

## Calculation of individual performance metric data

To calculate individual and team performance metrics, the IPM Calculation Engine, a SQL scheduled job, is performed on the Changepoint database. This job gathers data from the Changepoint database, generates raw data and inserts it into the `IPIMetricRawData` table.

The IPM Calculation Engine carries forward assignments from one period to the next period if the **Carry forward** check box is selected on the **Metric** dialog box. After the scheduled job runs on the first day of the new period, users cannot add or remove assignments. Assignments must be added or removed as needed before the job runs for the new period.

The following list of metrics can be recalculated for a previous period:

- Utilization Percent (Billable by Hours/Day)
- Utilization Percent (Billable by Period Hours)
- Utilization Percent (by Hours/Day)
- Utilization Percent (by Period Hours)
- Time Submission Conformance
- Opportunity Won Result
- Opportunity Won Result (Floating target)
- User-Entered Calculation (Average)
- User-Entered Calculation (Date)
- User-Entered Calculation (Sum)
- User-Entered Calculation (Actual)

The IPM Calculation Engine calculates raw data associated with a resource who is assigned to a metric. It inserts the results into the `IPIMetricData` table. Only the raw data based on the current IPM period is calculated. The criteria is as follows:

- The resource is assigned to a metric and the assignment is not deleted.
- The metric is not deleted.
- The standard metric is not deleted.

The scheduled job includes an IPM recalculation step that recalculates the last day of the previous period if metric data for the last period is detected.

The process locks all relevant records in the `IPIRecalcuLastPeriod` table, and then runs the metric calculation for individual and team data for the specific period and resource. After individual resource metrics are calculated, then all team assignment metrics for the specific

period are calculated. When all calculations are finished, the locked records are deleted in the `IPIReCalcuLastPeriod` table.

The scheduled job includes an IPM Raw Data step that deletes data that is older than the previous period. Only raw data for the current and previous period is retained.

For information about metric calculations, see the *Performance Metric Calculation Reference Guide*.

## Calculation of portfolio metric data

To calculate portfolio metric results, the Portfolio Calculation Engine, an SQL scheduled job, is performed on the Changepoint database. If project portfolios are included in a rollup portfolio, the job first calculates data at the project portfolio-level and then at the rollup portfolio-level.

### Rollup methods

The Portfolio Calculation Engine rolls up data from the `MetricRawData` table and moves the data to the `MetricData` table. The rollup method is used for team metric calculations and performance management calculations.

The following are examples of how metrics are calculated using each rollup method:

#### Sum

Adds the metric data of each resource's total.

Example: Opportunity Won Value

Raw		Metric Data	
	Value		SUM
Resource 1	\$200	Resource 1	\$500
Resource 1	\$300		
Resource 2	\$250	Resource 2	\$250
			\$500 + \$250
		SUM	\$750

## Average

Averages the metric data of each resource's total. The raw data is added together and then averaged at summary level.

Example: Opportunity Won Value

Raw		Metric Data	
	Value		SUM
Resource 1	\$200	Resource 1	\$500
Resource 1	\$300		
Resource 2	\$250	Resource 2	\$250
			\$750/2 resources
		AVG	\$375

## Weighted average

Averages the raw metric data of each resource's data.

Example: Opportunity Won Value

Raw		Metric Data	
	Value		SUM
Resource 1	\$200	Resource 1	\$500
Resource 1	\$300		
Resource 2	\$250	Resource 2	\$250
			\$750/3 records
		W.AVG	\$250

