Overtime Paid at the Highest Daily Rate

This feature supports the requirement to pay a person overtime based on the person's highest daily pay rate. If a person's pay rate changes throughout the day, the overtime coefficient will be multiplied by the day's highest pay rate.

The maximum daily pay rate is calculated using Analytics rules and accumulators. First, the MAX_RATE accumulator stores the highest pay rate for the day. The ANALYTICS service will add values to this accumulator using an Analytics ruleset. Next, the AVERAGE_RATE service will calculate the maximum rate for the transaction using the MAX_RATE accumulator value that was obtained by the ANALYTICS service. The transaction's maximum rate will appear in the Avg Pay Rate and Avg Pay Rate Amount columns in the Transaction Duration Details form, as well as the AVERAGE_RATE field in the Transaction Rates form.

You can also use a MIN_RATE accumulator to store the lowest pay rate for the day, and calculate the lowest rate for the transaction.

Create the Analytics Rulesets

Create the Max Rate Accumulator Ruleset Profile

Add Processes to the Process Policy

Configure the Pay Policy

Configure the ANALYTICS and AVERAGE_RATE Services

View a Transaction's Max Rates

Example – OT at Highest Daily Rate

Analytics Rule Operands

Pay Policy

Process Policy

Ruleset Profile

Create the Analytics Rulesets

You will need to create two Analytics rulesets.

The first ruleset will be used by the ANALYTICS service to store the maximum daily rate in the MAX_RATE accumulator. The MAX_RATE_ACCUMULATOR Ruleset shown below is an example.

The second ruleset will be used by the AVERAGE_RATE service to calculate the maximum rate and maximum rate amount for individual transactions. The MAX_RATE Ruleset shown below is an example.

MAX_RATE_ACCUMULATOR Ruleset

The MAX_RATE_ACCUMULATOR ruleset shown below is an example of a ruleset used by the ANALYTICS service to store a value in the MAX_RATE accumulator. If the MAX_RATE accumulator already has a value that is greater than the rate being considered, then the rate being considered will not replace the old one.

This ruleset will need to be added to a Ruleset Profile as explained later in this topic.

This ruleset contains three rules.

TimeOffEventToNoAccumulator

The first rule (TimeOffEventToNoAccumulator) checks to see if the event is a vacation, time off, holiday, or sick event. If so, no further processing is done and the ANALYTICS service will process the next rule in the ruleset. The pay rate for these events will not be considered for the MAX_RATE accumulator.

```
IF Is Event Sub Type( Attendance ( Vacation ) )
Or Is Event Sub Type( Attendance ( Time Off ) )
Or Is Event Sub Type( Attendance ( Holiday ) )
Or Is Event Sub Type( Attendance ( Sick ) )
THEN Stop Processing( )
```

BaseRecordToMAXAccumulator

The second rule (BaseRecordToMAXAccumulator) checks to see if the transaction has a Base record in Transaction Duration Details. If so, the rule adds the Payroll Rate for this record to the MAX_RATE accumulator.

If the MAX_RATE accumulator already has a value that is greater than the rate being considered, then the new rate will not replace the old one.

```
IF Is Record Type( BASE )
THEN Add To Accumulator( MAX_RATE, 0, Get Payroll Rate( ) )
```

BaseShiftPremToMaxRateAccumulator

The last rule (BaseShiftPremToMaxRateAccumulator) checks to see if the transaction has a BASE_SHIFT_PREMIUM record in Transaction Duration Details. If so, the rule adds the Payroll Rate for this record, plus the Payroll Rate for the Base record, to the MAX_RATE accumulator.

As with the previous rule, if the MAX_RATE accumulator already has a value that is greater than the rate being considered, then the new rate will not replace the old one.

```
IF Is Record Type( BASE_SHIFT_PREMIUM )
THEN Add To Accumulator( MAX_RATE, 0, Get Payroll Rate( ) Plus Get Payroll Rate
Record Type( BASE ) )
```

MAX_RATE Ruleset

The MAX_RATE ruleset shown below is an example of a ruleset used by the AVERAGE_RATE service to set the maximum daily rate for a person.

This ruleset contains four rules.

SetMaxRateTimeOffEvents

The first rule in the MAX_RATE ruleset (SetMaxRateTimeOffEvents) checks to see if the event is a vacation, time off, holiday, or sick event. If so, the transaction's Average Pay Rate will be set to the transaction's payroll rate. If the event is not a vacation, time off, holiday, or sick event, the AVERAGE_RATE service will process the next rule in the ruleset.

```
IF ( Is Event Sub Type( Attendance ( Vacation ) )
Or Is Event Sub Type( Attendance ( Time Off ) )
Or Is Event Sub Type( Attendance ( Sick ) )
Or Is Event Sub Type( Attendance ( Holiday ) ))
```

THEN Set Average Rate(Get Payroll Rate( ))
And Stop Processing( )

HoursPremiumMaxRate

The second rule (HoursPremiumMaxRate) checks to see if the transaction has an Hours Premium record in Transaction Duration Details. If so, the transaction's Average Pay Rate will be set to the value in the MAX_RATE accumulator for the post date.

IF Is Record Type(HOURS_PREMIUM)
And Get Accumulator Maximum(MAX_RATE, Post Date) Greater Than 0
THEN Set Average Rate(Get Accumulator Maximum(MAX_RATE, Post Date))
And Stop Processing( )

PremiumShiftPremiumMaxRate

The third rule (PremiumShiftPremiumMaxRate) is used to exclude shift premiums from getting the maximum rate. The rule checks to see if the transaction has a Premium Shift Premium record in Transaction Duration Details. If so, the rule stops processing the transaction.

This rule is used because the shift premium was already added to the MAX_RATE accumulator along with the Base payroll rate (see the rule BaseShiftPremToMaxRateAccumulator in the MAX_RATE_ACCUMULATOR ruleset above).

Is Record Type(PREMIUM_SHIFT_PREMIUM)
Stop Processing( )

SetMAXRateAll

The last rule (SetMAXRateAll) is for all other labor events that have not yet been processed by the AVERAGE_RATE service. These events will have their maximum rate set to the transaction's payroll rate.

IF Is Event Type(Labor)
THEN Set Average Rate(Get Payroll Rate( ))

Create the Max Rate Accumulator Ruleset Profile

You need to create a Ruleset Profile that includes the Max Rate Accumulator ruleset you defined above. A Ruleset Profile is a sequenced collection of Analytics rulesets. The ANALYTICS service is configured to process these Ruleset Profiles.

Ruleset Profiles are configured in the Rulesets Profile form.

This Ruleset Profile will also have to be added to the Process Policy and the Pay Policy as explained below.

Add Processes to the Process Policy

You need to assign two processes to the Process Policy: the Max Rate Accumulator Ruleset Profile you defined above and the AVERAGE_RATE process. When a person's Process Policy includes these processes, then both processes will be visible in the Transaction Process Status tab when an event posts in the timecard.

You can assign these processes to the Process Policy using the Process tab and/or the Event tab in the Process Policy form.

- The process for the Ruleset Profile (the Max Rate Accumulator Ruleset Profile defined earlier) will allow the event to be processed by the ANALYTICS service. This Ruleset Profile must also be configured in the service's parameter. The ANALYTICS service will process transactions that have a Transaction Process Status record for the same Ruleset Profile that is configured in the service's parameter.
- The AVERAGE_RATE process will allow the event to be processed by the AVERAGE_RATE service. The AVERAGE_RATE service will look for transactions that have a Transaction Process Status record for the AVERAGE_RATE process. The service will process these transactions using the Avg Rate Ruleset in the person's Pay Policy.

Configure the Pay Policy

There are three settings in the Pay Policy that need to be configured for this feature.

Average Rate checkbox: Check this box to make sure the AVERAGE_RATE service will process the person's transactions using the Avg Rate Ruleset in the Pay Policy.

Avg Rate Ruleset: Select the ruleset that the AVERAGE_RATE service will use to calculate the maximum rate. Available options are rulesets with the Analytics context.

Avg Accumulation: Select the Ruleset Profile that must be processed by the ANALYTICS service before the AVERAGE_RATE service can run.

Before processing the Avg Rate Ruleset, the AVERAGE_RATE service will check to see that the transaction has a "Complete" process status record for the Ruleset Profile shown in the Avg Accumulation field. This Ruleset Profile will have been processed by the ANALYTICS service. The ANALYTICS service must be run before the AVERAGE_RATE service. If the Ruleset Profile shown in the Avg Accumulation field has a Complete process status record, the AVERAGE_RATE service will process the transaction using the Avg Rate Ruleset.

Make sure the Pay Policy is assigned to the persons who will have their maximum rate calculated.

Configure the ANALYTICS and AVERAGE_RATE Services

You will need to configure the ANALYTICS and AVERAGE_RATE services in the Service Instance form. It is recommended that you copy these services in the Service Instance form and modify the duplicates as necessary.

The ANALYTICS service must be run before the AVERAGE_RATE service. You may want to create a BATCH service that runs the following services in order: RECALCULATION, ANALYTICS, and AVERAGE_RATE.

The weeks/periods being processed must be Payroll Locked in order to be processed by the AVERAGE_RATE service.

ANALYTICS Service

Select the **RULESET_PROFILE** you defined earlier (Max Rate Accumulator Ruleset Profile).

Set the **PROCESSING_ORDER** to TRANSACTION_DURATION_DETAIL.

AVERAGE_RATE Service

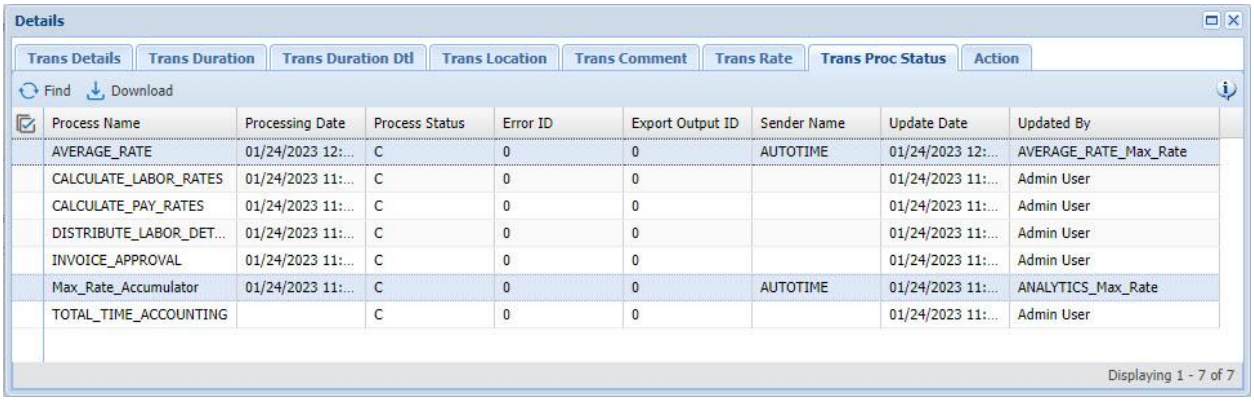
Set the **PERIOD_TYPE** to PERIOD or WEEK depending on the type of pay period you are using.

Use the **PERIOD_BACK_START** and **PERIOD_BACK_END** parameters to set the date range for the weeks or periods that the service will process. For example, if PERIOD_BACK_START is 4 and PERIOD_BACK_END is 1, then the service will process the weeks starting 4 weeks earlier than the current week and ending in the previous week.

You can leave the **ADJUST_DAYS_BACK** setting at zero.

View a Transaction's Max Rates

After you run the ANALYTICS and AVERAGE_RATE services, the Transaction Process Status form will show when the AVERAGE_RATE process and the Max Rate Accumulator Ruleset Profile have finished processing the transaction. Their statuses will be C for Complete.



In the Transaction Duration Detail form, the **Average Pay Rate** and **Average Pay Rate Amount** columns will show the rates calculated by the AVERAGE_RATE service. These rates are based on the Avg Rate Ruleset (MAX_RATE) in the person's Pay Policy, using the accumulator value from the Avg Accumulation in the Pay Policy (Max Rate Accumulator Ruleset Profile).

Example – OT at Highest Daily Rate

A person has posted time to three different maintenance orders. Each order has a different pay rate (defined in the Charge Element form). The pay rates are shown in the charge element description. Order 3000 has a pay rate of 25, order 3001 has a rate of 20, and order 3002 has a rate of 15.

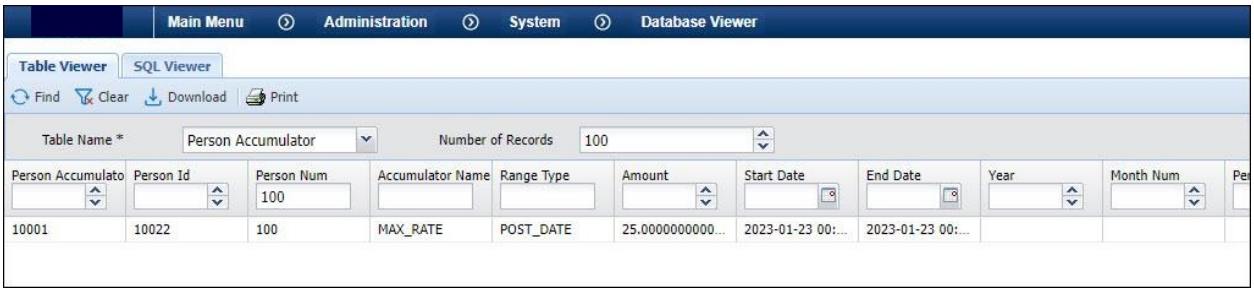
	Event	Key Val	Chg Elem Desc 1	Totals	Duration	Classification	Shift	Start Rnd Timestan	End Rnd Timestam
	Clock In	/CLOCK		0.00				07:00:00 AM (0...	
	Maintenance Order	/3000/10	Pay Rate 25	2.00	2.00	R	1	07:00:00 AM (0...	09:00:00 AM (0...
	Maintenance Order	/3001/10	Pay Rate 20	3.00	3.00	R	1	09:00:00 AM (0...	12:00:00 PM (0...
	Maintenance Order	/3002/10	Pay Rate 15	6.00	3.00 3.00	R O	1 1	12:00:00 PM (0...	06:00:00 PM (0...
	Clock Out	/CLOCK		0.00					06:00:00 PM (0...

Order 3002 is for 6 hours, and 3 of the hours are overtime. If we look at the Transaction Duration Details for this event, the Base and Hours Premium records are based on the charge element's payroll rate (15).

The ANALYTICS service runs and processes the Max Accumulator Ruleset Profile (MAX_RATE_ACCUMULATOR ruleset) defined earlier.

Once the service is done, the Transaction Process Status form shows the Max_Rate_Accumulator process (added earlier to the person's Process Policy) has a status of C (Complete).

The person_accumulator table shows the amount for the MAX_RATE accumulator is 25, which is the highest pay rate on the post date.



At the end of the pay period, the period is Payroll Locked.

The AVERAGE_RATE service is then run. The service uses the MAX_RATE ruleset configured earlier.

According to this ruleset, the hours premium portion of a transaction will use the MAX_RATE accumulator value (25) to determine the Average Payroll Rate.

Order 3002 was posted for 3 Regular and 3 Overtime hours. Overtime has a 1.5 coefficient and the premium portion of this coefficient (0.5) is multiplied by the rate, resulting in an Average Pay Rate of 12.5 (max rate 25 * 0.5) for the Hours Premium. The Base records continue to use the transaction's Payroll Rate as the Average Pay Rate.