Appendix D

Software: Crystal Ball, MS Project, Primavera, and other software issues

Risk analysis and risk-based decision making is facilitated by software. Here we discuss a risk analysis program, Crystal Ball, and two scheduling packages, MS Project and Primavera. Lastly, I discuss some issues with software and project mangment.

Crystal Ball
As discussed in Chapter 4, Crystal Ball is an Excel-based simulation program. With it, a construction professional with the usual skills in MS Office and Excel, can learn to use simulations for risk analysis in an hour or two. Version 7 is the current issue of Crystal Ball, and the Professional copy has some advanced features. The software was originally produced by a company called Decisioneering, but the Crystal Ball package was sold to Oracle – the name Decisioneering is still in some of the literature.

The only disadvantage to the software is its price. It cost $1800 and the annual fee is about $400. (My version is an academic version which cost about half that.) The software is very proprietary and you need an internet connection to access the license for each use, although that works quite smoothly. You can get a trial version for seven days for free, but the program puts a "poison pill" in your registry so you can only use that trial version for one seven day cycle.

You can get more information here:
http://www.decisioneering.com/cbpro/index.html
http://www.decisioneering.com/cbpro/info_index.html
This is attachment 1 to Appendix D.

MS Project
MS Project, is a Microsoft Office product that does critical path scheduling. Most of it is compatible with the rest of the Office Suite, for example you can take a list of work activities from your Excel spreadsheet and copy and paste into Project. It's chief advantage is its simplicity. A construction professional with the usual skills with MS Office should be able to generate basic CPM schedules and reports with about four hours training. It also has nice tutorials that would build basic project management skills. It allows a manager to "play" with different alternatives of schedules and quickly see the impact of various activities on the overall project. It cost about $1000 a copy, but there are site licenses available which reduce that considerably.

While MS Project is simple, it is limited. For more complex scheduling, either number of tasks, or complicated resource issues, it is considered inferior to Primavera. See next section.

I have MS Project 2003 and today Microsoft is marketing version MS Project 2007. You can download a free 60-day trial version.

This is attachment 2 to Appendix D.

Primavera
Primavera is the Cadillac of project management software.  It performs more functions and more complex functions than MS Project and can handle many more activities.  It also prints out in full size (24" x 36") sheets, if you want that.  The older version, which is still standard for many major owners, is "P3."  The new version is called "P6."  Primavera does not put prices on its website.  I obtained a quote of $1,500 for a P3 system, but that was an academic price. Its major disadvantage is that it takes some training to learn it, Primavera Corporation provides such training.  So, in addition to initial cost, one has to factor in the training.

This is attachment 3 to Appendix D.

Other software issues
Certainly there are other scheduling programs -some are very simple and essentially graphics, other do computations.  I want to mention here that project management is much more than CPM scheduling and many software systems try to integrate the total project management, especially cost, but also communications.  However, major owners such as the AK DOT already have cost control and other systems, so the key issue would be the integration of the proposed new system with existing DOT systems.

Unfortunately, in my opinion, when the scheduling and other project management software and tools becomes too complex, project managers tend to hire experts to manager the "project controls."  And this can, depending on the communication skills of the project controls manager and the PM, lead to a distancing of the PM from the scheduling and other key project controls systems.  Ideally, in my opinion, the project controls system should be simple enough that the PM could learn to use its key functions in an 8 hour day.  Understanding the capabilities, limitations, and complexities of the system enhances communications and enables the PM to make informed decisions about how the PM work is best performed.

Attachment 1 to Appendix D
Crystal Ball 7 Information

# INFORMATION DECIDES

Dramatically Improve the Quality of
Your Strategic Business Decisions

Oracle's Crystal Ball

Increase revenue. Decrease costs. Reduce development time. Every day
you strive to meet these goals. And each business decision you make either
enables you to advance toward them—or impedes your progress.

Spreadsheets and other data analysis tools lack the functionality, capacity,
and power to do the necessary "what if" analyses required for successful
performance management, business intelligence, and predictive modeling.
You need an integrated solution capable of performing complex risk and
uncertainty analyses across a broad range of applications.

Oracle's Crystal Ball is the leading spreadsheet-based software suite for
predictive modeling, forecasting, simulation, and optimization. Used by
85 percent of the Fortune 500, Crystal Ball gives you unparalleled insight
into the critical factors affecting risk, and calculates the likelihood that you
will reach your objectives. With Crystal Ball, you will make the right tactical
decisions to move you toward your strategic goals and gain a competitive
edge under even the most uncertain market conditions.

ORACLE®

# Make More-Confident Decisions

## Key Benefits

- **Get results quickly.** Start using Crystal Ball in minutes.
- **Enhance your investment.** Draw on the spreadsheet technology you already own.
- **Think in ranges.** Get the full picture in the face of an uncertain future.
- **Communicate.** Share your findings through graphs, charts, and reports that let you vividly present and communicate the results of your analyses.
- **Collaborate.** Work as a team, sharing models and data to get your work done faster.
- **Optimize.** Take uncertainty and constraints into account while you search for the best solution.

## Sample Applications

- Capacity Planning
- Cost Estimation
- Strategic Financial Analysis
- Inventory Optimization
- Operations Research
- Project Selection
- Resources Allocation
- Sales Forecasting and Modeling
- Six Sigma/Design for Six Sigma
- Supply Chain Management

### Gain Valuable Insight

You've learned to expect the unexpected. Interest rates suddenly increase, sales fail to meet expectations, deliveries are inexplicably delayed, defect tolerances are exceeded. Unfortunately, the spreadsheets you use to understand future uncertainties are built on a static framework of average values. When it comes to predicting possible outcomes or performing complex "what-if" scenarios, spreadsheets are simply not up to the task.

You need a better tool for business forecasting—one that helps you prepare for the unknown and that enables you to make better decisions based on a solid understanding of the variables that will have the greatest impact on your business.

Crystal Ball is a suite of Microsoft Excel-based applications that enable you to do just that. By extending the analytical power of spreadsheets and defining variable inputs in terms of realistic ranges of possible values, you can calculate all possible outcomes and record the results for analysis and reporting. And with the insights gained from these simulations, you can pinpoint which factors are most likely to help you succeed in the near and long term.

### Reap Measurable Results

With Crystal Ball, you can use historical and current data to create accurate, predictive models and search for solutions that take into account market uncertainty and constraints. Since Crystal Ball can quickly be applied to new or existing spreadsheet models, you can make the most of the technology you already own. Crystal Ball enables you to

- **Increase revenue.** Maximize growth while optimizing your ability to react effectively to market disruptions and random events.

- **Decrease costs.** Generate sensitivity charts that identify which variables have the biggest impact on your costs.

- **Improve productivity.** Save time by using simulations to quickly and automatically model and visualize thousands of "what if" scenarios.

- **Enhance quality.** Meet quality objectives by using simulation results and capability metrics to determine optimal product specifications and defect tolerances.

With this flexible tool, you can solve problems in which uncertainty and variability have traditionally distorted forecasts and make better decisions to impact your bottom line.

### Take Advantage of Valuable Resources

Oracle provides you with a range of resources to help you get the most out of Crystal Ball. Jumpstart your implementation by taking advantage of a full range of training and consulting services. Get education discounts on services, textbooks, and learning aids for professors, instructors, and students. Subscribe to a free newsletter that keeps you on top of the latest trends in risk analysis and spreadsheet forecasting, and gives you access to white papers written by industry experts. We provide all the services and information you need to achieve rapid time to value.

| System Requirements | Crystal Ball Standard Edition | Crystal Ball Professional Edition | Crystal Ball Premium Edition | |
|---|:---:|:---:|:---:|---|
| **Microsoft Windows 2000, XP or Windows Vista operating system, Microsoft Excel 2000, 2002 (XP), 2003 or 2007 Microsoft .NET Framework 2.0 (or 3.0 with Windows XP versions or Windows Vista)** | | | | |
| Monte Carlo simulation, analysis tools and reports | • | • | • | Automate "what if" analysis. Quickly assign ranges of values to your inputs, automatically calculate ranges of forecasted outputs and their probabilities. |
| Capability metrics | • | • | • | Simplify your workflow. View simulation results, descriptive statistics and capability metrics all at once with split-view graphs and charts. Capability metrics include Cp/Cpk, Pp/Ppk, Z metrics and many others. |
| Category publish and subscribe | • | • | • | Save time by managing your distributions. Create your distributions once, then use them many times. Share them with other users via the publish and subscribe mechanism. |
| Crystal Ball tools | • | • | • | Set up and analyze your models. Includes: Batch Fit, Correlation Matrix, Tornado Chart, Bootstrap, Decision Table, Scenario Analysis and Two-Dimensional Simulation. |
| Extreme Speed simulation | | • | • | Get it done, fast. Run your simulations up to 100 times faster than normal with Extreme Speed, powered by PSI Technology. |
| OptQuest | | • | • | Make the right decision. Automatically search for your optimal solution, accounting for uncertainty, constraints, and requirements. |
| CB Predictor | | • | • | Create accurate and realistic predictive models. Analyze historical data with time-series analysis and regression. |
| Developer Kit | | • | • | Customize it. Macros and functions let you tailor the software to your specifications, ensure standardization, and save time through automation. |
| Real Options Analysis Toolkit | | | • | Account for potential big gains in your analysis. Add real options to your discounted cash flow analysis to accurately account for the impact of positive uncertainty in estimating your project's value. |
| Textbooks and multimedia training CD | | | • | Get the most from your Crystal Ball applications with a multimedia training CD and comprehensive textbooks covering applied risk analysis and real options analysis. |

**Industries**

- Academia
- Aerospace
- Airline
- Biotech
- Construction
- Energy
- Engineering
- Environmental
- Finance
- Government
- Healthcare
- Insurance
- Managing/Consulting
- Manufacturing
- Medical
- Oil and Gas
- Pharmaceutical
- Telecommunications
- Utilities
- Venture Capital

## CONTACT US

To learn more about Crystal Ball, visit www.crystalball.com or call +1.800.289.2550 to speak to an Oracle representative. Outside North America, please call +1.303.534.1515.

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C15954-01

Attachment 2 to Appendix D
MS Project Information

## *Microsoft Office Project Standard 2007*

**Microsoft® Office Project Standard 2007 gives you robust project management tools with the right blend of usability, power, and flexibility so you can manage projects efficiently and effectively. You can stay informed and control project work, schedules, and finances; keep project teams aligned; and be more productive through integration with familiar Microsoft Office system programs, powerful reporting, guided planning, and flexible tools.**

### Understand and Control Project-Related Schedules and Finances

Better organize your projects and people with the scheduling power of Office Project 2007.

- **Trace the source of issues.**
  Using the Task Drivers feature, you can determine prerequisites and resource constraints that drive the start date of a selected task. With Task Drivers, you can easily trace critical paths in project plans to find the root cause of a particular delay.
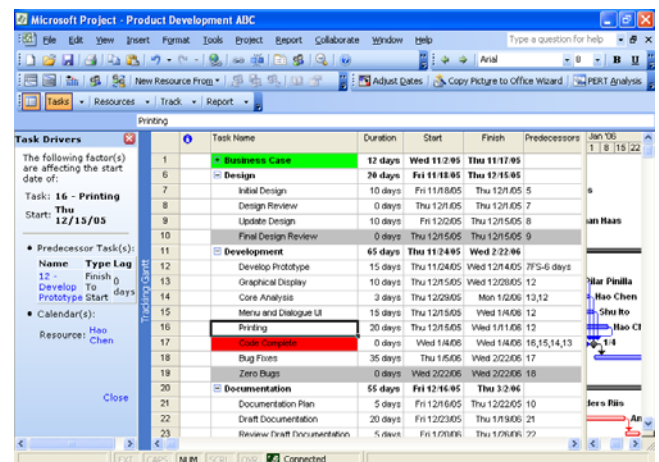


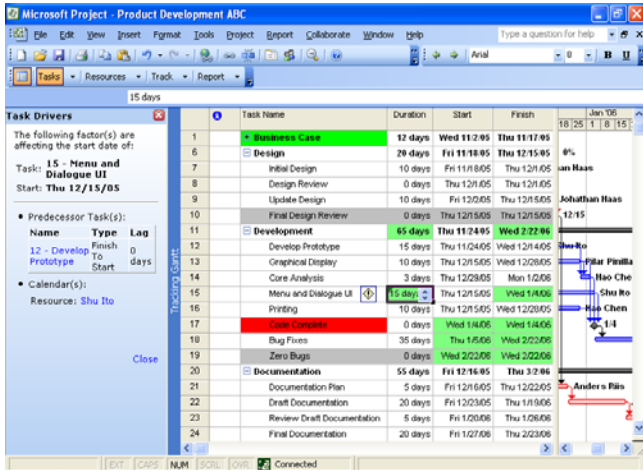*Example of the Task Drivers pane.*

- **Reverse changes.**
  Experiment with what-if scenarios by using Multiple Level Undo. This enables you to undo and redo changes to views, data, and options. You can undo actions or sets of actions from macros or compliant, third-party customizations to fully understand the implications of each change.

- **See the effects of a change.**
  Determine the impact of a change on all other dependent tasks with Change Highlights. Project

**www.microsoft.com/office/project**

*Example of Background Cell Highlighting.*

automatically highlights all items that shift as a result of the most recent change you make.
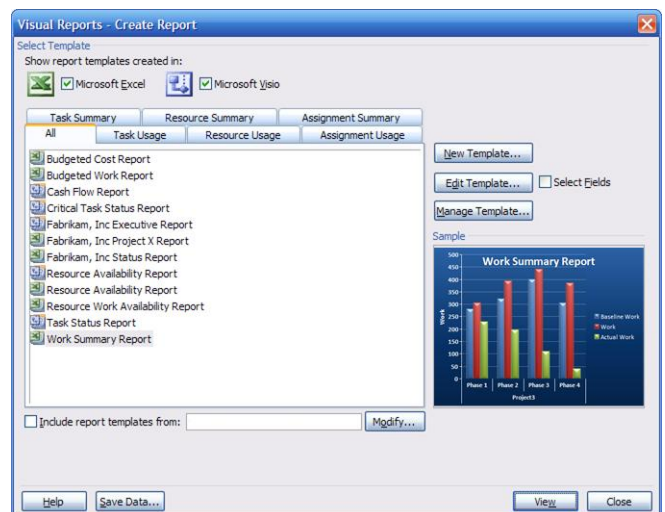


*Green highlights indicate effects of edits.*

- **Control project finances.**
  Assign budgets to projects and programs to allocate funds and track costs.

- **Assign costs to tasks.**
  Assign multiple arbitrary costs (not based on work time) with the new Cost resource type. Also, new fields for cost information enable better project accounting. You can more accurately monitor project financials and keep your project in sync with data in your accounting system.

## Effectively Communicate Project-Related Information

Communicate your progress and issues effectively with Office Project 2007.

- **Use predefined reports.**
  Select, preview, and print the most frequently used information needed to manage projects, track resources, maintain costs, and communicate progress to your team. You can also adapt these reports to present the specific information you want to display.

- **Use Project views to convey information.**
  Updated views and visual capabilities allow for better reports. The Background Cell Highlighting feature enables you to change the color of a cell or row to convey additional meaning.

- **Capitalize on charts and diagrams.**
  Easily create charts in Microsoft Office Excel® 2007 or 2003 and diagrams in Microsoft Office Visio® Professional 2007 of your project data with the Visual Reports feature. This feature creates report templates that may be reused with different projects. These reports support PivotTable® views versus the static snapshots of Project information that the Copy Picture to Office Wizard creates in Excel, Microsoft Office Word, or Microsoft Office PowerPoint®.



*The Visual Reports window with an Excel report.*

## Get Productive Quickly

Easily assign resources, control finances, and help improve cost estimation.

- **Follow the Project Guide.**
  Learn to use Project by following the Project Guide, an interactive step-by-step planning aid that helps you quickly master the project management process.
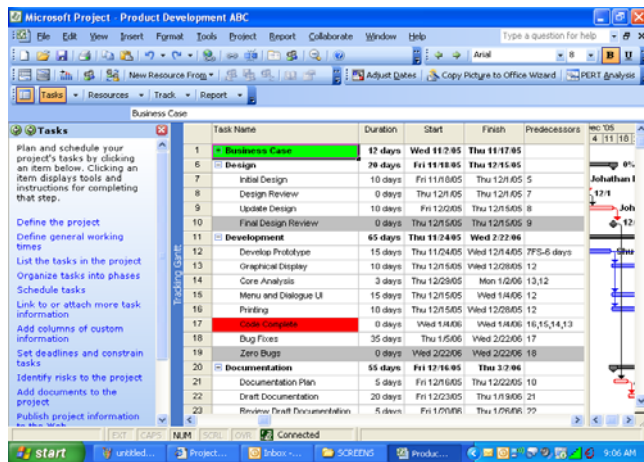


*The Gantt view with the Project Guide task pane.*

- **Save time with project templates.**
  Project provides many out-of-the-box templates to help speed the project creation process. A Project template prepopulates task and resource information, formatting, macros, and other project-specific settings. You can send templates to other users via e-mail to share best practices and create consistency. You can also download additional templates from the evolving Microsoft Office Online gallery.

- **Create your own template.**
  Take advantage of your own best practices by creating your own custom templates. This enables you to reuse an existing project as the basis for future projects.

- **Tap Office Online Help and training.**
  Get Help quickly while you work. Project provides a wealth of assistance, from a robust Help search engine and wizards to online access to training courses, templates, and more (requires Internet connection).

## Choose the Office Project 2007 Edition to Meet Your Needs

Office Project Standard 2007 gives you the core tools you need to manage schedules and resources independently.

Office Project Professional 2007 includes all of the features of Office Project Standard 2007, but can also be used with Microsoft Office Project Server 2007, which provides you with enterprise project management capabilities such as centrally tracking resource availability and skills across projects and communicating and collaborating across the enterprise.

## For More Information

Learn more about Office Project Standard 2007 and the Microsoft Office system at www.microsoft.com/office/project.

For complete system requirements, visit www.microsoft.com/office/project.

**Microsoft**

Attachment 3 to Appendix D
Primavera Information

# Primavera Project Planner ®

## The World's Leading Choice in Project Management Software

Primavera Project Planner (P3®) gives today's project managers and schedulers the one thing they value most: control. It is the clear choice of professionals in project-oriented businesses. P3 is the recognized standard for high-end, high-performance scheduling and resource control.

### Manage multiple projects in a multiuser environment.

From large, distinct projects to high-intensity, short duration and critical projects sharing limited resources—P3 helps you manage them all. It supports simultaneous secure access to project files by multiple users, which means up-to-the-minute information.
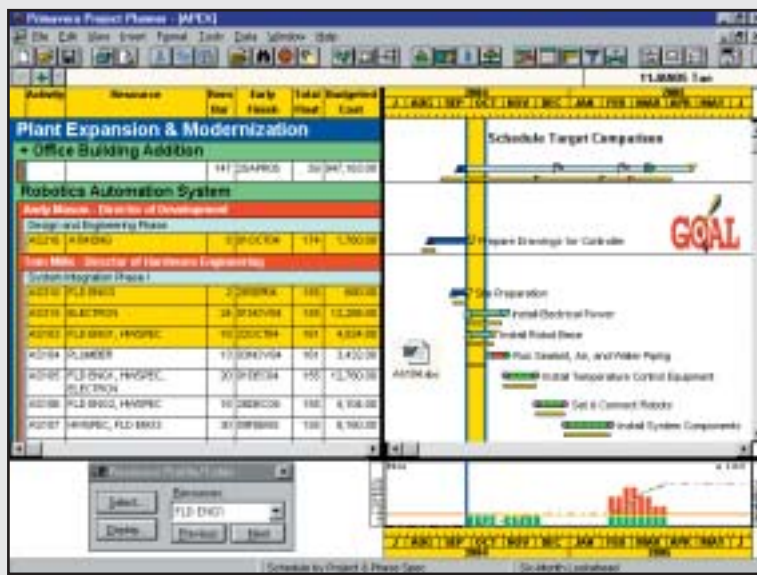


**Take on the biggest projects. Solve the toughest resource problems. No other project management software does more or does it better.**

### Control large and complex projects efficiently.

P3 is designed to handle large-scale, intricate and multifaceted projects. To keep ahead of projects with thousands of activities, P3 provides unlimited resources and an unlimited number of target plans.

### Connect to your corporation worldwide.

P3 offers an impressive capability for integrating its data with information throughout your company. P3 is ODBC-compliant, OLE automatable, and supports Web access, timesheet data collection, data warehousing and risk analysis through tightly integrated companion products.

**PRIMAVERA**®

# Take the complexity out of project planning

- Prioritize, plan and manage multiple projects
- Store past-period performance
- Analyze unlimited what-if alternatives and target plans
- Share data in a secure multiuser environment

- Schedule resources realistically with advanced resource leveling option
- Interact with project data through PERT charts, bar charts and time-scaled logic diagrams
- Communicate effectively using intranets, custom reports and e-mail

Primavera Project Planner has a rich, intuitive graphical interface for planning and scheduling your complex projects.

## What P3 delivers.

Everything you need to manage your projects—that's what P3 delivers. From adding tasks to evaluating float to organizing and color-coding activities for presentations, P3 is the fastest way to create project plans.
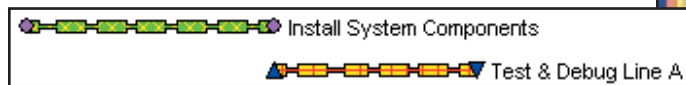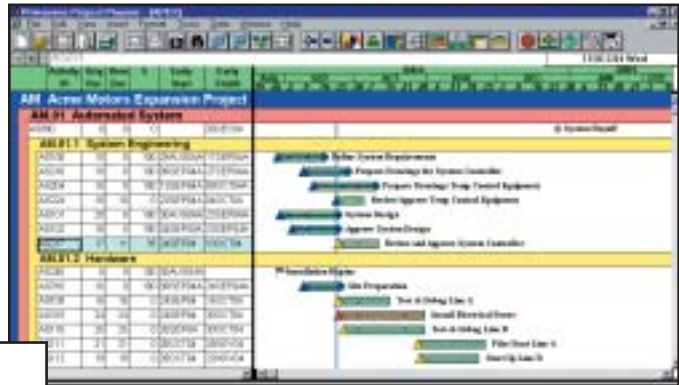


*Combine necking with colors and patterns on individual or groups of bars to identify activity attributes.*



*Use color-coded bands to instantly and clearly organize data using project and activity codes, resources, cost accounts, WBS and more.*

## Keep tabs on activities.

P3 structures project data to provide insight to everyone connected with the project. With its exclusive and powerful project and activity coding, it is easy to organize activities according to user-defined attributes, such as project manager, responsibility, location, type of work, phase, etc. Organize and reorganize project data instantly to view the project from any perspective. Progress Spotlight™ provides a graphical to-do list that highlights activities within the current update period. Update all activities within the spotlighted period at once to reduce update time.

## PERT at work.

PERT streamlines the creation of activities in a time-scaled or logical sequence. While planning, or even as the project evolves, track and analyze float, precedence relationships and the cascading effects of project bottlenecks. PERT can be automatically banded by activity code.

*Navigate and analyze even the most complicated networks using Trace Logic and Cosmic View. P3 can automatically reorganize activities in PERT by time-scaled or logic sequence.*

## High-end scheduling.

P3 ensures that critical tasks get the attention they deserve in multiproject, multiyear environments by calculating float within each project. Establish relationships among activities in separate projects. Manually or automatically schedule based upon individual resource work calendars and availabilities.

## Work faster with fragnets.

P3 accelerates your work with fragnets. Fragnets are groups of tasks, relationships and resource assignments that become building blocks for other projects. You can store fragnets—complete with resource and cost data—to be used as templates for subsequent projects.
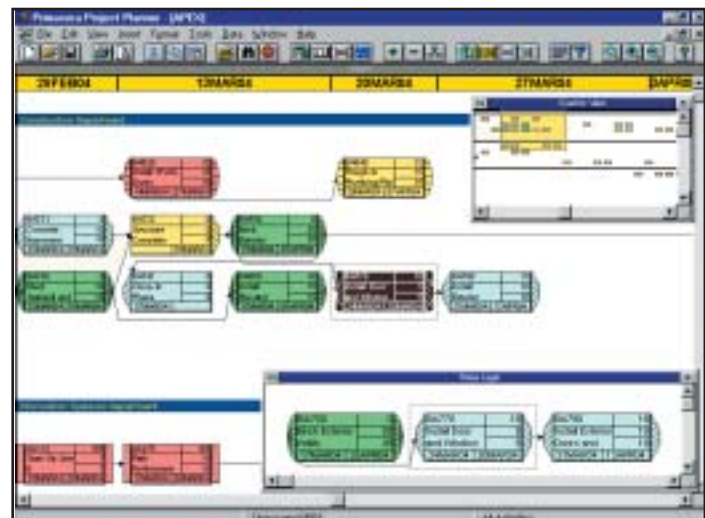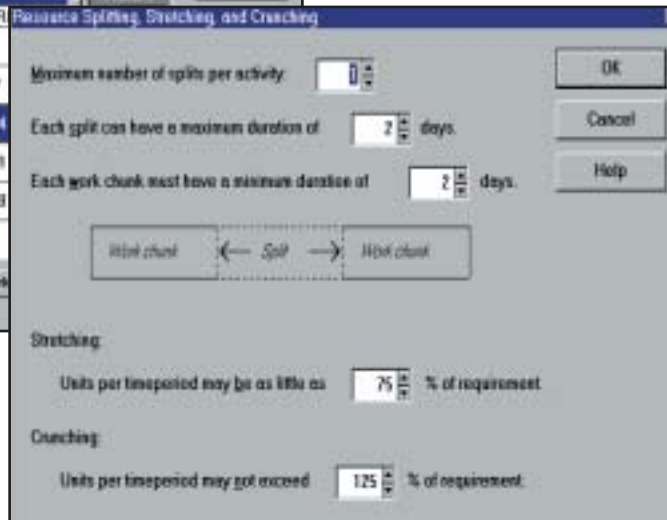
# Control resources and costs—on a daily basis
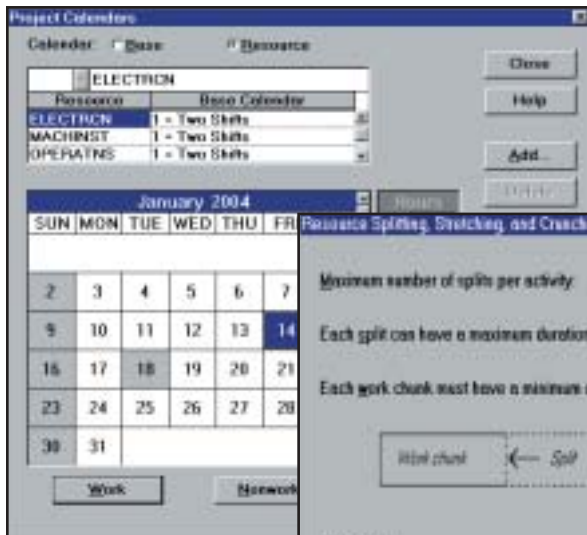


*Schedule individuals accurately based on their work schedule and availability.*

*Model resources accurately by splitting, stretching or crunching activities, depending on resource availability.*
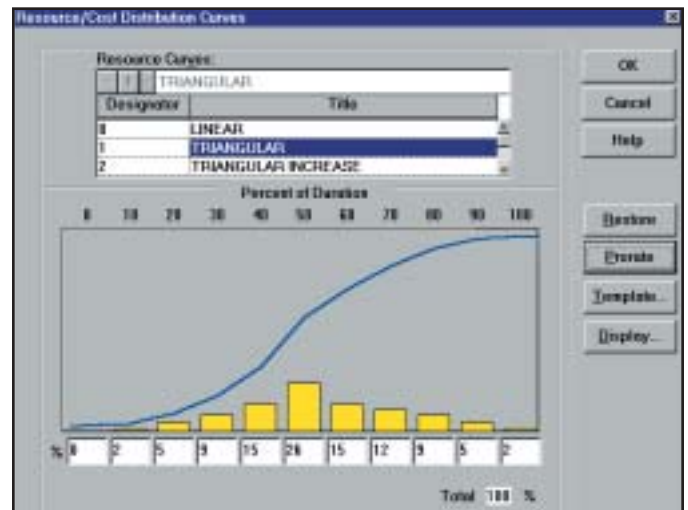
## Day-to-day management.

P3 is one of your most valuable co-workers—helping you on a daily basis to make the most of your limited resources. P3's sophisticated resource scheduling and leveling options let you set up calendars that reflect the details of each person's work pattern. Prioritize, split, stretch and crunch activities based on individual availability over the life of the project. When drop-dead dates approach, P3 goes into overdrive, so that you never miss a deadline. Hierarchical resources in P3 enable you to establish resource groups, roll up resource demands, and forecast staffing and funding requirements.
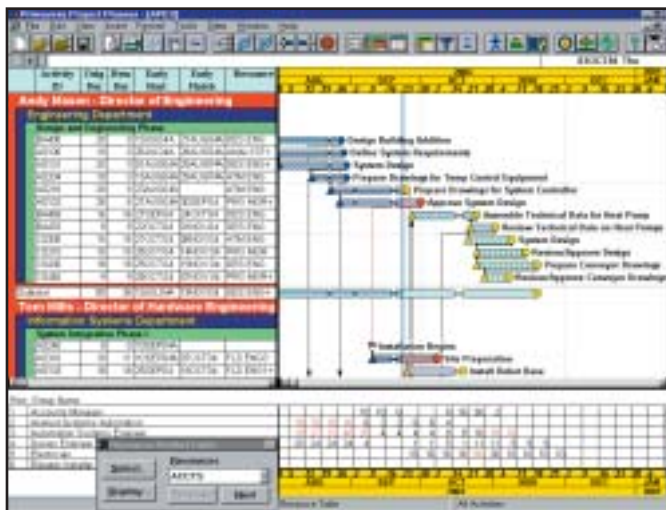


*Pinpoint and resolve potential resource loading problems with P3's resource leveling, profiles and tables. The resource table shows you how resources are budgeted period-by-period, based on total, peak or average usage.*



*Use resource distribution curves to model how resources will be consumed as an activity progresses. Select from the library of predefined curves or quickly create your own.*

## Built-in cost efficiencies.

No other project management package gives you the precise cost control built into P3. P3 supports cost accounts so you can easily exchange data with your financial system. It enables you to establish budgets and forecast estimates-to-complete for each cost account level. You can then track actuals for this period and to date.

## Have it your way.

You can customize the effects of progress on cost calculations using P3's in-depth Autocost rules. Project performance is measured and compared to plan using earned value analysis and cost and schedule variances.

# Project control and communication
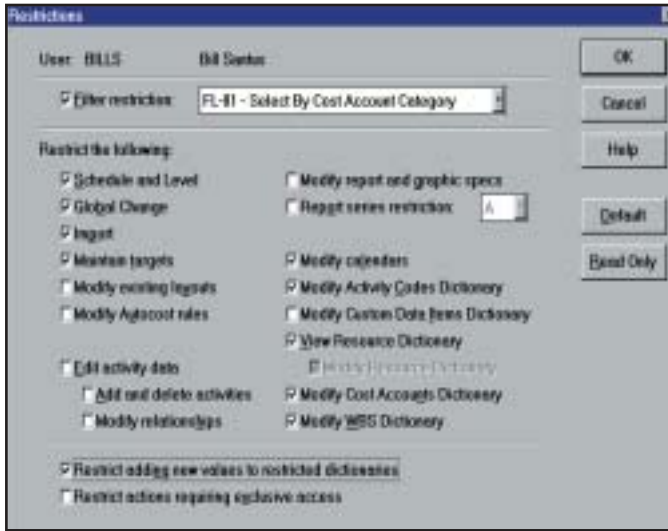


With P3, controlling groups of projects is as simple as controlling a single project on your desktop. Coordinate independent efforts in multiple locations with relationships among activities in separate projects.

## Multiuser capabilities.

P3 allows multiple users to concurrently update, analyze and report on their portions of the project. Administrators can secure their projects by restricting access by function, department, resource and phase. This allows others to review, but not modify, project data.

*Use P3's Restricted Access feature to limit access to project data on a user-by-user basis.*

## Spread the word, via e-mail.

To disseminate information across your network or throughout the world, P3 works with Microsoft Mail®, cc:Mail® and any other VIM or MAPI-compliant electronic mail system. You can embed e-mail addresses right into your project and automatically route status requests to appropriate individuals. To receive updates from local or remote teams, the Primavera Post Office applet lets team members turn around project information through e-mail—no need for them to have their own copies of P3.
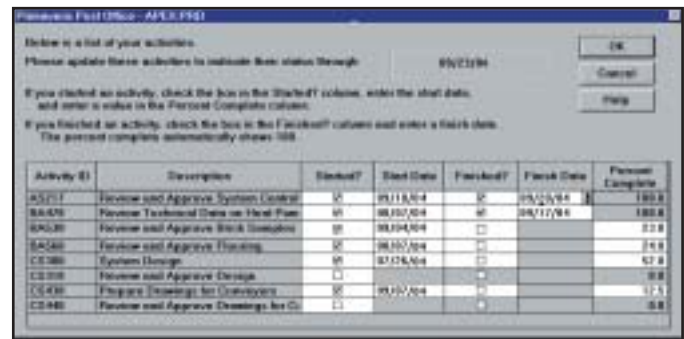


*Inexpensively—but effectively—have remote team members receive, update and return activity status data through the Primavera Post Office.*
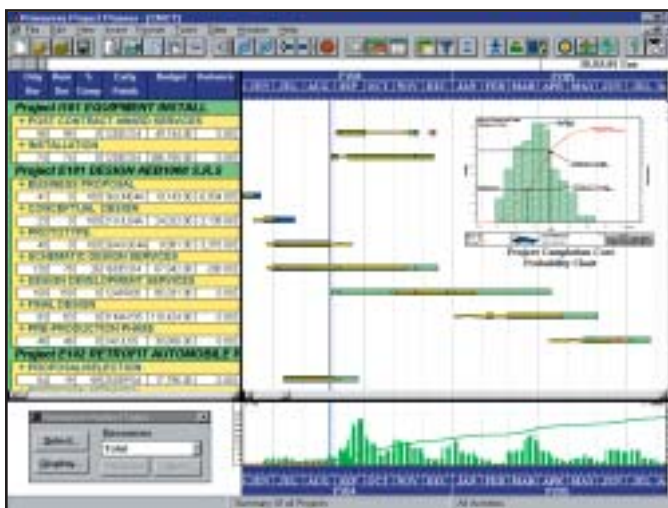


## Integration with corporate systems.

When you need to integrate project data with corporate systems, P3's open architecture lets you choose the best method. The P3 database and business rules are accessible through OLE 2.0 automation using development tools, such as Visual Basic™, C++® or even Excel™. Integration of people, systems and processes has never been simpler, more reliable or complete. That's because the P3 project database is the heart of Primavera's project management solution, an integrated, scalable approach to coordinating people and projects.

*Drill down to low-level details within multiproject summary bar charts.*

# Analytical tools to keep projects running smoothly
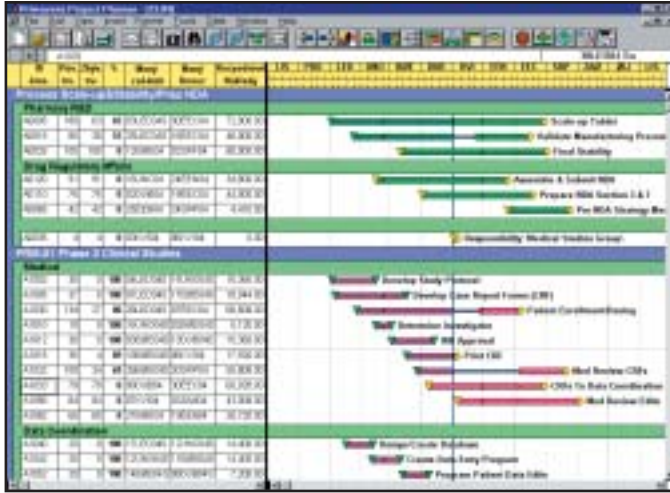


With large amounts of project data that change daily, even hourly, you need a product to help you plan for the unexpected. P3 provides analytical tools that help you sift through all of your project data to identify potential problems.

## Stay on target.

P3 gives you unlimited target planning for proactive what-if analysis. Store past-period performance for historical reporting and analysis of resource assignments, cost and earned value. By comparing actual performance to original plans, you can improve your processes and increase the accuracy of future estimates.

## Analyze alternatives.

Once you've identified a potential problem, P3 makes it easy to test dozens of project alternatives for finishing the project sooner—and better—by effectively utilizing your crucial resources. An array of analytical tools allow you to review the impact of different courses of action at summary or detailed levels of the project hierarchy. And P3's unique Global Change feature lets you quickly and easily make significant changes to your projects and try them out before making them permanent.
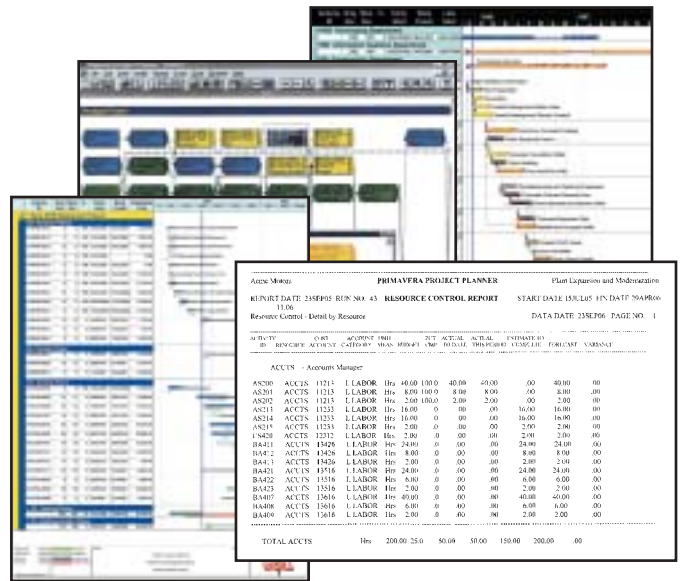


## Report project progress.

When it comes to reporting on project goals and priorities, P3 gives you more than 150 customizable reports and graphics that can be saved in HTML format. Analyze complex projects with concise cross-tab and matrix reports, cross-project reporting and a powerful custom report writer. Select and highlight activities using activity codes, custom data items, and budget and variance data together with filters based on Boolean logic. For optimal coordination and communication, you can share reports in any of 28 languages with users around the world.

### Integrate data.

OLE enables you to include data in reports and projects from design specifications, drawings, spreadsheets, word processors, scanned images and even audio and video clips.
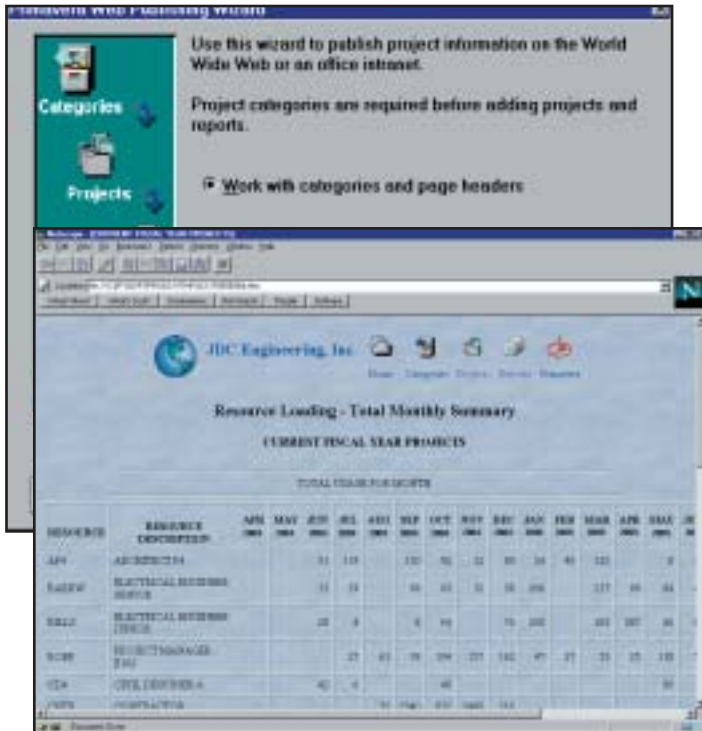
## Publish on the Web.

Communicate throughout your enterprise using your company's intranet Web site. The Web Publishing Wizard automatically creates a hierarchy of project categories, projects and reports so that stakeholders can view summary information or dig deeper to see specific details and full reports—using Netscape Navigator™ or Microsoft® Internet Explorer™.

# Features

## Project Modeling
- Unlimited project groups, projects and target plans
- Up to 100,000 activities per project
- Multiproject resource and task relationship control
- Scheduling and resource leveling, manually or automatically, at the project group and/or project level
- 20-level WBS
- 24 user-definable activity codes for selection and sorting
- 10 project codes
- Intelligent activity ID codes
- 16 user-definable custom data items
- Summarization of multiple project groups
- Store period performance
- What-if analysis
- Earned value analysis
- Merge multiple projects
- Global Change feature for mass project changes using Boolean logic, arithmetic, string and search-and-replace functions
- User-definable project template library (fragnets)
- True concurrent multiuser functionality for updating, analysis and reporting
- Multilevel project security definable on a per-user basis
- Project check-in/check-out
- Backup/restore
- System administration program for user names and passwords
- Microsoft® Office®-compliant graphic user interface

## Scheduling
- Critical path scheduling (CPM)
- Precedence diagramming method (PDM)
- Free and total float calculation
- Finish-to-start, start-to-start, start-to-finish and finish-to-finish activity relationships
- All relationships with user-definable lead and lag (positive and negative)
- 31 activity calendars per project
- Time units in hours, days, weeks and months
- 10 types of schedule constraints (e.g., start-no-earlier-than, finish-no-later-than, etc.)
- 9 types of activities for more precise schedule modeling (e.g., task, meeting, independent, milestone, flags, etc.)
- Suspend and resume dates for in-progress activities
- Contiguous and interruptible scheduling
- Extensive updating alternatives
- Progress Spotlight™

## Resource and Cost Management
- Resource calendars and variable availability
- Unlimited resources per project and activity
- Activity splitting, stretching and crunching during leveling and smoothing
- Hierarchical resources
- Nonlinear resource usage profiles
- Prioritizable forward and backward leveling and smoothing
- Selective and time-limited leveling
- Variable resource pricing and availability
- Resource-driven activity durations
- Earned value (BCWP) histograms, tables and curves
- Scheduled budget (BCWS) histograms, tables and curves
- Cost and schedule variance calculations
- Unlimited cost accounts per project with intelligent 12-character codes
- Track and budget actual cost this period, actual cost to date, percent complete, earned value, cost to complete, cost at completion
- Autocost feature for user-defined rules for planning and updating cost

## Reports and Graphics
- Over 150 predefined tabular and matrix reports and graphics
- Custom report writer included
- Complete customization of display and output
- Web Wizard for Inter/Intranet publishing of reports and graphics
- Unlimited presentation layouts
- Hierarchical project outlining organized by any combination of activity codes and resources
- Summarize, group activities and compare targets
- Time-scaled bar (Gantt) charts with logic
- Necking and activity code colors/patterns on Gantt bars
- Primavera's Easy Relationship Tracing (PERT) charts with Trace Logic, Cosmic Views and Timescale
- Resource/cost histograms, tables and curves
- Production of reports and graphics in groups or one at a time
- Multiple levels of sort and selection (filter)
- User-definable bars, start and endpoints, colors, fonts, sizes and positions
- Set Language option for international WYSIWYG reports
- Print-to-fit a specific number of pages
- OLE for attaching documents, spreadsheets, graphics and video

## Data Exchange
- ODBC-compliant database
- Automation server accessible with any OLE 2.0-compliant development tool
- Primavera Post Office applet allows remote, two-way activity review and updating
- Exchanging project and activity data with MAPI/VIM compliant mail systems
- Read/write MPX files
- Full clipboard support
- Shares data with SureTrak Project Manager®
- Year 2000 compliant

## Companion Applications
- DataStore™ for Primavera—Warehouses P3 data in normalized tables in Oracle®
- Webster® for Primavera—Web-browser access to project information for the entire team
- RA™—Primavera's scheduling engine that allows integration with your enterprise's business applications
- Monte Carlo™ for Primavera—Quantify, analyze and mitigate risk

## System Requirements
- Intel® Pentium 133 Mhz processor
- 64 MB RAM
- 40 MB hard disk space
- VGA or higher resolution monitor
- Microsoft® Windows® 95/98/NT™/ME/2000
- CD-ROM drive

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