

# Oracle's Primavera Risk Analysis



## KEY BUSINESS BENEFITS

- Integrate directly with project schedules and costs
- Provide a comprehensive means of reporting project confidence levels
- Produce risk analysis reports in a variety of formats
- Provide techniques for determining contingency and risk response plans

Every project has risks. The organizations that succeed are the ones that plan for those risks—anticipating, mitigating, and providing response and contingency plans for negative events that may or may not occur. Oracle's Primavera Risk Analysis software provides the tools for doing just this, enabling companies to model risks and analyze the cost and schedule impacts of mitigating them—and, in the process, taking much of the uncertainty out of project and portfolio management.

## Analyzing, Mitigating, and Managing Risk

By integrating directly with project schedules as well as cost estimates to model risks and uncertainty, Primavera Risk Analysis provides a full-lifecycle cost and schedule risk analytics solution for the Primavera project portfolio management applications and Microsoft Project.

Providing quick and easy techniques for determining contingency and risk response plans as well as a comprehensive means of reporting project confidence levels, Primavera Risk Analysis risk-loads projects through risk registers and risk templates before using Monte Carlo simulation to analyze them. It then provides a variety of reports, such as risk histograms, tornados, and scatter plots, that enable users to easily identify risk drivers before (optionally) publishing the resulting risk-adjusted schedules back into the schedule.

## Providing an Objective View for Effective Assessment

As a decision support tool for determining confidence levels regarding project costs and schedules, Primavera Risk Analysis delivers an objective view of required contingencies and an analysis of the effectiveness of proposed risk response plans. These combine to form the basis of a risk-adjusted schedule—now a standard part of the planning and scheduling process.

To support this mission, Primavera Risk Analysis offers the following features:

## Risk Analysis Guide

Outlining the steps entailed in the risk analysis process, the Risk Analysis Guide takes users through the process of preparing, modeling, and running a risk analysis. Each of the required steps—schedule validation, development of the risk model, risk analysis, and results review—links to the Primavera risk analysis feature users must employ to complete it.

## KEY FEATURES

- Risk Analysis Guide
- Schedule Check
- Templated Quick Risk
- Risk Register Wizard
- Risk Register
- Risk Analysis

## Schedule Check

The Primavera Risk Analysis Schedule Check feature lets users evaluate schedule maturity and risk readiness by seeking common scheduling problems that can affect deterministic schedules. The Schedule Check report provides the rationale behind each check and explains how it can affect risk analysis. It also provides a list of the activities identified.

## Templated Quick Risk

The Primavera Risk Analysis Templated Quick Risk feature uses a template approach to assign uncertainty risk distributions to tasks based on WBS (work breakdown structure), activity code, user-defined field, or filter. Providing a more advanced way of executing quick risk, these templates make it easy to model task uncertainty.

## Risk Register Wizard

With the Primavera Risk Analysis Risk Register Wizard, users can quickly create new risk registers, defining risk scoring criteria, entering qualitative risk assessments, and mapping risks to scheduled activities. Users can then gather quantitative assessments and more-detailed information in the resulting risk registers.

## Risk Register

By using the Risk Register feature in Primavera Risk Analysis, users can integrate pre-developed risk registers as well as define new ones (see Figure 1). Users can also employ this feature to produce both qualitative and quantitative models of positive and negative risk events (threats and opportunities) and their associated response plans (such as mitigation). Risk Register also automatically integrates identified risk events into the schedule, by creating a risk event plan, which users can then analyze to determine both key risk drivers and the cost-effectiveness of the identified mitigation strategies.

Risk		Pre-Mitigation (Data Date = 12 Oct 05)					Mitigation		Post-mitigation						
ID	T/O	Title	Probability	Schedule	C.	Safety	Score	Response	Title	Total Cost	Probability	Schedule	C.	Safety	Score
RISK4	T	Key resource unavailable	H	L	L	VH	35	Reduce	Change res...	\$300,000	VL	L	L	N	6
RISK3	T	Contract Delay	H	M	L	H	25	Reduce	Change for...	\$500,000	L	M	L	N	6
RISK10	D	Reuse previous design work	H	N	H	N	25	Enhance		\$0	H	N	H	N	25
RISK5	T	Delivery overrun	M	H	N	N	20	Reduce	Source alter...	\$50,000	L	L	N	N	9
RISK9	T	Design changes	H	M	M	N	14	Reduce		\$0	H	M	M	N	14
RISK1	T	Poor understanding and detail ...	L	H	M	VL	12	Reduce	Introduce p...	\$10,000	VL	L	L	N	1
RISK7	T	Rework required for assembly ...	M	M	M	L	10	Reduce	Check man...	\$200,000	N	M	M	N	0
RISK2	T	System failure	VL	VH	VH	VH	8	Reduce	Improve ini...	\$750,000	N	VH	VH	N	0
RISK8	T	Testing fails	L	L	L	N	8	Reduce		\$0	L	L	L	N	8
RISK6	T	Fabrication contractor goes bust	N	M	M	M	0	Reduce		\$0	N	M	M	M	0

Risk Details		Code Fields		Mitigation		Waterfall Chart		Notes		Risk History	
ID	RISK4	Title	Key resource unavailable								
Cause	Due to other project commitments.		Description	Key resources may be unavailable.		Effect	Delay could occur on completion of key activities.				
Pre-mitigated position:	Probability	H (50% to 70%)	Score	35							
	Schedule	L (10 to 20)	Score	35							
	Cost	L (\$10,000 to \$50,000)	Score	35							
	Safety	VH (Failure to meet ac...)	Overall Impact	VH							
Post-mitigated position:	Probability	VL (Up to 10%)	Score	6							
	Schedule	L (10 to 20)	Score	6							
	Cost	L (\$10,000 to \$50,000)	Score	6							
	Safety	N (Negligible)	Overall Impact	L							

Figure 1: Primavera Risk Register

## ORACLE PRIMAVERA RISK ANALYSIS

Providing easy integration with a wide range of scheduling tools and risk register solutions, Primavera Risk Analysis helps project-driven organizations ensure that mission-critical projects come in on time and under budget.

Primavera Risk Analysis delivers full-lifecycle cost and schedule risk analytics and easy techniques for determining contingency and risk response plans and for reporting confidence levels for project success.

## Risk Analysis

Primavera Risk Analysis uses advanced Monte Carlo-based cost and schedule analytics to provide full-lifecycle risk management through the following types of risk models: estimate uncertainty, task existence, probabilistic branching, fixed-cost uncertainty, variable-cost uncertainty, resource uncertainty, conditional branching, and weather modeling. In addition, users can conduct risk analyses at both the project and portfolio level, making strategic decisions about project selection through portfolio models as well as traditional project-level risk analysis against individual or linked schedules.

## Flexible Reporting

With Primavera Risk Analysis, users can view risk assessments in a variety of formats.

### Distribution Graph

By using Primavera Risk Analysis distribution graphs, users can:

- Determine confidence levels, P schedules, and schedule and cost contingency
- Report confidence levels with regard to finish dates, costs, float, internal rate of return, and net present value
- Drill down through the interactive report to identify confidence levels at multiple levels, including key milestones and stage-gate review points
- Tab between cost- and schedule-based views with the ability to drill down through the integrated tree control and filter by task or resource

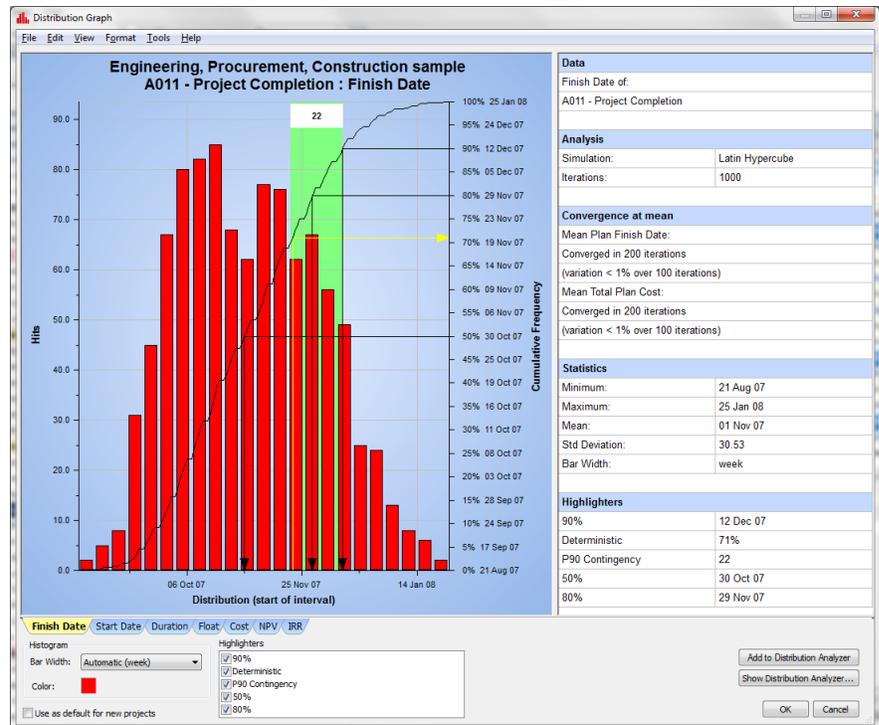


Figure 2: Distribution graph

## RELATED PRODUCTS

Additional value can be realized from your Oracle investments with:

- Oracle's Primavera P6 Enterprise Project Portfolio Management
- Oracle's Primavera Portfolio Management

## Tornado Graph

Primavera Risk Analysis tornado graphs help users identify key risk drivers and pinpoint the task or risk event that's preventing their schedules from performing as expected. Alternatively, users can employ cost-sensitivity reports to isolate the most-cost-critical tasks or risk events. Interactive drill-down risk tornados enable quick and easy risk driver determination to report on key risk drivers.

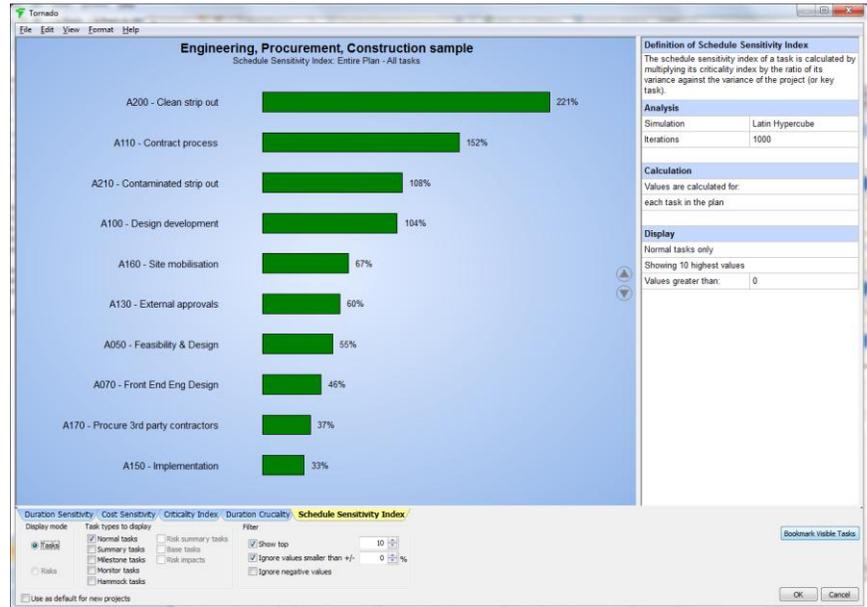


Figure 3: Tornado graph

## Scatter Plot

Users can use this type of report to determine the combined probability of achieving given budgets and completion dates as well as to perform what-if analyses by interactively varying cost and schedule thresholds to reveal the resulting chances of success.

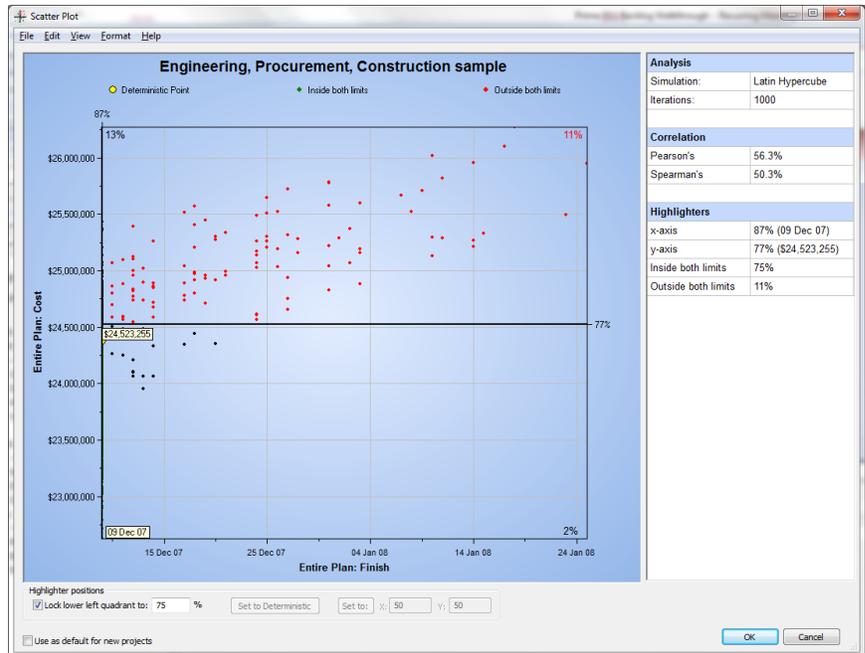


Figure 4: Scatter plot

## Distribution Analyzer

Users can employ this type of report to:

- Compare scenarios and determine the cost/benefit ratio of mitigation plans
- Overlay an unlimited number of cost or schedule risk distribution reports
- Send risk distributions directly from the risk histogram view to the distribution analyzer report for risk scenario comparison and analysis
- Take advantage of standard and advanced cost modes for quick and easy modeling of costs and resources while retaining optional advanced features



Figure 5: Distribution analyzer

### Probabilistic Cash Flow

A probabilistic cash flow report is critical for forecasting, long-term budgeting, and earned-value management systems (EVMS) reporting. In addition to providing reporting and overlay options such as percentile date shading, Primavera Risk Analysis can filter the probabilistic cash flow based on specific resources and cost classes within the project plan. In addition, cash flows can be generated for specific resource and cost types.

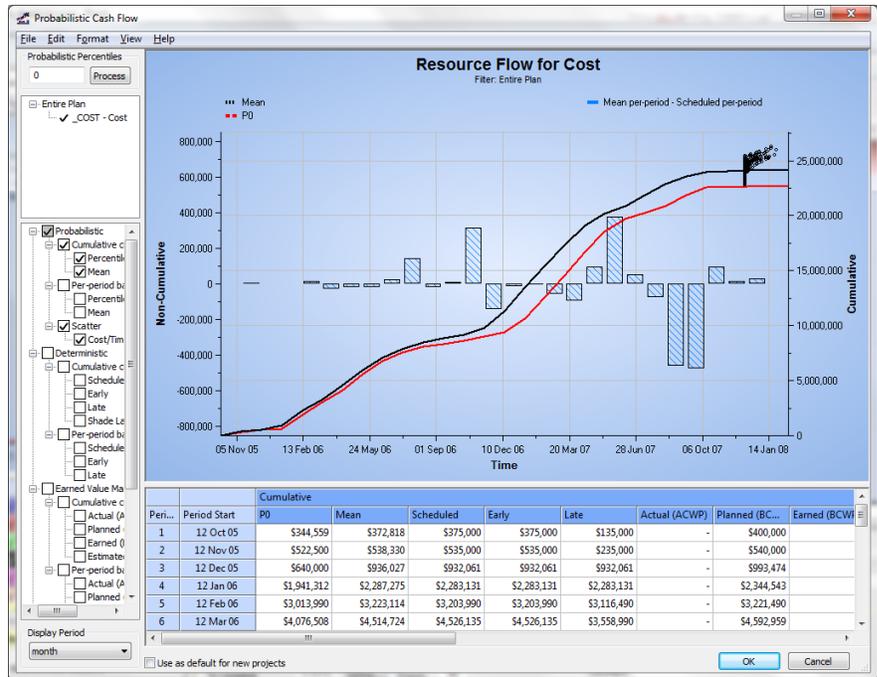


Figure 6: Probabilistic cash flow

### Summary Risk Report

Primavera Risk Analysis lets users quickly share the results of their risk analyses via summary risk reports. Users simply select the activities, risk inputs, and risk outputs, and Primavera Risk Analysis creates an interactive report that includes the links between inputs and outputs in the report and the activities in the schedule.

### Conclusion

Providing easy integration with a wide range of scheduling tools and risk register solutions, Primavera Risk Analysis helps project-driven organizations ensure that mission-critical projects come in on time and under budget. Delivering full-lifecycle cost and schedule risk analytics, Primavera Risk Analysis offers easy techniques for determining contingency and risk response plans and for reporting confidence levels for project success.

#### CONTACT US

For more information about Oracle's Primavera Risk Analysis, visit [oracle.com/primavera](http://oracle.com/primavera) or call +1.800.423.0245 (North America) or :+44.0.870.8.768711 (EMEA) to speak to an Oracle representative.



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