

The Value of Enterprise Portfolio Simulator With Microsoft Project Server®

ProModel's Enterprise Portfolio Simulator (EPS), integrated with Microsoft Project Server® goes beyond typical portfolio planning and forecasting to deliver a realistic, risk-adjusted, optimal portfolio that reaches your company's financial and project performance targets. ProModel predictive analytics technology, combined with Microsoft Project Server, (2003, 2007 and 2010) create an extraordinary strategic planning environment.

Save days to weeks in strategic planning and reviews, while increasing the confidence that your organization is working on the right projects at the right time that best align with your organizational goals and available resources.

Facilitate rapid what-if scenario creation. Experiment with project and capacity options, budgets, resource assignments and financial forecasts. The scenarios can then be evaluated side-by-side in NPV, task/project completion projections, or resource utilization reports to see your best options for reaching realistic future goals.

Seamlessly integrate with Project Server through a direct connection that can automatically sync project information. You can add risk factors to task durations, resource requirements, and costs, along with probability of success factors and future revenue projections. This empowers your organization to account for all relevant constraints, risks and financials when planning for the future.

Add resource requirements to projects with task templates driven by enterprise attribute fields and user definable algorithms. This provides a way to quickly test different resource allocation/demand options outside of Project Server.

Here are just a few of the questions ProModel's Enterprise Portfolio Simulator can answer for you:

- Which projects can I complete with my current resource constraints?
- Which and how many resources could I add to complete how many more projects by when?
- How can I maximize my portfolio ROI?
- If we introduce a large program of work next year, how will that impact my resources and the current portfolio of projects?
- What is the total cost of scenario A compared to scenario B?
- What is the NPV of scenario A compared to scenario B?



1

More importantly, its easy! Import project plans from Project Server.

- Select projects to import
- Select whether to auto-update and keep project data linked to Project Server
- Select whether to import resource requirements
- Set the strategic task rollup levels to summary tasks and pooled resources, if preferred
- Add task duration and work variability, if desired
- Apply predefined task, resource or financial templates, as appropriate

The screenshot shows the 'EPM Projects' window with three main panes: 'EPM Projects', 'Properties', and 'Apply Templates'. Callouts point to specific settings:

- Select auto-update and import resource requirements:** Points to the 'Auto-update' and 'Import resource requirements' checkboxes in the Properties pane.
- Select task rollup level:** Points to the 'Strategic task rollup level' dropdown menu.
- Define task variability:** Points to the 'Default Task Duration Variability' and 'Default Task Work Variability' input fields.
- Select projects to import:** Points to the list of project names in the EPM Projects pane.
- Select task templates to add risk to duration and/or probability of success:** Points to the 'Task template profiles' section.
- Select resource templates to add risk to requirements and/or to add more requirements:** Points to the 'Resourcing template profiles' section.
- Select financial templates to add financial risk and/or more cost/revenue requirements:** Points to the 'Financing template profiles' section.

Define and evaluate unlimited experimental portfolio options.

The screenshot shows the 'EPS ENTERPRISE PORTFOLIO SIMULATOR' interface. A 'Portfolios' table is displayed with the following data:

Portfolios	Name	# Of Projects	Status Date	Run Length	Reporting Interval	Time Series Length	Financials PV Length	APR
All Projects	All Projects	7	1/1/2011	20 years	Monthly	5 years	0 years	5.5
Current Plan	Current Plan	4	1/1/2011	20 years	Monthly	5 years	0 years	5.5
Option 1	Option 1	6	1/1/2011	20 years	Monthly	5 years	0 years	5.5
Option 2	Option 2	6	1/1/2011	20 years	Monthly	5 years	0 years	5.5

A callout box points to the table with the text: 'Define unlimited portfolio options to experiment with'.

2

Create and simulate multiple what-if scenarios.

Run unconstrained to determine how a portfolio will perform without resource restrictions or constrained to show the impact of limited resources on project timelines.

Experiment with:

- Project selection options
- Projects priorities
- Projects timings
- Resources capacity options
- Cost options and revenue forecasts

The screenshot displays the EPS Enterprise Portfolio Simulator interface. The top navigation bar includes the EPS logo, the text "ENTERPRISE PORTFOLIO SIMULATOR", and user information: "Administrator's account | Logout | Help".

The main interface is divided into several sections:

- Administration Panel (Left):** A vertical menu with icons for Administration, Users, Attributes, Fixed Costs, Calendars, Contours, Resources, Templates, Tasks, Resourcing, Financing, Project Repository, Portfolios, Scenarios, Changes, and Reports.
- Scenarios Section:** Contains tabs for "Administration", "Users", "Attributes", "Fixed Costs", "Calendars", "Contours", "Resources", "Templates", "Tasks", "Resourcing", "Financing", "Project Repository", "Portfolios", "Scenarios", "Changes", and "Reports". Below these are "Administration" and "Users" sub-tabs. A "Portfolio:" dropdown is set to "All Projects". A blue callout box points to the "Run" column of the Scenarios table with the text "Select and run multiple what-if scenarios".
- Scenarios Table:** A table with 7 records. The columns are: Run (checkbox), Name, Task Durations, Resource Units/Work, Reps, 100% Survival, and Resource Allocation Mode. The rows are: Current Portfolio, Current Portfolio constrained, Option 1, Option 1 constrained, Option 2, Option 2 constrained, and Option 2 constrained (1).
- Resources Section (Bottom Left):** Contains tabs for "Resources", "Projects", and "All Change Descriptions". A "Back" button is visible. Below is a table with columns: Name, Exclude (checkbox), Start Date, and Priority. The rows are: New Product 1 (1/1/2010, 500), New Product 2 (5/3/2010, 500), New Product 3 (10/1/2010, 500), New Product 4 (3/1/2011, 500), New Product 5 (7/12/2011, 100), New Product 6 (8/23/2011, 200), and New Product 7 (9/21/2011, 300). A blue callout box points to the "Exclude" and "Priority" columns with the text "Experiment with project selection options, priorities and timings".
- Scenario Changes Section (Bottom Right):** Contains tabs for "Resources", "Projects", and "All Change Descriptions". A "Back" button is visible. Below is a table with columns: Name, Units, and Allocation Mode. The rows are: Accounting (1, Constrained), Customer (1, Constrained), Legal (1, Constrained), Management (2, Unconstrained), Manufacturing Engineer (3, Unconstrained), Marketing (5, Unconstrained), Process Engineer (1, Unconstrained), Product Engineering (8, Constrained), and Project Manager (4, Constrained). A blue callout box points to the "Units" and "Allocation Mode" columns with the text "Experiment with resource capacity".

3

Optimize to help automatically find and create the best portfolio options based on organizational goals and constraints.

- Select optimization objective
- Which projects should be included
- When should the projects start
- What projects should have the highest priorities
- Which constraints must be considered

Objective Inputs Constraints Options

Which scenario will the optimization use?

Scenario Options

Scenario Name: Reps: Simulation End Date:

Select scenario and project input options

What can the optimization vary in order to achieve the objective?

	Project Name	Allow Exclude	Priority		Delay Project Start				
			Enable	Min	Max	Enable	Min	Max	Time Increment
1	Exercise 1: Project A	<input type="checkbox"/>	<input type="checkbox"/>	500	500	<input type="checkbox"/>	0	60	Months
2	Exercise 1: Project B	<input type="checkbox"/>	<input type="checkbox"/>	500	500	<input type="checkbox"/>	0	60	Months
3	Exercise 1: Proposed Project 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	500	500	<input checked="" type="checkbox"/>	0	60	Months
4	Exercise 1: Proposed Project 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	500	500	<input checked="" type="checkbox"/>	0	60	Months

Objective Inputs Constraints Options

What is the objective of this optimization?

- Maximize the portfolio's Present Value Revenue (PVR_{EV})
- Maximize the portfolio's accumulated Revenue (REV).
- Maximize the portfolio's Net Accumulated Value (NAV).
- Maximize the portfolio's Net Present Value (NPV).
- Maximize resource utilization.
- Minimize the total time to complete all projects.
- Maximize project throughput.

Select the optimization objective

Objective Inputs Constraints Options

	Measurement	Statistic	Time Period	Boundary Type	Value	Curve	Violation Severity
1	All Resources - Utilizat...	99th Percentile	Quarterly	Must be less than	0	Flat	High
2	Portfolio Cost (\$)	Average	Yearly	Must be less than or equal to	0	Flat	Low
3	Project Throughput	Average	Total	Must be equal to	0	Flat	Low
4	Developer - Utilization...	Average	Monthly	Must be less than or equal to			Low

Select constraints

Inputs Constraints Options Results

Optimization Summary

Scenario: **Base - Unconstrained (Project Schedule)**

Objective Function: **Max PV Revenue.**

Max Scenarios: **1000**

Time Limit: **5 minutes**

Variables: **Include/Exclude Projects, Delay Project Starts**

Constraints: **None**

The optimization Max PV Revenue objective is shown

Let the optimizer engine auto generate portfolio options based upon the organization's objective

Top Solutions

Other key performance indicators are displayed

Solution Name	Score	Net Present Value	Net Accumulated Value	PV Revenue	Accumulated Revenue
Base - Unconstrained (Project Schedule) - Opt34	111505643.448	\$46,010,102.01	\$187,932,746.82	\$111,505,643.45	\$277,413,658.54
Base - Unconstrained (Project Schedule) - Opt261	111437210.319	\$48,054,307.03	\$187,819,876.96	\$111,437,210.32	\$277,300,788.68
Base - Unconstrained (Project Schedule) - Opt254	111308351.149	\$46,731,017.78	\$187,585,674.90	\$111,308,351.15	\$277,066,586.63
Base - Unconstrained (Project Schedule) - Opt127	111156318.629	\$47,782,954.67	\$187,306,077.63	\$111,156,318.63	\$276,786,989.35
Base - Unconstrained (Project Schedule) - Opt107	110866338.081	\$48,568,608.16	\$186,918,190.32	\$110,866,338.08	\$276,399,102.04
Base - Unconstrained (Project Schedule) - Opt272	110314073.268	\$47,543,154.71	\$185,067,602.99	\$110,314,073.27	\$274,548,514.71
Base - Unconstrained (Project Schedule) - Opt54	110163318.679	\$47,705,444.11	\$185,474,750.25	\$110,163,318.68	\$274,955,661.97
Base - Unconstrained (Project Schedule) - Opt220	110005436.120	\$47,100,717.45	\$183,802,160.98	\$110,005,436.12	\$273,283,072.70
Base - Unconstrained (Project Schedule) - Opt260	109728144.827	\$46,426,143.35	\$182,981,669.18	\$109,728,144.83	\$272,462,580.90
Base - Unconstrained (Project Schedule) - Opt184	109456862.626	\$47,303,148.82	\$184,340,831.56	\$109,456,862.63	\$273,821,743.28

The top set of solutions display in ranked order based upon the objective

Details

Base - Unconstrained (Project Schedule) - Opt34

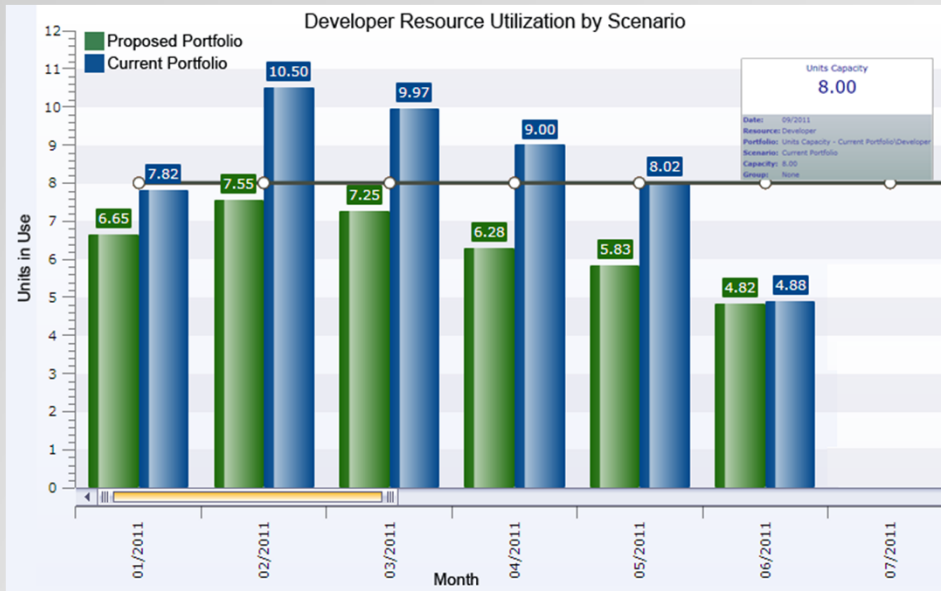
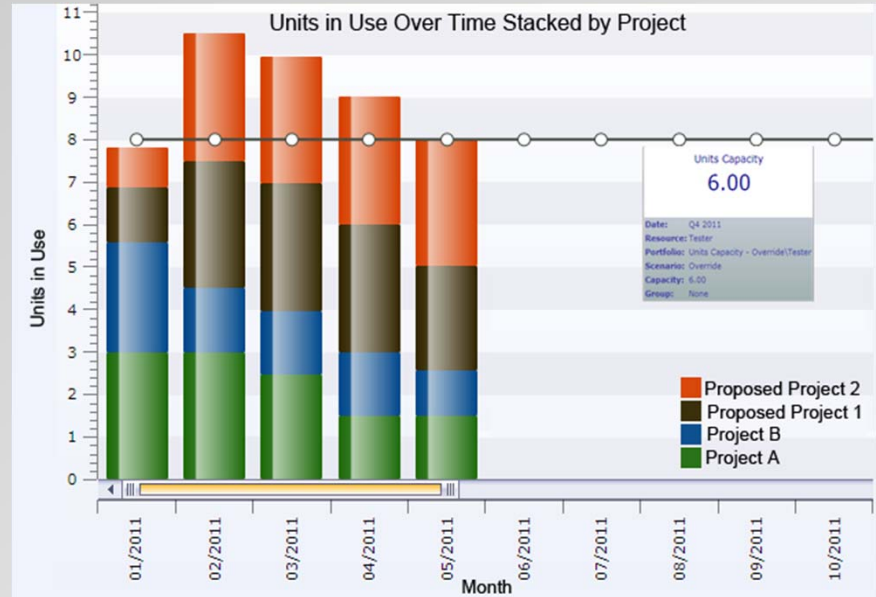
Create Scenario

Name	Start	Priority
Project1	4/21/2008	500
Project2	6/21/2008	500
Project3	10/22/2008	500
Project4	12/22/2008	500

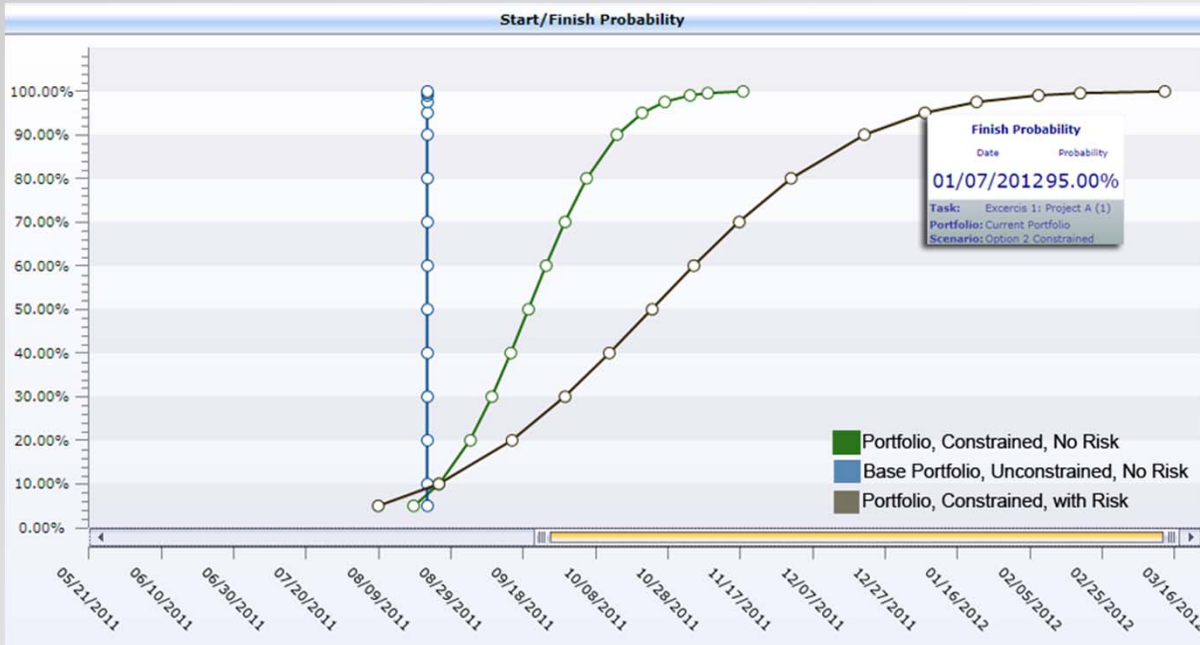
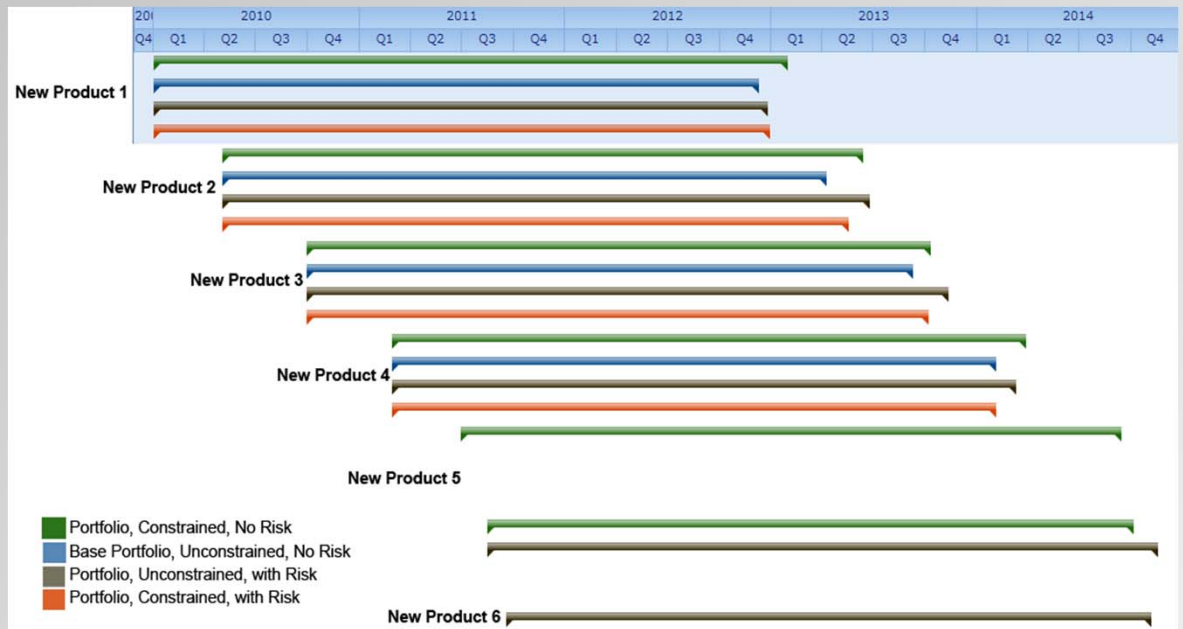
4

Compare the results of your experiments side-by-side to determine your best options.

Resource Supply vs Demand Over Time

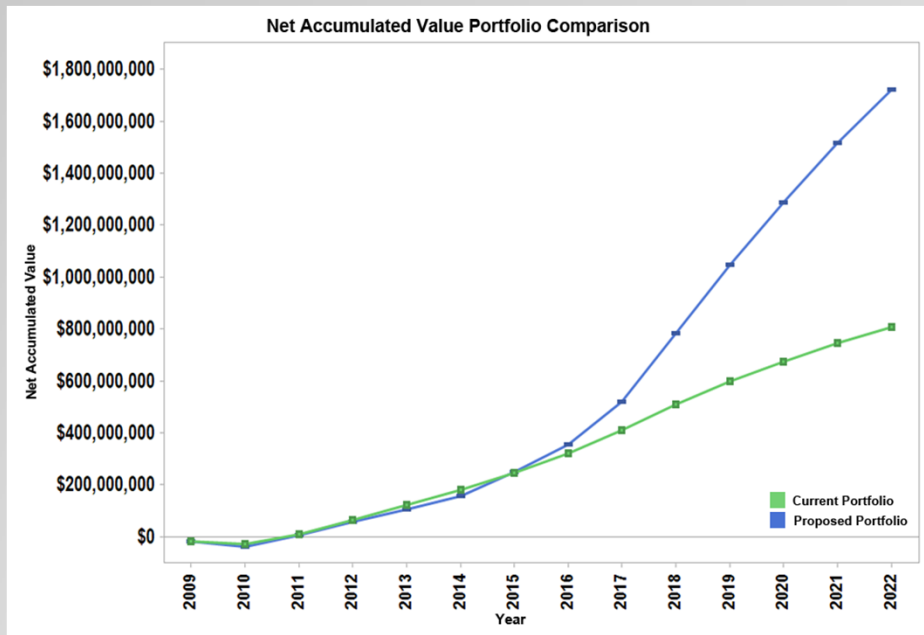


Scheduling Outcomes



Project/Task Start/Finish Date Probability

Financial Outcomes

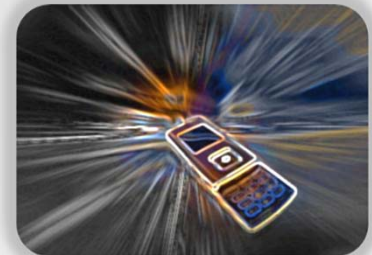


ProModel is a leading provider of predictive analytics that empower businesses to improve performance throughout the enterprise. ProModel technology is designed to complement the Microsoft Project Server platform and other Microsoft technologies.

It is rough terrain out there, but with Microsoft and ProModel technologies working together, your business will be able to navigate it with UNPARALLELED BUSINESS INTELLIGENCE.

Contact a ProModel Representative today!

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