduled period. In particular, the clock-out time must be later than the clock-in time. It should be noted that the scheduled period is always a component of the shift.
2. The processed clocking status is either 'Automatic', 'Rejected' or 'Manual', hence only clockings for which *Processed* is set to 'No' will be processed.

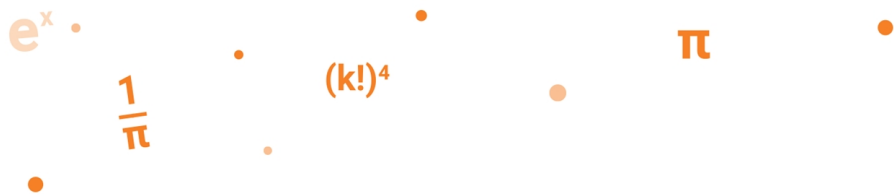
Reasons for **not** processing include the following:

- a. The clocking is incomplete, i.e. a clock-in or clock-out is missing.
- b. No shift has been assigned to the clocking.
- c. The shift has been assigned a status other than 'Published'.
- d. The actualized period overlaps with another actualized clocking period. This could be the result of schedule time changes.
- e. The actualized period overlaps with another shift.

In cases a through e, an internal violation is flagged for the clocking, meaning that the clocking could not be processed.

3.1.5 Automatic processing

Clockings are always processed automatically, even when there are violations, except when these cannot be processed (see **Clocking processing feasibility** above).



3.1.6 Manual clocking processing

New clockings can be created manually. This is useful in the event that employees have left their badge at home.

Shifts can be analyzed and amendments made accordingly. This is possible for both processed and unprocessed clockings. However, the shift status must be at least 'Published'.

Problematic clockings can be deleted manually. It is also possible to set the status manually so that the clocking is then ignored.

3.1.7 Clocking without shift

Staff members have clocked in and out, but according to the schedule do not have a shift. In such an event, the clocking is not processed (rejected) in compliance with reason 1 of 'Clocking processing feasibility'. Users must determine manually what the best course of action is. If the clocking was incorrect, it can be deleted. Otherwise, the schedule can be adjusted via the scheduling board.

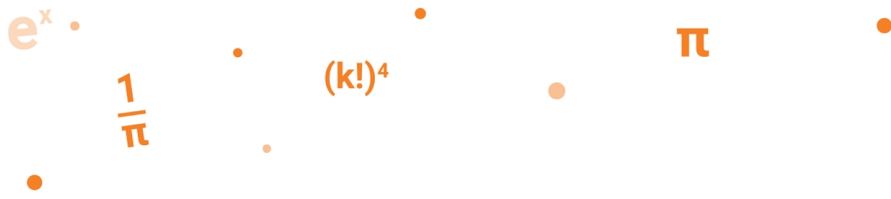
3.2 Clocking violation report

It is possible to export reports to MS excel from the **Clock times** window.

3.3 Authorizations

An overview of authorizations critical to ORTEC Workforce Scheduling's Clock Time module is given below (dependent on settings):

- **ClockingReqRight_Read** – read rights for clock time rules
- **ClockingReqRight_Write** – write rights for clock time rules
- **Clockings_Read** – read rights for the **Clock Times** window
- **Clockings_Write** – write rights for **Clock Times** window
- **Clockings_Remove** – delete clock time registrations in the **Clock Times** window
- **Clocking_Violation_Report** – retrieve clocking violation report



Contact information

For further information contact ORTEC, either through your existing ORTEC representative or by using the appropriate contact details listed on www.ortec.com

Our website offers case studies, white papers, brochures, demos and much more.