

SLIM-Estimate® Solution Methods

Purpose:

There are several ways to compute an estimate, determined by the goal of the estimator and the amount of data available. For example, very early life cycle estimates can be produced using the ROM (Rough Order of Magnitude) or Balanced Risk Wizards, since they require the least amount of information. Use this guide to explore a variety of solution methods to assess potential outcomes and associated risks.

SOLUTION METHOD	PURPOSE	SOLVES FOR	INPUT	COMMENTS
File New	<i>These methods are available when creating a brand new project estimate. Solutions Methods marked with * can also be accessed from the Estimate menu</i>			<i>Use QSM defaults (or a template, for the first 7 methods) to initialize many settings.</i>
ROM (Rough Order of Magnitude)*	ROM estimate using the default relationship between size, productivity, time, and effort.	Effort, Duration, Peak Staff, MBI	Size, PI	Both size and PI inputs may be selected from trend-based statistics, if unknown by the estimator. Will extend duration slightly to reduce cost and increase quality.
Detailed Method	Enter detailed solution assumptions, taking advantage of PI trends, historical data and multiple sizing techniques (Sizing Calculator).	Effort, Duration, Peak Staff, MBI	Size, PI	Enter a single expected value for size and PI, use the Sizing and/or PI Calculators, or choose averages from your historical projects.
Fixed Resources*	Specify human resources available and productivity. Size determined from Primary Trend Group.	Size, Duration, MBI	PI and Phase 3 Effort or Peak Staff	Low confidence estimate if no size assumption can be made.
Bid Evaluation*	Bid Evaluation. Determine the productivity required to achieve specified Size with available effort and schedule.	PI, MBI	Size, Life Duration, Life Effort or Phase 3 Peak Staff	Used to evaluate vendor bids or estimates generate using other methods. Used to reconstruct completed projects and calculate required productivity (PI).

SOLUTION METHOD	PURPOSE	SOLVES FOR	INPUT	COMMENTS
Time Boxed, Fixed Team*	Time-boxed Estimate. Specify human resources, time available, and productivity. Size determined from Primary Trend Group.	Size, MBI	PI, Life Duration, Life Effort or Phase 3 Peak Staff.	Determines the functionality or value that can be produced. Good for Agile release planning.
Balanced Risk*	For the specified system size, the average effort and time are taken from your selected trend group; a resulting PI is then calculated.	Effort, Duration, PI, MBI, Peak Staff	Size	Good Out-Of-The-Box solution with minimum input. Computes average duration and effort for similar projects of the same size. Phase Tuning comes from trend.
Create a Solution from DataManager	Select a single completed project from your SLIM-DataManager database. Provides a good starting point for similar new project estimates	PI, MBI, Peak Staff	Size, Phase-specific data (duration and effort)	The inputs are imported from the selected DM project.
Create a Solution from Control	To create a plan based on the current plan from a SLIM-Control workbook.	PI, MBI, Peak staff	Size, PI, Phase-specific data (Duration and Effort)	May be used to re-estimate when assumptions change significantly early in the development of a project. Another use is to estimate a brand-new project that is expected to be very similar to an on-going project.
SOLUTION ASSUMPTIONS METHODS	<i>Estimate /Solution Assumptions</i>			
Trend Based	Given size, average time and effort are taken from your selected trend statistics.	Duration, Effort, PI, MBI, Peak Staff	Size	Phase Tuning set by preceding solution – or defaults/template settings in the case of a new estimate.
Design to Input	Set a single metric constraint or target, such as Duration or Cost or Life Duration, to compute time or effort required to achieve a critical project goal.	Any of the remaining metrics * Excluding Design to metric	Size, PI, and a single additional constraint value.	The single constraint value may be MBI, Life Avg Staff, P3 Peak Staff or one of the following values for Phase 3 or Life Cycle: Duration, Time from start, Effort, Cost, End Date, MTTD
Constrained	Set multiple metric constraints or targets, and their associated desired probabilities,	MBI	Size, PI, one or more metric constraints and	Alternative solutions that meet each individual constraint will be

	to compute an estimate that either meets all targets or achieves the highest joint probability.		desired target probabilities	generated if no viable solution can be found.
Unconstrained (Constrained with no targets)	Determine QSM Default solution, consistent with ROM (Rough Order of Magnitude) Wizard. An average staffing buildup rate trades off time and effort, consistent with projects in the QSM historical database.	MBI, Peak Staff, Effort, Duration	Size, PI	Constraint Target and Probabilities fields are blank.

NOTES:

History | History Tuning feature provides an alternative way to obtain estimate input values based on specific historical projects similar to the project being estimated. Load projects from your historical database (SMP workbook), then select the specific projects most similar to the project being estimated. Average metric values computed for selected projects may be included for any of the following metrics: PI, MBI, Defect Tuning Factor, and Phase Tuning.