Every project has some uncertainty but we can load the dice in your favor.

Full Monte

Schedule Risk Analysis

BARBECANA

Realistic Plans for project Success

Cost and schedule risk analysis for Microsoft® Project and Oracle Primavera® that helps you build more realistic schedules and improve your chance of project success.

Factor in Risk for More Realistic Schedules

Every management decision involves risk. The difference between success and failure is often how well that risk is accounted for and managed. In project planning especially, ignoring uncertainty can have serious consequences. Using "deterministic" or single-point estimates results in two main types of error:

1. At best, the single value obtained for the project completion date or cost may approximate the middle of the range of possible outcomes. This means that there is only a 50% chance of achieving them. Most projects demand a plan with a much higher probability of success.
2. Often the situation is much worse, in that the chance of achieving these single value estimates may be much smaller than 50% due to distributions being skewed and to a phenomenon known as merge bias.

The only thing certain about a deterministic plan is that it will be wrong. The solution is Full Monte™ – a cost and schedule risk analysis that graphically displays the probability that your projects will complete on schedule and within budget. Full Monte utilizes Monte Carlo risk analysis to produce realistic estimates of all calculated dates, floats/slacks and costs. Full Monte factors in uncertainty, helps you set realistic expectations and adjust your project plans. Full Monte also performs sensitivity analysis, pinpointing tasks likely to affect project completion. Full Monte protects your projects, your plans, and most importantly your reputation.

The Need for Speed

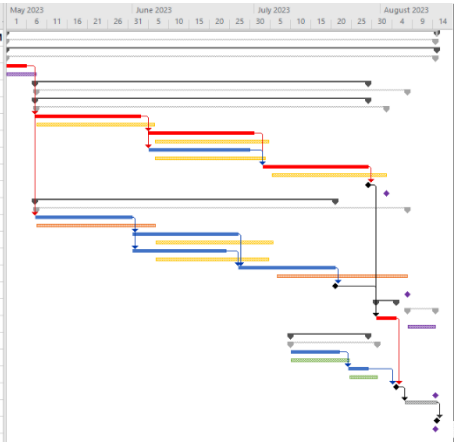
Speed matters because it is important to do a large number of trials in order to get reliable results especially at the 80-90% confidence levels required by many clients.

Full Monte is significantly faster than competitors, which has two benefits: it's possible to run more simulations in a given amount of time; and Schedule Risk Analysis becomes feasible on larger projects/multi-projects. (We have customers running simulations on schedules with more than 50,000 tasks).

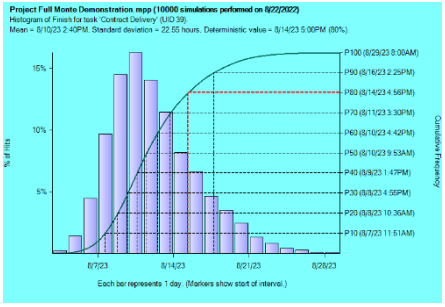
Full Monte is so fast because Barbecana specializes in risk analysis in the project scheduling context. What's more, it does a sophisticated sensitivity analysis at the same time!

If risk analysis is worth doing it's worth doing properly, so if you don't want to have to leave your simulations running overnight Full Monte is your clear choice.

Task Name	Duration	Start	Finish	Start Percentile (80%)	Finish Percentile (80%)
Full Monte Demonstration	**76 days**	**5/1/23 8:00 AM**	**8/14/23 5:00 PM**	**5/1/23 8:00 AM**	**8/14/23 4:56 PM**
Sample Project	**76 days**	**5/1/23 8:00 AM**	**8/14/23 5:00 PM**	**5/1/23 8:00 AM**	**8/14/23 4:56 PM**
Initiate	5 days	5/1/23 8:00 AM	5/5/23 5:00 PM	5/1/23 8:00 AM	5/8/23 8:09 AM
Development	**60 days**	**5/8/23 8:00 AM**	**7/28/23 5:00 PM**	**5/8/23 8:11 AM**	**8/7/23 4:56 PM**
Hardware	**60 days**	**5/8/23 8:00 AM**	**7/28/23 5:00 PM**	**5/8/23 8:11 AM**	**8/2/23 2:27 PM**
HW Design	20 days	5/8/23 8:00 AM	6/2/23 5:00 PM	5/8/23 8:11 AM	6/6/23 10:07 AM
HW Part A	20 days	6/5/23 8:00 AM	6/30/23 5:00 PM	6/6/23 10:08 AM	7/4/23 4:25 PM
HW Part B	19 days	6/5/23 8:00 AM	6/29/23 5:00 PM	6/6/23 10:08 AM	7/3/23 4:05 PM
HW Integrate	20 days	7/3/23 8:00 AM	7/28/23 5:00 PM	7/5/23 8:29 AM	8/2/23 2:27 PM
HW Complete	0 days	7/28/23 5:00 PM	7/28/23 5:00 PM	8/2/23 2:27 PM	8/2/23 2:27 PM
Software	**54 days**	**5/8/23 8:00 AM**	**7/20/23 5:00 PM**	**5/8/23 8:11 AM**	**8/7/23 4:47 PM**
SW Design	18 days	5/8/23 8:00 AM	5/31/23 5:00 PM	5/8/23 8:11 AM	6/6/23 2:17 PM
SW Code A	18 days	6/1/23 8:00 AM	6/26/23 5:00 PM	6/6/23 2:18 PM	7/5/23 2:43 PM
SW Code B	17 days	6/1/23 8:00 AM	6/23/23 5:00 PM	6/6/23 2:18 PM	7/4/23 1:58 PM
SW Integrate	18 days	6/27/23 8:00 AM	7/20/23 5:00 PM	7/6/23 10:41 AM	8/7/23 4:47 PM
SW Complete	0 days	7/20/23 5:00 PM	7/20/23 5:00 PM	8/7/23 4:47 PM	8/7/23 4:47 PM
Integration	**5 days**	**7/31/23 8:00 AM**	**8/4/23 5:00 PM**	**8/7/23 4:58 PM**	**8/14/23 4:56 PM**
Testing	5 days	7/31/23 8:00 AM	8/4/23 5:00 PM	8/7/23 4:58 PM	8/14/23 4:56 PM
Marketing	**15 days**	**7/10/23 8:00 AM**	**7/28/23 5:00 PM**	**7/10/23 8:00 AM**	**7/31/23 8:24 AM**
Brochure Design	10 days	7/10/23 8:00 AM	7/21/23 5:00 PM	7/10/23 8:00 AM	7/24/23 8:18 AM
Brochure Printing	5 days	7/24/23 8:00 AM	7/28/23 5:00 PM	7/24/23 8:20 AM	7/31/23 8:23 AM
Work Complete	0 days	8/4/23 5:00 PM	8/4/23 5:00 PM	8/14/23 4:56 PM	8/14/23 4:56 PM
Schedule Margin	6 days	8/7/23 8:00 AM	8/14/23 5:00 PM	NA	NA
Contract Delivery	0 days	8/14/23 5:00 PM	8/14/23 5:00 PM	8/14/23 4:56 PM	8/14/23 4:56 PM



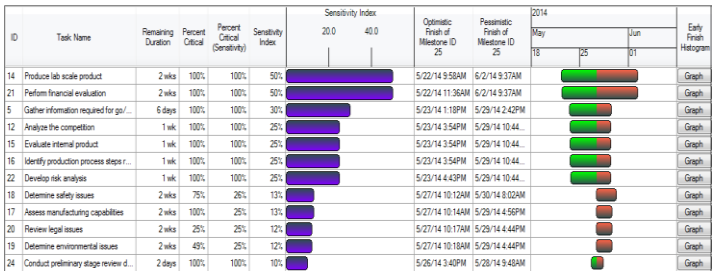
Full Monte can display risk adjusted schedules based on any required level of confidence along with Tornado charts, joint cost/schedule scatter plots and the traditional histograms and S-curves.



Avoid awkward Import/Export

Full Monte runs against your source schedule in either Microsoft Project or Oracle Primavera. This avoids the possibility of performing your analysis on an out-of-date schedule and ensures that your uncertainty data is backed up with your standard procedures.

Sensitivity Analysis



ID	Task Name	Remaining Duration	Percent Critical	Percent Critical (Sensitivity)	Sensitivity Index	Optimistic Finish of Milestone ID 25	Pessimistic Finish of Milestone ID 25	Early Finish Histogram
14	Produce lab scale product	2 wks	100%	100%	50%	5/22/14 9:58AM	6/2/14 9:37AM	Graph
21	Perform financial evaluation	2 wks	100%	100%	50%	5/22/14 11:36AM	6/2/14 9:37AM	Graph
5	Gather information required for go/...	6 days	100%	100%	30%	5/23/14 1:18PM	5/29/14 2:42PM	Graph
12	Analyze the competition	1 wk	100%	100%	25%	5/23/14 3:54PM	5/29/14 10:44...	Graph
15	Evaluate internal product	1 wk	100%	100%	25%	5/23/14 3:54PM	5/29/14 10:44...	Graph
16	Identify production process steps r...	1 wk	100%	100%	25%	5/23/14 3:54PM	5/29/14 10:44...	Graph
22	Develop risk analysis	1 wk	100%	100%	25%	5/23/14 4:43PM	5/29/14 10:44...	Graph
18	Determine safety issues	2 wks	75%	26%	13%	5/27/14 10:12AM	5/30/14 8:02AM	Graph
17	Assess manufacturing capabilities	2 wks	100%	25%	13%	5/27/14 10:14AM	5/29/14 4:56PM	Graph
20	Review legal issues	2 wks	25%	25%	12%	5/27/14 10:17AM	5/29/14 4:44PM	Graph
19	Determine environmental issues	2 wks	49%	25%	12%	5/27/14 10:18AM	5/29/14 4:44PM	Graph
24	Conduct preliminary stage review d...	2 days	100%	100%	10%	5/26/14 3:40PM	5/28/14 9:48AM	Graph

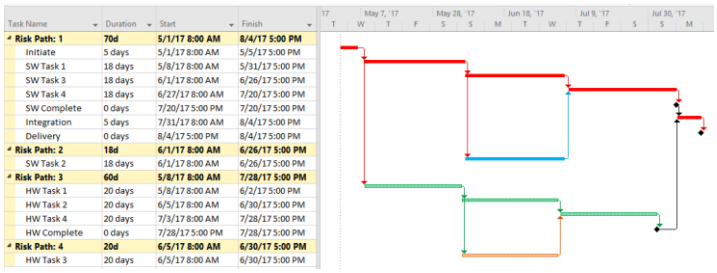
"Tornado chart" showing the sensitivity of an interim delivery milestone to uncertainty of preceding work. Note the columns showing 'Percent Critical' and 'Percent Critical (Sensitivity)' which show the criticality of the various tasks to both project completion and interim milestone respectively.

Sensitivity analysis pinpoints those tasks or outside influences which most critically affect the finish date and cost of the project, or part of the project.

The split bars highlight both positive and negative influences for the various tasks. The green bar shows how the project is influenced to finish early when a task finishes early. Likewise, red bars indicate the project was influenced to finish late when a task finishes late. This helps identify opportunities for schedule compression.

Risk Path Analysis

Risk Path Analysis identifies the potential critical paths to either project completion or a selected milestone.



Task Name	Duration	Start	Finish
Risk Path: 1	**70d**	**5/1/17 8:00 AM**	**8/4/17 5:00 PM**
Initiate	5 days	5/1/17 8:00 AM	5/5/17 5:00 PM
SW Task 1	18 days	5/8/17 8:00 AM	5/31/17 5:00 PM
SW Task 3	18 days	6/1/17 8:00 AM	6/26/17 5:00 PM
SW Task 4	18 days	6/27/17 8:00 AM	7/20/17 5:00 PM
SW Complete	0 days	7/20/17 5:00 PM	7/20/17 5:00 PM
Integration	5 days	7/31/17 8:00 AM	8/4/17 5:00 PM
Delivery	0 days	8/4/17 5:00 PM	8/4/17 5:00 PM
Risk Path: 2	**18d**	**6/1/17 8:00 AM**	**6/26/17 5:00 PM**
SW Task 2	18 days	6/1/17 8:00 AM	6/26/17 5:00 PM
Risk Path: 3	**60d**	**5/8/17 8:00 AM**	**7/28/17 5:00 PM**
HW Task 1	20 days	5/8/17 8:00 AM	6/2/17 5:00 PM
HW Task 2	20 days	6/5/17 8:00 AM	6/30/17 5:00 PM
HW Task 4	20 days	7/3/17 8:00 AM	7/28/17 5:00 PM
HW Complete	0 days	7/28/17 5:00 PM	7/28/17 5:00 PM
Risk Path: 4	**20d**	**6/5/17 8:00 AM**	**6/30/17 5:00 PM**
HW Task 3	20 days	6/5/17 8:00 AM	6/30/17 5:00 PM

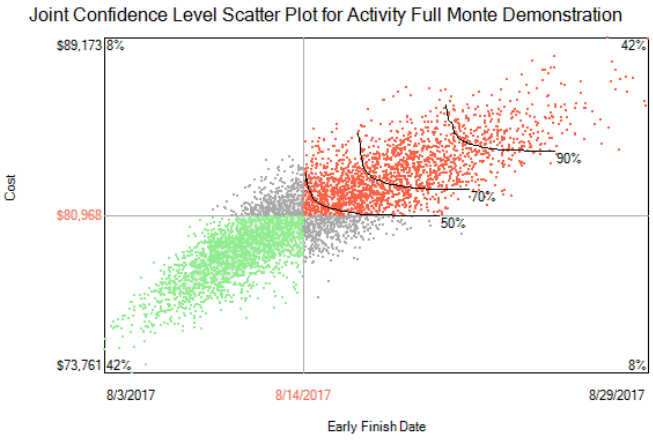
"Risk Path Gantt" showing the potential critical paths to any selected deliverable based on their criticality to the outcome. This example uses Full Monte data sharing with the host scheduling tool to create the view.

Monte Carlo Simulation

Full Monte uses Monte Carlo simulation – named after the famous casino – to produce more realistic schedules by modeling the uncertainties inherent in any prediction of the future. Monte Carlo works by simulating the project thousands of times, each time using a different set of duration estimates sampled from distributions specified by you. Results are presented in terms of histograms and S-curves of both schedule and cost for every task in the schedule.

Joint Confidence Level (JCL)

The JCL scatter report is an integrated uncertainty analysis of both cost and schedule. It shows the probability of both cost and schedule being within target values and highlights the relationship between the two.



Full Monte Features

- Support for normal, lognormal, beta, triangular, and uniform distributions.
- Optimistic and pessimistic values can be specified with 100% certainty or with some lower percentage of certainty (a generalization of "trigen" distribution to all distribution types).
- Probabilistic and conditional branching.
- Task Existence Probability.
- Correlations between task durations based on multiple factors.
- Sensitivity analysis, including sensitivity index, and tornado charts for cost and schedule.
- Expected values, standard deviations, percentiles, histograms, and s-curves for cost, early and late dates, and free and total slack for every task.
- True cost integration is achieved by resource-loading the schedule as required by AACE Recommended Practice 57R-09.
- Active percentage, critical percentage, sensitivity index, merge bias delay for every task.
- Supports external subprojects with inter-project links.
- User-configurable mapping of data to Project fields for easy coexistence with other add-ins and sharing of data (Microsoft Project version only).
- Easy to use (no VBA or other programming required).
- Customizable reports, including bar charts for dates, durations, and costs.
- Screen capture for management reports/presentations.
- Output to comma-delimited files (for Excel®).
- Sophisticated modeling of calendar uncertainty to model weather effects (P6 version only).
- Automatic 'zeroing out' of Schedule Margin tasks.
- Diagnostic fields to explain the basis for results.

Supported Environments

For supported versions of Microsoft Project and Oracle Primavera P6 please see https://www.barbecana.com/full-monte/features/

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Download a risk-free trial today at www.barbecana.com

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