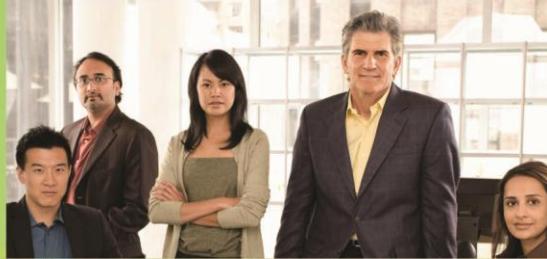


# Microsoft® | Enterprise Project Management



**Microsoft®**

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Example screen shots and product functionality are based on the Project 2010 Beta. Actual requirements and product functionality may change with the final release of the commercially available product and also may vary based on your system configuration and operating system.

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# Microsoft® Enterprise Project Management (EPM) Solution

## Microsoft® Enterprise Project Management (EPM) Solution

### Microsoft Project 2010

Over the past century, the discipline of project management has evolved to meet the organizational requirements of diverse industries and to take advantage of new technologies (see Figure 1). Today, project and portfolio management helps organizations improve visibility and control across varied portfolios, align spending with strategic priorities, and drive team collaboration to deliver projects on time and within budget.

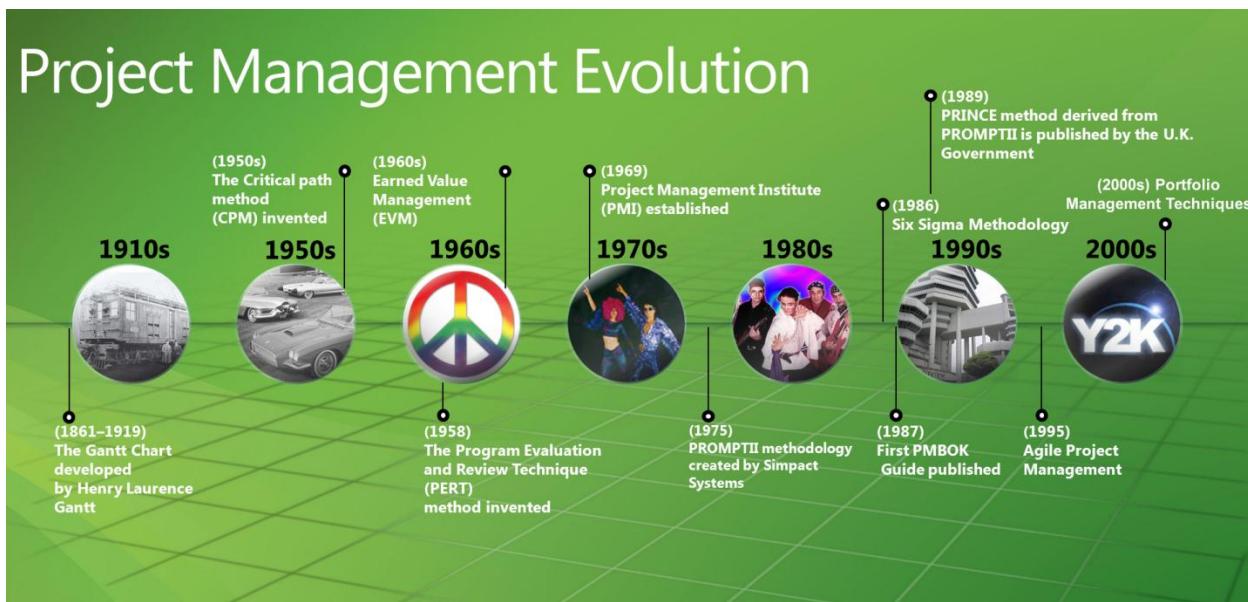


Figure 1. The evolution of project management methodologies

As customer requirements and technology have evolved, in turn, Microsoft® Project has grown from the most recognized desktop scheduling and resource management tool into a unified PC and Web-based project and portfolio management (PPM) solution. Microsoft Project 2010 continues the evolution and is arguably the most significant release of Project in over a decade. Project 2010 delivers new and innovative capabilities across the Microsoft Project family of products: Project Server 2010, Project Professional 2010, and Project Standard 2010.

Microsoft Project 2010 offers flexibility and choice by providing tailored work management solutions for individuals, teams, and the enterprise. Microsoft recognizes that there is no such thing as a one-size-fits-all PPM solution, and Project 2010 reflects this. Effective PPM solutions need to provide organizations of different sizes and maturity levels with the right tools to ensure that teams can successfully collaborate to deliver projects on time and realize their anticipated return on investment (ROI). A small or mid-size

## Microsoft® Enterprise Project Management (EPM) Solution

company is likely to have different PPM requirements than a multinational organization. Even departments within a large organization might have divergent PPM requirements; for example, a marketing team might not require the same rigor in a PPM solution as an IT business unit. The flexible approach of Microsoft Project 2010 helps ensure that organizations can select the right tools, at the right scale, to meet their current and future business requirements on any level.

The architectural improvements implemented in Microsoft Office Project 2007 provided a strong foundation for the innovative and advanced capabilities in Project 2010. Building on these capabilities, Project 2010 provides executives, portfolio analysts, managers, and team members with productivity tools to effectively manage all work throughout its life cycle, and to ensure alignment with an organization's business strategy.

Project 2010 offers enhancements in the following investment areas (see Figure 2):

- **Unified Project and Portfolio Management**
- **Simple and Intuitive User Experience**
- **Enhanced Collaboration and Reporting**
- **Scalable and Connected Platform**



Figure 2. Microsoft Project 2010 investment areas

# Microsoft® Enterprise Project Management (EPM) Solution

## Unified Project and Portfolio Management

In Microsoft Project 2010, the best-in-class portfolio management techniques in Microsoft Office Project Portfolio Server 2007 are incorporated into Project Server 2010, and provide a single-server platform with end-to-end PPM capabilities to support strategic planning and project execution. The unified solution helps organizations achieve the following business goals:

- **Simplify Project Initiation and Business Case Development:** Project Server 2010 streamlines and centralizes project capture and initiation with a *new demand management* module, and provides customizable governance workflows to ensure that projects are guided by the appropriate controls throughout their life cycles.
- **Select Project Portfolios That Align with Strategic Priorities:** Project Server 2010 helps organizations select projects that align with their business priorities by providing techniques to objectively prioritize business strategy, score competing projects, and run what-if analyses under diverse budgetary constraints.
- **Maximize Resource Utilization and Control:** The new *capacity planning* module in Project Server 2010 helps analysts effectively manage resources by proactively identifying surpluses and deficits and rescheduling proposed projects to maximize available resources.

## Simple and Intuitive User Experience

Organizations use a variety of tools to plan and manage different types of projects. Project 2010 offers the right tools to support all types of projects, and the right blend of power and flexibility for both the professional and the occasional project manager.

- **Microsoft Office Fluent™ User Interface:** Quickly realize results and work more efficiently with the simple and intuitive Ribbon, part of the Office Fluent interface, so that the tools you need for planning and managing your project are always at your fingertips. Contextual menus reveal powerful features, so it is easier to get started and reduce training costs.
- **Simplified Scheduling:** Project 2010 puts you in control. User-controlled scheduling brings together the flexibility and ease of use of a tool like Microsoft Excel® 2010, with the power of the Project scheduling engine, to better support project managers at all levels.
- **Intuitive Timeline View:** Effectively communicate the schedule using the intuitive Timeline view. Quickly publish key tasks and milestones in a concise Timeline view, and then easily copy the timeline into Microsoft Office applications, such as Microsoft Outlook® and Microsoft PowerPoint®, to enhance communication.
- **Visual Team Planner:** Project Professional 2010 includes an interactive module to help you more effectively visualize and manage resources. Using this resource-centric view, you can move assignments by dragging, quickly identify and resolve overallocations, and view task status information.

# Microsoft® Enterprise Project Management (EPM) Solution

- **Web-Based Project Editing:** Project Server 2010 brings the power of Project Professional 2010 to the browser with Web-based project editing. You can easily build or edit your project online, anywhere you are working.

## Enhanced Collaboration and Reporting

Project 2010 recognizes the importance of team collaboration in successfully delivering projects, and the key role that reporting plays in maintaining transparency and control across project portfolios.

- **Sync with SharePoint:** Enhance workgroup collaboration by publishing Project Professional 2010 schedules to Microsoft SharePoint® Foundation 2010 (formerly Windows® SharePoint Services) task lists; implement round-trip synchronization so team members can receive and update project tasks using SharePoint.
- **Built on SharePoint Server 2010:** Microsoft Project Server 2010 is built on Microsoft SharePoint Server 2010, so it combines powerful business collaboration platform services with structured PPM capabilities to provide flexible work management solutions for teams of all sizes.
- **Experience the Microsoft Business Intelligence (BI) Platform:** Project 2010 integrates the strength and depth of the Microsoft BI platform so you can easily create reports and powerful dashboards using Microsoft Excel Services, PerformancePoint® Services, Visio® Services, SQL Server® Reporting Services, and more.
- **Time Reporting Enhancements:** Save time and unify task status updates and timesheet submissions using Single Entry Mode.

## Scalable and Connected Platform

The improvements in Project 2010 make the solution easier to administer. Enhanced connection with related Microsoft technologies provides a familiar and connected work management solution that continues to evolve the scalable and extensible platform, and offers organizations:

- **Simplified Administration:** New and improved administration capabilities in Project Server 2010 make it easier than ever for Project Management Offices (PMOs) and IT pros to successfully configure and manage the Microsoft Enterprise Project Management (EPM) Solution.
- **An Efficient Work Management Platform:** Project 2010 connects with familiar Microsoft technologies like Office 2010, Exchange Server, and SharePoint Products and Technologies to provide powerful work management capabilities delivered using familiar tools.
- **Enterprise Scalability and Performance:** Project 2010 builds on the scalability investments in Office Project 2007; it offers 64-bit compatibility to ensure that the solution continues to meet and exceed enterprise performance requirements.
- **An Extensible and Programmable Solution:** Improvements to the Project application programming interface (API), Project Server Interface (PSI), and integration with SharePoint Server 2010 and Visual Studio® 2010 give developers a robust development platform for rapidly building and deploying custom solutions that integrate with line-of-business (LOB) systems.

# Microsoft® Enterprise Project Management (EPM) Solution

## Microsoft Enterprise Project Management (EPM) Solution

*"A comprehensive PPM tool investment is likely to provide an ROI of more than 250%" (Forrester: The ROI of Project Portfolio Management Tools, May 2009)*

In the present economic climate, organizations are working with shrinking budgets; they have to be judicious about where they spend their money and how they allocate resources. Organizations are looking for PPM tools to help reduce costs, drive efficiencies, and ultimately, to help plant the seeds to grow their business (see Figure 3).



Figure 3. PPM capabilities that the Microsoft EPM Solution addresses

The Microsoft Enterprise Project Management (EPM) Solution is a flexible, end-to-end PPM platform, used by organizations across a broad variety of industries to automate primary PPM processes. The EPM Solution helps organizations accomplish the following business imperatives:

- Intuitively capture all requests within a central repository, and manage them using governance workflow – **Demand Management**
- Objectively prioritize, optimize, and select project portfolios that best align with the organization's business strategy – **Portfolio Selection and Analytics**
- Proactively and reactively manage resources throughout the project life cycle – **Resource Management**

# Microsoft® Enterprise Project Management (EPM) Solution

- Easily create and communicate both simple and complex project schedules – **Schedule Management**
- Control and measure project and portfolio financial performance – **Financial Management**
- Simplify the collection of time and task status updates from team members – **Time and Task Management**
- Better connect disparate teams to share information and drive collaboration – **Team Collaboration**
- Identify, mitigate, and communicate issues and risks that could adversely affect project success – **Issues and Risk Management**
- Effectively measure project performance and gain visibility and control across all portfolios – **Business Intelligence and Reporting**
- Initiate, plan, and deliver strategic programs – **Program Management**

This guide provides an overview of how the new and existing capabilities in the Microsoft EPM Solution supports the PPM capabilities listed here, and in Figure 3.

The Microsoft EPM Solution is recognized by industry analysts as a leading PPM solution. In 2007, 2008, and 2009 the Microsoft EPM Solution was named a leader in Gartner's Magic Quadrant for IT Project and Portfolio Management (ITPPM), and is recognized by IDC as a leading product life-cycle management (PLM)/new product development (NPD) solution.

The Microsoft EPM Solution includes the following products from the Project 2010 family, to provide a comprehensive PC- and Web-based PPM solution (see Figure 4).

- **Microsoft Project Server 2010:** Microsoft Project Server 2010 brings together the business collaboration platform services of SharePoint Server 2010 with structured execute capabilities to provide flexible work management solutions. Project Server 2010 unifies project and portfolio management to help organizations align resources and investments with business priorities, gain control across all types of work, and visualize performance using powerful dashboards.
- **Microsoft Project Professional 2010:** Project Professional 2010 delivers powerful, visually enhanced ways to simplify planning, collaboration, and resource management so managers can successfully tackle all types of projects. Connecting Project Professional 2010 with Project Server 2010 ensures that organizations can realize the added business benefits of unified PPM.

## Microsoft® Enterprise Project Management (EPM) Solution

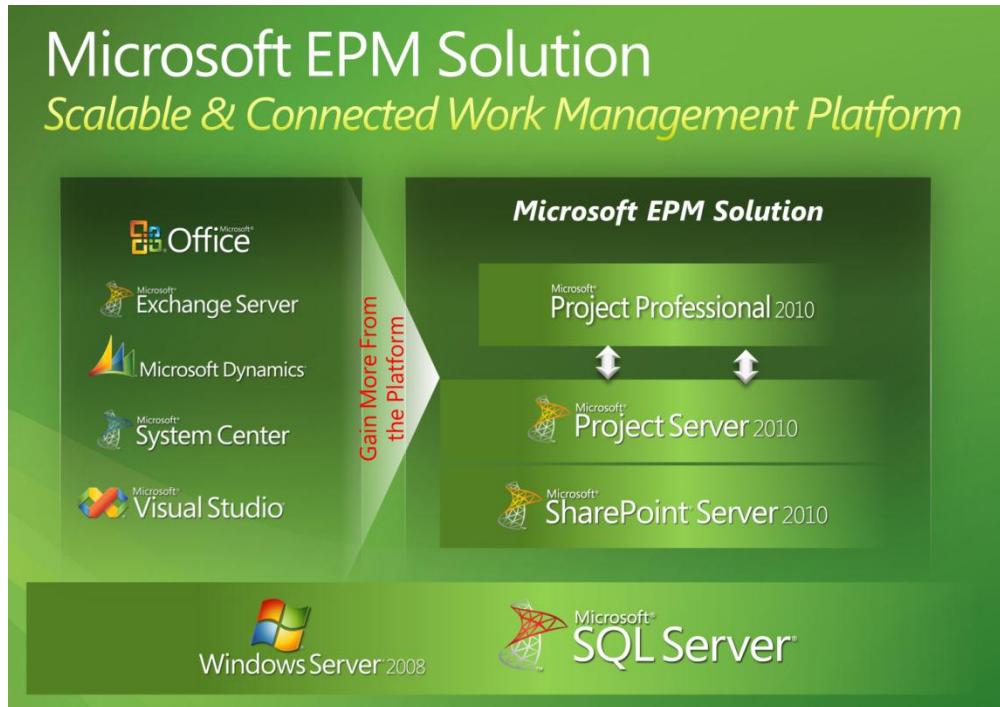


Figure 4. Microsoft EPM Solution architecture

## Demand Management

### Demand Management

Demand management offers a unified view of all work in a central location. Its purpose is to quickly help organizations gain visibility into projects and operational activities; standardize and streamline data collection; enhance decision making; and subject initiatives to the appropriate governance controls throughout their life cycles.

The Microsoft EPM Solution provides flexible demand management capabilities to help organizations accomplish the following:

- **Build governance workflows** to subject different types of work requests—for example, a help desk ticket, or a project of any size—to the appropriate controls throughout the life cycle of the issue or project.
- **Standardize and streamline data collection** by using configurable forms and business case templates.
- **Capture all requests in a central repository** to enhance visibility.

### Governance

Governance can generically be described as the rules, processes, and laws under which businesses are operated, regulated, and controlled. In the context of PPM, governance provides a best-practice framework and set of guidelines to effectively create, control, and deliver all types of work, enhance accountability, and optimally align spending with the organization's strategic imperatives. Governance processes are continuously refined based on empirical data and lessons learned to improve process velocity and time to market, while assuring the quality of the products, processes, or services delivered.

Establishing effective governance processes help organizations meet the following demand management needs.

- **Effectively communicate and realize business strategy.** Governance processes provide a blueprint for an organization to successfully communicate, implement, and realize its business strategy. Best-practice processes must first consider the business's strategic direction, and then provide a framework for selecting the right initiatives and improving project delivery to maximize ROI.
- **Subject varying initiatives and work to the right level of controls.** Organizations need to define the right processes to effectively control all types of work—project and operational—and related activities, including issues, risks, and change requests, without introducing excessive bureaucracy that will negatively affect time to market and employee morale.
- **Drive accountability and traceability.** Establishing formal checkpoints within the governance processes and identifying individuals with the appropriate approval authority helps drive accountability and increase awareness, and provides an auditable record of all investment decisions.

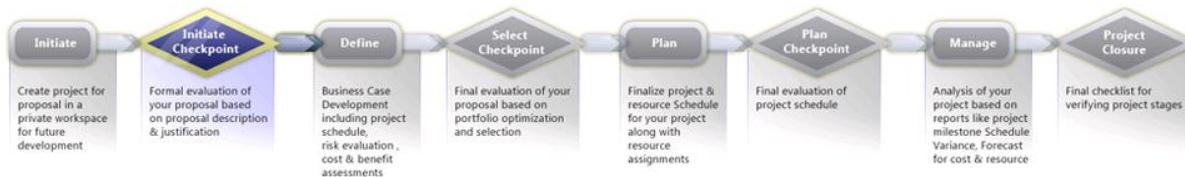
## Demand Management

- **Better identify and comply with regulatory requirements.** Governance can help organizations identify, anticipate, and respond to industry standards and regulatory requirements. This reduces the risk of costly fines, negative press, or even criminal proceedings.
- **Unify disparate lines of business by using enterprise processes.** Often, departments within organizations essentially operate in silos and, in effect, self-govern. Establishing enterprise governance standards will break down division walls and improve efficiency, communication, and transparency across the organization.
- **Drive governance acceptance and adoption through education and communication.** The success of PPM governance processes can be measured by their adoption, in addition to other metrics. Effective communication to educate employees and demystify the process is essential to driving adoption of and satisfaction with governance processes.
- **Refine governance processes to improve business results.** The processes that comprise the governance framework should undergo regular evaluation, and then be refined based on empirical data and lessons learned. By analyzing processes, analysts can identify and resolve bottlenecks to improve forward movement without affecting quality or bypassing required organizational controls.

The Microsoft EPM Solution gives organizations the tools they need to help them define, standardize, communicate, and enforce governance processes to control all types of work, project and operational, throughout the life cycle of any initiative. A workflow platform that is both rich and flexible makes it easy to define the right level of controls in any organization.

Project Server 2010 governance capabilities help PMOs quickly define and automate multiple workflows to manage different types of projects—for example, business projects, as opposed to IT projects—throughout project life cycles, and create event-driven workflows to control other activities: issue and risk management, change management, document approval, and so on. A Project Server 2010 workflow is primarily composed of a set of sequential stages that represent the main steps within the life cycle of a project (see Figure 5).

*Figure 5. Example of stages in an end-to-end workflow*



Each workflow stage includes a list of deliverables to be completed before the project can successfully move forward in the workflow. For example, deliverables early in a project's life cycle could include various Web-based forms that contain metadata that relate to the business case or project charter. These could include project information, cost estimates, resource estimates, strategic impact assessments, and so on. Ultimately, the workflow controls what deliverables and forms are displayed at each stage and the actions that need to be taken—it can even specify required fields to be completed.

## Demand Management

When a user completes a stage, the workflow performs the necessary data validation to ensure that all deliverables have been satisfactorily completed before moving the project to the next stage.

Governance phases in Project Server 2010 provide a common language across projects managed by different workflows that PMOs can use to aggregate data to facilitate enterprise reporting. Project Server 2010 drives accountability and traceability—PMOs can add checkpoints or gates within the workflow, to ensure that stakeholders with proper approval authority are notified when an initiative reaches a decision point. Project Server 2010 provides support for different types of approval techniques, including for individuals and groups, and sequential approvals to accommodate a wide range of process types and scenarios. Workflow notifications are conveniently published in the Workflow Approvals view in Project Server 2010, accessible from the left menu bar. When they receive an approval notification, a stakeholder can review the corresponding deliverables and then approve or reject the project, in addition to capturing comments (see Figure 6).

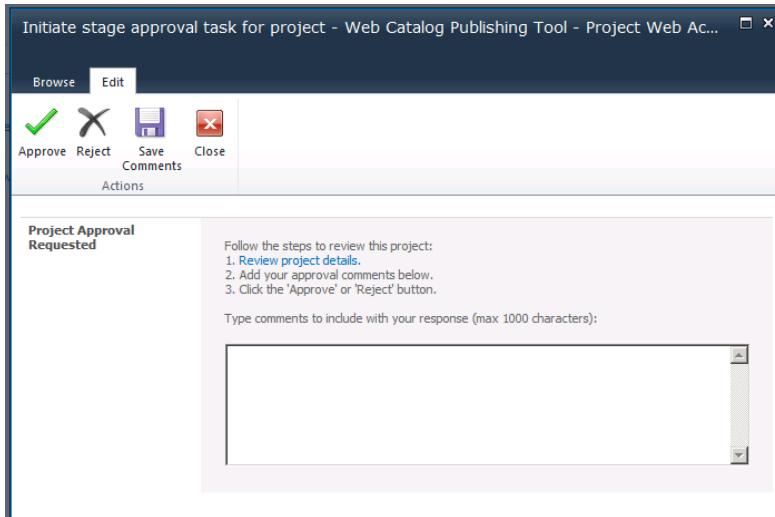


Figure 6. Project Server 2010 – Workflow Approval task

Project Server 2010 maintains a simple log of all approvals to provide an auditable history of investment decisions. Approval gates provide validation steps to help organizations drive accountability, increase awareness, and effectively comply with compliance regulations.

In addition to individual notifications, Project Server 2010 dedicates a Proposal Stage Status page to each project, designed to provide a single portal for all workflow information, and to intuitively guide users through the workflow (see Figure 7). The page effectively communicates the main stages and deliverables included in the workflow, and assists with driving adoption and acceptance of the process. The governance page displays:

- The name of the current workflow stage that the project is in.
- The status of each deliverable required to be completed for the current phase.
- A table of all stages in the workflow, with their corresponding deliverables.
- Approval and rejection comments.

## Demand Management

The Project Server 2010 Proposal Stage Status page simplifies the workflow process, so it is easy for team members to identify the deliverables that they have to complete and easily find the right Project forms or views.

The screenshot shows the Project Detail Pages - Proposal Stage Status page in Microsoft Project Server 2010. The page displays a workflow graphic at the top, showing eight stages: Initiate, Initiate Checkpoint, Define, Select Checkpoint, Plan, Plan Checkpoint, Manage, and Project Closure. Each stage has a brief description below it. To the left of the workflow is a navigation menu with sections like Project, Workflow, and My Work. The main content area includes a 'Workflow Status' section indicating the current stage is 'Plan Stage (Major Project)' and a 'Available Pages in this Workflow Stage' table. Below these are sections for 'Strategy', 'Settings', and 'Documents'. A large table at the bottom lists workflow phases and their status. The table has columns for Stage, State, Entry Date, Completion Date, and Status Info. Phases include 'Workflow Phase: 1. Create', 'Workflow Phase: 2. Select', 'Workflow Phase: 3. Plan', and 'Workflow Phase: 4. Manage'. The 'Status Info' column contains detailed descriptions of each phase's status and requirements.

Stage	State	Entry Date	Completion Date	Status Info
<b>Workflow Phase: 1. Create</b>				
1. Initial Review	Completed	12/11/2009 2:04 AM	12/11/2009 2:06 AM	Proposal has been approved. Pl
Rejected	Not Started			
2. Define (Major Project)	Completed	12/11/2009 2:06 AM	12/11/2009 2:07 AM	Business case submitted.
<b>Workflow Phase: 2. Select</b>				
3. Select Checkpoint	Completed	12/11/2009 2:07 AM	12/11/2009 2:58 AM	Project approved for Portfolio se
Not Selected	Not Started			
<b>Workflow Phase: 3. Plan</b>				
4. Plan Stage (Major Project)	In Progress (Waiting for Input)	12/11/2009 2:58 AM		One or more required fields hav
5. Plan Checkpoint (Major Project)	Not Started			
<b>Workflow Phase: 4. Manage</b>				
6. Manage Stage (Major Project)	Not Started			
7. Manage Checkpoint (Major Proj)	Not Started			

Figure 7. Project Server 2010 – Proposal Stage Status page (Note that this screen shot includes a custom workflow graphic)

Project Server 2010 workflow capabilities can help PMOs establish, communicate, and enforce an enterprise governance framework to unify disparate lines of business and drive efficiencies and transparency across the organization. Project Server 2010 includes a sample workflow that can be extended or customized using Visual Studio to meet an organization's unique requirements. The powerful workflow infrastructure in Project Server 2010 gives PMOs the tools to model both simple and complex best-practice processes—for example, Project Management Body of Knowledge (PMBOK), Prince 2, or agile project management methodologies. In addition, these tools facilitate integration with LOB systems, and help PMOs easily refine workflows to improve performance based on lessons learned and empirical data.

In addition to project life cycle controls, Project Server 2010 provides support for more granular activities and a variety of planning methodologies. Specific events and processes, such as issues and risk

## Demand Management

management, change management, status reporting, and document review and approval can be better controlled by using event-driven workflows.

Organizations use a variety of planning methodologies to help ensure that they select and deliver the right initiatives. Project Server 2010 supports the following planning methodologies.

- **Annual Planning:** An organization proactively undertakes an extensive analysis to identify, select, and fund all projects to be delivered in the next fiscal year.
- **Just-in-Time (JIT) Planning:** An organization convenes recurring portfolio selection meetings, usually quarterly, to analyze new requests and to reassess the strategic alignment of projects already underway to maximize the portfolio's ROI.
- **The Hybrid Model:** Combines the best of annual and JIT planning. Organizations proactively select projects for the upcoming year, but in addition, hold recurring selection events to refine the portfolio throughout the year.

## Work Initiation and Business Case Development

For an organization, *demand* can include all requests for different types of project and non-project work that potentially will consume organizational funds or resources. Project requests can flood into an organization through a variety of structured and informal sources: customer requests, hallway conversations, e-mail exchanges, executive decisions, and business maintenance activities, for example. The varied nature and form of project requests can make it difficult for PMOs to gain visibility and control of initiatives across the enterprise. By capturing all requests in a central location and standardizing the collection of metadata and metrics, organizations can quickly gain visibility across all requests and ongoing projects to help improve decision making and ensure that they are working on the initiatives that are right for the organization.

Formalizing the project initiation process helps organizations accomplish the following:

- **Gain visibility by centralizing collection of demand.** By simply capturing all project requests in a central repository, PMOs can immediately gain visibility across portfolios, making it easy to identify and eliminate duplicate or overlapping initiatives. Capturing both proposed and in-flight projects in a single location helps analysts quickly assess the effect of demand on budget and on the resource pool.
- **Standardize metadata and metrics to drive consistency.** One of the most important steps in successfully managing project portfolios is standardizing project metadata and metrics across all types of projects. Inconsistent metadata and metrics make it impossible to drive enterprise reporting and to effectively compare and contrast competing project requests.
- **Streamline data collection improves cycle times.** Providing a single location and best-practice template for capturing new requests provides an intuitive and repeatable framework that drives efficiency and reduces the time it takes to create and submit both simple and complex requests.
- **Achieve enterprise consistency while providing line-of-business (LOB) autonomy.** There is no such thing as a one-size-fits-all project initiation process. In many organizations, different departments

## Demand Management

operate independently and have customized initiation processes and business case forms. A common challenge for a PMO is to define processes and templates that provide enterprise standardization and control, while giving business partners in the organization a feasible level of freedom and autonomy.

- **Interoperate with LOB systems.** Requests can come from anywhere within or outside of the organization and might reside in specialized systems—for example, in a Customer Relationship Management (CRM) or service management system. Integration with LOB systems is critical for consolidating all work in a central repository to enhance awareness, formalize decision making, and assess the effect of project proposals on scarce resources.

The unified PPM capabilities of Project Server 2010 provide a flexible framework for capturing, selecting, and delivering all types of work, from simple tasks to complex projects and programs. Project Server 2010 extends Project Portfolio Server 2007 to create a solution that offers organizations a dedicated demand management interface, standardizes the collection of all work, and provides visibility and control across the organization.

### Capture All Requests in a Central Repository

Project Server 2010 offers flexible new project initiation capabilities to provide visibility across all portfolios by capturing requests and managing in-flight projects in a central repository. Consolidating all requests and projects that are already underway in a single location provides executives with transparency across all investments, so it is easier to assess the impact on scarce resources and select the right initiatives for the organization to fund and complete. The Project Center view in Project Server 2010 helps to ensure that users can create flexible scorecards to better visualize and report across portfolios and throughout the project life cycle. Project Center can be configured to provide a demand management scorecard (see Figure 8) that reinforces the benefit of capturing all projects and work requests in a central repository. The scorecard shows projects grouped by multiple dimensions—for example, workflow stage and department—and includes relevant metadata—dates, cost, system health, and so on—in columns to convey the status of all initiatives from inception to completion.

# Demand Management

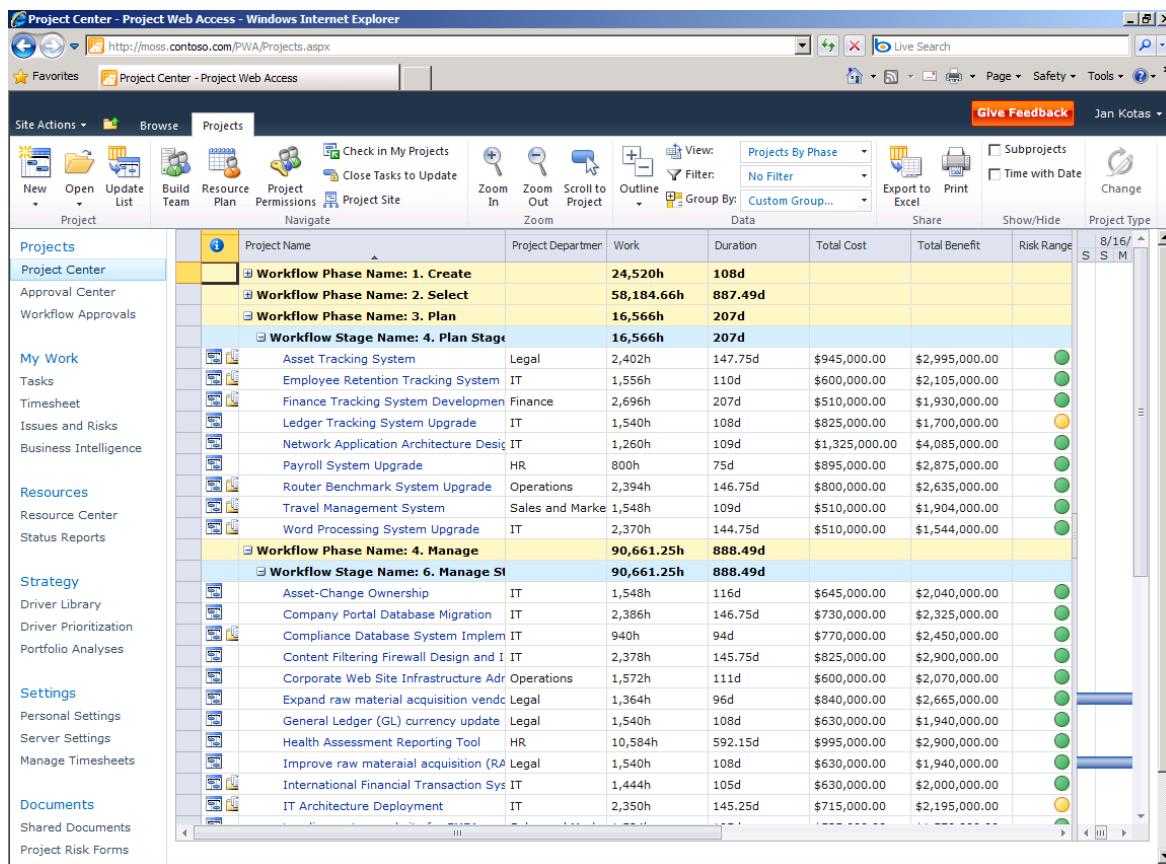


Figure 8. Project Server 2010 – Project Center scorecard

Requests come from a variety of sources and can be initiated in and reside in specialized systems. To support this diversity of input, Project Server 2010 provides a comprehensive API, Project Server Interface (PSI), to consolidate requests entered into other productivity tools and LOB systems alongside requests created directly in Project Server 2010.

## Standardize and Simplify Data Collection Across the Enterprise

Centralizing all requests in a single location is the first, important step to enhanced visibility and control. However, without standardizing metadata and metrics across projects, it becomes difficult to accurately undertake a comparison of competing investments and to facilitate enterprise reporting.

The new project initiation platform in Project Server 2010 helps organizations standardize the initiation process, capture all types of requests, and develop simple to complex business cases. The main capabilities that comprise the new project initiation platform in Project Server 2010 are Enterprise Project Types (EPTs), or project templates; Project Detail Pages (PDPs), which are online forms; and governance workflows. To appreciate the flexibility of the platform, it is important to understand how these capabilities work together.

## Demand Management

- Enterprise Project Types (EPTs) are project templates that represent various types of projects and non-project work within the portfolio. For example, you could create an EPT to represent a software development project or a marketing campaign.
- Project Detail Pages (PDPs) are configurable online forms used to collect or display project information: descriptive data, cost estimates, strategic impact assessments, and so on.
- Governance workflows subject each project template to the appropriate controls throughout its life cycle and determines which online forms are displayed at each stage in the project life cycle.

Project Server 2010 makes it easy to get started by providing example project types and project detail pages, and a sample workflow; all capability types present an intuitive administration interface for creating custom project types and online forms to meet the organization's unique needs. The PMO can create a new project type using the administration interface by completing a simple form, which includes the following tasks (see Figure 9).

- Capture an EPT name and enter a description.
- Select a governance workflow: The workflow will subject the project to the appropriate controls throughout its life cycle.
- Associate the project type with a custom Project Site template: Each project type can have a custom workspace to enhance team collaboration and communication.
- Link to the appropriate departments: Each project type can be global or it can be associated with individual departments within the organization.
- Choose a best-practice project plan template: Associate a best-practice project plan, including predefined phases, tasks, and resource assignments, with a project template.
- Specify an initiation form: This form is displayed when a user selects the project type when creating a new work request.

# Demand Management

**Name**  
Specify a name for the Enterprise Project Type. This is the name users will see while you are creating new projects in Project Center.

**Description**  
Specify a description for the Enterprise Project Type. This information will display in the tool tip when users rest the pointer on the name while creating new projects in Project Center.

**Site Workflow Association**  
Choose a site workflow association for this Project Type. For the 'Site Workflow' to appear in the drop down, it has to be installed and configured on the Project Server machine.  
*Note: Once you select an association it cannot be changed*

**New Project Page/Project Detail Pages**  
Choose the New Project Page for this enterprise project type. This is the first Project Detail Page that users will see when you create new projects in the Project Center. If the 'New Project Page' option is selected in the Site Workflow Association, then choose the Project Detail Pages that users will see once the project is created. The 'New Project Page' may also be visible to the project creator. If no association is selected in the Site Workflow Association, then the Project Detail Pages are determined dynamically by the associated workflow.

**Default**  
Choose whether this is the default Enterprise Project Type for Project creation. If no type is specified during Project Creation, the default Enterprise Project Type will be used.  
*Note: Making this default will automatically unselect all the departments. The default Enterprise Project Type cannot have a Project Plan Template associated with it.*

**Departments**  
Choose the department association for this Enterprise Project Type. Note that this department association is used only for filtering the Enterprise Project Types on the Project Center and not for security.

**Image**  
Specify an image for the Enterprise Project Type. This is the image users will see next to the Enterprise Project Type while you are creating new projects in the Project Center.  
*Note: If you have an image on your computer, you have to first upload the image to an online document library (for example, Shared Documents library in PWA) and then specify the image URL from here.*

**Order**  
This determines the position in which Enterprise Project Types display in the 'New' button in the Project Center.

**Project Plan Template**  
Choose a template that will be used when creating any project with this Enterprise Project Type. If the drop down list just shows 'None', then there are no templates available. This is because all templates using Project Professional connected to the server.  
*Note 1: Avoid having non-generic assignments in the project plan template. This is because all assigned tasks will be generic when this template is used.*  
*Note 2: The default Enterprise Project Type cannot have a Project Plan Template associated with it.*  
*Note 3: This list is not filtered by department.*

**Project Site Template**  
Choose a template that will be used when the project site is created.

**System Identification Data**

Save Cancel

Figure 9. Project Server 2010 – Enterprise Project Type definition form

After publishing the project type, the template name will be displayed in the list of available project types when a user clicks the **New** button in the wizard-like Project Center (see Figure 10). As indicated earlier, project types can be global—that is, associated with and available to all departments—or linked to specific departments within the organization. This flexibility helps PMOs control the project types that are displayed for each department, ensuring that employees see only the types that are relevant to their LOB.

# Demand Management

The screenshot shows the Microsoft Project Server 2010 interface. The top navigation bar includes 'Site Actions', 'Browse', and 'Projects'. Below the navigation bar is a ribbon menu with icons for 'New', 'Open', 'Update List', 'Build Team', 'Resource Plan', 'Project Permissions', 'Check in My Projects', 'Close Tasks to Update', 'Project Site', 'Zoom In', 'Zoom Out', and 'Scroll to Project'. A search bar is also present. On the left side, there's a sidebar with 'In Project Professional' sections like 'From SharePoint List', 'Sample Proposal', 'Basic Project Plan', and 'Software Development' (which is highlighted). Other sections include 'Business Intelligence', 'Resources', 'Resource Center', and 'Status Reports'. The main content area displays a list of projects under 'Workflow Phase Name: 1. Create' and 'Workflow Stage Name: 1. Initial Review'. Projects listed include 'Automated Software Design Architecture' (IT), 'Corporate Web Site Server Software Upgrade' (IT), 'ERP System Infrastructure Revision' (IT), 'Human Capital Management' (HR), 'Identity Integration' (IT), 'Internal Web Page Design' (IT), 'Knowledge Management System Enhancement' (IT), 'Production System Upgrade' (IT), 'Skills Inventory Management' (HR), 'Skills Tracking Database' (IT), and 'System Log Collection' (IT). Below this, another section titled 'Workflow Stage Name: 2. Define (Major)' is partially visible.

Figure 10. Project Server 2010 – Published project templates

Project Server 2010 integrates the SharePoint Server 2010 extensible Web part infrastructure, so it is easy to build a library of configurable online forms, or Project Detail Pages, that can include custom fields and Web parts. An administrator can simply create a new form by choosing the required custom fields and arranging them within the Web part (see Figure 11).

The screenshot shows the configuration of a 'Project Details Form' Web part. The main area displays a form with fields for 'Name\*', 'Description', 'Start Date\*', and 'Justification'. To the right of the form is a configuration pane titled 'Project Details Form' with the following settings:

- Displayed Project Fields:** Project Name, Description, Start, Justification. There is a 'Modify' button next to the dropdown menu.
- Appearance:**
  - Title:** Project Details Form
  - Height:** Should the Web Part have a fixed height? Yes (selected), 1000 Pixels.
  - Width:** Should the Web Part have a fixed width? No, Adjust width to fit zone.
  - Chrome State:** Minimized (radio button selected).
  - Chrome Type:** Title Only.
- Layout:** (This section is partially visible at the bottom)

Figure 11. Project Server 2010 – Enterprise custom fields Web part

More complex forms such as risk questionnaires, cost estimate worksheets, and benefit estimate worksheets can be built by using Microsoft InfoPath® Forms Services or Office Web Apps, and then being

## Demand Management

included in the project business case. This flexibility helps the PMO define various forms associated with business cases for different types of projects while ensuring that key metadata is standardized across requests to facilitate enterprise reporting.

After creating the required online forms, an administrator simply links the forms to the stages within the appropriate governance workflow. The workflow accomplishes the following:

- Determines which online forms are displayed at each stage in the project life cycle.
- Dictates the configuration of individual fields within the form; for example, it can specify whether a field is mandatory, or whether a field should be editable or read-only.
- Performs data validation to ensure that the form has been correctly completed or to assess whether all deliverables have been completed before the request can progress to the next stage in the workflow.

As demonstrated by this overview, Enterprise Project Types, Project Detail Pages, and governance workflow capabilities work together to control and standardize the project initiation process, while providing the PMO with the flexibility to meet custom LOB requirements and maintain enterprise standards.

PMOs can enter new requests in Project Server 2010 in the new Project Center view. The Project Center provides a single, wizard-like interface for initiating all types of work, thereby streamlining the project initiation process. Submitting a new request is easy: on the **Project** tab in the Office Fluent Ribbon in Project Server 2010, simply click the **New** button. Select the appropriate project type from the list (see Figure 10), and the corresponding request form appears (see Figure 12).

The screenshot shows the Microsoft Project Server 2010 Project Center. The top navigation bar includes 'Site Actions', 'Browse', 'Project' (selected), 'Give Feedback', and 'Amy Strande'. On the left, a vertical menu lists 'Project' (selected), 'Projects' (with sub-options: Project Center, Approval Center, Workflow Approvals), 'My Work' (with sub-options: Tasks, Timesheet, Issues and Risks, Business Intelligence), 'Resources' (with sub-options: Resource Center, Status Reports), and 'Settings' (with sub-options: Personal Settings, Server Settings, Manage Timesheets). The main content area features a green and orange wavy background with the 'contoso' logo. The title 'Proposal Request Form' is displayed. The form contains fields: 'Name\*' (input field), 'Description' (text area), 'Start Date\*' (input field with value '1/18/2010'), 'Project Departments' (dropdown menu), and 'Owner' (input field with value 'Amy Strande' and a 'Browse...' button). A note at the top right of the form area states '\* Indicates a required field'.

Figure 12. Project Server 2010 – Proposal Request Form

## Demand Management

After completing the request form, save and publish the project. If the project type has been associated with a governance workflow, the project is subject to the controls and business logic already associated with the workflow. The workflow dictates what happens next. The request could be routed through an initial approval checkpoint or it could simply move to another stage that includes additional forms and deliverables to be completed by the project team.

On the Proposal Stage Status page in Project Server 2010, you can clearly see the required forms and deliverables to be completed for the current stage in the workflow (see Figure 13).

The screenshot shows the 'Proposal Stage Status' page in Project Server 2010. The top navigation bar includes Site Actions, Browse, Project, and various document-related buttons. The ribbon tabs are Project, Workflow, and Page. The status bar at the top right shows 'Jan Kotas'. The main content area displays a workflow titled 'E-CRM Solution' with the following stages:

- Initiate**: Create project for proposal in a private workspace for future development.
- Initiate Checkpoint**: Formal evaluation of your proposal based on proposal description & justification.
- Define**: Business Case Development including project schedule, risk evaluation, cost & benefit assessments.
- Select Checkpoint**: Final evaluation of your proposal based on portfolio optimization and selection.
- Plan**: Finalize project & resource Schedule for your project along with resource assignments.
- Plan Checkpoint**: Final evaluation of project schedule.
- Manage**: Analysis of your project based on regular Project Milestone Schedule Variance, Forecast for cost & resource.
- Project Closure**: Final checklist for verifying project stages.

Below the workflow, the 'Workflow Status' section indicates the 'Current Workflow Stage: 3. Select Checkpoint'. It notes that the proposal is being evaluated against other proposals in a Selection Process. The 'Workflow Stage Status' section shows 'Waiting for business case approval followed by portfolio selection'. The 'Available Pages in this Workflow Stage' section lists four pages: Project Details, Strategic Impact, Cost and Benefit, and Risk Evaluation. The 'Strategic Impact' page is described as capturing how the proposal impacts Strategic Business Drivers. At the bottom, there's a note about pages marked with '\*' requiring attention and a link to 'All Workflow Stages'.

Figure 13. Project Server 2010 – Proposal Stage Status page

To complete the required forms, simply click a form in the left menu bar, or you can choose to sequentially step through the forms using the wizard-like settings in the Ribbon—that is, using the **Next** button and the **Previous** button (see Figure 14). The intuitive and familiar interface helps effectively communicate the governance process, educate users, simplify data entry, and improve adoption and end-user satisfaction.

## Demand Management

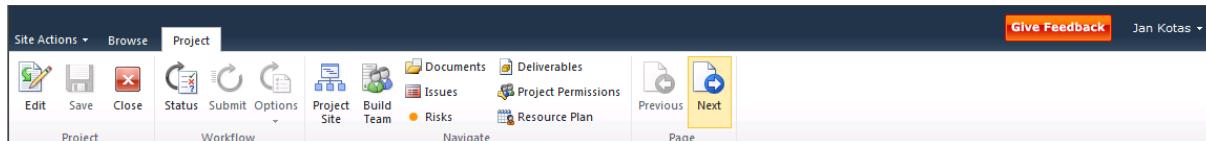


Figure 14. Project Server 2010 – Next and Previous buttons on the Project tab

## Portfolio Selection and Analytics

### Portfolio Selection and Analytics

In uncertain economic times, many executives are being asked to do more with less. Pressure to reduce or maintain budgets is driving sharper scrutiny of discretionary spending, and increases the importance of effectively identifying, selecting, and delivering project portfolios that best align with an organization's business strategy and that maximize ROI. Best-practice portfolio selection techniques provide a handshake between *value optimization*—that is, alignment with business priorities and maximizing ROI—and *resource utilization*, or understanding resource capabilities and availability. Together, they help PMOs recommend not only which projects to undertake, but to forecast when projects can be delivered.

Aligning spending with business strategy can be very subjective. It is made less so if organizations adopt structured techniques for defining, prioritizing, and communicating business imperatives, and consistently evaluate each competing initiative that contributes to strategic priorities. Adopting a structured process enforces a rational rather than emotional approach to decision making, and in addition, ensures that projects are funded based on business priorities rather than on a “first-come, first-served” basis.

Adopting structured portfolio selection processes and techniques helps organizations accomplish the following:

- **Define and communicate the business strategy.** Many organizations publish mission statements and high-level strategic objectives. Few of them, however, break down their strategy into actionable, measurable, and discrete business drivers. Defining and effectively communicating the business strategy in actionable terms provides a blueprint that can be understood and implemented by departments throughout the organization.
- **Drive executive consensus around business driver priorities.** Objectively prioritizing the business strategy and driving executive consensus is one of the most important steps in selecting the portfolio. Executives from different functional areas naturally will have different opinions on the organization's strategic priorities. Overcoming these discrepancies and driving consensus help organizations more effectively assess competing initiatives and select the optimal portfolio.
- **Objectively prioritize competing projects from multiple dimensions.** With potentially hundreds of competing project requests coming in, it can quickly become difficult to see the forest for the trees. Prioritizing projects by using a variety of value measurements—for example, strategic value, financial value, and risk—provides a framework for assessing requests from multiple dimensions and for creating a common currency with which to make comparisons.
- **Identify the optimal portfolio under varying budget and portfolio constraints.** When faced with budget cuts or with a wish list of requests that exceeds the allocated budget, it can become a daunting task for PMOs to recommend a portfolio that aligns with business strategy and maximizes ROI. Additional variables, such as inter-project dependencies and regulatory requirements, can

## Portfolio Selection and Analytics

further compound the problem, making it challenging to effectively model scenarios that will help identify the right projects for an organization to undertake.

- **Effectively communicate tradeoffs.** Budget, available resources, dependencies, pet projects, and compliance requirements are all factors that can potentially affect the overall value of selected project portfolios. Being able to effectively identify and break these constraints helps PMOs communicate tradeoffs to the executive team and enhance the potential value gained from the resulting portfolio.
- **Maximize resource utilization.** In an annual planning cycle, projects are sometimes front-loaded in the first half of the year, resulting in an immediate overallocation of resources and a surplus of resources in the second half of the year. Using capacity planning techniques, analysts can reschedule projects based on resource availability and model headcount scenarios—hiring versus outsourcing, for example—to maximize resource utilization and to identify the optimal release roadmap.

New portfolio selection and analytical capabilities in Project Server 2010 build a bridge between value optimization and resource utilization to help organizations select project portfolios based on alignment with business strategy and resource capability.

Project Server 2010 helps organizations do the following:

- Objectively define, communicate, and prioritize business strategy.
- Score and assess competing requests from multiple dimensions.
- Run what-if analysis optimization scenarios under various budgetary constraints.
- Compare and contrast portfolios and gain insight through advanced analysis such as Efficient Frontier modeling.
- Assess capacity and adjust project schedules to maximize resource utilization across the planning horizon.
- Run and model headcount scenarios.

Project Server 2010 incorporates the best-in-class portfolio management techniques of Office Project Portfolio Server 2007, eliminating the need for Project Server Gateway (which was required to push data between Project Portfolio Server 2007 and Project Server 2007), and providing a consistent SharePoint user interface across the solution. The improved analysis wizard in Project Server 2010 intuitively steps PMOs through embedded portfolio selection methodology, making it even easier to identify and select the right project portfolios. Project Server 2010 supports a rational rather than emotional approach to portfolio selection and provides a structured process for measuring the alignment of spending with strategy by maximizing resource utilization.

## Portfolio Optimization and Capacity Planning

Project Server 2010 includes a best practice–based methodology that helps organizations identify and select project portfolios that best align with their business strategy.

## Portfolio Selection and Analytics

In the following sections, we walk through four key phases of portfolio optimization and capacity planning.

- Business driver definition and prioritization
- Project portfolio prioritization
- Portfolio optimization: cost constraint analysis and optimization
- Capacity Planning: Resource constraint analysis and utilization

### Clearly Define and Prioritize Business Strategy

The first step in aligning spending with business strategy is to define a set of actionable, measurable, and unique business drivers that clearly communicate the intent of the organization's business strategy. PMOs can facilitate a workshop with executives to define business drivers and to translate the organization's objectives into actionable terms. A rough rule of thumb is that an organization should select between six and twelve business drivers. Fewer than six drivers usually results in drivers that are too broad to be effective, and more than twelve results in driver overlap and redundancy.

Using the Project Server 2010 Driver Library, PMOs can capture and communicate business drivers defined by the executive team. Using the New Business Driver form in Project Server 2010 (see Figure 15), it is easy for PMOs to publish drivers. The New Business Driver form captures the following metadata:

- **Driver name and description.** By capturing a name and description for each business driver, analysts can better communicate the intent of each driver and reduce ambiguity.
- **Departments.** Because the solution is flexible, organizations can have a single set of business drivers to implement throughout the organization. At the same time, the solution gives organizations the freedom to associate specific sets of drivers with multiple departments.
- **Project impact statements.** Ultimately, organizations use business drivers to assess the strategic contribution of each competing initiative by deriving a strategic value score during business case development. Organizations can use the values Extreme, Strong, Moderate, Low, or None to indicate the impact that competing requests have on one or more business drivers. PMOs use project impact statements to ensure the objectivity of this assessment and to clearly communicate the threshold of each impact rating. Project impact statements are derived from the key performance indicators (KPIs) used to measure each business driver.

# Portfolio Selection and Analytics

The screenshot shows the 'New Business Driver - Project Web Access - Windows Internet Explorer' window. The URL is [http://moss.contoso.com/lowa/\\_layouts/PSWA/PortfolioStrategy/AddModifyDriver.aspx](http://moss.contoso.com/lowa/_layouts/PSWA/PortfolioStrategy/AddModifyDriver.aspx). The page title is 'New Business Driver - Project Web Access'. The top navigation bar includes 'Site Actions', 'Browse', 'Driver', 'Give Feedback', and 'Jan Kotas'. The main content area is titled 'This driver is used in one or more prioritizations.' It contains several sections: 'Name and Description' (Name: 'Expand into new markets and segments', Description: 'Expand revenue growth aggressively by penetrating new markets and expanding reach to segments of penetrated markets'), 'Departments' (Departments: dropdown menu), 'Status' (Active (Default) selected), and 'Project Impact Statements' (Impact rating scale from None to Extreme). The 'Impact Statements' section has a dropdown menu with the following options:

- None
- Does not grow revenue from any markets and segments
- Low
- Grows revenue from new markets and segments by up to \$500K
- Moderate
- Grows revenue from new markets and segments by \$500K to \$1M
- Strong
- Grows revenue from new markets and segments by \$1M to \$3M
- Extreme
- Grows revenue from new markets and segments by more than \$3M

Figure 15. Project Server 2010 – New Business Driver form

After defining business drivers and specifying departmental associations, the driver name, description, and impact statements populate the Project Strategic Impact form (see Figure 16). The organization uses the Project Strategic Impact form to collect the impact ratings to derive a common currency—a strategic value score—for competing requests.

# Portfolio Selection and Analytics

**E-CRM Solution**

**Project Strategic Impact**

Rate the impact of this project on the business drivers below.

**Expand into new markets and segments**

Expand revenue growth aggressively by penetrating new markets and expanding reach to segments of penetrated markets

No Rating  
None: Does not grow revenue from any markets and segments  
Low: Grows revenue from new markets and segments by up to \$500K  
Moderate: Grows revenue from new markets and segments by \$500K to \$1M  
Strong: Grows revenue from new markets and segments by \$1M to \$3M  
Extreme: Grows revenue from new markets and segments by more than \$3M

**Improve customer satisfaction score**

Measurably improve scores on customer satisfaction surveys through implementing standardized customer service processes, grow the number of customer service relationships, and improve the nature of each relationship

No Rating  
None: Does not change customer satisfaction index  
Low: Increases customer satisfaction by up to 2%  
Moderate: Increases customer satisfaction by 2% to 3%  
Strong: Increases customer satisfaction by 3% to 5%  
Extreme: Increases customer satisfaction by 5% or more

**Improve employee satisfaction**

Implement approved morale-boosting techniques in order to measurably improve employee satisfaction on standardized employee satisfaction surveys

No Rating  
None: Does not change retention rate  
Low: Increases retention rate by up to 2 points  
Moderate: Increases retention rate by 2 to 3 points  
Strong: Increases retention rate by 3 to 5 points  
Extreme: Increases retention rate by more than 5 points

**Improve product quality**

Implement process improvements and best practices in order to improve product quality, as measured by defects per million and SLA levels

No Rating  
None: Reduces defects by less than 5%, or attains a service-level agreement of 90% or less  
Low: Reduces defects by up to 10%, or attains a service-level agreement between 90% and 95%  
Moderate: Reduces defects by up to 15%, or attains a service-level agreement between 95% and 97%  
Strong: Reduces defects by up to 20%, or attains a service-level agreement between 97% and 98%

Figure 16. Project Server 2010 – Project Strategic Impact form

When strategy has been defined, the next step in the process is to objectively prioritize business drivers and to drive consensus within the executive team. PMOs can use the new driver prioritization module in Project Server 2010 to support a workshop in which executives openly discuss the importance of each business driver to prioritize strategy. The organization can prioritize business drivers at any level in the organizational hierarchy. For example, it can define a standard set of business drivers across the enterprise, but also prioritize business drivers independently by LOB or department.

Project Server 2010 includes a pairwise comparison technique for comparing the importance of, and prioritizing, the business drivers. The Compare Drivers table guides executives through the business driver prioritization process. The design makes it easy for the team to complete the assessment by displaying a single business driver in the left column, importance ratings in the center, and the drivers in the right column (see Figure 17). This intuitive view ensures that executives can frankly discuss and assess the importance of each business driver pairing and clearly review driver descriptions to mitigate ambiguity. For example, “Expand into new markets and segments” is more or less important when compared to “Improve product quality.” To step through the pairwise comparison assessment and move to the next driver, the analyst simply clicks the **Next Driver** button.

# Portfolio Selection and Analytics

		is extremely more important than	Reduce expense base
	Increase market share in existing markets Improve market share percentage or market position in already penetrated markets		Implement standardized practices across organization to reduce expense.
		is more important than	Standardize and streamline cross-functional processes Implement a library of standardized functions across processes, in order to reduce the cycle time of processes across the organization as a whole and [...]

Figure 17. Project Server 2010 – Compare Drivers table

Using the input from the pairwise comparison assessment, Project Server 2010 derives a relative priority score for business drivers (see Figure 18). The team can then use the normalized score to assess the relative importance of each business driver. In addition, a normalized score provides the team with a scale to proportionally measure investment alignment with strategic priorities. Objectively deriving this relative score is a crucial step to being able to accurately measure how closely a resulting project portfolio aligns with the organization's business strategy.

In addition, Project Server 2010 provides a consistency ratio score that indicates how consistent a team's responses were in the pairwise assessment (see Figure 18). A score lower than 75 percent indicates inconsistencies and suggests that the analyst should work with the team to refine the pairwise assessment to improve the consistency of responses. The following example demonstrates how inconsistency can be introduced during the assessment and result in a low consistency ratio. The team might independently come to the following conclusions, which considered collectively, are inconsistent:

- Driver 1 is AS IMPORTANT as Driver 2.
- Driver 1 is AS IMPORTANT as Driver 3.
- Driver 2 is MORE IMPORTANT than Driver 3.

# Portfolio Selection and Analytics

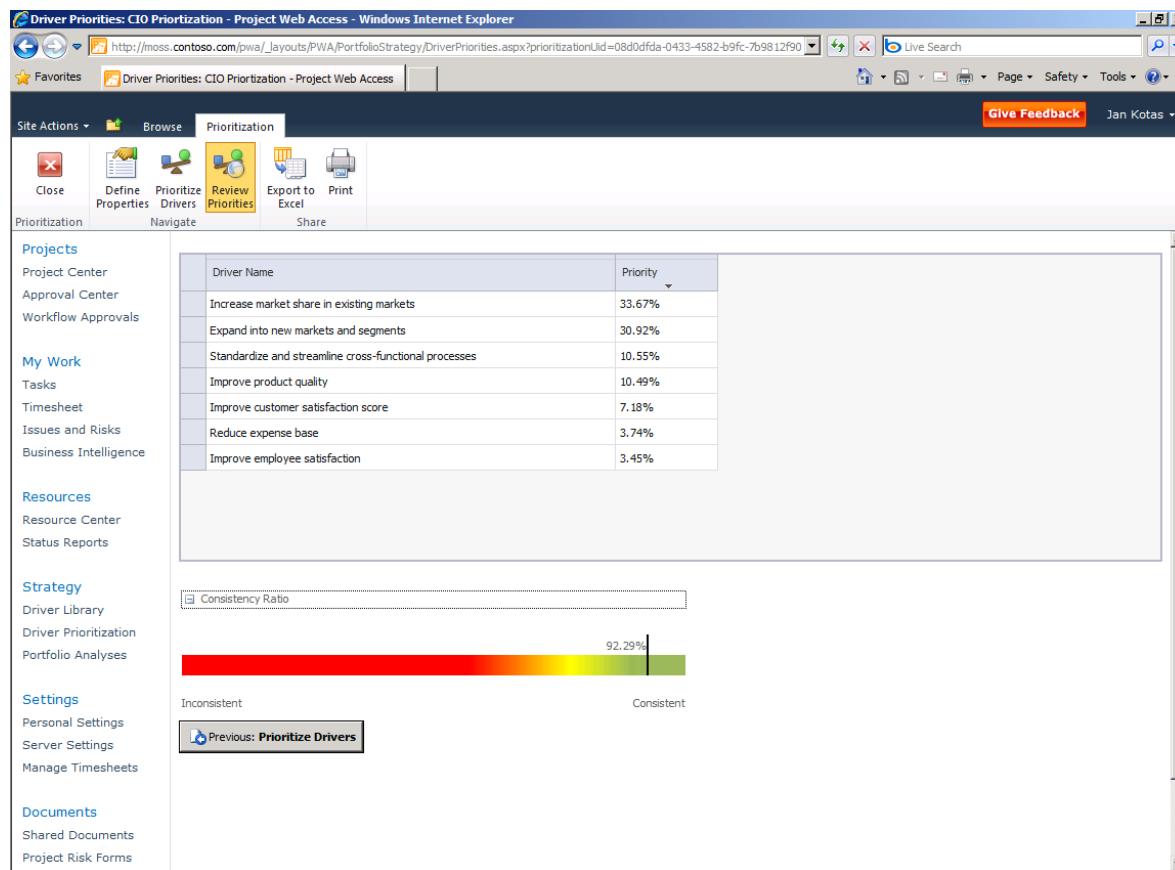


Figure 18. Project Server 2010 – Business Driver Priority Score and Consistency Ratio

The pairwise comparison technique helps organizations objectively prioritize their business strategy. However, Project Server 2010 also offers the flexibility to assign manual priorities to business drivers.

As mentioned earlier, executives from various functional areas naturally will have different opinions about the organization's strategic priorities. Overcoming this discrepancy and driving consensus helps organizations more effectively assess competing initiatives and compile the optimal portfolio. The open discussion that occurs when undertaking the pairwise comparison is an effective way to debate the importance of each business driver pairing, and to drive consensus across the executive team. Another useful approach is to prioritize business drivers by using the pairwise technique independently with each executive. The PMO can then compare and contrast driver priorities for each executive, identify divergence of opinion ahead of a driver prioritization workshop, which would include all executives, and focus on the areas of discrepancy during the session to drive consensus across the team.

## A Better Experience with the Intuitive Analysis Wizard

After engaging the executive team to better understand and communicate its strategic priorities, the next steps are to prioritize competing requests and to select the optimal portfolio of projects under varying cost and resource constraints.

## Portfolio Selection and Analytics

Project Server 2010 includes an intuitive wizard that guides analysts through the Project Server 2010 portfolio selection methodology (see Figure 19). Using the New Portfolio Analysis wizard, analysts simply move through the analysis steps by clicking the **Next** button, or by selecting a sequential step in the Ribbon. The simplicity and intuitive nature of this wizard reduces training costs and ensures that analysts can quickly demonstrate value derived from the solution.

An analyst uses the New Portfolio Analysis form to define the properties for a new analysis. The form offers the flexibility to run the analysis at the enterprise level or by department; to filter projects to include in the analysis; and to specify the prioritization criteria, primary cost constraints, and the time horizon for the capacity planning assessment.

The screenshot shows the 'New Portfolio Analysis' form in Project Web Access. The left sidebar lists various navigation options like Project Center, My Work, Resources, Strategy, etc. The main form has sections for Name and Description, Department, Prioritization Type, Prioritize these projects, Analysis Primary Cost Constraint, Time-phased Resource Planning, Planning Horizon and Granularity, and Resource role custom field. The 'Prioritization Type' section contains two radio buttons: 'Prioritize projects using business drivers (recommended)' (selected) and 'Prioritize projects using custom fields'. The 'Prioritize these projects' section shows a list of selected projects with a count of 23. The 'Analysis Primary Cost Constraint' section shows 'Total Cost' as the constraint. The 'Time-phased Resource Planning' section has a checked checkbox. The 'Planning Horizon and Granularity' section shows a start date of 2010 July and an end date of 2011 June, with a granularity of 'Calendar Months'.

Figure 19. Project Server 2010 – New Portfolio Analysis form

The following sections provide an overview of the Project Server 2010 project prioritization, cost constraint analysis, and resource constraint analysis capabilities.

# Portfolio Selection and Analytics

## Objectively Prioritize Competing Requests

With potentially hundreds of projects competing for the same limited budget and resources, formulating common scoring criteria is essential to effectively prioritizing and evaluating investment requests.

Using Project Server 2010, analysts can select the prioritization criteria that will drive portfolio analysis (see Figure 19). An analyst can choose to prioritize requests based on their strategic value or to create custom fields that include other prioritization metrics—for example, net present value (NPV), ROI, Risk, and Total Cost. The remainder of this section will focus on deriving a strategic value score to effectively compare and contrast competing investments.

After defining the New Portfolio Analysis properties, the next step is to prioritize projects based on their impact on business drivers. In the Ribbon, click the **Prioritize Projects** button to display the Project Strategic Impact matrix (see Figure 20). This heat map shows how competing projects (in rows) support business drivers (in columns) defined by the executive team. This matrix is prepopulated with the values—for example, Extreme, Strong, Moderate, Low, or None—captured in the Project Strategic Impact form (included in the business case; see Figure 20). Because this analysis is conducted offline, analysts can make changes to the impact matrix by selecting the appropriate rating for each cell.

Projects / Drivers		Expand into new markets and segments	Improve customer satisfaction score	Improve employee satisfaction	Improve product quality
Acquisition Target Analysis		Strong	None	None	
Apparel ERP Upgrade		None	Strong	Moderate	
Auditing Services Training		Low	None	None	
Automated Software Installation		Low	Low	Low	
Catalog Publishing		Extreme	None	None	
Data Exchange and Integration		Strong	Moderate	None	
Data Parsing Tool		Moderate	Extreme	None	
E-CRM Solution		Strong	Extreme	Extreme	
ERP System Equipment Upgrade		Moderate	Strong	None	
Hub Upgrade		None	Moderate	Moderate	
Internal Application Customization		Low	None	None	
Internal Software Database Audit		None	Low	Extreme	
IT Vendor System Rollout		Strong	None	Strong	
Merger and Acquisition Deal Room		Low	Low	Moderate	
New Office Development		Extreme	None	Moderate	
Operations Management		Strong	Moderate	Low	
Print Advertising Campaign System		Extreme	Low	Moderate	
Production Tracking Dashboard		Strong	None	None	
Software Benchmarking Architecture Upgrade		None	Moderate	Strong	
Software Development Plan		None	None	Strong	

Figure 20. Project Server 2010 – Project Strategic Impact view

## Portfolio Selection and Analytics

The primary purpose of the matrix is to derive a priority score for competing requests.

When clicking the **Review Priorities** button, Project Server 2010 automatically derives a normalized priority score for competing projects (see Figure 21). The score measures the strategic value that each project will deliver based on its contribution to prioritized business drivers. The strategic value score provides a common currency for comparing different types of projects. Another important way to interpret this score is that completing all projects in the portfolio would deliver 100 percent of the strategic value of the portfolio. The importance of this perspective will become evident in the following section.

The screenshot shows a Microsoft Project Server 2010 interface titled "Project Priorities: FY11 Portfolio Analysis - Project Web Access - Windows Internet Explorer". The main content area displays a table of projects with their priority scores. The columns are "Project Name" and "Priority". The table includes the following data:

Project Name	Priority
Production Tracking Dashboard	9.28%
Print Advertising Campaign System	9.15%
Acquisition Target Analysis	8.8%
New Office Development	8.24%
IT Vendor System Rollout	8.19%
E-CRM Solution	6.77%
Catalog Publishing	6.54%
Software Testing Architecture Upgrade	5.48%
Data Exchange and Integration	4.39%
Voice Recognition Software	3.99%
Operations Management	3.88%
Data Parsing Tool	3.24%
Merger and Acquisition Deal Room	2.89%
Hub Upgrade	2.78%
Auditing Services Training	2.59%
ERP System Equipment Upgrade	2.31%
Software Security Audit	2.2%
Automated Software Installation	2.09%
Internal Software Database Audit	1.95%
Apparel ERP Upgrade	1.85%

At the bottom of the table, there are navigation links: "Previous: Prioritize Projects" and "Next: Analyze Cost".

Figure 21. Project Server 2010 – Review Priorities view

## Portfolio Optimization and Cost Constraint Analysis

For most organizations, scarcity is a reality, and the number of project requests received by management often exceeds the organization's budget and resource constraints. In an unpredictable economic environment, the importance of recommending and selecting the right projects to undertake becomes even more critical. Project Server 2010 includes a portfolio optimization engine that helps analysts model different scenarios to identify the optimal project portfolio under various constraints.

## Portfolio Selection and Analytics

After successfully prioritizing competing project requests as outlined in the preceding section, the analyst moves forward in the portfolio selection wizard to the Cost Constraint Analysis view (see Figure 22). This powerful what-if analysis tool uses sophisticated optimization algorithms and embedded best practices to help executives quickly determine the optimal project portfolio under a variety of budget and business constraints. In Project Server 2010 the Cost Constraint Analysis view provides steering committees with a single decision-making portal. For example, Efficient Frontier and Strategic Alignment charts are embedded in the Cost Constraint Analysis view to provide valuable insight. In addition, the analyst can configure views that include custom fields—type, phase, risk, and so on—to provide additional clarity.

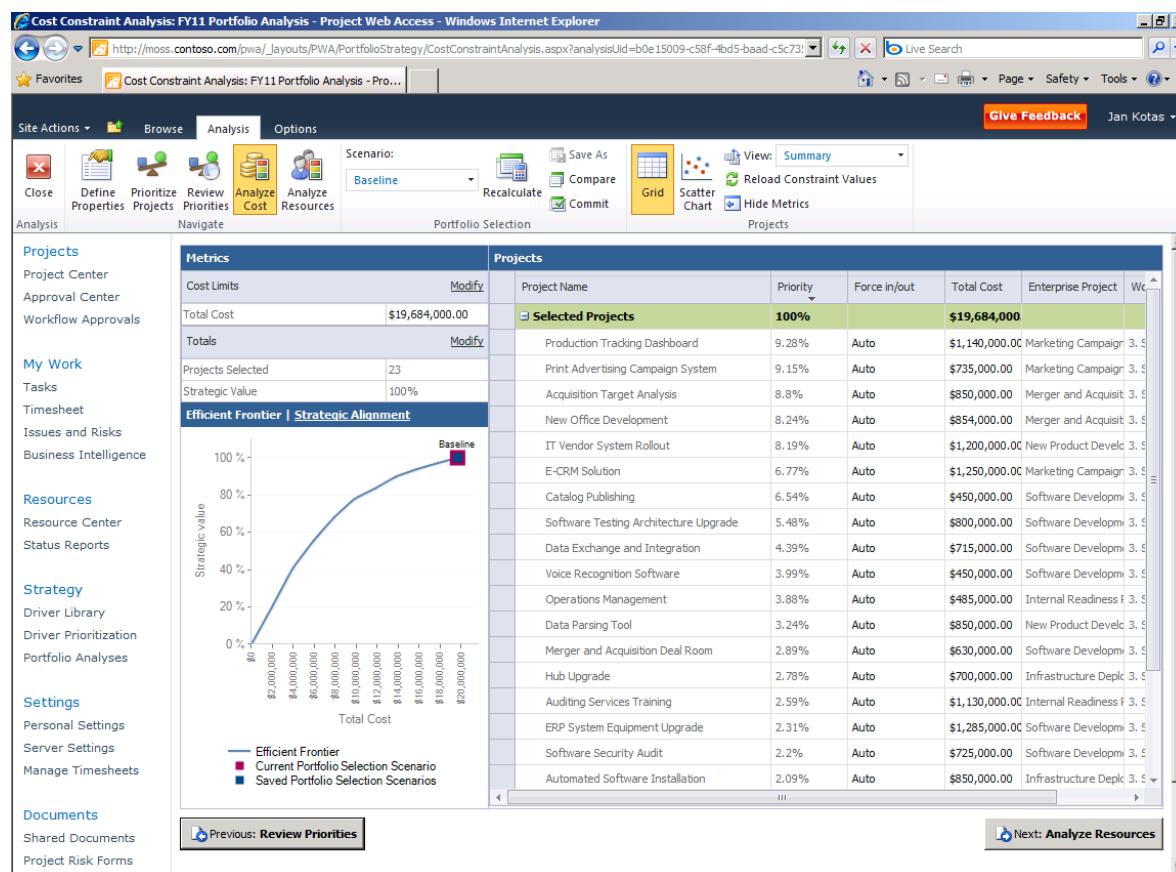


Figure 22. Project Server 2010 – Cost Constraint Analysis view

When configuring a new portfolio analysis, the analyst is required to specify a primary cost constraint to be used in the scenario. The Cost Constraint Analysis view displays competing project requests in priority order (based on their strategic value), and indicates the total cost estimate to complete all projects in the portfolio. Project Server 2010 automatically creates a baseline scenario that shows the organization can gain 100 percent of the portfolio value if it funds every project on their wish list. This baseline scenario is plotted on the Efficient Frontier chart and used as a benchmark to compare all subsequent scenarios (see Figure 23).

## Portfolio Selection and Analytics

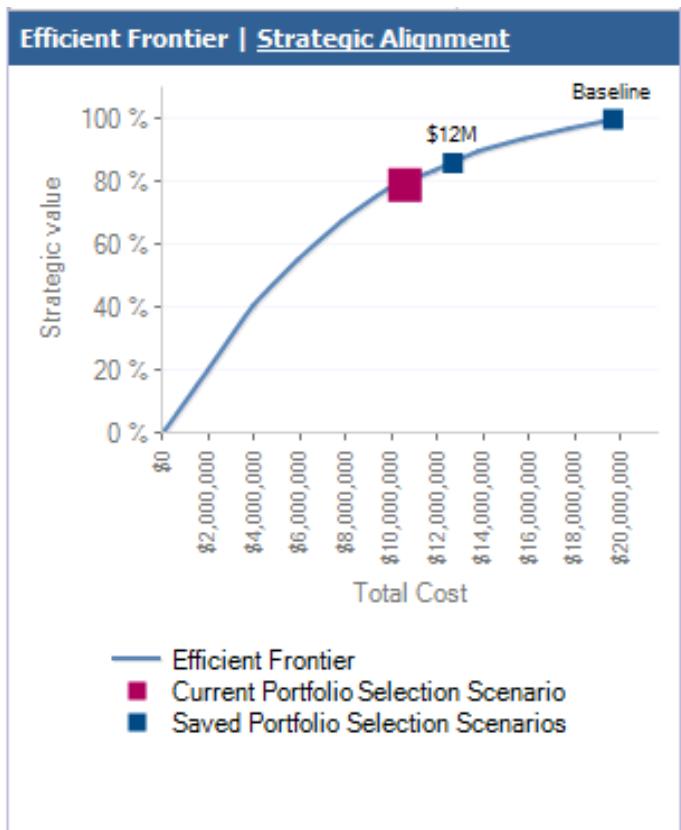


Figure 23. Project Server 2010 – Efficient Frontier chart

The Efficient Frontier helps analysts identify the project portfolio that will deliver the maximum value under various constraint thresholds. The Efficient Frontier chart includes value criteria on the y-axis—for example, strategic value—and cost on the x-axis (see Figure 23). Each point on the Efficient Frontier line represents a different bundle of projects from the proposed portfolio. The Efficient Frontier line represents the most bang for the buck, or highest ROI. For example, Figure 23 shows that for a \$10 million budget (the x-axis) it can achieve approximately 79 percent of the portfolio's strategic value (the y-axis).

Organizations can use the Efficient Frontier chart in two ways:

- 1. To identify the point of diminishing return.** Find the point where the curve begins to flatten, which indicates that you are paying more to achieve a disproportionately lower amount of strategic value.
- 2. To benchmark the selected portfolio against the Efficient Frontier.** Compare the position of the selected portfolio in relation to the line that represents the Efficient Frontier.

In reality, because of constraints like interdependencies, project alternatives, and mandatory investments, most portfolios are suboptimal and fall below the Efficient Frontier. Analysts can identify and work toward removing these constraints to move closer to the Efficient Frontier.

## Portfolio Selection and Analytics

Next, the analyst simply enters a cost constraint, clicks the **Recalculate** button, and Project Server 2010 recommends the optimal project portfolio. The sophisticated Project Server 2010 optimization algorithm maximizes the value gained from the portfolio under the indicated cost constraint, and considers inter-project dependencies. The recommended portfolio of projects is displayed in the Selected Projects group, and initiatives that were excluded are listed in the Unselected Projects group (see Figure 24). The analyst can immediately see how much value the selected portfolio will deliver and visually assess the scenario against the Efficient Frontier.

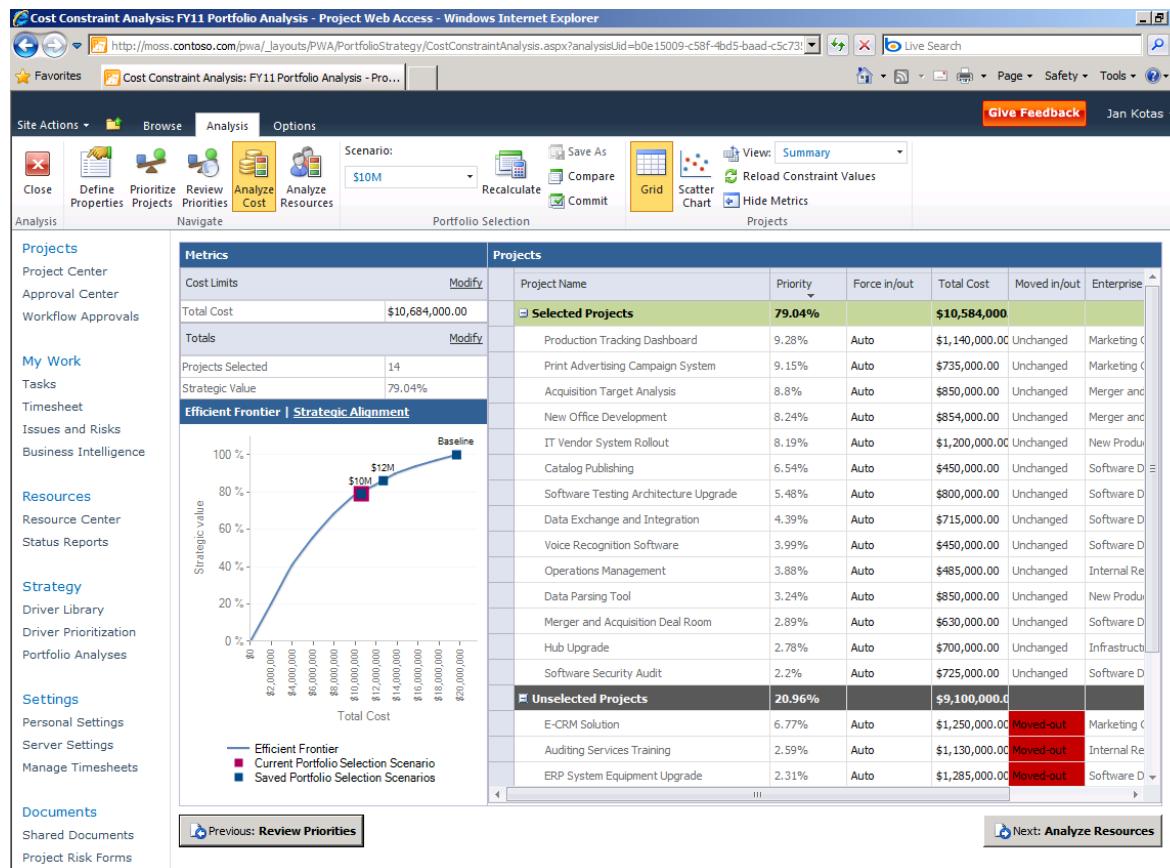


Figure 24. Project Server 2010 – Selected Projects and Unselected Projects

Using Project Server 2010 what-if analysis capabilities, analysts can easily model different scenarios by further refining cost constraints or by forcing projects in or out of the portfolio. The Force In and Force Out options help ensure that analysts can override the algorithm and specify projects that should be automatically included in or excluded from the portfolio. Project requests are often “forced into” a portfolio if they represent compliance initiatives or are even projects sponsored by a specific executive who wants to see them undertaken (“pet” projects). Force In and Force Out options have been enhanced in Project Server 2010 so that analysts can select a descriptive value to better communicate why a project is being included in or excluded from the project portfolio (see Figure 25).

# Portfolio Selection and Analytics

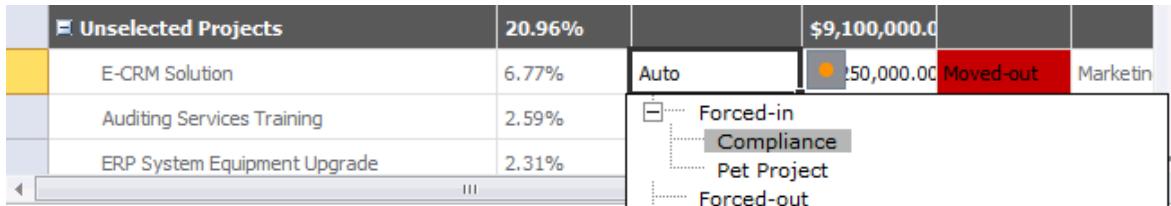


Figure 25. Project Server 2010 – Force In and Force Out options

Analysts can save cost constraint analyses to provide an auditable record of all portfolio scenarios. The saved scenarios can be assessed in the Compare Portfolio Selection Scenarios view. This intuitive view displays all saved scenarios side by side, so it is easy to compare and contrast, to see which projects were included or excluded, and to review key metrics—for example, the number of projects selected, the overall portfolio value, and the cost constraint applied (see Figure 26).

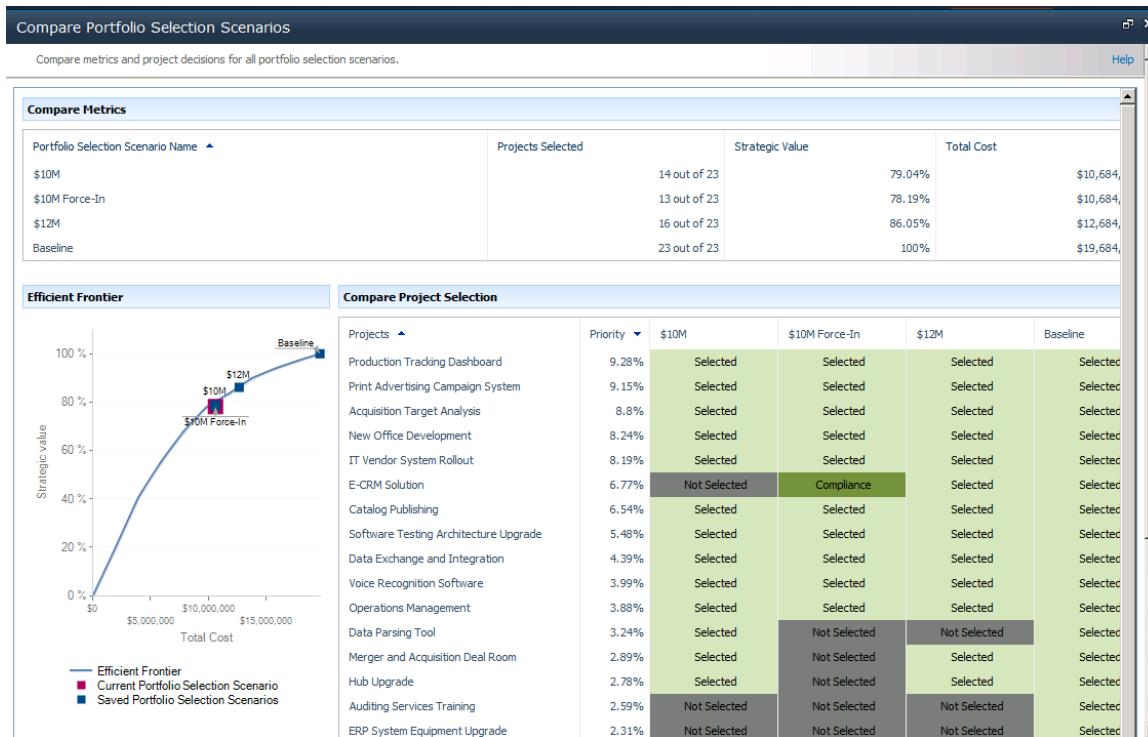


Figure 26. Project Server 2010 – Compare Portfolio Selection Scenarios view

The Strategic Alignment chart (see Figure 27) included in the Cost Constraint Analysis view helps organizations dynamically assess how well the selected portfolio aligns with business strategy. Executives can quickly visualize the correlation between business driver priorities and the organization's investment in a selected project portfolio. The Strategic Alignment chart highlights potential areas of concern, so that executives can assess whether they are overinvesting or underinvesting in each of the prioritized business drivers. This assessment would be almost impossible without objectively defining and prioritizing business drivers.

## Portfolio Selection and Analytics

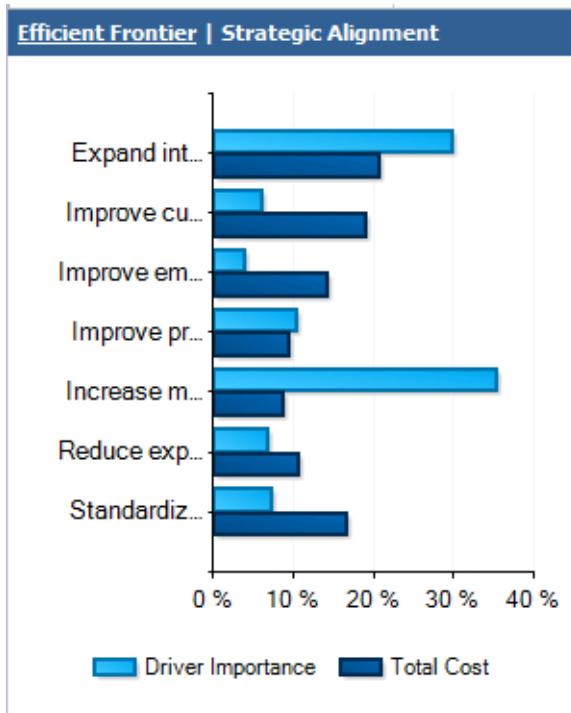


Figure 27. Project Server 2010 – Strategic Alignment chart

After identifying the optimal project portfolio, using the tools and techniques provided by Project Server 2010, analysts can either commit to the scenario, which automatically updates the governance workflow—for example, the progress of all selected projects in the life cycle—or move forward with resource constraint analysis.

### Maximize Resource Utilization with Capacity Planning

Leading portfolio management solutions provide a handshake between value optimization—determined by cost constraint analysis—and resource utilization—determined by resource constraint analysis. Selecting project portfolios based on ROI or value optimization only does not guarantee that the organization has the right mix of resources or available resources to actually deliver projects as planned. Availability and utilization of resources has a direct effect on how and when work is completed. A common problem that many organizations face during an annual planning cycle is that prospective projects are front-loaded on the planning horizon. This can potentially result in overallocation of resources in the first half of the year and underutilization of resources in the second half of the year. Performing capacity planning analysis can help PMOs proactively assess demand versus supply and maximize resource utilization across the entire planning period.

Project Server 2010 includes a new capacity planning feature for conducting resource constraint analysis that works in conjunction with cost constraint analysis to connect value optimization with resource utilization. The powerful resource-centric analysis helps PMOs identify the organization's surplus and deficits at the skill level—for example, the status of all generic resources. This helps the organization

## Portfolio Selection and Analytics

schedule projects to better utilize available resources, and to model headcount scenarios to ensure the organization can effectively staff, execute, and realize value from the selected portfolio.

After successfully identifying the project portfolio that delivers the maximum value for the available budget, the analyst moves forward in the portfolio selection wizard by clicking the **Analyze Resources** button (see Figure 28). The projects selected in the cost constraint analysis are automatically carried forward to the next step in the portfolio selection analysis. The intuitive view displays the projects in priority order and uses a Gantt chart to visually depict their proposed start dates. Based on available resources, the system dynamically determines which projects can be fully staffed and displays them in a grouping of selected projects. Projects that cannot be fully staffed because of a resource shortfall are displayed in a **Not selected** section of the project list.

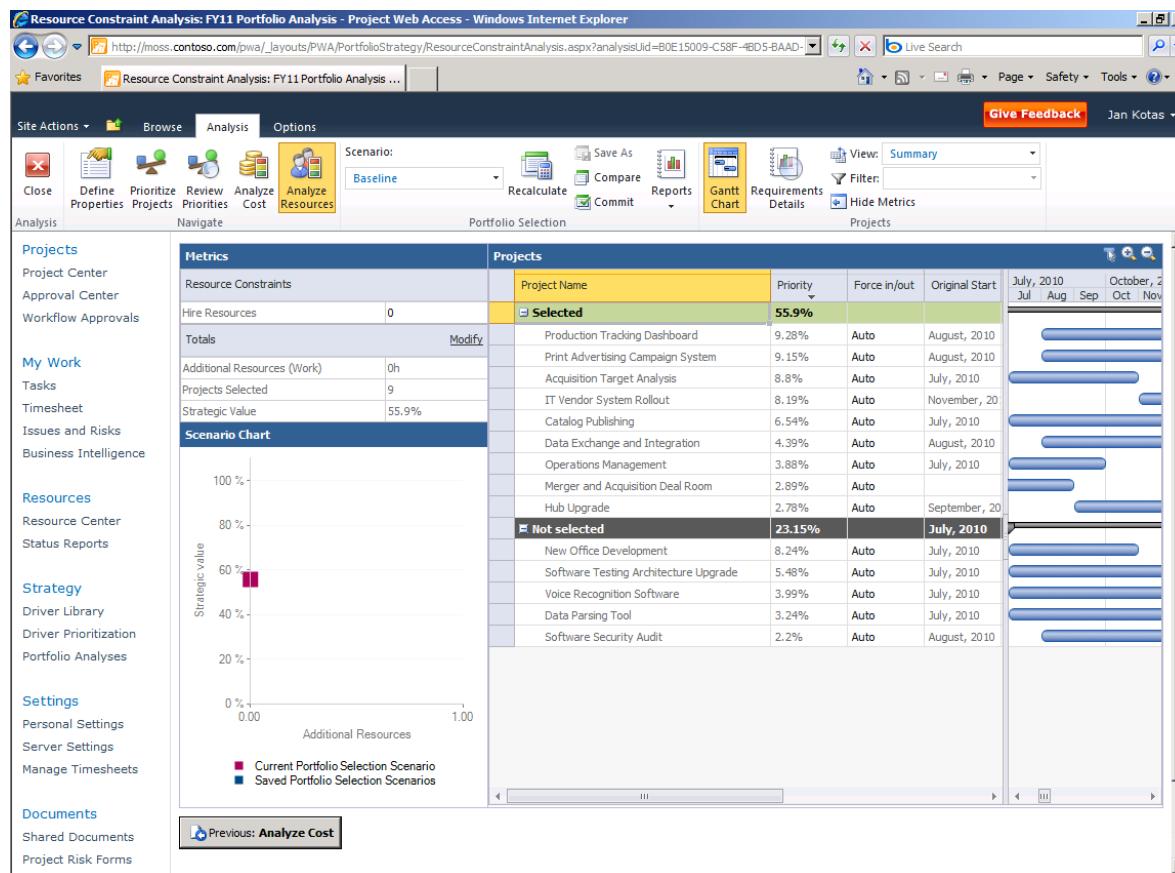


Figure 28. Project Server 2010 – Resource Constraint Analysis view

To avoid front-loading the schedule in the first half of the year and subsequent underutilization of resources in the second period, analysts can use the Requirements Details view in Project Server 2010 to compare supply and demand data and to better visualize the resource contours across the planning horizon (see Figure 29). The Requirements Details view is broken into two sections: the top section shows generic resource availability by skill for the selected planning horizon; the bottom section displays resource requirements (at the skill level) for each project included in the analysis. The resource

# Portfolio Selection and Analytics

requirements entered during the business case development phase are automatically included in this view. The projects are again displayed in groups of *selected* and *not selected* to denote whether they can be fully staffed based on resource availability. Analysts can simply compare the resource requirements for the projects that are not selected with the overall resource availability to see why the initiatives cannot be fully staffed.

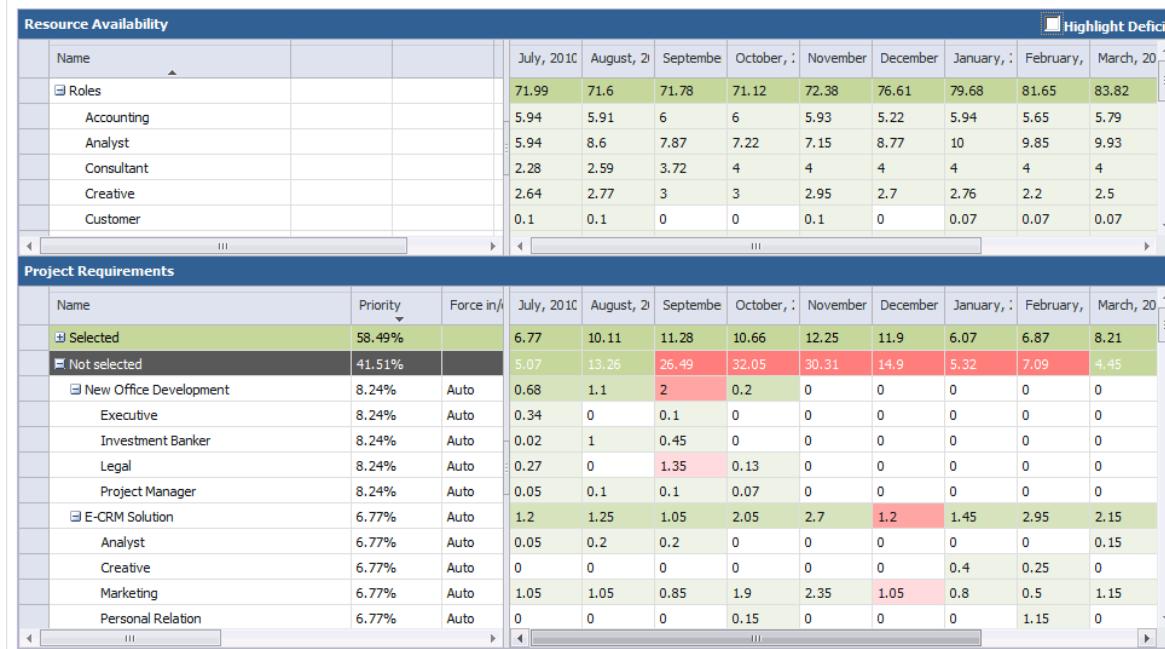


Figure 29. Project Server 2010 – Requirements Details view

Select the **Highlight Deficit** check box in the right corner of the Resource Availability pane, the view shows time periods for which there are not enough resources to complete all of the proposed projects. This feature helps analysts assess resource availability over the entire planning period to quickly identify resource overutilization and underutilization. In the following example, the analyst can quickly determine that the resources are underutilized in the second half of the year (note that Figure 29 is based on an example organization that operates on a fiscal year of July to June) and therefore the organization could more fully utilize resources by moving some of the unselected projects to start later on the planning horizon (see Figure 30).

# Portfolio Selection and Analytics

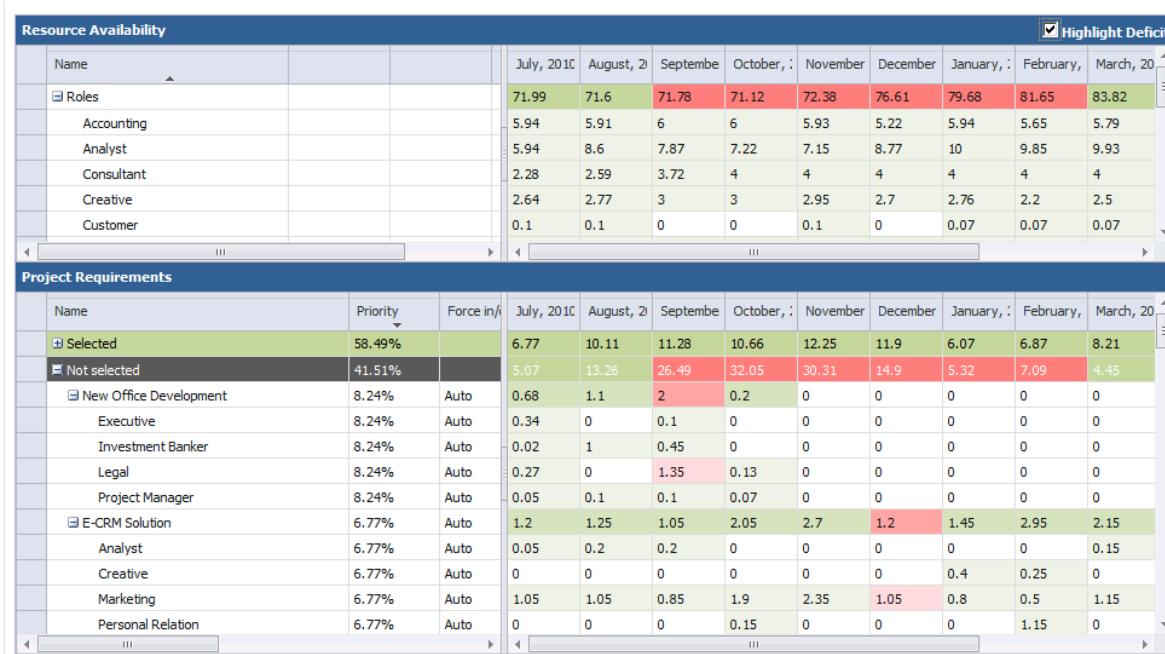


Figure 30. Project Server 2010 – Requirements Details view with the Highlight Deficit check box selected

With an understanding of the resource availability contours, analysts can easily move projects on the planning horizon by specifying a new start date in the Project Server 2010 Gantt Chart view for unselected projects (see Figure 31), and then by clicking the **Recalculate** button on the **Analysis** tab. Project Server 2010 automatically moves the projects in the schedule and then determines if they can be fully staffed based on their new start dates. If they can be fully staffed, the projects will be displayed in the group of selected projects. The system maintains scheduling dependencies—for example, Project B cannot start until Project A is completed—and business dependencies. Moving projects within the schedule helps analysts maximize resource utilization across the organization.

## Portfolio Selection and Analytics

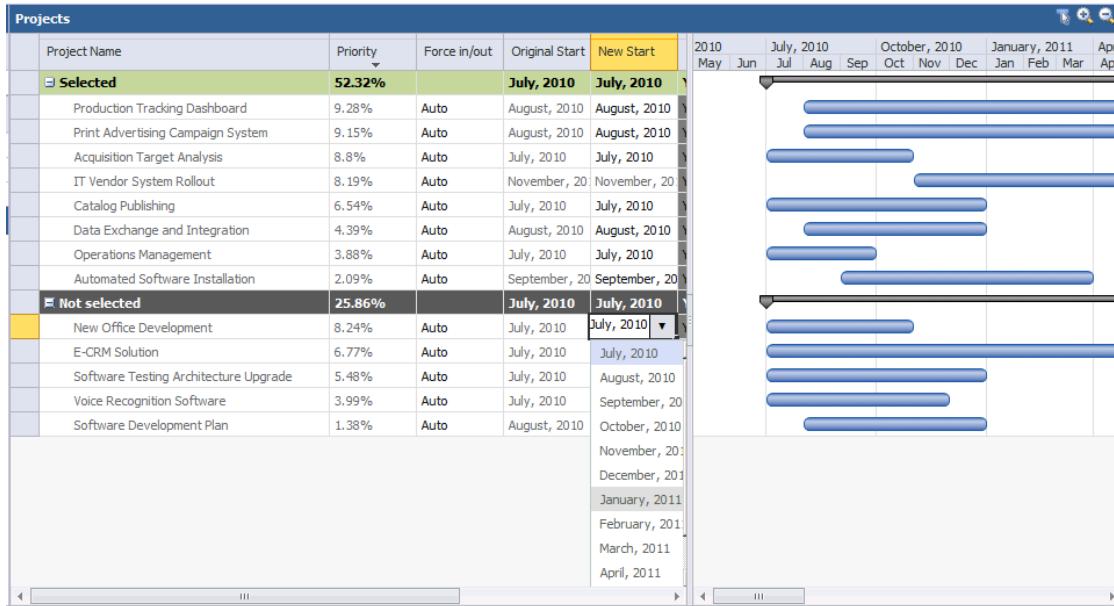


Figure 31. Project Server 2010 – Modeling changes to project start dates

As in the cost constraint analysis, analysts can override the algorithm and force projects into and out of the analysis. This is especially useful to ensure that lower-value compliance projects are fully resourced ahead of higher-value discretionary projects.

After identifying an optimal release schedule for the project portfolio based on resource availability, analysts can run head count scenarios to staff the remaining unselected projects. Simply enter a full-time equivalent (FTE) value or a monetary value—for example, two people or \$200,000—in the Metrics pane (see Figure 32), and then click the **Recalculate** button to run the scenario.

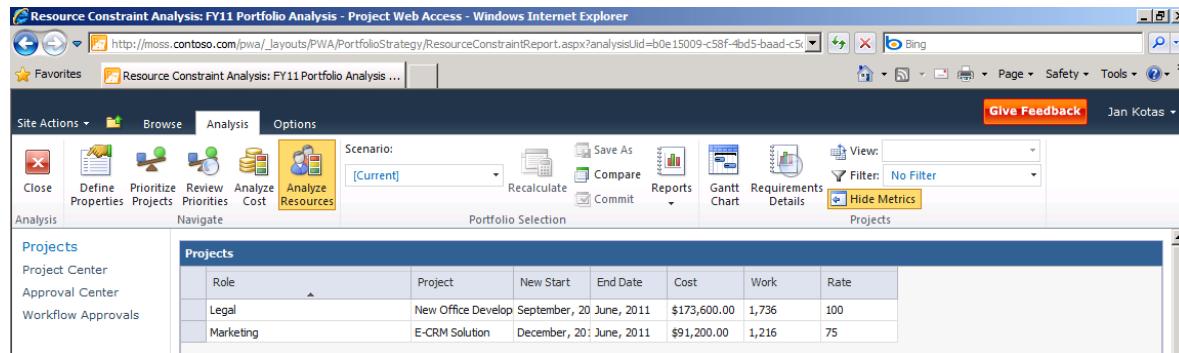
Metrics	
Resource Constraints	
Hire Resources	2
Totals	
Additional Resources (Work)	2,776h
Projects Selected	11
Strategic Value	72.82%

Figure 32. Project Server 2010 – Metrics table

Project Server 2010 automatically recommends the appropriate skills to be hired, up to the value specified by the analyst, to fully staff as many of the remaining unselected projects as possible. The analyst can immediately assess the impact of the increased head count by seeing which projects were moved into the Selected group. By running the Hired Resources Report (see Figure 33), the analyst can

## Portfolio Selection and Analytics

quickly determine the skills that need to be hired for each of the projects, the required start date, and the total cost of each resource.

A screenshot of a Microsoft Project Server 2010 web interface titled "Resource Constraint Analysis: FY11 Portfolio Analysis". The page shows a navigation bar with links like "Site Actions", "Browse", "Analysis", and "Options". Under "Analysis", there are buttons for "Close", "Define Properties", "Prioritize Projects", "Review Priorities", "Analyze Cost", and "Analyze Resources" (which is highlighted). A "Scenario" dropdown is set to "[Current]". Below the navigation is a "Portfolio Selection" section with buttons for "Recalculate", "Compare", "Save As", "Commit", "Reports", "Gantt Chart", "Requirements Details", and "View" (set to "No Filter"). A "Projects" table is displayed, showing two rows of data: "Legal" (New Office Develop, September, 20 June, 2011, \$173,600.00, 1,736, 100) and "Marketing" (E-CRM Solution, December, 20 June, 2011, \$91,200.00, 1,216, 75).

Role	Project	New Start	End Date	Cost	Work	Rate
Legal	New Office Develop	September, 20	June, 2011	\$173,600.00	1,736	100
Marketing	E-CRM Solution	December, 20	June, 2011	\$91,200.00	1,216	75

Figure 33. Project Server 2010 – Resource Constraint Analysis Hired Resources Report

The head count modeling feature in Project Server 2010 provides analysts with the flexibility to specify whether to hire additional full-time employees (internal resources) or contract staff (external resources), and to select an appropriate cost rate.

Analysts can quickly and easily save the analyses they have conducted, which become an auditable record of all portfolio scenarios. The saved scenarios can be visually assessed in the Project Server 2010 Compare Project Selection view. This intuitive view (see Figure 34) displays all saved scenarios side by side, so it is easy to compare and contrast, to see which projects were included or excluded, and to review key metrics such as the number of projects selected, their value, and their cost. After finalizing the portfolio selection, the analyst simply clicks the **Commit** button to move the projects to the next phase in the workflow.

# Portfolio Selection and Analytics

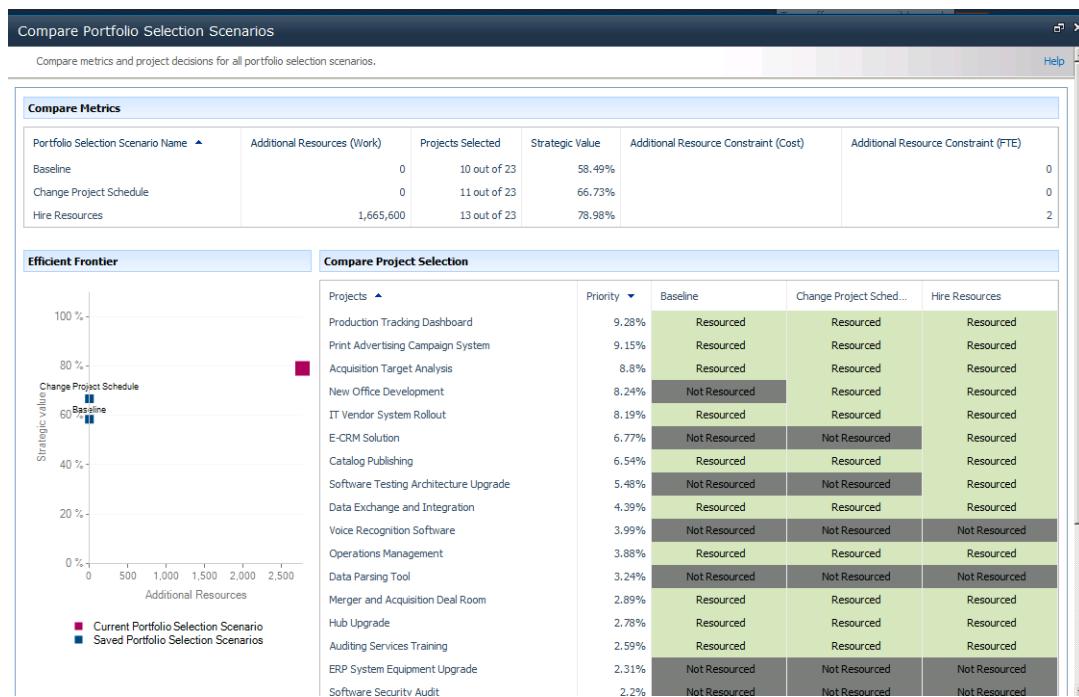


Figure 34. Project Server 2010 – Compare Project Selection view

## Resource Management

# Resource Management

In today's competitive and changing markets, organizations are looking to maximize ROI and drive efficiencies to sustain the business and support future growth. Resources are arguably an organization's most valuable asset and potentially its biggest expense. Proper management and optimal use of resources is key for an organization to realize its business strategy. With intelligent resource management, an organization can develop and retain a world-class workforce.

Adopting best-practice resource management techniques helps organizations accomplish the following:

- **Gain visibility and control using an enterprise resource pool.** With a large number of employees and globally dispersed teams, it can become difficult to keep track of who is available, what they are capable of doing, and where they are located. Centralizing resources and standardizing metadata about the enterprise resource pool is the first step to gaining visibility and control.
- **Proactively compare capacity to demand to maximize resource utilization.** Resource capacity often will determine whether organizations are able to complete strategic projects in a specific planning horizon. Capturing resource requirements early in the project life cycle helps analysts anticipate future demand and proactively schedule projects to maximize resource utilization.
- **Find the right people for the project.** Projects often include globally dispersed teams and require a diverse set of skills. Finding the right people with availability for each project significantly increases the chance of successfully completing the initiative and realizing ROI. Managers need to be able to effectively tap the resource pool to find potential candidates and then quickly see if they are available to join the team.
- **Intuitively manage resource assignments and overcome conflicts.** Managers improve project success rates by effectively managing resource assignments. This means quickly resolving overallocation and reacting to resource conflicts. Managers require tools that help them assess and manage assignments through the project life cycle and easily communicate with team members about assignments.

The Microsoft EPM Solution provides a powerful set of capabilities to help analysts and project managers proactively and reactively manage resources across the project life cycle. Centralizing resources in an enterprise resource pool is the first step in helping organizations gain visibility and strategic placement of their employees. The Project Server 2010 Resource Center view consolidates all resources in a central repository and helps PMOs and resource managers standardize the collection of supporting metadata that they can use to effectively tap the resource pool. Creating an inventory of resources, clearly defining and separating working hours from nonworking hours, such as holidays and sick leave, helps analysts determine the organization's overall capacity. The EPM Solution provides a variety of tools—for example, resource plans and project plans—to help organizations capture resource requirements early in the project life cycle. The new capacity planning feature in Project Server 2010 helps analysts effectively compare resource demand to capacity, and to proactively reschedule new

## Resource Management

projects to maximize resource utilization. The Resource Center view provides a flexible interface for searching the enterprise resource pool to find the right people with availability to work on each project. The new Team Planner tool in Project Professional 2010 helps project managers visually manage project-level resource assignments, quickly identify and resolve overallocation, and easily substitute resources to overcome conflicts that could affect project delivery. Team members can conveniently pick up assignments in the Project Server 2010 Tasks view, or they can access their tasks through Outlook. The EPM Solution provides a comprehensive resource management system to help organizations better manage their most important asset.

### Define Resources Using a Central Enterprise Resource Pool

Project Server 2010 includes an enterprise resource pool that provides a centralized collection of all resources and related information, so managers have enhanced visibility and control across the resource pool (see Figure 35). Administrators can capture all named resources in a single location and standardize the collection of associated metadata. The metadata represents discrete resource properties—skills, a resource's level in the resource breakdown structure, geographic location, and billing rates—that managers can effectively use to tap the resource pool. With new Departmental fields, resources can be associated with a business unit to ensure that managers can filter and sort resources by department. In addition, administrators can create generic resources that can be used to capture resource requirements at the skill level, such as *developer* or *analyst*, early in the project life cycle. Resources can also be assigned to teams for more flexibility; tasks assigned to a team can be completed by any resource within that team.

# Resource Management

	Resource Name	Type	Generic	Position Role	Email Address	Timesheet Manager
<b>Position Role: Developer   Work</b>						
<input type="checkbox"/>	Developer	Work	Yes	Developer		
<input type="checkbox"/>	Erlingur Jonsson	Work	No	Developer	erlingurj@contoso.com	Erlingur Jonsson
<input type="checkbox"/>	Shane Kim	Work	No	Developer	gatiso@contoso.com	Gatis Ozolins
<input type="checkbox"/>	Glen John	Work	No	Developer	glenj@contoso.com	Glen John
<input type="checkbox"/>	Stefan Hesse	Work	No	Developer	jessicaa@contoso.com	Jessica Arnold
<input type="checkbox"/>	Jonas Brandel	Work	No	Developer	jonash@contoso.com	Jonas Brandel
<input type="checkbox"/>	Lionel Penuchot	Work	No	Developer	lionelp@contoso.com	Lionel Penuchot
<input type="checkbox"/>	Luis Bonifaz	Work	No	Developer	luisb@contoso.com	Luis Bonifaz
<input type="checkbox"/>	Palle Petersen	Work	No	Developer	pallep@contoso.com	Palle Petersen
<input type="checkbox"/>	Paul Shakespear	Work	No	Developer	pauls@contoso.com	Paul Shakespear
<b>Position Role: Executive   Work</b>						
<input type="checkbox"/>	Jeff Price	Work	No	Executive	duncanb@contoso.com	Duncan Blake
<input type="checkbox"/>	Executive	Work	Yes	Executive		
<input type="checkbox"/>	Rob Caron	Work	No	Executive	robc@contoso.com	Rob Caron
<input type="checkbox"/>	Russell King	Work	No	Executive	russellk@contoso.com	Russell King
<input type="checkbox"/>	Sachin Karnik	Work	No	Executive	sachink@contoso.com	Sachin Karnik
<b>Position Role: Investment   Work</b>						
<input type="checkbox"/>	Investment Banker	Work	Yes	Investment Banker		
<input type="checkbox"/>	Jeff Price	Work	No	Investment Banker	jeffp@contoso.com	Jeff Price
<input type="checkbox"/>	Laurent Penisson	Work	No	Investment Banker	laurentp@contoso.com	Laurent Penisson

Figure 35. Project Server 2010 – Resource Center view

Capturing all resources in a central location helps PMOs and resource managers quickly assess overall capacity and better understand the employee skills that are available to them to use throughout the organization.

People are not the only type of resource that needs to be managed. In addition to work resources, the Microsoft EPM Solution supports the management of costs and material resources—consumable resources such as concrete and lumber. For complete asset management, organizations can create and manage data for inanimate resources, including machinery, equipment, hardware, and facilities. Managers can apply multiple rate tables to these resources to model purchasing versus rental scenarios, for example.

Using Project Server Interface (PSI), the Project Server 2010 API, the EPM Solution can connect with LOB applications to gather up-to-date resource information from the chosen system of recording it. To simplify and automate the creation of the resource pool, Project Server 2010 can sync with Active Directory® directory services or connect with LOB systems. This level of automation saves time and simplifies resource management to create an integrated work management platform.

## Capture Resource Requirements for Capacity Planning

Project Server 2010 demand management capabilities help ensure that resource requirements are captured early in the project life cycle, so they provide visibility on future demand. Resource requirements can be captured at the resource name level, skill level (generically), or at the team level

## Resource Management

using a Resource Plan (see Figure 36) or by assigning resources directly to tasks in the Project Web App schedule or in Project Professional 2010. Administrators can also create best-practice project plan templates that include prepopulated resource assignments.

The screenshot shows the 'Resource Plan' page in Project Web Access. The top navigation bar includes 'Site Actions', 'Plan' (selected), 'Save', 'Publish', 'Close', 'Build Team', 'Edit Details', 'Edit Custom Fields', 'Calculate from: Project Plan', 'From: 12/14/2009', 'To: 4/1/2010', 'View: Resource Plans', 'Work Units: Hours', 'Timescale: Months', 'Display: Total Work', 'Export to Excel', 'Print', and 'Share'. A message at the top states: 'You will not be able to publish your Resource Plan until you publish the corresponding project schedule. You can publish the project schedule by navigating to the schedule page of the project and clicking on the "Publish Schedule" button.' Below this is a table titled 'Resource plan start/finish dates' with columns for Start Date and Finish Date. The main content area displays a grid of resources with columns for Resource Name, Booking Type, and various time periods (12/14/2009 - 12/31/2009, 1/1/2010 - 1/31/2010, 2/1/2010 - 2/28/2010, 3/1/2010 - 3/31/2010, 4/1/2010). The grid includes rows for Analyst, Developer, PMO, Project Manager, SME, Tester, and Trainer, showing their booking types and work hours across the specified period.

Resource Name	Booking Type	12/14/2009 - 12/31/2009	1/1/2010 - 1/31/2010	2/1/2010 - 2/28/2010	3/1/2010 - 3/31/2010	4/1/2010
Analyst	Committed	68h	96h	0h	0h	0h
Developer	Committed	0h	24h	160h	120h	0h
PMO	Committed	20h	32h	0h	0h	0h
Project Manager	Committed	32h	24h	16h	16h	0h
SME	Committed	0h	0h	54h	54h	0h
Tester	Committed	0h	48h	168h	64h	0h
Trainer	Committed	0h	48h	120h	80h	0h

Figure 36. Project Server 2010 – Resource Plan

PMOs can use the new capacity planning module in Project Server 2010 to proactively manage resources at the skill level and to assess whether the organization has the capacity to undertake a proposed project portfolio. The capacity planning module helps analysts compare resource requirements and availability data to identify resource surpluses and deficits across the planning horizon. Analysts can then use this information to distribute work by rescheduling projects within the horizon to maximize resource use. For more information about the Project Server 2010 capacity planning capabilities, see the [Portfolio Selection and Analytics](#) section.

## Quickly Find the Right People to Put to Work

Project Server 2010 and Project Professional 2010 include tools that help make it easy to find the right people within the organization for each project. Using the Project Server 2010 Resource Center or Build Team views, managers can effectively tap the resource pool by using powerful views or create filters to search for the right people based on geography, skill, or other variables (see Figure 37).

## Resource Management

Resource Name	Type	Cost Center	Timesheet Manager
No	Work	No	
Adam Barr	Work	No	Adam Barr
Lionel Penuchot	Work	No	Lionel Penuchot
Luis Bonifaz	Work	No	Luis Bonifaz
Osama Shabaneh	Work	No	Osama Shabaneh
Shane Kim	Work	No	Shane Kim
Zwie Amitai	Work	No	Zwie Amitai
Yes	Work	Yes	
SME	Work	Yes	

Resource Name	Booking Type
Analyst	Committed
Developer	Committed
PMO	Committed
Project Manager	Committed
SME	Committed
Tester	Committed
Trainer	Committed

Figure 37. Project Server 2010 – Build Team view

After managers have identified potential candidates, they can use the Resource Assignment and Resource Availability views to locate the resources who are available to work on their projects (see Figure 38). These flexible views let managers include multiple resources, change the date range and time granularity, and see other projects that resources are working on during a given period of time.

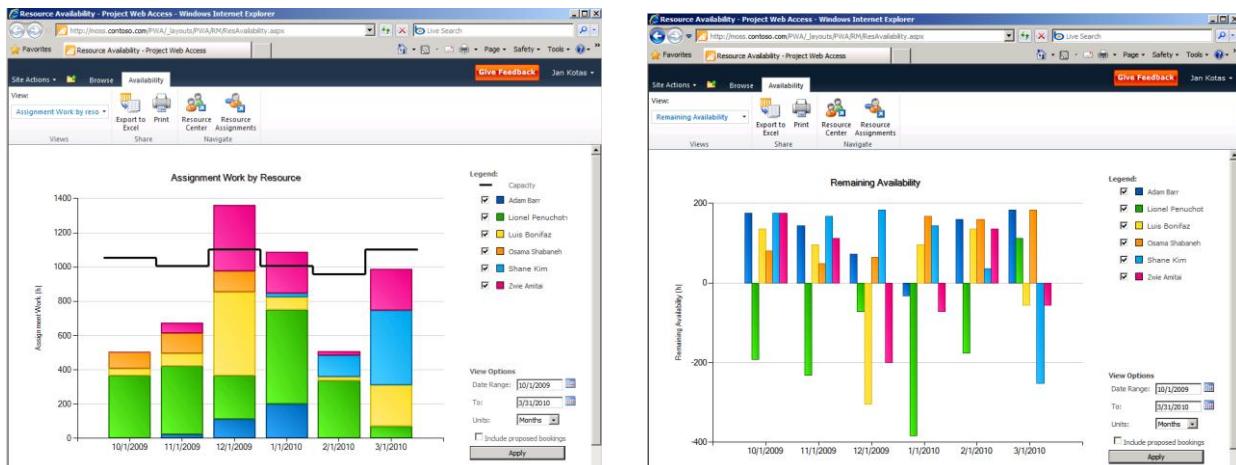


Figure 38. Project Server 2010 – Resource Assignment and Resource Availability views

With the right resources identified, managers can engage the capabilities of the Build Team view to add resources to their project and to specify whether the booking is proposed or committed.

## Visually Manage Resource Assignments

Managing project-level resource assignments can be a challenge that persists throughout a project life cycle. Resource and project managers require powerful tools to help them easily assign and communicate tasks, quickly resolve overallocations, and respond to resource conflicts.

## Resource Management

The new Team Planner view in Project Professional 2010 offers a resource-centric view that helps managers visually manage project-level resource assignments (see Figure 39). Team Planner gives managers a complete picture of all assignments associated with a project. In addition, managers can intuitively drag tasks between resources. As demonstrated in Figure 39, with the easy-to-use interface in Team Planner, managers can quickly identify unassigned tasks in the lower half of the view, find resources that have availability, and simply move tasks to the right person. This intuitive, resource-centric tool visually highlights resource overallocation, represented by red bars that indicate overlapping tasks as shown in Figure 39. Managers can manually resolve scheduling conflicts, or rely on the leveling capabilities of Project Professional 2010 to automatically fix the issue. Team Planner also visually highlights when a resource is assigned to another project and allows the project manager to look at the details of the competing project to better understand the impact on the resource's time.

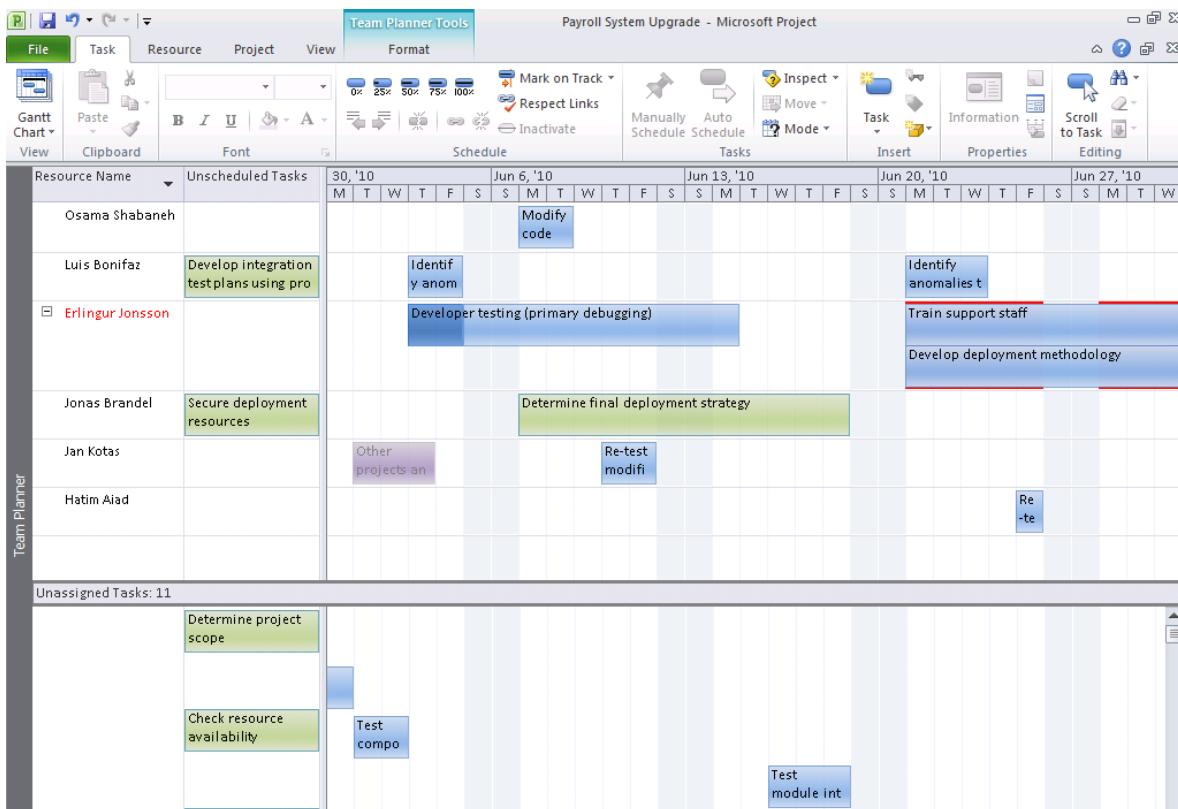


Figure 39. Project Professional 2010 – Team Planner view

The Team Planner view also provides mouse-triggered, context-sensitive dialog boxes that display useful information about tasks, including start and end dates, work remaining, and percent complete. Tasks appear in different colors to denote percent complete (see Figure 40).

## Resource Management

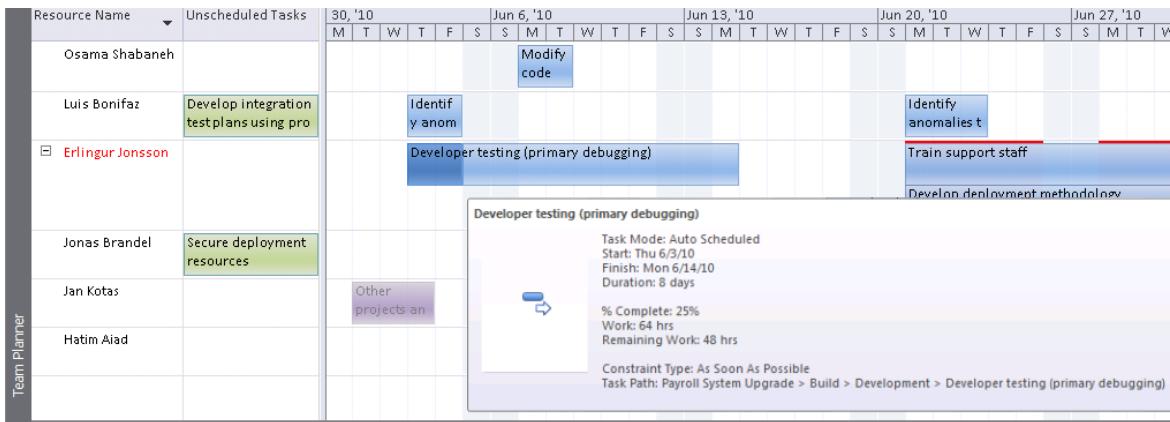


Figure 40. Project Professional 2010 – Mouse-triggered, contextual dialog boxes appear for each task

The EPM Solution simplifies communication about resource assignments to ensure that all team members are aware of their designated activities. Resource assignments are displayed by time period in the team member's Tasks view in Project Server 2010 (see Figure 41). The Tasks view provides one-stop-shopping for all assignments for each team member, and is where a resource can provide time and status updates or reassign tasks if they do not have the bandwidth to complete tasks assigned to them. Project Server 2010 also connects with Exchange Server to ensure that team members can receive and update their project assignments as tasks in Outlook or Outlook Web App.

For more information about task assignments, see the [Time and Task Management](#) section.

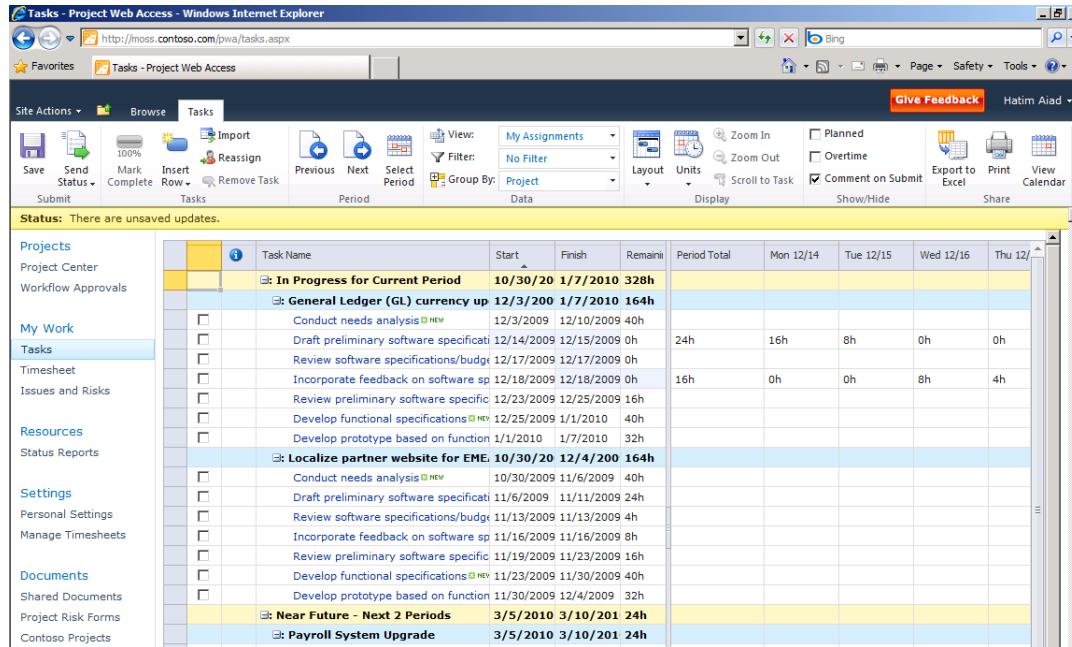


Figure 41. Project Server 2010 – Tasks view

## Schedule Management

# Schedule Management

The schedule is the most representative element of a project, and the Gantt chart is its most recognizable visual representation. The schedule is the blueprint of the project—it represents the tasks and deliverables that need to be completed to deliver the project on time. In addition, the schedule provides project teams with a map for project execution and delivers a baseline for tracking progress and managing change.

Most employees in any organization manage projects as part of their day-to-day responsibilities. For example, a marketing manager might not be trained or officially recognized as a certified project manager, but often will be simultaneously executing a number of projects, such as running a campaign and planning an event. Today, many organizations have both occasional and professionally certified project managers—Project Management Professionals (PMPs), for example—executing initiatives and using different tools and techniques to build and manage both simple and complex schedules.

Adopting best-practice scheduling methodologies and tools helps organizations achieve the following:

- **Support both occasional and professional project managers.** Schedules range in complexity from a simple list of activities to project plans with thousands of lines. Organizations require a scheduling solution that is easy for occasional project managers to use, but which can also provide the required rigor to support professional managers.
- **Create and update schedules from the desktop or online.** With geographically dispersed teams and a mobile workforce, project managers need the flexibility to build and edit project schedules on their computer desktop or on the Web—wherever they are working.
- **Get started quickly and use best practices.** Creating a schedule can be a time-consuming process. Establishing schedule management standards and using best-practice templates makes it easier for project managers to get started, and saves valuable time.
- **Effectively control and analyze schedules.** Complex and lengthy project schedules can be hard to manage and even harder to analyze. Project managers need effective tools to reduce the complexity of interrelated tasks, provide early-warning indicators, and make the schedule easier to control.
- **Easily communicate schedule information.** The Gantt chart is the universal symbol of project management, but it might not be the most intuitive view for communicating schedule information to stakeholders. Project managers need an easy way to communicate key phases and milestones with simple timeline views.

The Microsoft EPM Solution provides organizations with a comprehensive scheduling system with familiar and flexible capabilities to support both the occasional and the professional project manager. The Office Fluent Ribbon interface in Project Professional 2010 and Project Server 2010 provides a consistent experience and ensures that the tools managers need to plan and manage projects are always at their fingertips.

## Schedule Management

The new user-controlled scheduling feature of Project Professional 2010 blends the ease of use of a tool like Excel 2010 with the powerful Project 2010 scheduling engine to provide flexible planning solutions for any project manager. Project Server 2010 empowers the mobile workforce by bringing the power of Project Professional 2010 to the browser with Web-based project scheduling. Managers can take advantage of Web-based project scheduling to quickly build both simple and complex schedules online and conveniently edit the project in the browser from any location.

The EPM Solution further simplifies managing and controlling schedules with improved analysis and visual tools, so that project managers can focus on deliverables and spend less time manipulating the project schedule. Similar to the spelling checker in Microsoft Word, potential issues and inefficiencies in the schedule are visually identified by red and green wavy underlines. Project managers can use the improved Task Inspector to diagnose and overcome identified issues. Multi-Level Undo and Change Highlighting are now available in the Web-based schedule to help managers model schedule changes, online or from the desktop, with minimal risk and to quickly see all affected tasks. Using Project Professional 2010, managers can easily generate a Timeline view that gives a high-level view of the major activities in the schedule, and which managers can copy into other Office applications like Outlook and PowerPoint to share with stakeholders and team members.

## Flexible, Intuitive, and Powerful Scheduling Tools

Project Professional 2010 offers improved and innovative scheduling capabilities to help project managers at all levels get started quickly and be more productive.

Project Professional 2010 includes the new Ribbon to provide a consistent and familiar experience and ensure that the tools that managers need to plan and manage projects are customizable and are always at their fingertips. Project Professional 2007 is a flexible project management tool, but many of its powerful features are not as easy to find in menus or dialog boxes. The Ribbon interface in Project Professional 2010 includes task-oriented tabs that make finding and performing activities easier and faster (see Figure 42). Contextual menus reveal the powerful features of Project Professional 2010, reducing training requirements for occasional project managers and better displaying useful tools that professional project managers regularly use.

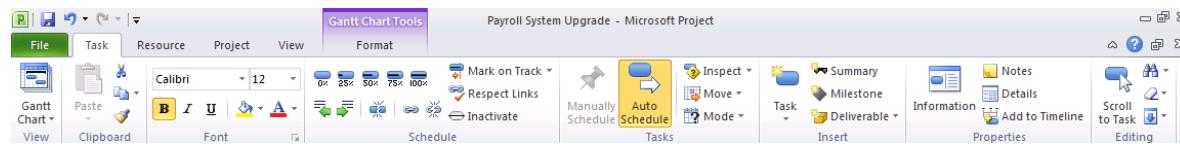


Figure 42. Project Professional 2010 – The Ribbon

The EPM Solution supports informal project scheduling in addition to the full rigor of project management best practices and techniques. Today, many occasional project managers choose to use tools like Excel 2010, SharePoint Foundation 2010, and SharePoint Server 2010 to build simple schedules. In addition, experienced project managers who already use Project Professional require

## Schedule Management

additional flexibility. The new user-controlled scheduling in Project Professional 2010 makes scheduling simpler while providing more flexibility and support for top-down and rolling-wave planning for project managers and organizations that need more complexity (see Figure 43).

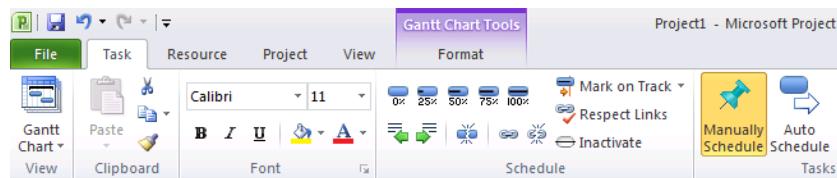


Figure 43. Project Professional 2010 – Manually Schedule and Auto Schedule buttons on the Task tab

User-controlled scheduling gives project managers the flexibility to schedule tasks using Manually Scheduled task mode or Automatically Scheduled task mode. By choosing to manually schedule tasks, managers maintain full control of the project schedule, bypassing the effects of additions or changes to the schedule, but they can simply switch back to Automatically Scheduled task mode to use best-practice planning at any time. In Manually Scheduled task mode, Project 2010 does not fill in missing information and, as in Excel, managers enter data only when they have it. As shown in Figure 44, when a new manually scheduled task is added to a project, corresponding cells are blank; Project Professional 2010 does not assume a duration or start and end dates. Managers can add the data for each task when it becomes available (see Figure 44). For example, a manager can add:

- **A start date without a duration value:** Project 2010 displays an open bracket in the Gantt Chart view. This is useful when the manager knows when an activity starts but does not have a definitive duration.
- **A duration value without a known start and end date:** Project 2010 displays the tasks in light blue on the Gantt chart to denote that additional information is required. This is useful for tracking task-level estimates.
- **Text reminders:** A task's duration might not be known—the manager can add a note (for example, "Ask Bob") in any cell as a reminder to add the correct value when it becomes available.

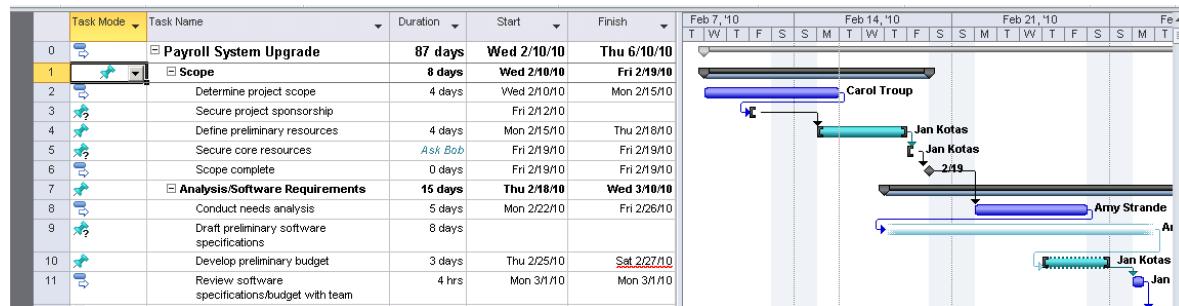


Figure 44. Project Professional 2010 – Manually Scheduled task mode

Typically, in the early planning stages of a project the manager makes high-level “napkin” estimates. User-controlled scheduling techniques help project managers take control of the schedule. In addition,

## Schedule Management

Manually Scheduled task mode in Project Professional 2010 enhances support for top-down planning. In Project Professional 2007, summary tasks simply display data aggregated from underlying activities. By using the Manually Scheduled task mode in Project Professional 2010, managers can specify duration, and start and end dates for summary tasks, while continuing to add and finalize the details of activities within the phase. This flexibility allows a manager to communicate phase-level estimates while finalizing lower-level activities within the schedule. As indicated in Figure 45, the manager can intuitively compare the phase estimate with the sum of the duration of the underlying tasks.



Figure 45. Project Professional 2010 – Improved top-down scheduling

A manager can choose to revert from Manually Scheduled task mode to Automatically Scheduled task mode at any time by selecting the task and clicking the **Auto Schedule** button on the **Task** tab in the Ribbon.

Project Professional 2010 includes a number of usability enhancements designed to make the tool easier to use and to increase the productivity of project and business managers. The new Excel-like experience in Project Professional 2010 ensures that managers can eliminate laborious formatting by turning on text wrapping, enter data faster by using auto-complete, and easily mine data by filtering and grouping columns. With Project Professional 2010 it is also simpler and quicker to add a new column to the schedule. As shown in Figure 46, the manager can simply start typing values in an undesignated column (labeled *Add New Column*) and the tool dynamically assigns the correct column format and performs the required data validation.

## Schedule Management

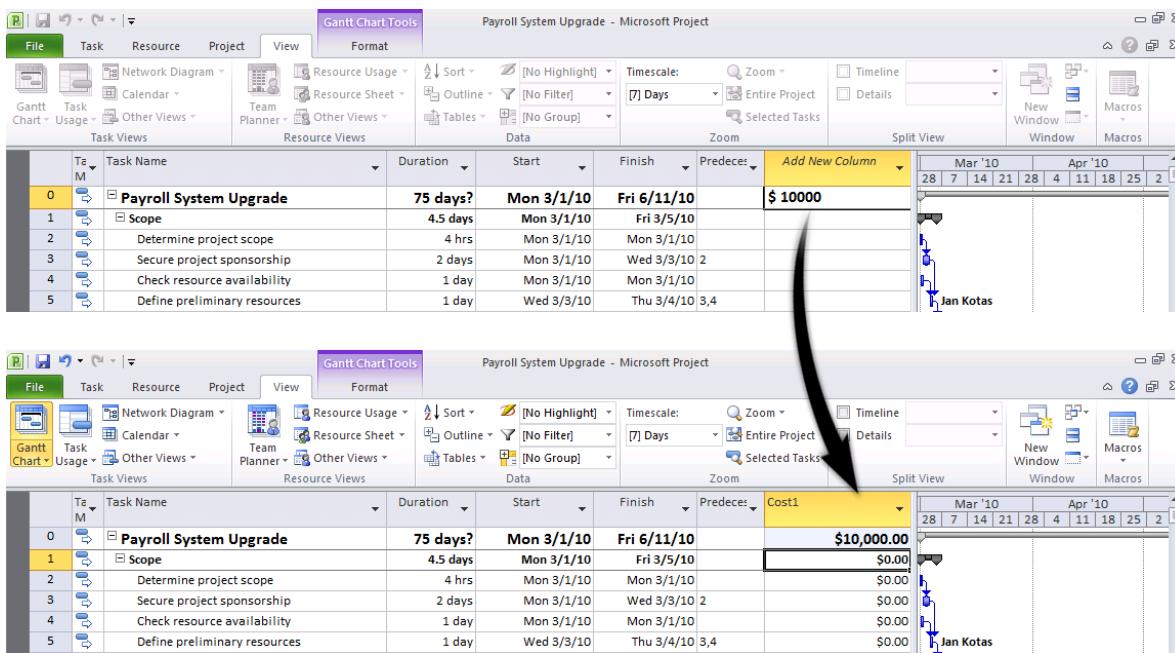


Figure 46. Project Professional 2010 – Adding a new column is easy

Project Professional 2010 makes it easy to get started. Many schedules begin their life as a hallway or e-mail conversation, or a set of bullets captured during a meeting. Project managers need an efficient way to use this information to kick-start a project schedule. Enhanced copy-and-paste capabilities in Project Professional 2010 ensure that managers can conveniently copy formatted lists from other Office applications like Word or Outlook into a blank project plan, while maintaining formatting and data fidelity (see Figure 47).

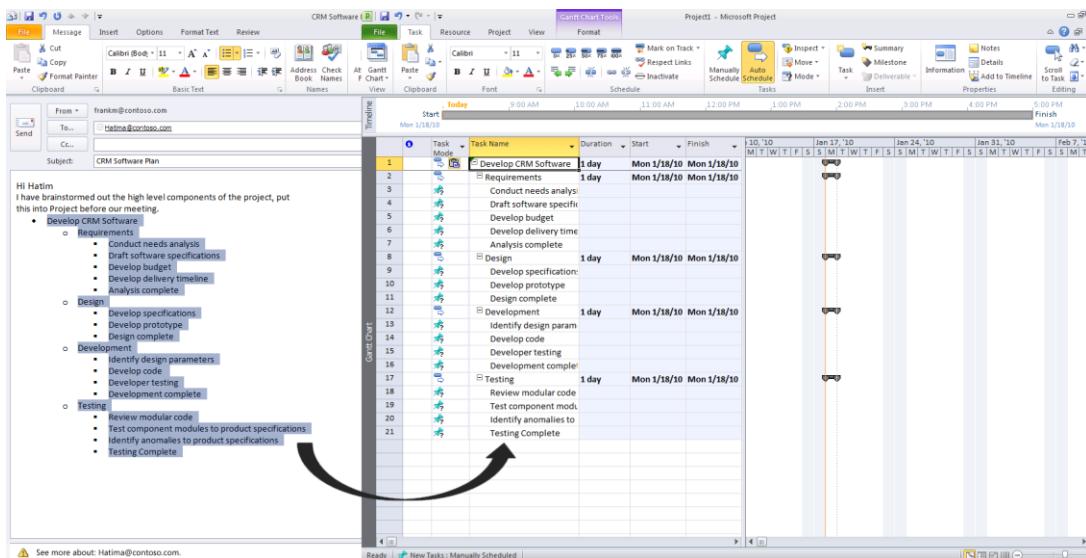


Figure 47. Project Professional 2010 – Get started quickly with enhanced copy-and-paste function

## Schedule Management

PMOs can continue to use project plan templates to package best practices and reduce the time it takes to build complex project schedules. Project plan templates provide a best-practice blueprint for a type of project—a CRM rollout or marketing campaign, for example—based on empirical data (see Figure 48). The templates include all summary tasks, granular-level activities, and generic resource assignments to provide a quick-start framework that the project manager can easily extend.

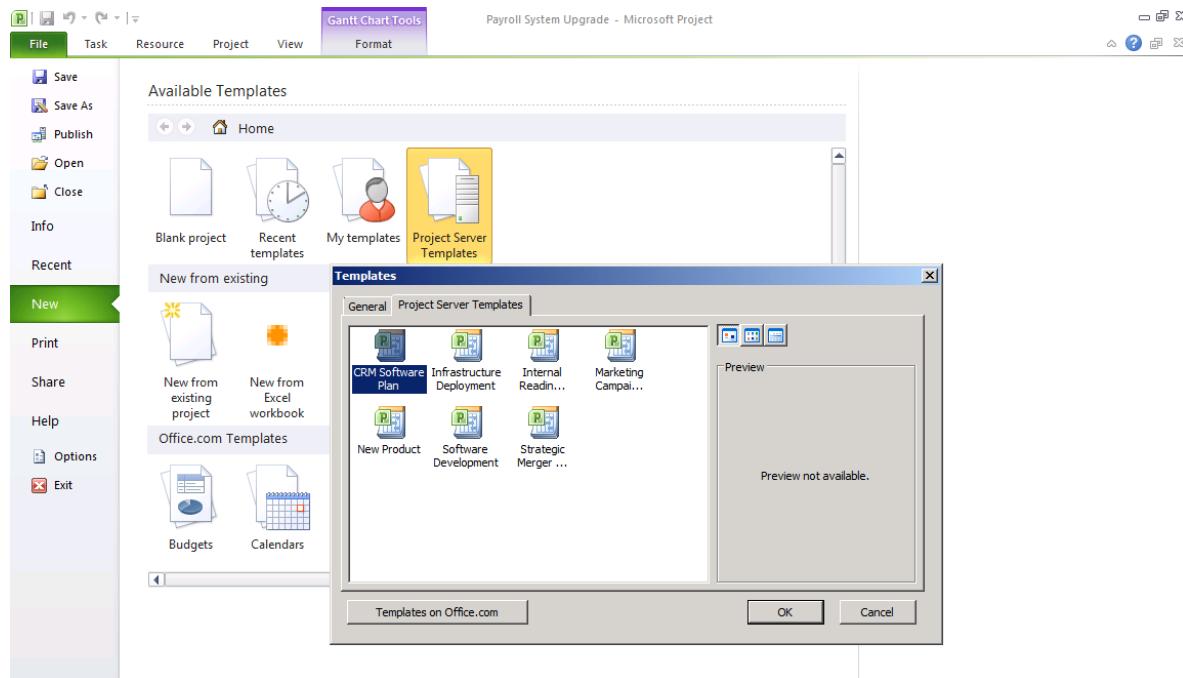


Figure 48. Project Professional 2010 – Available project plan templates

## Flexible, Web-Based Scheduling

Project Server 2010 empowers a mobile workforce by bringing the flexibility of Project Professional 2010 to the browser with Web-based project editing. In addition, managers can quickly build both simple and complex project schedules online and conveniently edit the project from any location over the Internet.

Project Server 2007 supports the online creation of lightweight schedules, up to 100 tasks; one resource can be assigned to each task. Using Project Server 2010 managers can create complex schedules online and assign multiple resources to each task. Project Server 2010 incorporates the Ribbon interface, which provides a familiar and consistent experience regardless of whether the project manager builds the schedule on their desktop or on the Web (see Figure 49).

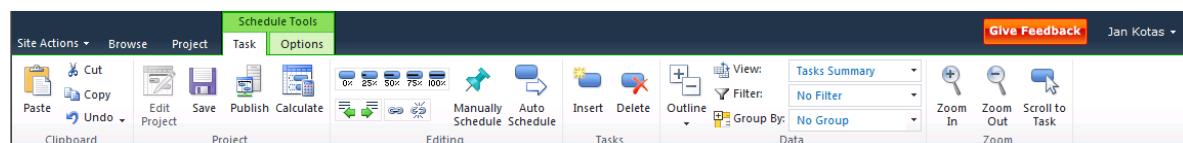


Figure 49. Project Server 2010 – The Ribbon

## Schedule Management

The new schedule view no longer requires an ActiveX® download and integrates usability improvements, including dragging to move columns, support for tabbing between cells, and more (see Figure 50). New user-controlled scheduling capabilities are available in the browser, so project managers have the flexibility to switch between Manually Scheduled and Automatically Scheduled task modes. Multi-Level Undo and Change Highlighting functions are now included within the browser to help managers safely model changes to the schedule and quickly identify all affected tasks.

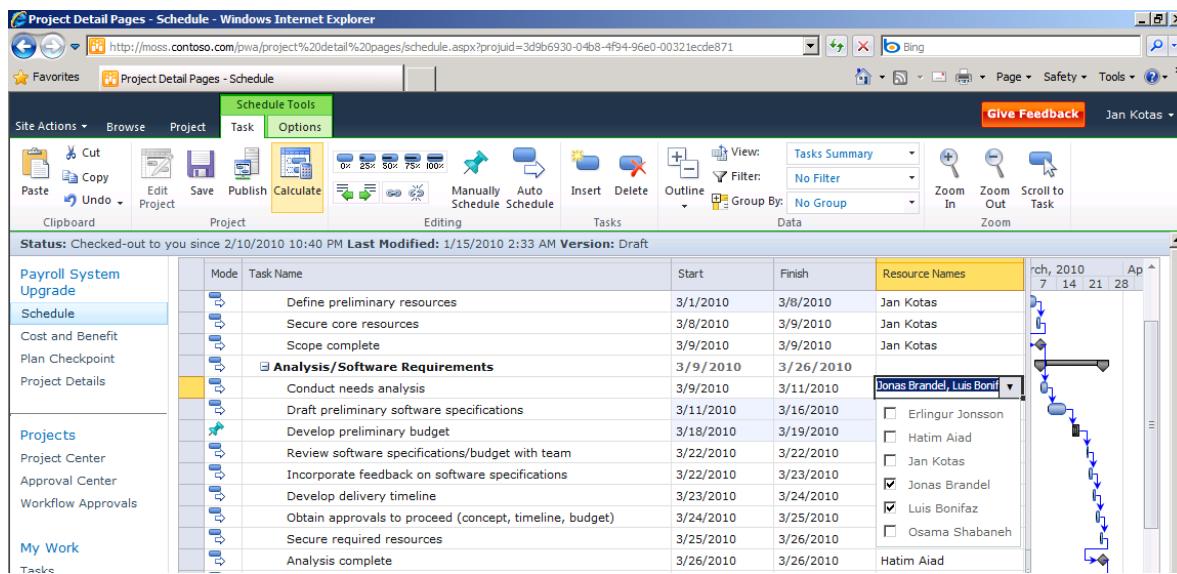


Figure 50. Project Server 2010 – Editable Web-based schedules

Microsoft recognizes that the scheduling requirements of occasional and professional project managers are different, and that they need different solutions. Web-based project editing in Project 2010 gives all project managers the flexibility they need—to create and manage a schedule online, or to simply make edits to a detailed plan, at any time, from anywhere.

## Proactively Analyze and Control the Schedule

Detailed project schedules can be hard to control and even harder to analyze. Project managers need effective tools to reduce the complexity of interrelated tasks, manage inter-project dependencies, provide early-warning indicators, and make the schedule easier to control.

### Task Inspector

The Task Inspector in Project Professional 2010 builds on the Task Driver feature in Project Professional 2007, to provide a deeper understanding of task interdependencies, scheduling concerns, and resource conflicts. This powerful diagnostic tool helps project managers proactively highlight an issue, quickly identify the root cause, and resolve the problem immediately (see Figure 51).

# Schedule Management



Figure 51. Project Professional 2010 – Improved Task Inspector

Used in tandem with Manually Scheduled task mode, Project 2010 Task Inspector guides the occasional project manager by visually identifying scheduling concerns and recommending scheduling efficiencies. Much like the spelling checker in Word, Task Inspector highlights issues using wavy red underlines beneath start or end date fields. As shown in Figure 52, a red wavy underline denotes a potential scheduling problem—for example, an underlying task exceeds the duration of a summary task—and a green wavy underline is a scheduling suggestion that indicates that the schedule can be optimized—for example, a task has slack time and could potentially start earlier in the schedule. Project managers can choose to ignore these warnings, or choose from a number of repair options listed in Task Inspector.



Figure 52. Project Professional 2010 – Task Inspector indicators

## Multi-Level Undo and Change Highlighting

Performing what-if analysis to model the impact of changes to a complex schedule can be a daunting task. The powerful Multi-Level Undo, Change Highlighting, Active and Inactive task modes, and Compare Projects features in Project Professional 2010 make it easier than ever to analyze the schedule.

Multi-Level Undo and Change Highlighting analysis tools (see Figure 53) are now included in Project Server 2010. Multi-Level Undo ensures that a project manager can quickly make changes to a schedule

## Schedule Management

and easily reverse edits to safely return to a previous state. The Change Highlighting function visually identifies all tasks that are affected by an amendment to the schedule, to help the project manager assess the effect on the plan.

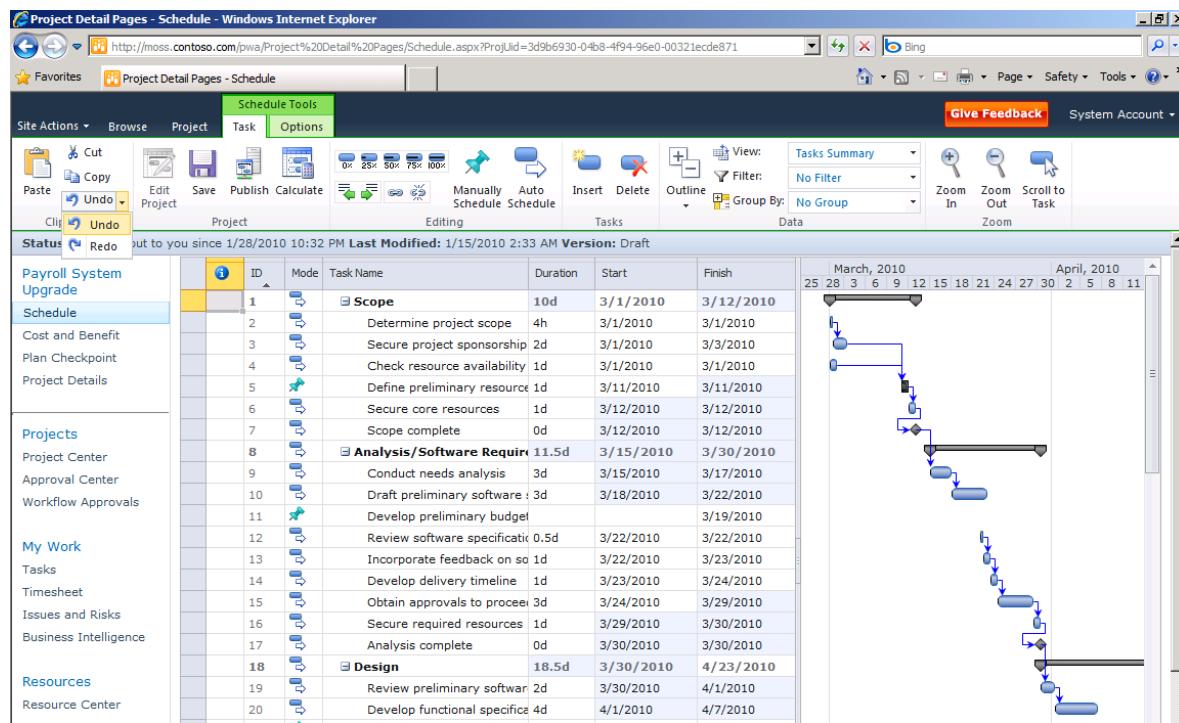


Figure 53. Project Server 2010 – Change Highlighting and Multi-Level Undo

## Managing Scope Using Active and Inactive Tasks

Using Inactive task mode in Project Professional 2010, project managers can simply remove and then restore tasks in the schedule, to see the effect of removing the task on the rest of the project plan (see Figure 54). In earlier versions of Project Professional, if project managers wanted to assess the impact of removing tasks they had to delete the tasks from the schedule. Toggling between Active and Inactive task modes gives managers the flexibility to model changes to scope simply by right-clicking to make a task or group of tasks inactive, right in the schedule. If required, the manager can restore these tasks date simply by toggling to make them active tasks.

## Schedule Management

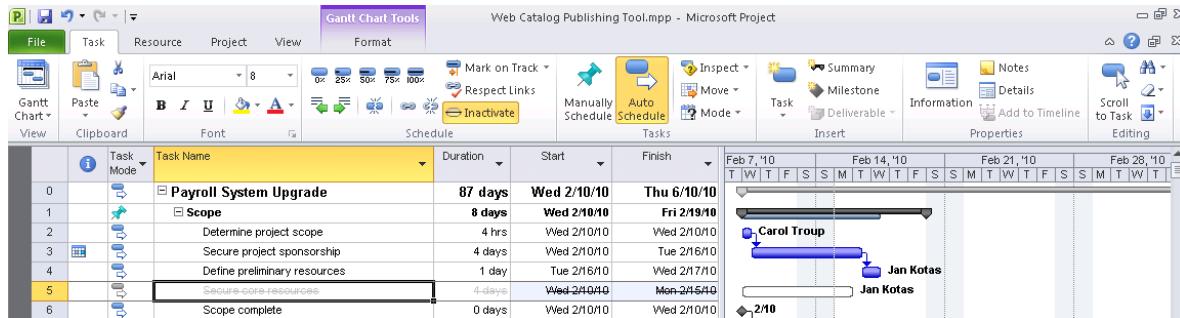


Figure 54. Project Professional 2010 – Active and Inactive task modes

## Compare Projects

Project Professional 2010 helps make it easier to effectively analyze project plans and highlight differences by using the improved Compare Projects function. With Compare Projects managers can effectively model changes to the schedule and visually assess the effect of those changes on tasks and resources. Managers simply save a copy of the project plan, then make changes to the plan and use the Compare Projects feature to assess the change. The Task Comparison Report highlights the differences between different versions of the plan; a manager can simply switch between tasks and resource views (see Figure 55).

# Schedule Management

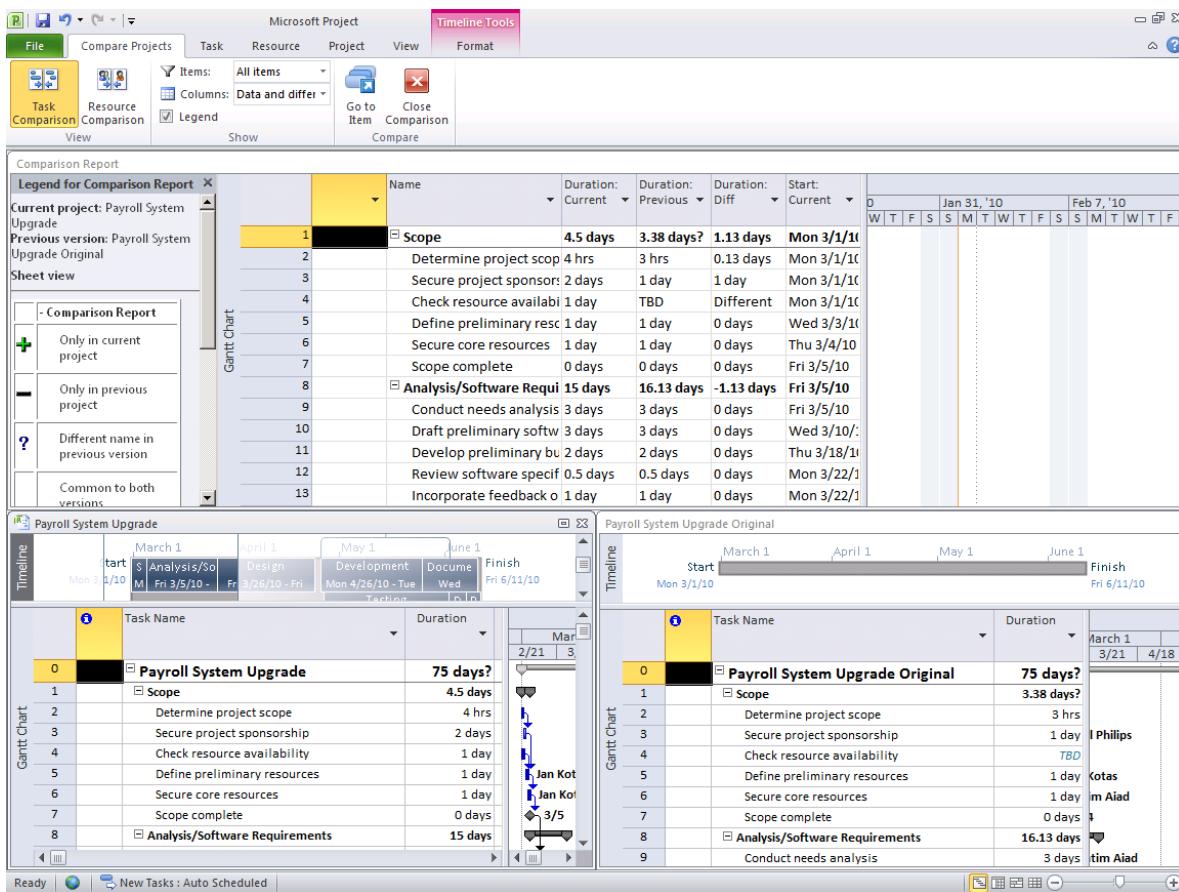


Figure 55. Project Professional 2010 – Compare Projects, Task Comparison Report

## Set Baselines and Track Dependencies

With the flexibility of setting multiple baselines in Project Professional 2010, project managers can quickly compare budget versus actual versus forecasted values to measure an initiative's progress. Effectively comparing actual progress to the approved baseline helps managers analyze progress and manage change.

In addition to monitoring the relationships between tasks within a project, project managers need to assess the impact of inter-project dependencies that could affect their initiative. Project 2010 ensures that project managers can quickly link dependent tasks between projects or publish key deliverables. Managers can publish deliverables to a collaborative Project Site so that other project managers can be aware of key dates and establish a soft dependency in their own plans. If deliverable dates change, the affected project managers are notified the next time they open their project.

## Effectively Communicate Schedule to Team and Stakeholders

Although the Gantt chart might be the universal symbol of project management, it is limited in its effectiveness in communicating schedule information to stakeholders. The new Timeline view in Project

## Schedule Management

Professional 2010 gives project managers an easy and intuitive way to share key phases and milestones, with minimal overhead and effort, to stakeholders that require less detail. Project managers select the tasks and milestones they want to include, and with one click simply generate a concise Timeline view. As demonstrated in Figure 56, the Timeline view provides a manageable overview of the main activities in the schedule. Using the options available on the **Format** tab in the Ribbon, project managers can quickly customize the Timeline by changing the bar colors or rearranging tasks as callouts.

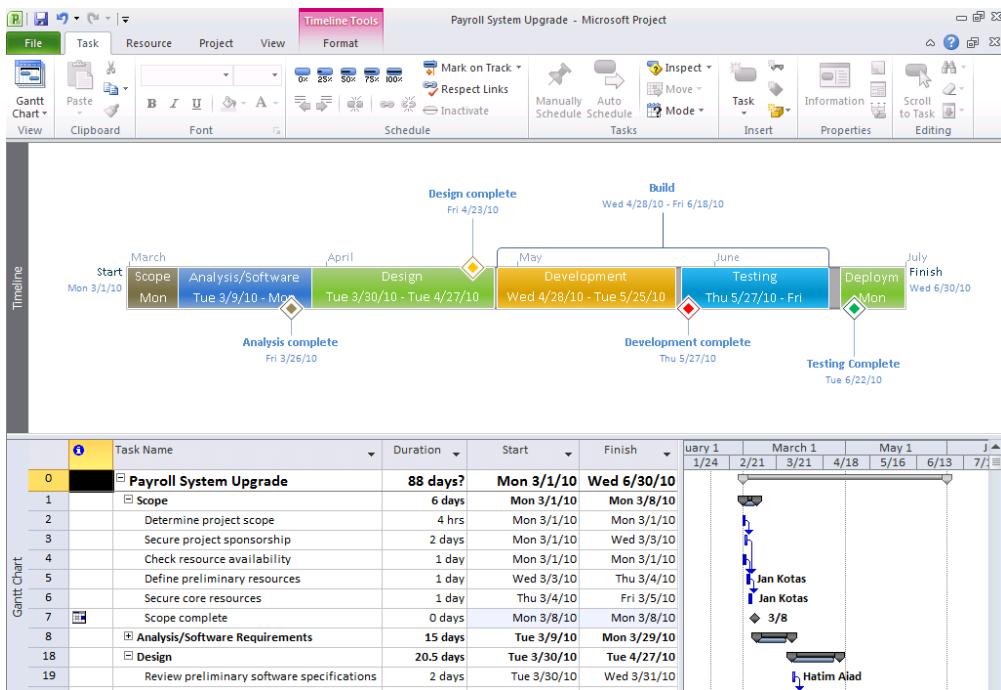


Figure 56. Project Professional 2010 – Timeline view

After creating and customizing the Timeline, project managers can simply copy the graphic and paste into Outlook, PowerPoint, and other Office applications. With a few clicks, project managers can create, customize, and share the powerful Timeline view with team members and key stakeholders.

## Financial Management

Pressure to reduce or maintain budgets is driving sharper scrutiny of discretionary spending, and increases the importance of effectively identifying and delivering project portfolios that best align with an organization's business strategy and that maximize ROI. This additional scrutiny reinforces the importance of adopting best-practice financial management processes to improve cost and benefit estimating, and effectively tracking cost performance to ensure that each project is delivered within budget and that the portfolio realizes the forecasted benefits. In addition, providing project accounting views can be a challenge when financial data is spread across multiple LOB systems.

Key challenges that organizations face when trying to improve their financial management processes include the following:

- **Standardizing cost and benefit estimates.** Accurately capturing realistic cost and benefit estimates for projects early in their life cycle helps executives effectively select portfolios that maximize ROI under varying budget constraints. Cost and benefit estimates are a key variable used in portfolio selection and also are used to measure financial performance during project execution.
- **Project accounting and change management.** Projects selected to be included in the portfolio need to provide accurate cost accounting throughout the entire project life cycle. Changes in scope or in execution of the project will have an effect on the overall project cost and related benefits when the project is completed.
- **Financial visibility and insights.** Executives need reports and views that allow them to assess financial performance across the project life cycle. Effective analysis of financial data for projects or the entire portfolio requires a powerful, flexible, and easy-to-use reporting system.
- **Integration with LOB systems.** Organizations need to be able to quickly and easily obtain accurate financial data from appropriate LOB systems. Whether that information is payroll or expense data from an accounting system, planning data from a business case, or actual project costs, the ability to integrate the data into one view for management and oversight is critical to ensuring that accurate financial information is available when needed.

The Microsoft EPM Solution helps organizations meet these challenges by providing comprehensive financial management capabilities throughout the life cycle of a project, from capturing cost and benefit estimates in a business case, through effectively tracking costs during project execution. Project Server 2010 is flexible and extensible, which helps to ensure that the toolset can be configured to meet an organization's specific needs. PMOs can use custom fields to standardize the collection of cost data or take advantage of Excel 2010 Web App or InfoPath Forms Services to embed powerful financial estimate Web parts within the Project Server 2010 business case infrastructure. Budget and cost resources help managers effectively track project financials and manage change throughout the project life cycle.

## Financial Management

The Project Server 2010 comprehensive API, Project Server Interface (PSI), ensures that organizations can effectively integrate with financial systems to consolidate data and drive project accounting views and reports. Organizations can also take advantage of Project partner add-in products that further extend the Project Server 2010 financial management capabilities.

The powerful reporting infrastructure in Project Server 2010 gives PMOs the flexibility they need to easily create project-level reports and quickly configure dashboards to provide executives with manageable views that communicate the complete financial picture. The best-in-class portfolio selection analytics included in Project Server 2010 provide executives with decision-support tools, which help them effectively allocate funds and continuously optimize the portfolio to ensure that it delivers the biggest bang for the buck and optimally aligns with business strategy.

### Capture Cost and Benefit Estimates

The flexible business case infrastructure of Project Server 2010 helps standardize the collection of cost and benefit data for each request to assess an initiative's financial value. PMOs can simply add custom fields to an online business case form—a Project Detail Page, or PDP; see the [Demand Management](#) section—to capture multi-year cost and benefit values, or embed detailed cost and benefit templates within the business case using Excel Web App or InfoPath Forms Services Web parts (see Figure 57). After capturing the data, analysts can build formulas to derive metrics—ROI, Internal Rate of Return (IRR), and so on—to better understand and communicate a project's financial value.

# Financial Management

The screenshot shows a Microsoft Project Server 2010 interface. On the left, there's a navigation menu with sections like E-CRM Solution, My Work, Resources, Strategy, and Settings. The main content area displays a Microsoft Excel Web App titled "CostAndBenefits.xlsx" with a "Project Cost Details" sheet. This sheet contains a table with financial data for years 2010 to 2014, categorized under Expenses and Capital. The "Total Cost" row shows a total of \$1,274,000.00.

	2010	2011	2012	2013	2014
<b>Expenses</b>	\$ 410,000.00	\$ 350,000.00	\$ 120,000.00	\$ 24,000.00	\$ 904,000.00
Internal Labor	\$ 100,000.00	\$ 70,000.00	\$ 30,000.00	\$ 24,000.00	\$ 224,000.00
External Labor	\$ 60,000.00	\$ 50,000.00	\$ 20,000.00		\$ 130,000.00
Advertising	\$ 100,000.00	\$ 70,000.00	\$ 50,000.00		\$ 220,000.00
Training	\$ 90,000.00	\$ 80,000.00			\$ 170,000.00
Operations	\$ 60,000.00	\$ 30,000.00	\$ 20,000.00		\$ 110,000.00
Other Direct		\$ 50,000.00			\$ 50,000.00
<b>Capital</b>	\$ 160,000.00	\$ 120,000.00	\$ 90,000.00	\$ -	\$ 370,000.00
Software					\$ -
Hardware	\$ 110,000.00	\$ 80,000.00	\$ 70,000.00		\$ 260,000.00
Building	\$ 50,000.00	\$ 40,000.00	\$ 20,000.00		\$ 110,000.00
Other Capital					\$ -
<b>Total Cost</b>	\$ 570,000.00	\$ 470,000.00	\$ 210,000.00	\$ 24,000.00	\$ - \$ 1,274,000.00

Figure 57. Project Server 2010 – An Excel Web App Web part embedded in a project business case

Accurately capturing cost and benefit estimates is critical, because this data is one of the primary variables used to assess and select competing initiatives, measure financial performance against baseline in the execution phase, and analyze whether the initiative realized the forecasted benefits when the work is completed.

## Cost Constraint Analysis and Portfolio Selection

For most organizations, scarcity is a reality. This means that the number of project requests often exceeds the organization's budget and resource constraints. In uncertain economic times, the importance of determining the right projects to undertake becomes even more critical. Project Server 2010 includes a portfolio optimization engine that helps analysts model various scenarios to identify the optimal project portfolio. Using portfolio selection techniques, analysts can run what-if analyses under a variety of cost constraints to recommend project portfolios that deliver the maximum ROI, and that best align with the organization's business strategy (see Figure 58). For more information about optimizing portfolio selection, see the [Portfolio Selection and Analytics](#) section.

# Financial Management

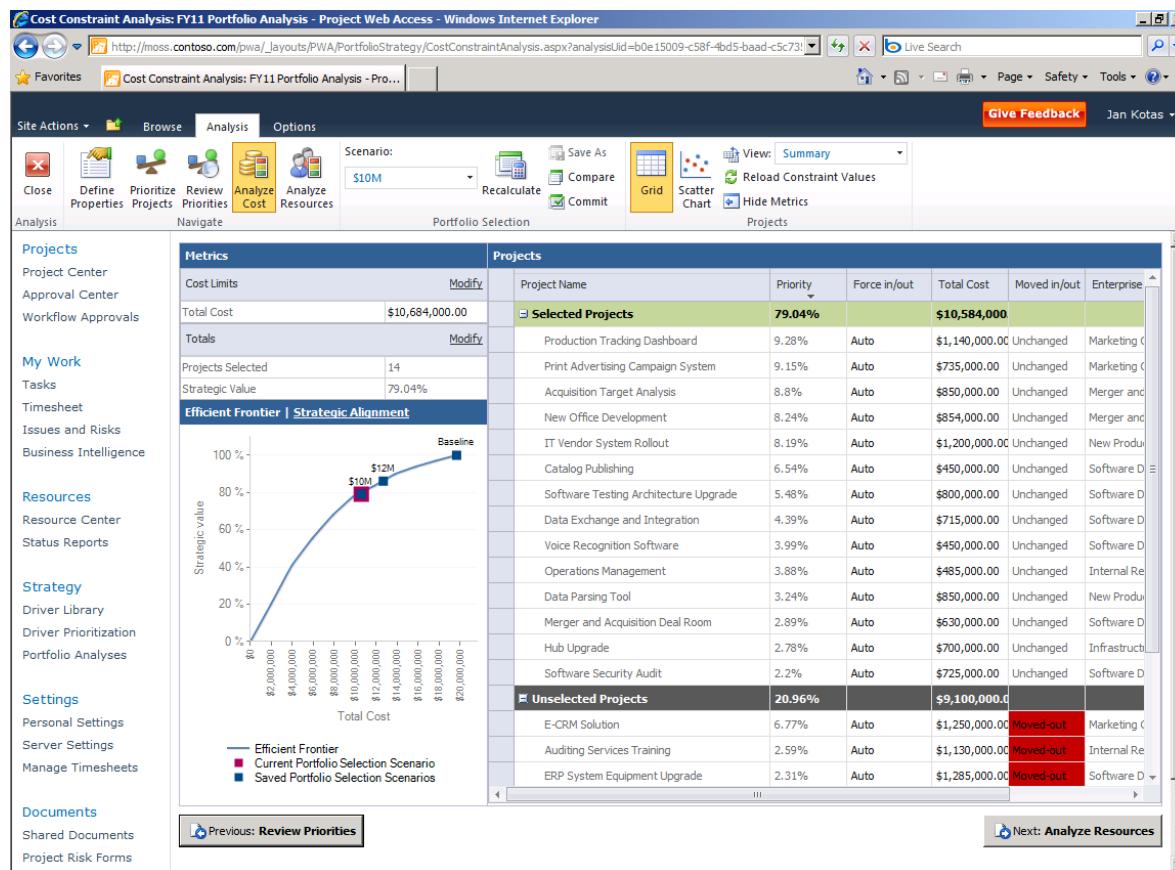


Figure 58. Project Server 2010 – Cost Constraint Analysis view

## Track and Report Financial Performance

The Project Server 2010 governance workflow controls a project throughout its lifecycle, and plays a key role in supporting budget review and approval cycles. Project Professional 2010 helps organizations manage and effectively track financial data using Budget Resources, Cost Resources, and multiple billing rates for a resource:

- Budget Resources helps project managers record the approved project budget at the project-summary level; this provides a baseline for comparing actual costs against, and proactively managing, expenses.
- Cost Resources helps managers capture non-work costs associated with a project: equipment, materials, travel, training, contractor costs, and so on.
- Each resource can have multiple billing rates that can be used to dynamically calculate the cost of the resource based on the amount of work. In addition, resources also can be explicitly tied to cost centers.

Project managers can establish project baselines and use Earned Value Management (EVM) metrics to control changes, analyze project performance, and manage expectations. Project Professional 2010

## Financial Management

includes calculations for standard EVM metrics, such as cost and schedule performance indices, based on planning and actual cost, in addition to schedule fields. Project Professional 2010 gives the organization the tools it needs to capture the original intent of project costs in a baseline that can be modified by using change management techniques.

Project Server 2010, built on SharePoint Server 2010, takes advantage of the Microsoft BI platform to provide an easy-to-use and flexible reporting infrastructure to drive transparency in project financial performance. Taking advantage of these powerful capabilities, managers can build project-level reports, and PMOs can design dashboards to ensure that executives have all the information they need to stay in control and to support funding decisions (see Figure 59).

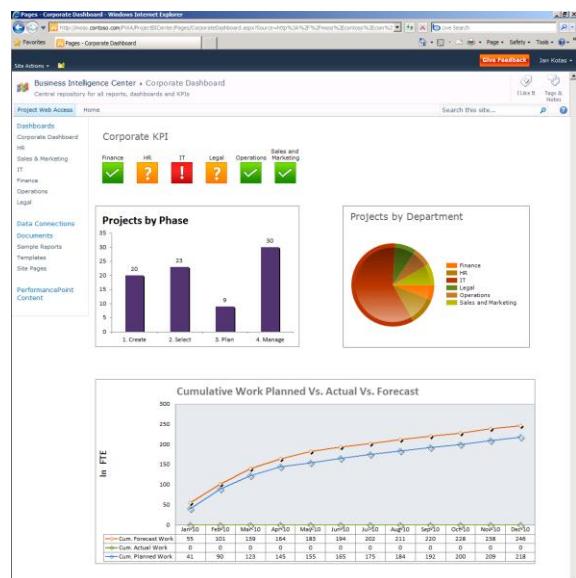


Figure 59. Project Server 2010 – Configurable dashboards

To support performance tracking, KPIs can be defined by using custom fields that provide an overview of financial performance, in addition to specific data at various phases of a project life cycle (see Figure 60).

# Financial Management

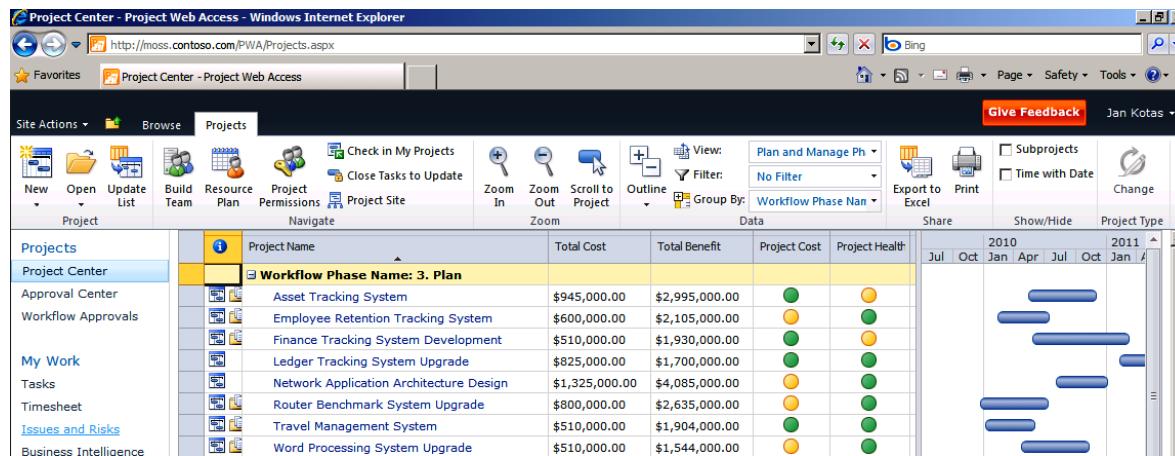


Figure 60. Project Server 2010 – Project Center view with KPIs

## Integration with Financial Systems

Organizations need to be able to obtain accurate financial data from the appropriate LOB systems that are the source of record for financial information. The comprehensive Project Server 2010 API, PSI, ensures that organizations can automate the collection of financial data from LOB applications to drive project accounting views and reports.

Organizations can also take advantage of Microsoft independent software vendor (ISV) partner add-in solutions that offer certified integration with familiar Enterprise Resource Planning (ERP) systems, such as those offered by SAP. By effectively integrating the EPM Solution with financial management systems, PMOs can ensure data integrity from the project accounting perspective and allow full reconciliation of costs and expenses. The integration supports bidirectional data transfer, ensuring that project managers and financial analysts or accountants can effectively share data while working in their productivity tools of choice.

## Time and Task Management

Today more than ever, organizations need accurate, up-to-date information to make informed business decisions. Many organizations use time reporting systems to capture work and nonworking time for payroll, invoicing, and other business purposes. Similarly, project managers need to efficiently capture and communicate status on project work to help gauge progress and to anticipate the effect on planned effort, cost, and timeframes. Although the type and source of information is similar, divergent uses and requirements make it difficult for organizations to have a centralized and common approach to time reporting and task management.

Time capture and project progress reporting poses several challenges to organizations, and they need to have the following characteristics.

- **An easy-to-use interface.** Time entry systems tend to be widely used across organizations and need to be simple and intuitive for those who regularly enter and approve updates. Users expect a consistent and familiar interface that shows current and relevant time capture categories to support accurate reporting of time and project progress.
- **Single-source, to report working and nonworking time.** Organizations want streamlined processes that capture and update information used for operations, analysis, and control. Different business applications can be used for project management, financial reporting, or operational processes that collect time worked by individuals as the basis for reporting and projections.
- **Able to capture projects, operations, and administrative time.** Project-based organizations need to be able to capture progress and status on tasks at the same time that they are gathering non-project time, such as systems maintenance work and administrative time, including nonworking time for vacation, sick leave, or other paid time off (PTO).
- **Support high use in short, recurring time periods.** Unlike other business processes, time and task status reporting tends to involve a recurring cycle of large numbers of activities performed at periodic intervals. Time reporting systems need to scale to support high volumes of transactions at the end of the working week or the end of the month.
- **Offer flexible choices for how you and your organization work.** Time capture and project progress reporting activities reflect the approach and level of detail that enterprises need to support their business decision activities. Therefore, time reporting solutions need flexible approaches to support data collection, systems integration, business rules, exception handling, and information reporting requirements.
- **Integrate with LOB systems.** Enterprises would prefer one system for capturing time and project task progress information that can then be integrated with other LOB applications, such as payroll, project cost accounting, and financial management systems.

Project Server 2010 provides organizations with the flexibility they need to centralize time capture, streamline processes, automate task management, and increase the accuracy of project forecasting.

# Time and Task Management

Organizations can select how they want to capture working and nonworking time needed for statutory time recording and progress updates to project managers. Time reporting capabilities have been further enhanced in Project Server 2010 to provide a new Single Entry Mode to unify time and task status updates. The Web-based user interface for timesheet entry and task management has been standardized to speed learning and enhance experience. Users can quickly see and find relevant tasks and easily complete common activities. Time entry can include nonworking time and billing categories to support payroll, invoicing, and project costing applications. Project Server 2010 also provides a single screen for managing approvals for timesheets, project updates, and administrative approvals. The information captured in the timesheet and task management process can be shared with LOB applications that use time and progress information for processing.

## Intuitive User Interface for Time and Task Entry

The intuitive Timesheet and Tasks views in Project Server 2010 ensure that team members can effectively provide task status information and project, non-project, and nonworking time (see Figure 61). Project Server 2010 helps organizations standardize and simplify time reporting processes, thereby reducing training requirements. Team members are provided with an easy-to-use and responsive interface that can be customized for their specific preferences and needs.

Task Name	Start	Finish
General Ledger (GL) currency update	12/3/2009	1/7/2010
Conduct needs analysis	12/3/2009	12/10/2009
Draft preliminary software specifications	12/10/2009	12/15/2009
Review software specifications/budget with team	12/17/2009	12/17/2009
Incorporate feedback on software specifications	12/18/2009	12/18/2009
Review preliminary software specifications	12/23/2009	12/25/2009
Develop functional specifications	12/25/2009	1/1/2010
Develop prototype based on functional specifications	1/1/2010	1/7/2010
Localize partner website for EMEA	10/30/2010	12/4/2010
Conduct needs analysis	10/30/2009	11/6/2009
Draft preliminary software specifications	11/6/2009	11/11/2009
Review software specifications/budget with team	11/13/2009	11/13/2009
Incorporate feedback on software specifications	11/16/2009	11/16/2009
Review preliminary software specifications	11/19/2009	11/23/2009
Develop functional specifications	11/23/2009	11/30/2009
Develop prototype based on functional specifications	11/30/2009	12/4/2009
Distant Future	3/5/2010	4/19/2010
Payroll System Upgrade	3/5/2010	4/19/2010

Figure 61. Project Server 2010 – Time entry and task updates user interface

An improved interface standardizes the experience between the Timesheet and Tasks views to ensure that users can quickly complete time and task update submissions. Using the new Ribbon interface, it is easy to complete common activities, such as identifying overdue and completed tasks, and to create custom filters and groups to find assignments.

## Time and Task Management

### Efficiently Receive Project Tasks

Effective project management requires having the latest status available to be able to accurately analyze project performance and make appropriate adjustments to the schedule. Organizations need flexible methods for users to submit time and provide project managers with real-time tasks updates.

Project Server 2010 offers various tools for managing and communicating resource assignments and for effectively gathering task updates from team member entries. Team members can receive and view their assignments through the Web-based Tasks view, through an e-mail notification, or as Outlook tasks grouped by project.

After consolidating their assignments in an effective view, team members can choose the update method and productivity tool they prefer to use. Project Server 2010 makes it easy to provide assignment updates, whether team members choose to use the Tasks view or to update tasks directly in Outlook. Project Server 2010 connects with Exchange Server to ensure that team members can receive their project tasks in Outlook or in Outlook Web App, without requiring an Outlook add-in (see Figure 62).

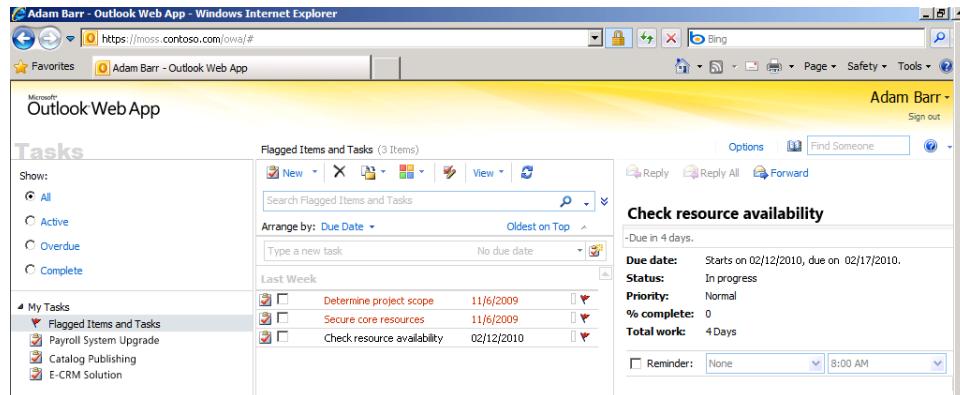


Figure 62. Project Server 2010 – Project tasks in Outlook Web App

The Tasks view displays project and non-project work assigned to individuals. In addition, users can view tasks assigned to other resources for which they provide updates, such as contractors, or team resource assignments for their projects (see Figure 63). Assignments in the Tasks view are organized by time period to help users focus on current information and prepare for upcoming activities. Sorting, filtering, and grouping options are available to help users find relevant tasks. Team members also have the option of reassigning tasks to others or to self-assign tasks made to their team assignment pool.

# Time and Task Management

Task Name	Start	Finish	Remaining	% Work	Work	Period Total	Sat 2/6
In Progress for Current Period	9/2/2009	2/12/2011	880h	0%	Planned		
Compliance Database System Im	10/14/2010	2/8/2010	68h	0%	Actual		
Office Equipment Tracking Syste	9/11/2000	2/8/2010	92h	0%	Planned		
Travel Management System	1/5/2010	1/29/2011	72h	0%	Actual		
User Conference	12/28/2010	2/8/2010	24h	0%	Planned		
Wireless Implementation Plan	9/2/2009	2/12/2011	624h	0%	Actual		
Near Future - Next 2 Periods	2/15/2011	2/18/2011	44h	0%	Planned		
Compliance Database System Im	2/16/2011	2/18/2011	24h	0%	Actual		
Travel Management System	2/17/2011	2/17/2011	4h	0%	Planned		
User Conference	2/17/2011	2/17/2011	0h	0%	Actual		
Wireless Implementation Plan	2/15/2011	2/16/2011	16h	0%	Planned		
Distant Future	3/1/2010	7/2/2010	136h	0%	Actual		
Compliance Database System Im			10/19/2010	0h	Planned		
Payroll System Upgrade	3/3/2010	6/11/2011	100h	0%	Actual		

Figure 63. Project Server 2010 – Tasks view

## Single Entry Mode Enhances Time and Task Reporting

Project Server 2010 offers a single solution for organizations that need to collect time spent on projects and to report on project progress. The new Single Entry Mode in Project Server 2010 simplifies time and task status reporting by providing a unified timesheet interface for capturing and updating time and information used for operations, analysis, and control.

Timesheets are a mechanism for reporting time in standard time periods—for example, a week—that can be categorized and summarized to use in other business processes, such as payroll or invoicing. The Project Server 2010 Timesheet view includes entry lines for assigned project tasks so that users can record work performed during the timesheet period. It also includes entry lines for administrative categories that can capture both work and non-work time. Single Entry Mode simplifies timesheet submittal and updates by consolidating task progress and time reporting data. Unification of time and task updates helps users complete the submission, reduce errors, and see results quicker.

The Project Server 2010 Timesheet view combines project and administrative time in a seamless view, and includes an adjustable vertical bar between line description information and the time entry area for flexibility and precision when entering data. Timesheets support a fixed calendar period, organized with

## Time and Task Management

project tasks listed at the top, and administrative items below so users can navigate to relevant time entry lines. Organizations can establish predefined administrative working and nonworking time categories for meetings, vacation, sick leave, holidays, and other administrative categories (see Figure 64).

Figure 64. Project Server 2010 – Timesheet view

In Project Server 2010 timesheet data can be categorized for integration with financial systems for payroll, invoicing, project costing, and chargebacks. This includes support for billable versus non-billable time, in addition to regular and overtime time entry. Timesheets include a variety of administrative controls to enforce time reporting standards. Project Server 2010 addresses additional complex scenarios such as support for users to submit status updates to project managers in the middle of a timesheet period without submitting an entire timesheet for approval.

## Flexible Time and Task Approvals

Many organizations have different control and oversight requirements for timesheets and task status updates. Project Server 2010 approval workflows are configurable, to help PMOs select the level of review and control that is right for their organization.

## Time and Task Management

Project Server 2010 provides a dedicated Approval Center to simplify the review of timesheet, task updates, and administrative time request approvals (see Figure 65). The Approval Center inherits the same intuitive interface as the Timesheet and Tasks views, with options to group, sort, and filter tasks to help users personalize and streamline their approval activities.

ID	Mode	Task Name	Previous Duration	Duration	% Complete	Previous % Compl	Previous Start
0	Modifying	New Zen Report Moduli 114d	116.5d	1%	0%	0%	12/29/2009
2	Modifying	Determine project sc	0.5d	0%	0%	0%	12/29/2009
3	Modifying	Secure project spons	2d	0%	0%	0%	12/29/2009
4	Modifying	Define preliminary re	1d	0%	0%	0%	12/31/2009
5	Modifying	Secure core resource	1d	0%	0%	0%	1/1/2010
6	Modifying	Scope complete	0d	0%	0%	0%	1/4/2010
8	Modifying	Conduct needs analy	5d	20%	0%	0%	1/4/2010

Figure 65. Project Server 2010 – Approval Center view

Project Server 2010 gives managers and PMOs the choice of requiring approval for timesheet submittals, specifying individual approvers, letting users select the approver, or using automatic approval routing so that timesheets go through a multi-level workflow based on organizational hierarchy. In Project Server 2010 administrative time like vacation requests can be preapproved by a timesheet manager, using per-line timesheet approvals. In addition, Project Server 2010 can delay sending timesheets for approval until all tasks on the timesheet have been approved by the designated project or task status manager.

Task updates can be routed directly to the project manager or to a designated task status manager. Business managers or PMOs can create automatic approval rules for tasks, which will help reduce administrative burden so that project managers can focus on other important activities. Using the Web-based Approval Preview feature, managers can maintain control by visually assessing the effect of changes on the schedule before accepting task updates (see Figure 66).

ID	Mode	Task Name	Previous Duration	Duration	% Complete	Previous % Compl	Previous Start
0	Modifying	New Zen Report Moduli 114d	116.5d	1%	0%	0%	12/29/2009
2	Modifying	Determine project sc	0.5d	0%	0%	0%	12/29/2009
3	Modifying	Secure project spons	2d	0%	0%	0%	12/29/2009
4	Modifying	Define preliminary re	1d	0%	0%	0%	12/31/2009
5	Modifying	Secure core resource	1d	0%	0%	0%	1/1/2010
6	Modifying	Scope complete	0d	0%	0%	0%	1/4/2010
8	Modifying	Conduct needs analy	5d	20%	0%	0%	1/4/2010

Figure 66. Project Server 2010 – Approval Preview view

## Time and Task Management

### Optimized Performance, Administration, and LOB Integration

Time reporting systems need to support high volumes of transactions because most team members complete their timesheets at the same time—at the end of the work week. As in many other areas, in this way Project Server 2010 scales to support the needs of the enterprise. Timesheets are queued separately from other EPM business processes to support high-volume transaction periods and to minimize impact on system performance.

Project Server 2010 time and task management capabilities are highly configurable to meet the needs of the organization. By configuring server settings, administrators can intuitively manage the timesheet process by defining the appropriate fiscal accounting periods, creating timesheet periods, adding timesheet line classifications, configuring administrative time categories, and more. PMOs can easily open and close timesheet periods to facilitate lock-down periods and control time entry in open date ranges. Using Project Server 2010, users can act as delegates on behalf of other users. This is extremely helpful for timesheet and task updates for users with periodic or extended absences or when substitutes are needed for timesheet or task approval processes.

The Project Server 2010 reporting database has been expanded to include comprehensive details about timesheet data. This information can be used to show the status of timesheet submittals and approvals at a specific point in time, or as overall trends to support management compliance and performance reporting.

Additionally, timesheet and task data can be summarized to use with or be integrated into other LOB systems. Organizations can easily integrate with other applications by accessing timesheet data through Web services or through direct access to the timesheet schema. This ensures that Project Server 2010 will be your hub for collecting and disseminating information with other LOB applications, such as payroll, project cost accounting, and financial management systems.

## Team Collaboration

### Team Collaboration

In traditional project management, focus has always been on project schedule, budget, work, scope, and the quality of deliverables. Team collaboration, however, is the backbone that supports and drives overall project success and execution effectiveness. Team collaboration has evolved over the past decade from informal techniques into a recognized discipline that helps organizations more effectively find and share information. In turn, tools that support collaboration have evolved from the early concept of a shared server to the sophistication of solutions like Microsoft SharePoint Server 2010.

Whatever a project's size, it often requires the knowledge and capabilities of diverse teams from different departments, geographies, and organizations. The Internet and emergence of Web 2.0 capabilities has led organizations and individuals to work differently. To ensure project success, teams need the right information at the right time and require tools that support effective collaboration and communication. As a result, collaboration tools and techniques are fueling the next phase of project management evolution.

Organizations that hope to achieve increased efficiency and growth will benefit from employing effective collaboration techniques within their PPM processes, including the following:

- **Provide a central location for team collaboration.** With one location for project-related information, team members can quickly review project status, access related artifacts, and more effectively collaborate.
- **Package best-practice templates.** Organizations gain efficiency through standardization and by reusing project-related artifacts and processes based on best practices and lessons learned.
- **Effectively manage a variety of content.** In most organizations, information is growing exponentially and businesses require efficient ways to manage it. From faster access, enforced security, and improved control to reducing manual processes, Enterprise Content Management (ECM) helps organizations address all forms of information needs.
- **Simplify and enhance team communication.** With the growth of Web 2.0 implementation, and the Web's intersection with social behavior, individuals and teams are looking for ways to enhance and simplify team communication. Project teams can enhance communication by using blogs, wikis, discussion forums, and presence (with Microsoft Unified Communications).

Project Server 2010 is built on SharePoint Server 2010, and combines powerful business collaboration platform services with structured execution capabilities to provide flexible work management solutions (see Figure 67).

## Team Collaboration

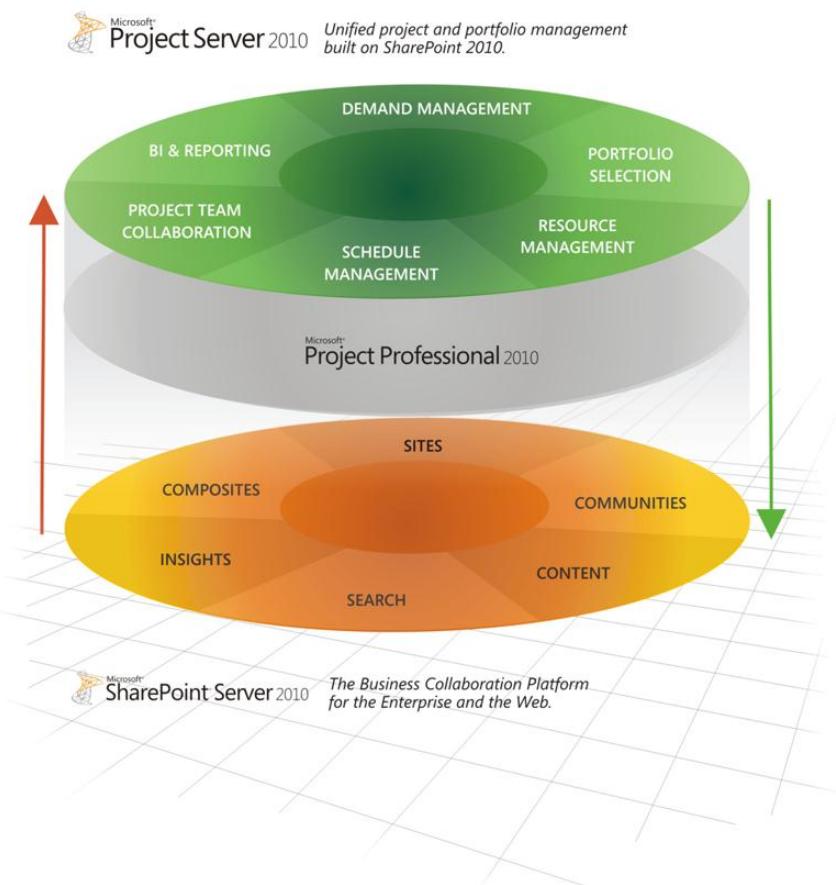


Figure 67. Project Server 2010 – Built on SharePoint Server 2010

Project Server 2010 provides organizations with a powerful framework for team collaboration to create a true work management platform. Building on top of SharePoint Server 2010 ensures that organizations can:

- Take advantage of the Microsoft BI platform to easily create reports and powerful dashboards.
- Create custom Project Site templates for each type of project to provide a one-stop collaboration workspace for the team.
- Control document review and approval throughout the workflow.
- Use enterprise search to make it easy to find people and effectively mine project data.
- Connect teams and enhance communication with wikis, blogs, discussion forums, and My Sites.

## Collaborate Using Project Sites

Project Server 2010 takes advantage of SharePoint Server 2010 team sites, ECM, and social computing capabilities to provide teams with a collaborative workspace—a Project Site—that contains project-related artifacts and helps teams communicate and share information throughout the project life cycle. With Project Server 2010 administrators can define custom Project Site templates and associate them

## Team Collaboration

with an Enterprise Project Type (see the [Demand Management](#) section). An IT project might require a different Project Site template than a business project. With this flexibility PMOs can standardize Project Site templates across the organization by embedding and reusing best-practice document templates and techniques to improve project delivery and team collaboration. Project Sites are highly configurable and can include preconfigured Web parts—for example, Team Calendar, Project Schedule, or Issues and Risk—and custom Web parts to better disseminate project information. Incorporating social computing techniques, such as blogs, wikis, and discussion forums into the Project Site helps managers and team members collaborate more effectively (see Figure 68).

Figure 68. Project Server 2010 – Project Site

The default Project Site includes the following components:

- **Documents.** A central location for storing and managing project documents throughout the project life cycle.
- **Issues and Risks Log.** A central location for effectively identifying and managing issues and risks. It promotes use of standard processes for definition, impact assessment, escalation, and resolution.
- **Deliverables.** Project managers can publish deliverables to the collaborative Project Site so that other managers can be aware of key dates and establish a soft dependency for their own plans. If

## Team Collaboration

the deliverable dates change, affected project managers are automatically notified the next time they open their project.

- **Team Calendar.** Helps the project manager visually communicate key meetings and recurring governance events, such as a weekly team meeting, to the project team.
- **Announcements.** An easy way to broadcast information to the project team.
- **Team Discussions.** Enable team members to openly communicate and debate topics within the Project Site. The discussion threads are maintained and can be viewed by the project team and stakeholders.

## Enterprise Content Management and Search

Project Server 2010 uses SharePoint Server 2010 ECM capabilities to ensure that teams can effectively manage documents and artifacts throughout the project life cycle. The enhanced ECM capabilities in SharePoint Server 2010 help organizations manage digital assets, documents, records and discovery, enterprise metadata, and Web content. Project Server 2010 provides a central location for storing and sharing project documents that helps reduce the number of manual processes a team uses, and eliminates metadata silos within an organization (see Figure 69). PMOs can establish enterprise standards by easily publishing best-practice document templates and artifacts to libraries to enhance efficiency, productivity, and governance.

Type	Name	Modified	Owner	Status	Modified By	Version
Word Document	Coding Practice <small>NEW</small>	2/2/2010 4:34 AM	Jan Kotas	1.0	Jan Kotas	1.0
Word Document	Cost Benefit Estimation Sheet <small>NEW</small>	2/2/2010 4:34 AM	Jan Kotas	1.0	Jan Kotas	1.0
Word Document	CostAndBenefits	1/12/2010 4:49 AM	Final	Jan Kotas	1.0	1.0
Word Document	Project Timeline <small>NEW</small>	2/2/2010 4:34 AM	Jan Kotas	1.0	Jan Kotas	1.0
Word Document	Requirement Analysis Template <small>NEW</small>	2/2/2010 4:34 AM	Jan Kotas	1.0	Jan Kotas	1.0

Figure 69. Project Server 2010 – Effectively manage an organization's content and documents

Project documents and artifacts can, in turn, be linked to the corresponding task in the project schedule (see Figure 70). Decisions can be made by using the latest information because team members have a central location for finding the information they need, when they need it. Built-in version control helps manage the document revision process, ensuring quick access to the most recent copy of all documents, while maintaining earlier iterations for reference. Flexible document workflow capabilities help minimize the typical e-mail routing and review cycles that most project teams experience today and provide a clear history of approvals and reviews on every major deliverable.

## Team Collaboration

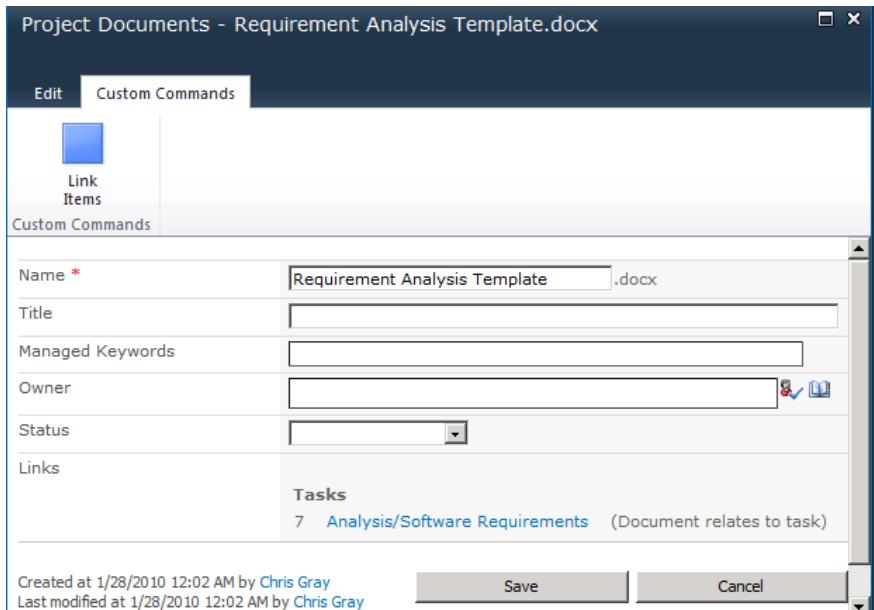


Figure 70. Link document with project tasks

Project Server 2010 can be configured to take advantage of sophisticated SharePoint Server 2010 search engine capabilities. The broad reach of search capabilities in SharePoint Server 2010 makes the most of your content and provides visual tools to deliver results. Enterprise search amplifies the impact of knowledge and expertise by delivering a platform for social computing, collaboration, ECM, and BI. Project teams can take advantage of platform search capabilities to more effectively mine project data and artifacts.

## Move Forward with Social Computing and Communication

Project Server 2010 takes advantage of SharePoint Server 2010 social computing enhancements to support and lend order to the explosive growth of new social behaviors on the Web. PMOs can use Web 2.0 techniques to enhance their governance processes and further enhance team communication and collaboration. Project teams have access to powerful social capabilities such as wikis, blogs, discussions, Project Sites, and portals that drive the user participation and interaction that fuel creativity and productivity (see Figure 71).

## Team Collaboration

The screenshot displays two windows from Microsoft Project Server 2010. The top window is titled 'Storage Planning and Management' and shows a Gantt chart for a project named 'Storage Planning and Manag 145-75d'. The chart spans from 3/2009 to 8/9/2009. Tasks include 'Determine project scope' (2d), 'Secure project sponsorship' (1d), 'Define preliminary resource' (1d), 'Secure core resources' (1d), 'Scope completed' (0d), 'Review Current Infrastr' (42d), 'Identify Target Areas fo' (2d), 'Identify hardware improv.' (5d), 'Identify software improv.' (5d), 'Identify communications' (5d), and 'Review business goals/direc' (1d). The bottom window is titled 'Team Blog' and shows a blog post titled 'Apr-2010 Update : Budget Complete' by Jan Kotas on April 28, 2010, at 3:02 AM. The blog post content is 'Apr-2010 Update : Budget Complete'. A large black arrow points downwards from the Project Server window to the Team Blog window.

Figure 71. Project Server 2010 – Example of a blog used to convey project information

Project and functional teams can use blogs to provide frequent updates on project activities such as recurring status reports and key announcements. Discussion forums ensure that team members can easily communicate with each other by using the Project Site. Wikis can provide an overview of all phases and steps within the governance process.

## Issues and Risk Management

### Issues and Risk Management

An important part of any complete project management methodology is prevention, identification, and mitigation of potential business or project-related risks and issues. Project delivery can be significantly affected if organizations do not adopt best-practice risk and issue management processes to stay informed and in control.

Adopting best-practice methodologies helps organizations accomplish the following:

- **Define a standard way to assess risk for new initiatives.** Risk ratings, along with strategic value and financial value, are the main variables used to assess projects during portfolio selection analysis. Organizations need a consistent approach to deriving risk scores and weights for proposed initiatives.
- **Standardize project risk collection and management.** To successfully manage project risk, project managers require centralized and standardized methods for capturing risk information and document mitigation strategies throughout the project life cycle. A centralized log of all project risks makes risk easier to manage and provides the necessary transparency to leadership and project teams.
- **Establish proper issue resolution and escalation.** No matter how well planned and managed a project is, unexpected events can arise. As with risk management, a centralized and accessible location for capturing all project issues provides the project manager and the team with the necessary tools to effectively manage issues and to reach resolutions.

The Microsoft EPM Solution supports risk identification from the earliest stage of portfolio analysis through the final stages of project execution and benefit realization. Project Server 2010 provides a central location for effectively identifying and managing issues and risks. It promotes use of standard processes for definition, assessment, escalation, and resolution of issues and risks.

### Portfolio Risk Analysis

Project Server 2010 includes flexible tools for standardizing risk definition and measurement. At the portfolio level, risk represents the level of uncertainty involved in the overall success of the endeavor. Each organization has a unique definition of its risk tolerance that it will adapt to specific market conditions and opportunities. By using a standard methodology to assess its risks, the organization will have a solid, credible method for decision making during portfolio selection and in later analysis of the portfolio. Project Server 2010 provides a variety of ways to capture a risk score and weight for competing projects. PMOs can simply use custom fields to allow the user to subjectively capture a risk score—for example, between 0 and 100—or even to simply specify a risk rating, such as High, Medium, or Low. Using InfoPath Forms Services, administrators can define objective online risk assessment questionnaires that are included within the business case for each project (see Figure 72). By answering all risk questions, a risk score and weight can be automatically derived and used to analyze projects.

# Issues and Risk Management

during portfolio selection. Risk metrics are also available to include in a variety of visual reports, like scorecards and bubble charts.

The screenshot shows a Microsoft Project Server 2010 interface. At the top, there's a navigation bar with links for 'Forms' (which is selected), 'Project', 'Edit', 'Give Feedback', and a user 'Jan Kotas'. Below the navigation bar is a toolbar with icons for 'Edit', 'Save', 'Close', 'Status', 'Submit', 'Options', 'Project Site', 'Build Team', 'Issues', 'Deliverables', 'Project Permissions', 'Risks', 'Resource Plan', 'Previous', 'Next', and 'Page'. On the left, a sidebar menu lists various project management categories: E-CRM Solution, Projects, My Work, Resources, Strategy, Settings, and Documents. Under 'Risk Evaluation', there are links for Project Details, Strategic Impact, Cost and Benefit, and Risk Evaluation. The main content area is titled 'Risk Evaluation Form' and contains three tabs: 'Business Risk' (selected), 'Technology Risk', and 'Implementation Risk'. The 'Business Risk' tab includes sections for '1. Previous Experience', '2. Legal Framework', '3. Funding', and '4. Business Case'. Each section contains several questions with radio button options. At the bottom right of the form is a 'Submit' button.

Figure 72. Project Server 2010 – An InfoPath Forms Services risk assessment survey

## Project Risk Management

Project Server 2010 helps standardize risk identification and management across the enterprise and contributes to the overall successful delivery of projects with less harmful effect from unforeseen or poorly managed events. Project Server 2010 provides a standardized risk collection mechanism to identify, manage, track, and mitigate risks throughout the project or program life cycle. A Risk list is included in the Project Site template.

A project risk can be defined as a potential event that, if it occurs, might have a negative impact on a project's success. Proactive risk management involves identifying and qualifying risks related to a project using industry-standard probability/impact definitions and fields. It is important that organizations identify and manage risks at all appropriate levels: project, program, and portfolio. The Project Server

# Issues and Risk Management

2010 standardized risk form provides a set of common fields for risk identification and management (see Figure 73).

The screenshot shows a Microsoft Project Server 2010 Risks form within a SharePoint interface. The title bar reads "Risks - Windows Internet Explorer". The URL in the address bar is "http://moss.contoso.com/PWA/E-CRM%20Solution/Lists/Risks/AllItems.aspx". The left navigation pane shows "E-CRM Solution > Risks : All Items". The main content area is titled "Risks - New Item". It contains fields for "Title" (Sponsor not available for review), "Owner" (Jan Kotas), "Assigned To" (Jan Kotas), "Status" (Active), "Category" (Category2), "Due Date" (12 AM), "Probability" (80%), "Impact" (5), "Cost" (0), and "Description" (Sponsor will be out of country for next 2 weeks which will cause the team to miss a review cycle). Below the description is a section for "Mitigation Plan". The top menu bar includes "Edit", "Custom Commands", and standard file operations like Save, Cancel, Paste, Copy, Attach File, Actions, and Spelling.

Figure 73. Project Server 2010 – Risks form

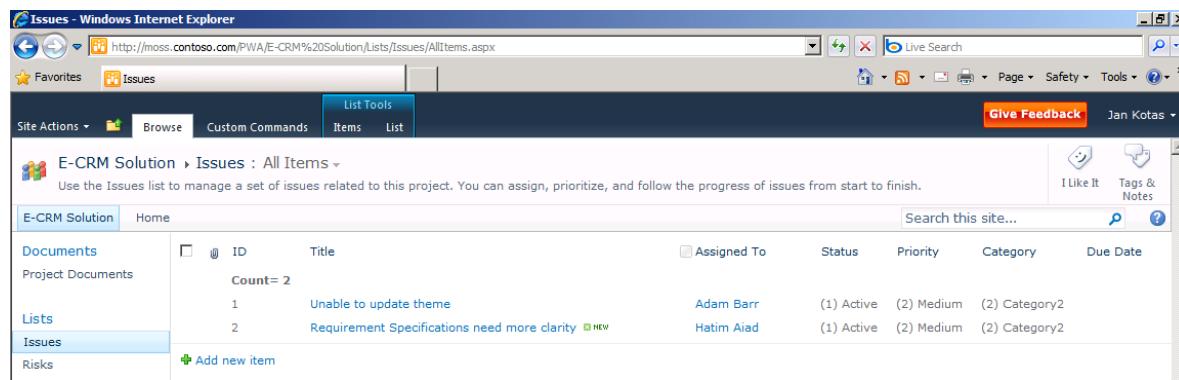
Project managers and team members can use the Project Server 2010 Risks form to identify project risks and to capture their potential impact and probability of occurrence. After risks are identified, appropriate mitigation plans can be documented and managed from the same central location so that all involved stakeholders can be aware of status and next steps. SharePoint Server workflows and e-mail notifications can be used to escalate risks and to notify essential individuals within the organization to become involved as needed. The establishment of escalation processes makes risk management efficient and effective. It can provide timely notification to leadership when their support and attention is needed while providing project managers with the proper level of autonomy to manage projects. Organizations can easily customize views and create powerful reports to expose high-probability and high-impact risks to executive leadership to help address them early.

Project Server 2010 gives an organization a comprehensive platform to proactively manage its risks. The need for time-consuming data collection and reporting is reduced because the information is readily accessible.

# Issues and Risk Management

## Issue Management

Regardless of how comprehensive and proactive project and risk management processes are, unpredictable scenarios and events outside of our control still occur. Project Server 2010 provides a standardized issues collection mechanism that helps organizations identify, manage, track, and resolve issues throughout the project or program life cycle. An Issues list is included in the standard Project Site template. Having a centralized log of all project-related issues provides a designated location where everyone can contribute and review. Using the Issues list, project managers can review the issues, assign appropriate individuals to work on resolutions, and set deadlines to drive dates and decrease the impact on a project's success (see Figure 74).

A screenshot of a Microsoft Project Server 2010 interface titled "Issues - Windows Internet Explorer". The URL in the address bar is "http://moss.contoso.com/PWA/E-CRM%20Solution/Lists/Issues/AllItems.aspx". The page shows a list of issues under the heading "E-CRM Solution > Issues : All Items". The list includes columns for ID, Title, Assigned To, Status, Priority, Category, and Due Date. Two items are listed: "Unable to update theme" assigned to Adam Barr with status Active, priority Medium, category Category2; and "Requirement Specifications need more clarity" assigned to Hatim Aiad with status Active, priority Medium, category Category2. A link "Add new item" is at the bottom. The left navigation bar shows "Documents", "Lists", "Issues" (which is selected), and "Risks".

ID	Title	Assigned To	Status	Priority	Category	Due Date
1	Unable to update theme	Adam Barr	(1) Active	(2) Medium	(2) Category2	
2	Requirement Specifications need more clarity <small>NEW</small>	Hatim Aiad	(1) Active	(2) Medium	(2) Category2	

Figure 74. Project Server 2010 – Issues list

## Business Intelligence and Reporting

### Business Intelligence and Reporting

With an immense amount of data located in a variety of systems, one of the great challenges organizations face is how to collect, categorize, understand, and make decisions about project data. Conventional reporting offers tools and methods for collecting, aggregating, displaying, and communicating data. Business Intelligence (BI) takes that concept to the next level by providing visibility and helping organizations with decision support for proactive work management.

BI is a rapidly evolving discipline. Its effectiveness depends on an organization's ability to pull together accurate information in real time that is standardized and tailored to the needs of the audience.

Organizations face many challenges in obtaining the right tools and data to meet their business intelligence and reporting needs, including the following:

- **Lack of standard metrics for measuring performance.** Organizations require standardized metrics to proactively monitor and address problems by using key performance indicators (KPIs). Without standardized metrics it becomes difficult to compare projects, recognize problems, roll up key data to the program or portfolio level, and provide cohesive reporting to executive management.
- **Time-consuming, manual report generation.** Automating the reporting process means that PMOs and project managers will not spend valuable time gathering and assembling up-to-date project progress data and manually preparing project and portfolio reports.
- **Specialized skill sets are required to build reports.** The problem with many reporting solutions is that they are difficult to use and require highly specialized, technical resources. This creates a strong dependency on certain resources being available and requires sufficient planning, which can lead to delays and bottlenecks.
- **It's difficult to create on-demand reports.** PMOs often have to accommodate and react to fire drills and, as a result, need powerful reporting tools to effectively mine data and easily produce and distribute reports as required.
- **Lack of reusable reports and best practices.** Organizations need to be able to generate, share, and reuse best-practice template reports. Selecting from the same set of best-practice reports promotes efficiency and the ability to adapt common formats into reusable templates at any level—individual, team, department, and enterprise.

By standardizing the collection of data and performance metrics in a central repository, PMOs can more easily facilitate enterprise reporting. Project Server 2010 includes a variety of online views, such as Project Center, Resource Center, and Portfolio Analysis, in addition to powerful BI and reporting services to help organizations gain insight, visibility, and control across all project portfolios. Because Project Server 2010 is built on SharePoint Server 2010, users can take advantage of all the tools included in the Microsoft BI platform, such as Excel Services, PerformancePoint Services, Visio Services, PowerPivot for Excel, SQL Reporting Services, and more. The flexible Microsoft BI solution provides nontechnical

## Business Intelligence and Reporting

resources with familiar tools to easily create reports and configure powerful dashboards, while providing technical resources with more sophisticated capabilities to create complex views.

Project Server 2010 includes a dedicated reporting database that stores project and portfolio data to ensure access to up-to-date information. PMOs can satisfy LOB reporting requirements by using departmental cubes, so decision makers can focus on their data, eliminate unnecessary clutter, and ensure faster build times. The improved Business Intelligence Center in Project Server 2010 includes a library of preconfigured best-practice template reports. Nontechnical resources can get started quickly by customizing the templates in a familiar Excel editor and then simply publish the report using Excel Services to be incorporated into dashboard views. PMOs can create intuitive audience-based dashboards to ensure that managers receive relevant and useful information. Resources who are more technical can use more sophisticated tools, such as SQL Server Reporting Services, to create complex reports—for example, monthly reporting packs—to meet the organization's unique requirements.

## Project Controls and Performance Measurement

Powerful BI solutions quickly become redundant if the required data is not available or if the accuracy of the information is questionable. Without first standardizing the collection of data and metrics, it becomes difficult to effectively measure project and portfolio performance and to facilitate enterprise reporting. Automating the collection of accurate status information helps organizations focus on delivering projects on time and within budget, rather than engaging in manual, time-consuming efforts to gather data to drive status reports.

Project Server 2010 helps organizations standardize data collection and performance metrics across the enterprise and streamlines status reporting through easy-to-use Web-based tools. Automating and standardizing data collection ensures the availability of up-to-date and accurate information to drive enterprise reporting and controls.

Project Server 2010 ensures that PMOs can define consistent KPIs using custom enterprise fields to measure the overall health of initiatives. Depending on the culture of the organization, the color of the indicators—red, amber, and green—can be derived through formulas or be manually selected by the project manager. Common indicators include overall health, budget, resource, schedule, quality scope, and risk. Performance indicators can be displayed in the project schedule or in the configurable scorecard views to provide stakeholders with an overview of portfolio- and project-level performance (see Figure 75).

# Business Intelligence and Reporting

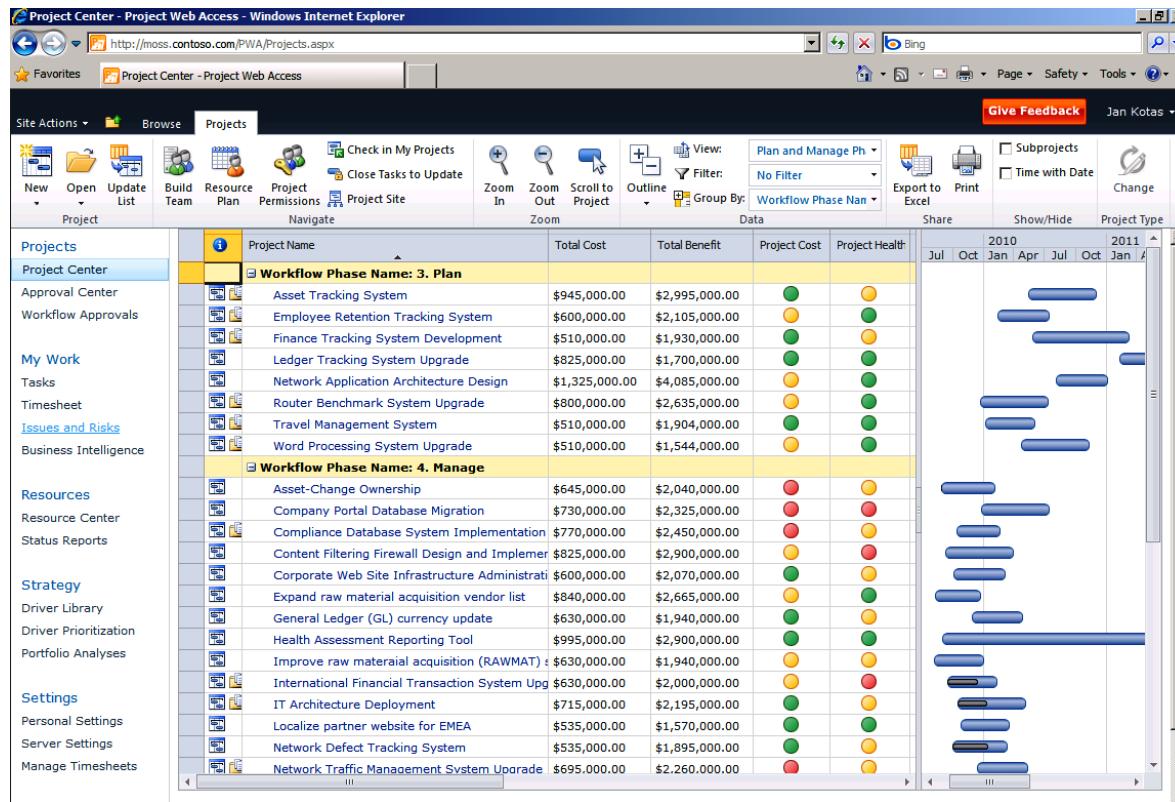


Figure 75. Project Server 2010 – Configurable Project Center view

Organizations often face the challenge of not having real-time information at hand with which to make appropriate decisions and the need to react quickly to certain situations or events. To help address this need, Project Server 2010 offers automated methods of time, task, and status reporting so team members can provide project managers with real-time progress data. With Project Server 2010 project managers can create custom status reports to collect and combine progress updates from team members (see Figure 76). The project manager can define the recurrence of the status report—weekly, monthly, annually, and so on—select the resources, and define the categories—for example, Major Accomplishments, Objectives for Next Period, and Hot Issues—that need to be included in the report. This approach sets clear expectations and responsibilities within the project team, in addition to automating status collection for the project manager. Using status reporting tools, project managers can exercise a “no surprises” approach to project execution and keep sponsors and executive leadership always up to date. For more information about time and task reporting, see the [Time and Task Management](#) section.

## Business Intelligence and Reporting

The screenshot shows a Microsoft Project Web Access window titled 'Status Report Request'. The URL is http://moss.contoso.com/pwa/\_layouts/pwa/statusreports/SRRequest.aspx. The page has a header with the contoso logo, 'Project Web Access > Status Report Request', and a 'Give Feedback' button. It includes standard SharePoint navigation like Site Actions and a ribbon tab for 'Project Web Access'. The main content area contains fields for 'Report Title' (set to 'Payroll System Upgrade Status Report'), 'Frequency' (set to weekly), 'Start Date' (set to 2/15/2010), and 'Resources' (a list of available resources: David Pelton, Denise Smith, Dimple Arya, Diogo Andrade, Don Funk, Jerry Price, Ed Barto, with one resource selected: Amy Strande). Buttons for 'Send' and 'Cancel' are at the bottom.

Figure 76. Custom Status Report created by the project manager

## Easily Create Reports and Build Powerful Dashboards

Project Server 2010 includes powerful BI and reporting services to help organizations gain insight, visibility, and control across all project portfolios. Because Project Server 2010 is built on SharePoint Server 2010, organizations can take advantage of all the tools included in the Microsoft BI platform, such as Excel Services, PerformancePoint Services, Visio Services, the PowerPivot Excel add-in, and SQL Server Reporting Services. This flexible BI solution provides nontechnical and technical resources with familiar tools to intuitively create reports and easily configure powerful dashboards.

The new Project Server 2010 Business Intelligence Center includes a Reports Library with preconfigured best-practice report templates, so it is easier to get started (see Figure 77). The best-practice templates include common reports such as Issues and Risks, Timesheet Actuals, Simple Project List, Resource, Deliverables, and more. Using the Report Library, PMOs can easily add new report templates, and share and reuse best-practice report templates across the enterprise.

# Business Intelligence and Reporting

The screenshot shows a Microsoft Project Server 2010 interface within a Windows Internet Explorer browser window. The title bar reads "English (United States) - Windows Internet Explorer". The address bar shows the URL "http://moss.contoso.com/PWA/ProjectBI.Center/Sample%20Reports/Forms/AllItems.aspx?RootFolder=%2FPWA%2FProjectBI.Center%2FSa...". The page header includes "Give Feedback", "Jan Kotas", and navigation links for "Site Actions", "Browse", "Custom Commands", "Documents", and "Library". Below the header, a message states: "This documents library contains Project Server out of the box Excel sample reports. These reports are generated automatically and may be replaced by future patches and service packs." A search bar "Search this site..." is present. The main content area displays a list of "Sample Reports" under the "Dashboards" category. The list includes:

Type	Name	Modified	Modified By
Excel	Deliverables	1/4/2010 4:20 PM	System Account
Excel	IssuesAndRisks	1/4/2010 4:20 PM	System Account
Excel	MilestonesDueThisMonth	1/4/2010 4:20 PM	System Account
Excel	RejectedProjectsList	1/4/2010 4:20 PM	System Account
Excel	ResourceCapacity	1/4/2010 4:20 PM	System Account
Excel	SimpleProjectsList	1/4/2010 4:20 PM	System Account
Excel	TimesheetActuals	1/4/2010 4:20 PM	System Account
Excel	TopProjects	1/4/2010 4:20 PM	System Account
Excel	WorkflowChart	1/4/2010 4:20 PM	System Account
Excel	WorkflowDrillDown	1/4/2010 4:20 PM	System Account

Buttons for "Add new document" and "Add new item" are visible at the bottom of the list.

Figure 77. Project Server 2010 – Business Intelligence Center (sample reports)

Users can simply click and open the required report template in a familiar Excel editor. Because data connections are already established, the user can intuitively customize the report by selecting and arranging the required data and using the PivotTable field list in Excel.

Updated reports can be saved in the Reports Library, published using Excel Services, and made available as a Web part to be integrated into various dashboard views. Users with appropriate permissions can build powerful dashboards by selecting and arranging the required Web parts within configurable dashboard views (see Figure 78).

The screenshot illustrates the process of creating a report in Microsoft Excel and publishing it to a dashboard. On the left, a Microsoft Excel window titled "ProjectsByPhaseFinal - Microsoft Excel" shows a bar chart titled "Projects By Phase" with the following data:

PhaseName	ProjectsCount
1. Create	12
2. Select	13
3. Plan	4
4. Manage	19

The PivotTable Field List on the right shows fields: "PhaseName" and "ProjectsCount". On the right, a Microsoft Project Server 2010 dashboard titled "IT Department KPIs" is displayed, featuring the same bar chart and a "Cost vs Benefits" chart comparing costs and benefits from 2009 to 2012.

Figure 78. Project Server 2010 – Easily create reports and build powerful dashboards

The Project Server 2010 BI capabilities help PMOs create powerful dashboards that provide executives with an at-a-glance summary across the organization. Managers can use KPIs to highlight areas of concern and executives can examine details at the department, program, and project level to identify root causes and take corrective action.

## Business Intelligence and Reporting

In addition, Project Server 2010 offers the flexibility to filter content based on a specific user or role. Audience-based Web parts and dynamic content filtering make it easy to discover and share relevant information with people based on their role within the organization. For example, a CIO could view IT-specific information by default, whereas departmental managers may want to see a dashboard that displays project metrics for their lines of business.

### Effectively Mine Data and Create Sophisticated Reports

Project Server 2010 BI capabilities not only make it easier for nontechnical resources to build reports, but also provide sophisticated tools to meet an organization's custom reporting requirements. PMOs often have to react to fire drills and quickly access up-to-date data to provide complex reports to key executives.

Project Server 2010 provides access to up-to-date data by storing both project and portfolio information, including business case metrics and custom fields, task, resource, and timesheet data in a dedicated reporting database. Administrators can create Office Data Connections (.odc) files that aggregate data from the reporting database and from LOB systems to ensure that real-time and accurate data is available to drive enterprise reporting.

By simplifying access to the right data, Project Server 2010 makes it easier to generate on-demand reports without engaging specialized and highly technical skill sets to build the right reports. PMOs, department leads, and project managers can rapidly respond to business needs using the Project Server 2010 reporting infrastructure to create a variety of project and portfolio reports.

IT pros can continue to use tools like SQL Server Reporting Services to meet complex reporting requirements. Reporting Services is ideal for creating scheduled reports, such as monthly reporting packs for executives, and for sending e-mail reports to relevant stakeholders.

The new departmental cubes in Project Server 2010 help PMOs better satisfy LOB reporting requirements. Managers can use Departmental fields to filter project data and resources by LOB so decision makers can focus on their data, eliminate unnecessary clutter, and provide better performance and build times.

# Program Management

## Program Management

*Program management* is a term that means different things to different people. A program can refer to ongoing operational or functional work, or a large project—it can even represent a strategic direction. In this guide, a program is a group of related projects that share a common objective—for example, a global ERP deployment program could include underlying projects for deployment by country. Each project within a program has its own set of goals that when combined with each other deliver the forecasted benefits of the overall program. Program management techniques frequently are engaged in as a distinct initiative, to provide visibility and control across underlying in-flight projects. These techniques can be referred to simply as program execution capabilities. However, organizations can derive additional benefit from establishing program mobilization techniques that provide a program initiation and selection framework before breaking down the program into its underlying projects.

Because programs are often misinterpreted and can be difficult to define, they have a unique set of challenges that include the following:

- **Mobilization and selection.** Often, requests are initiated at the program level before being broken down into discrete, actionable projects. To facilitate this top-down planning process, organizations need to centralize the collection of program requests and standardize the metadata captured in business cases.
- **Clarifying program and project controls to improve efficiency.** Organizations need to adapt best-practice program management methodologies to establish processes, define appropriate levels of control, and effectively manage initiatives. Program management must balance control and oversight with adequate project management authority, so that project managers can effectively execute their projects while supporting the overall program goal.

The Microsoft EPM Solution provides an organization with the tools to effectively initiate, plan, and manage large programs and their underlying projects to a successful conclusion. The enhanced demand management capabilities and powerful portfolio selection techniques of Project Server 2010 ensures that PMOs can centralize the collection of program requests, standardize metadata collected in program-level business cases, and run what-if analyses to help executives finalize funding decisions under various budgetary constraints.

After finalizing funding decisions, managers can use Project Server 2010 and Project Professional 2010 to define detailed schedules for the underlying projects within the program and to find resources who have availability to participate on the project team. By using Master Projects, a program manager can quickly consolidate all projects into a single master program plan to maintain visibility and control across the entire schedule, identify critical interdependencies, and quickly drill down into each project for more detail.

# Program Management

The enhanced collaboration capabilities of Project Server 2010 help teams communicate more effectively through program-level workspaces; better manage documents throughout their life cycle; and easily escalate issues and risks to program stakeholders. Project Server 2010 includes a variety of online views and powerful BI and reporting services to help organizations gain insight, visibility, and control at both the project level and the program level.

## Mobilization: Capture, Prioritize, and Select Programs

Project Server 2010 provides the necessary tools to establish program-level initiation and selection governance processes. Programs often require a unique set of standards because they typically require a multi-year commitment and multi-department involvement. PMOs can take advantage of the flexible demand management capabilities of Project Server 2010 to define project templates, such as Enterprise Project Types (EPTs), for program requests; create the required online forms, such as Project Pages, to be included in business cases; and build governance workflows to control programs through their initiation and selection stages. Similarly to projects, a program-level business case in Project 2010 can include custom fields to capture basic information, cost and benefit assessments, resource estimates, risk assessments, strategic impact assessments, and more. For more information about Project Server 2010 project and portfolio initiation capabilities, see the [Demand Management](#) section.

After centralizing the collection of program-level requests, analysts can take advantage of Project Server 2010 portfolio analytical capabilities to finalize funding decisions across the various program requests. The powerful portfolio selection and analytical capabilities in Project Server 2010 help PMOs prioritize programs from multiple dimensions, optimize the portfolio under diverse budget constraints, and objectively finalize funding decisions. For more information about how Project Server 2010 can help organizations select initiatives that best align with their strategic priorities, see the [Portfolio Selection and Analytics](#) section.

## Execution: Program Delivery

Project Server 2010 provides powerful scheduling, resource management, team collaboration, and reporting capabilities for planning, managing, and tracking initiatives at the project and program levels. After finalizing funding and selection decisions at the program level, managers can easily break down the program into its underlying projects. Project managers can use Project Professional 2010 to construct detailed schedules and identify the project team for each of the underlying initiatives within a program. By using a Master Project, the program manager can quickly consolidate all projects into a single, master program plan. A Master Project can help the program manager maintain visibility and control across the entire program schedule, easily identify critical tasks and interdependencies, and quickly examine each project for additional, specific information (see Figure 79).

# Program Management

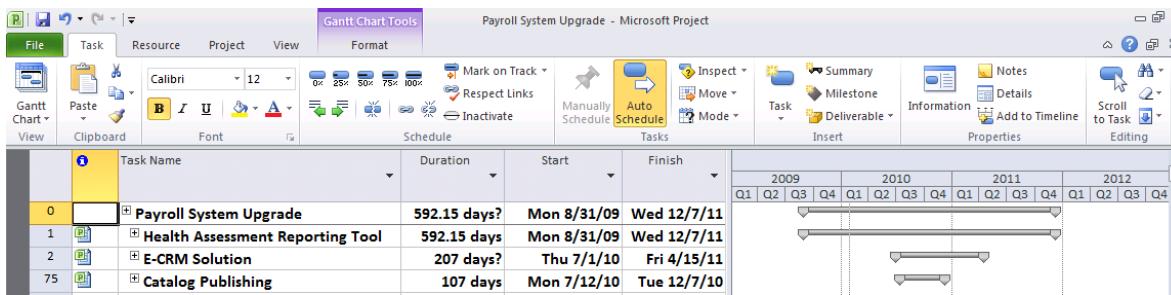


Figure 79. Project Professional 2010 – Master Project

PMOs can create Project Sites at the program level to improve team collaboration and communication. Project Sites are highly configurable and can include standard Web parts—for example, Team Calendar, Project Schedule, and Issues and Risk—and custom Web parts to better disseminate program information. Also, using social computing techniques, such as blogs, wikis, and discussion forums within the Project Site helps managers and teams collaborate more effectively. For more information about Project Sites, see the [Team Collaboration](#) section.

Project Server 2010 BI capabilities help PMOs create powerful dashboards that provide executives with a concise summary across the organization. KPIs help highlight areas of concern and executives can then drill down to the department, program, and project level to identify causes and take corrective action. For more information about reporting, see the [Business Intelligence and Reporting](#) section.

## Scalable, Connected, and Programmable Platform

When vetting project and portfolio Management (PPM) solutions, evaluation committees assess competing products from a business perspective, and through an IT lens. PPM solutions must score well in both categories to be successful, to help ensure that the product's functionality meets business requirements, aligns with the organization's IT requirements, and integrates seamlessly with line-of-business applications.

When choosing a comprehensive PPM solution, organizations look for the following:

- **Simplified administration and flexibility.** Organizations need PPM platforms to be flexible to help ensure that they can easily be configured to automate the organization's unique processes and meet custom reporting requirements.
- **A connected work management platform.** Depending on their roles and preferences, employees and teams will use a variety of productivity tools to receive and complete work. Organizations require a PPM solution that can connect with common productivity tools so that users can continue working in their preferred environment, and so they can easily provide updates to facilitate enterprise resource management and reporting.
- **Enterprise scalability and performance.** Organizations require a PPM solution that can scale and support deployments at the departmental and enterprise level; meet peak use scenarios; handle large volumes of data; perform across wide area networks (WANs); and support and empower the mobile workforce.
- **An extensible and programmable platform.** Often organizations customize their PPM solution to automate their unique requirements or to effectively integrate with third-party or homegrown systems to maintain data integrity. Leading PPM solutions need to provide an open application programming interface (API) in addition to developer tools and resources to support custom development activities.

The Microsoft EPM Solution provides a scalable, connected, and extensible platform that has the flexibility to meet most business requirements and align with the organization's enterprise architecture standards. With the familiar SharePoint user interface in Project Server 2010 and the Ribbon interface in Project Professional 2010, it is even easier for users to get started, and thereby reduce training requirements, and drive adoption and satisfaction. The EPM Solution connects with related Microsoft technologies to provide a familiar and unified work management platform, helping to ensure that organizations gain additional value from their Microsoft platform investments.

Project Server 2010 simplifies administration through an improved console that provides one-stop-shopping for both project and portfolio management capabilities. Improved administration helps ensure that PMOs can spend less time managing the PPM system and instead focus on monitoring the PPM process. The enhanced Project Server 2010 API, Project Server Interface (PSI), and connection with

## Scalable, Connected, and Programmable Platform

SharePoint Server 2010 and Visual Studio 2010 provide developers with the required tools and resources to integrate with third-party systems and successfully build and deploy custom solutions. The EPM Solution builds on the scalability and performance improvements of Project 2007 to continue to meet the needs of large, distributed organizations.

### Familiar User Interface Improves Adoption and Satisfaction

The Microsoft EPM Solution provides users with a familiar and consistent interface across Project Server 2010 and Project Professional 2010 to help enhance productivity, reduce training costs, and drive adoption and satisfaction.

Because Project Server 2010 is built on SharePoint Server 2010, the portfolio selection and analytical modules in Project Server 2010 have a consistent SharePoint user interface, helping to ensure a uniform experience across bottom-up and top-down PPM capabilities (see Figure 80). Like SharePoint, the Project Server user interface supports the following languages:

- English
- Arabic
- Brazilian
- Chinese (Simplified)
- Chinese (Traditional)
- Czech
- Danish
- Dutch
- Finnish
- French
- German
- Greek
- Hebrew (Enabled)
- Hungarian
- Italian
- Japanese
- Korean
- Norwegian (Bokmal)
- Polish
- Portuguese (European)
- Russian
- Spanish
- Swedish
- Turkish

## Scalable, Connected, and Programmable Platform

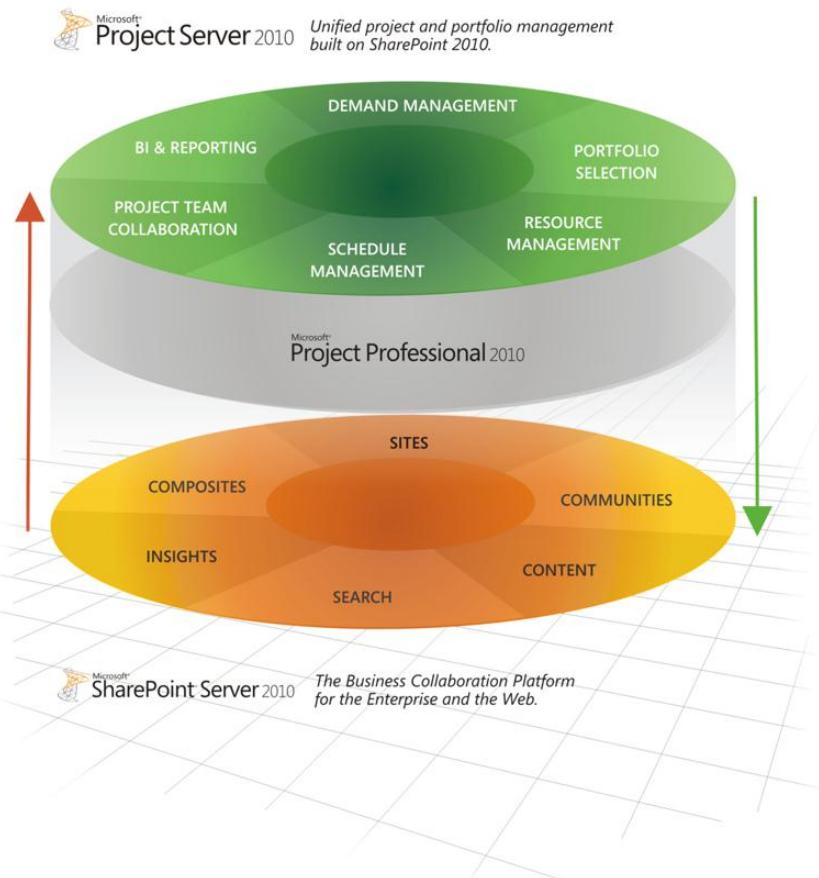


Figure 80. Project Server 2010 – Built on SharePoint Server 2010

The Ribbon interface in both Project Server 2010 and Project Professional 2010 provides users with a familiar experience, whether they access Project capabilities through the browser (see Figure 81) or by using the powerful desktop scheduling tool.

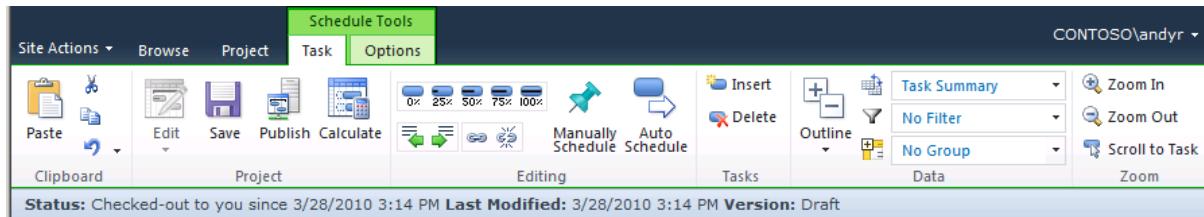


Figure 81. Project Professional 2010 – The Ribbon interface for Web-based editing

The simple and intuitive Ribbon helps users quickly realize results and work more efficiently; the tools that they need to plan and manage their projects are always at their fingertips. Contextual menu groups reveal powerful features, so it is easier to get started and to reduce training costs (see Figure 82).

## Scalable, Connected, and Programmable Platform

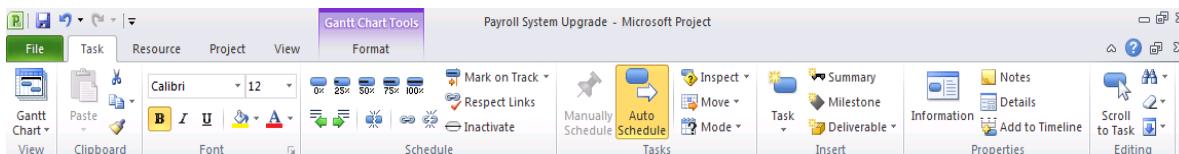


Figure 82. Project Professional 2010 – The Ribbon interface

The Project Server 2010 left menu bar has been redesigned to better group related capabilities, for an enhanced user experience (see Figure 83).



Figure 83. Project Server 2010 – New left menu bar

## Connected Work Management Solution

Microsoft recognizes that user preferences and roles within the organization will directly affect the productivity tools they choose to use to complete tasks. We know that there is no such thing as a one-size-fits-all PPM solution. The Microsoft EPM Solution connects with related Microsoft technologies to provide a familiar work management platform. This ensures that teams can choose their preferred productivity tools, and easily receive tasks and provide status updates to project stakeholders, with minimal effort and administrative overhead. This flexibility helps drive team productivity and ensure that project managers and PMOs can effectively gather the required data to drive enterprise reporting and resource management. Connecting with the following related Microsoft technologies ensures that customers can connect disparate teams and gain additional value from the Microsoft platform.

## SharePoint Server 2010

As mentioned throughout this guide, Project Server 2010 is built on SharePoint Server 2010, and brings together powerful business collaboration platform services and structured execution capabilities to provide flexible work management solutions. This connection provides organizations with all the tools

## Scalable, Connected, and Programmable Platform

and services they need to fully automate their PPM processes (see Figure 84). The connection between the products also provides additional benefits for small teams that run lightweight projects. Occasional project managers can use SharePoint Server 2010 task lists to manage simple projects and tasks, without calling on the full rigor of Project Server 2010. However, a SharePoint task list can easily be imported into Project Server 2010 at any time if the team requires additional capabilities, or the manager can continue to execute the project in SharePoint Server 2010 and sync status updates (with Project Server 2010) to facilitate enterprise resource management and reporting.

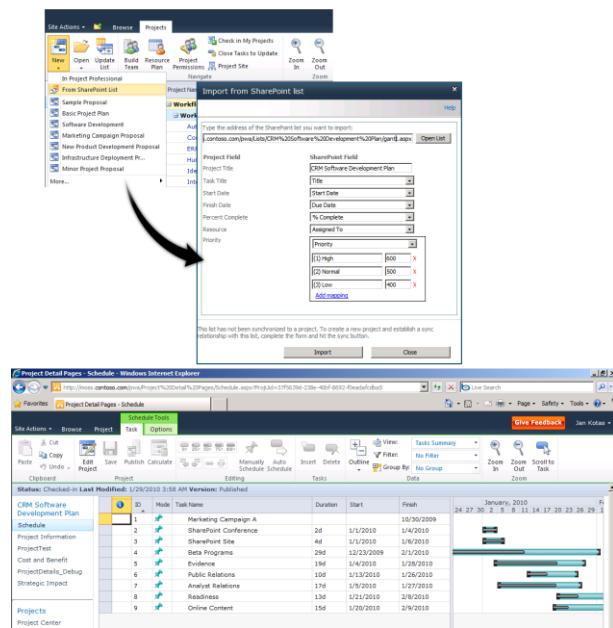


Figure 84. Project Server 2010 – Lightweight project visibility and tracking using a SharePoint task list

## Sync Project Professional 2010 with SharePoint 2010

Project 2010 facilitates synchronization between Project Professional 2010 and SharePoint Foundation 2010 (formerly Windows SharePoint Services) or SharePoint Server 2010 so that project schedules can be centrally managed for enterprise visibility at the program, project, and resource level.

Project teams can improve productivity by automating bidirectional status updates between Project Professional 2010 and SharePoint products. Managers can save projects to a SharePoint Foundation 2010 task list, and then map resource assignments on project tasks to SharePoint users on their project team. Team members can choose to receive e-mail notifications of assignments, or see their assignments when they visit the SharePoint Foundation 2010 task list.

Team members can directly update their progress and other task information in SharePoint Foundation 2010 to sync with Project Professional 2010. Project managers choose when to sync updates from team members into their project plans—on demand or at regularly scheduled intervals. Project 2010 helps resolve any conflicts in task information that are identified during synchronization.

# Scalable, Connected, and Programmable Platform

You can now open any SharePoint task list in Project Professional 2010 (see Figures 85 and 86), and a bidirectional synchronization is automatically created between the client and the SharePoint task list.

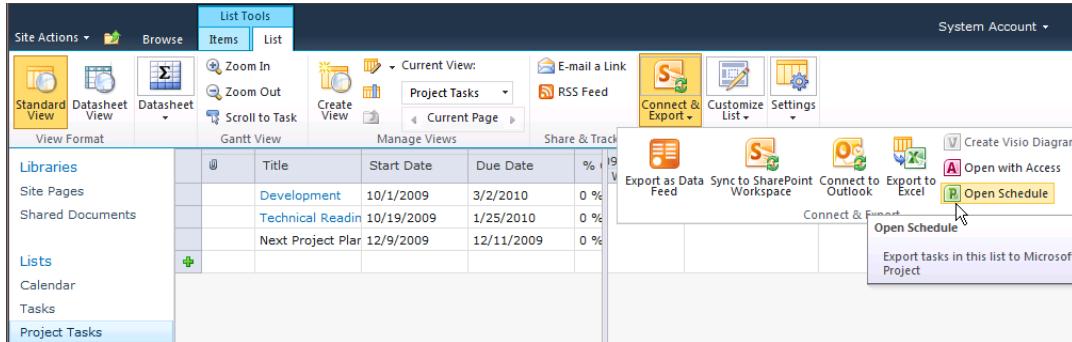


Figure 85. SharePoint Foundation Server 2010 – Open task list in Microsoft Project

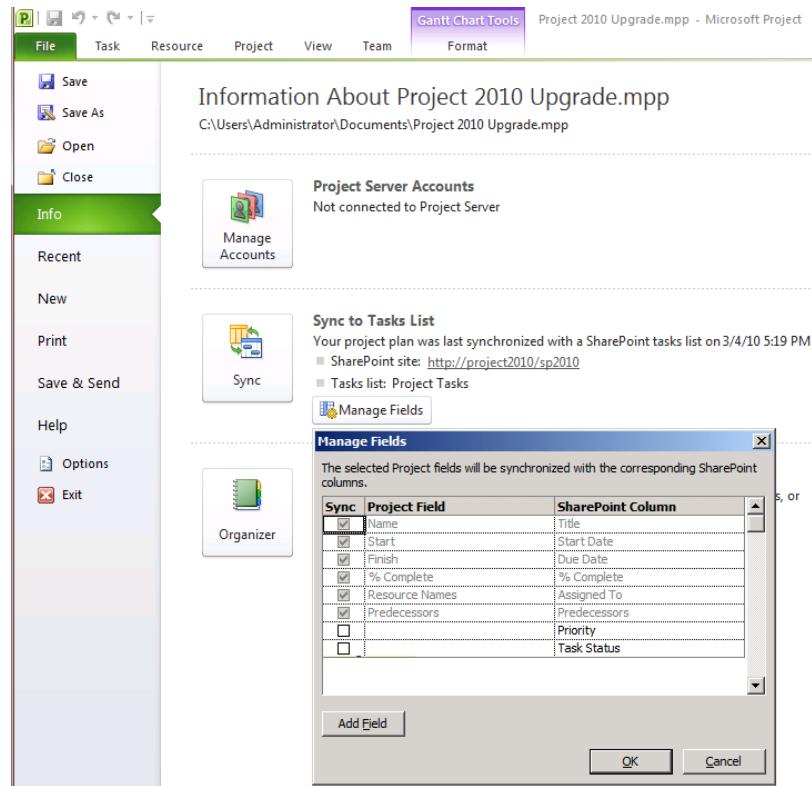


Figure 86. Project Professional 2010 – Sync to task list

Syncing team task status updates through SharePoint Foundation 2010 saves organizations money, time, and effort—some of their most valuable resources. It enhances communication between managers and team members, and makes that communication flexible and as frequent as the project manager needs it to be.

## Scalable, Connected, and Programmable Platform

### Exchange Server

Project Server 2010 includes native interoperability with Exchange Server (Microsoft Exchange 2010 or Microsoft Exchange 2007 with Service Pack 2) to help ensure that team members can choose to receive and update their tasks in Outlook (see Figure 87). Project Server 2010 tasks are displayed in Outlook as tasks and are conveniently grouped by project name. Team members can easily receive notifications and quickly update percent complete, work done, and remaining work values for tasks, and automatically sync the updates with Project Server 2010. Exchange Server connection means that organizations no longer have to install an Outlook add-in; this helps ensure that team members stay connected and can receive tasks in Outlook or Outlook Web App.

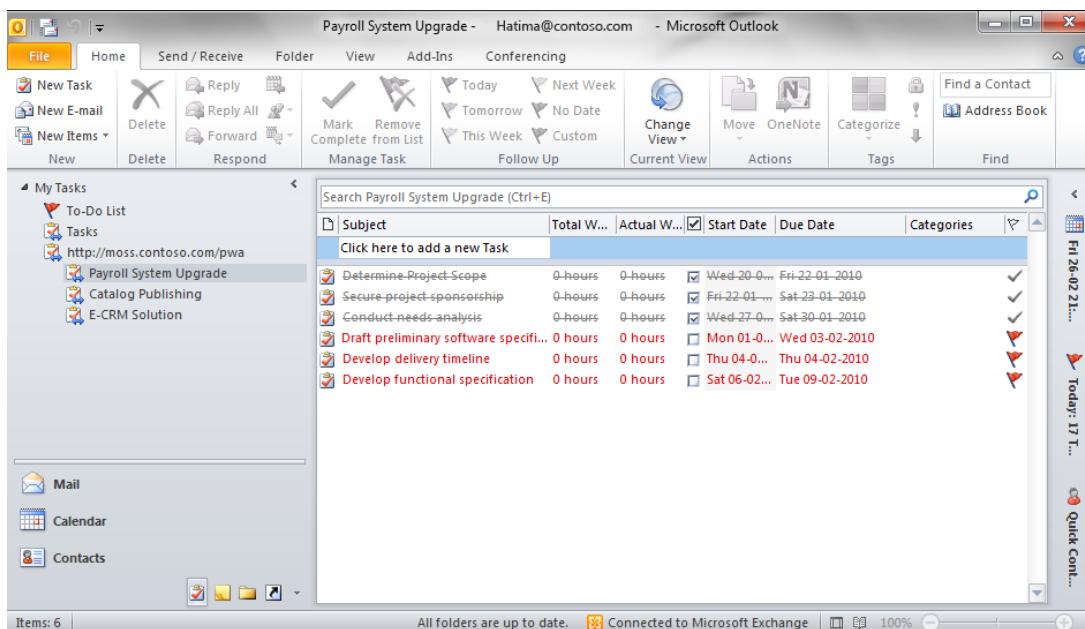


Figure 87. Project Server 2010 – Users can conveniently receive tasks and update their task status in Outlook

### Visual Studio Team System 2010 Team Foundation Server

Unifying Project Server 2010 and Project Professional 2010 with Microsoft Visual Studio Team System 2010 Team Foundation Server helps to better connect the worlds of PPM and application development. Connecting these disparate worlds empowers project managers and development teams to follow their own methodologies (for example, agile versus waterfall) and to select optimal productivity tools, and yet remain seamlessly connected throughout the development life cycle.

Project Professional 2010 provides native connectivity with Team Foundation Server 2010, and helps to ensure that development managers can take advantage of the new user-controlled scheduling and Team Planner features to help plan development sprints and better visualize and amend resource assignments. Managers can simply extract and view all development activities as tasks in Project Professional 2010, and then amend and sync updates back to Team Foundation Server 2010. Managers

## Scalable, Connected, and Programmable Platform

control the data exchange through the intuitive Team menu option in the Project Professional 2010 Ribbon (see Figure 88).

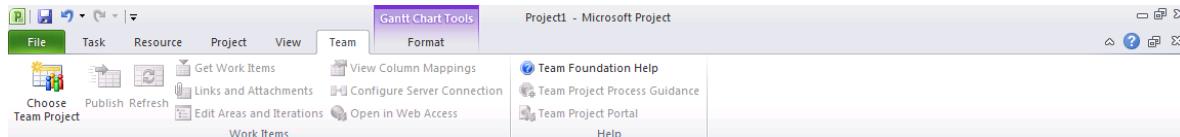


Figure 88. Project Professional 2010 – Team menu

For all development activities captured in Project Professional 2010, a project manager can simply sync with Project Server 2010 to better connect the worlds of project and portfolio management and application development (see Figure 89).

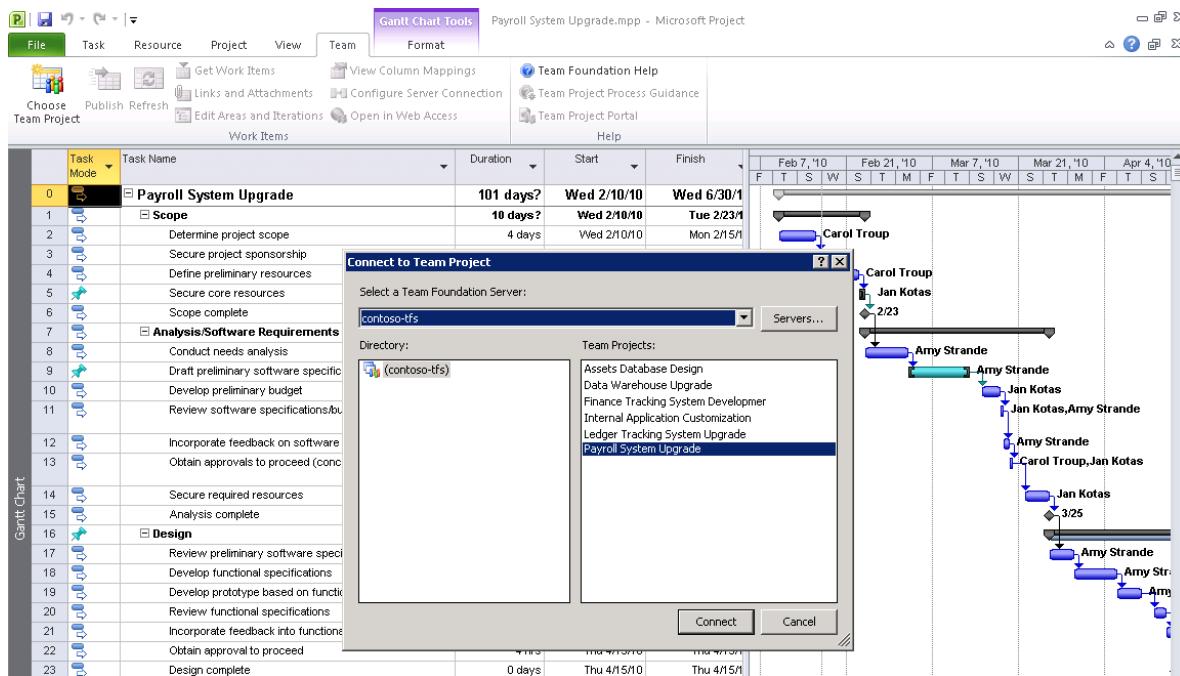


Figure 89. Project Professional 2010 and Visual Studio Team Foundation Server 2010 connectivity

Microsoft is currently working on providing direct connectivity between Project Server 2010 and Visual Studio Team Foundation Server 2010. More information about this integration will be available shortly after the Microsoft Office 2010 launch.

## Simplified Administration and Ease of Use

Project Server 2010 helps PMOs and IT pros more effectively configure, deploy, and manage the EPM Solution with simplified and streamlined administration capabilities. These enhancements help ensure that administrators can better meet their organization's business requirements and spend less time managing the PPM system, and instead focus on the successful delivery of projects and portfolios. Project Server 2010 enhancements include the following:

# Scalable, Connected, and Programmable Platform

- **Centralized administration:** Project Server 2010 unifies top-down portfolio management and bottom-up project management capabilities within a single server. The improved one-stop-shopping administration console helps ensure that administrators can effectively manage both top-down and bottom-up capabilities through one intuitive interface (see Figure 90).

The screenshot shows the 'Server Settings' page of the Microsoft Project Web App. The URL in the address bar is [http://project2010/pmo/\\_layouts/pwa/admin/admin.aspx](http://project2010/pmo/_layouts/pwa/admin/admin.aspx). The page has a navigation menu on the left with sections like Projects, My Work, Resources, Strategy, and Home. The main content area is divided into several tabs: Security, Enterprise Data, Database Administration, Look and Feel, Time and Task Management, Queue, Operational Policies, and Workflow and Project Detail Pages. Each tab lists various administrative functions. For example, the 'Security' tab includes Manage Users, Manage Groups, Manage Categories, Manage Security Templates, Project Web App Permissions, and Manage Delegates.

Figure 90. Project Server 2010 – Server Settings

- **Departmental fields:** The new departmental fields in Project Server 2010 help ensure that administrators can associate and filter Enterprise Project Types (EPTs), business drivers, resources, and custom fields with specific departments within the organization. This new feature helps administrators provide business units with a substantial level of autonomy, eliminates unnecessary clutter so that departments can focus on their own data, and simplifies the creation of reporting cubes while ensuring that PMOs maintain enterprise standardization and control. Each department can use its own set of enterprise project, task, and resource custom fields; departments can also share specified custom fields. In Project Server 2010 administrators can filter out custom fields that are not assigned to a department, so that users see only custom fields that are relevant to them.
- **Administering Permissions:** Using Project Server 2010, administrators can restrict users who have permission to edit custom fields in one department from using Project Web App to edit the custom fields of other departments where they do not have permission. In Project Professional

## Scalable, Connected, and Programmable Platform

2010, administrators can enable access to all custom fields, although they can filter lists for a project based on the department. If you are not a member of a department, you can fill in only globally required fields, and not specific departmental fields.

- **Administer reporting cubes:** Project Server 2010 includes an enhanced administration interface for displaying the status of and managing available cubes (see Figure 91). It is now easier than ever for administrators to manage all cube settings and data, including adding, copying, deleting, and refreshing cubes. Organizations can take advantage of improved performance and cube build times by building smaller, independent cubes.

With multiple cubes, you can accomplish the following:

- Slice the data in cubes by picking groups of data and adding fields from each group.
- Constrain access to cubes by department.

Project Server 2010 also supports localized data in cubes, by using translators. All data can have localized field name aliases, so you can build Project Detail Pages (PDPs) that show field names in the language of the locale where they are deployed. Cubes support Manually Scheduled task data, in which tasks are shown as properties instead of as a task dimension. Task mode is a new feature in Project Professional and Standard 2010; you can use it to set a task as Automatically Scheduled (the default mode) or as Manually Scheduled. Cubes exclude inactive tasks by default, but you can include a dimension for task assignments and show active or inactive tasks.

The screenshot shows a Microsoft Project Web App interface titled 'OLAP Database Management'. The URL in the browser is 'http://project2010/keynote/\_layouts/pwa/CubeAdmin/CubeAnalysisAdmin.aspx'. The page has a navigation bar with 'Site Actions' and a breadcrumb trail 'Project Web App > OLAP Database Management'. A sub-navigation menu on the left includes 'Projects' (with 'Project Center', 'Approval Center', and 'Workflow Approvals') and 'My Work' (with 'Tasks' and 'Timesheet'). The main content area features a toolbar with 'New', 'Configuration', 'Copy', 'Delete', 'Build Now', and 'Refresh' buttons. Below the toolbar is a table listing three cubes:

OLAP Database Name	Server Name	Status	Last Built	Default	Enable	Schedule
Contoso Corp	PROJECT2010	Build Success!	2/1/2010 1:45:26 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Update on Demand
Contoso HR	PROJECT2010	Build Success!	2/1/2010 1:46:11 AM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Update on Demand
Contoso IT	PROJECT2010	Processing...	3/28/2010 3:40:08 PM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Update on Demand

Figure 91. Project Server 2010 – Improved reporting administration

## Scalable, Connected, and Programmable Platform

- **Elimination of ActiveX controls:** Project Server 2010 simplifies deployment by eliminating ActiveX requirements across the project, portfolio, and reporting capabilities of the solution. The removal of ActiveX controls helps improve security and overcomes deployment complexities for organizations that block client-side controls in their environments. The elimination of ActiveX also facilitates platform maintenance by removing the need to deploy desktop components every time a new software update—whether it is a hotfix, a cumulative update, or a service pack—to Project Web App.
- **Project Permissions:** The new Project Permissions view empowers project managers to control who can view or edit their projects (see Figure 92). Project managers no longer need to rely on an IT administrator to establish access rights to their projects.

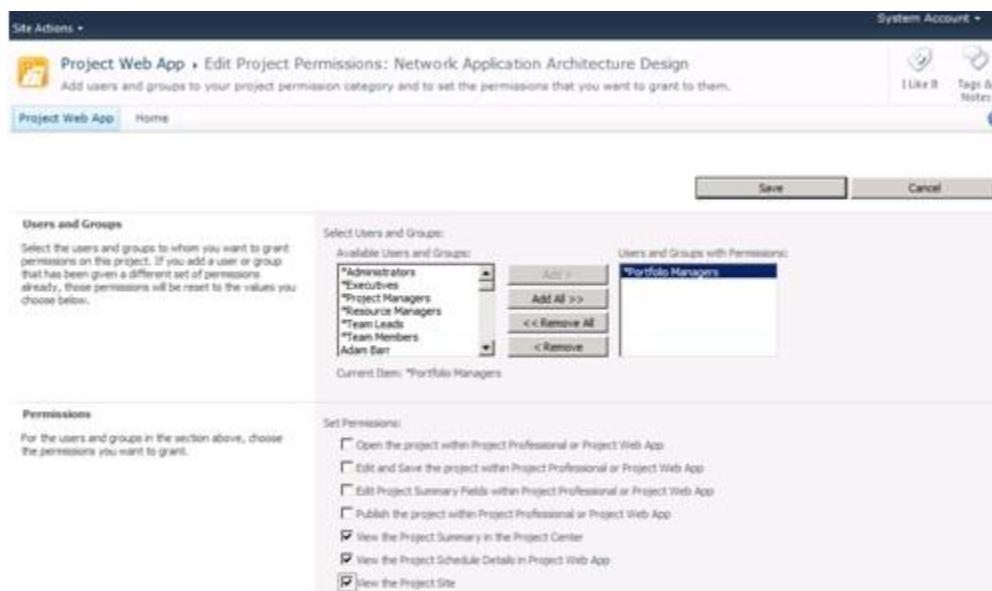


Figure 92. Project Server 2010 – Project Permissions

- **User Delegation:** Project Server 2010 enhanced delegation capabilities empower users to easily name colleagues to act as their delegate when on vacation, for instance, without assistance from a PMO officer or system administrator (see Figures 93 and 94). Delegation works across all features of Project Web App, so it can be used for timesheets, or to drive a project through its governance workflow, for instance.

# Scalable, Connected, and Programmable Platform

Delegate Name	Acting For	Start Date	End Date
Adam Barr	Amy Strande	3/19/2010	3/25/2010
Adam Barr	Andy Ruth	3/19/2010	3/25/2010
Chris Gray	Attila Biber	10/5/2009	10/13/2009
Chris Gray	Attila Biber	11/19/2009	11/25/2009
Contoso Administrator	Andy Ruth	10/5/2009	4/1/2010
Contoso Administrator	Barry Johnson	2/10/2010	2/16/2010
Contoso Administrator	Kim Akers	3/1/2010	4/5/2010

Figure 93. Project Server 2010 – User Delegation

Figure 94. Project Server 2010 – Delegate session

## Scalable Platform

The EPM Solution takes advantage of and extends the architectural and performance enhancements, such as Active Cache and the Queuing Service, delivered in Project 2007 to scale to meet enterprise requirements. Project Server 2010 is built on SharePoint Server 2010, and the Shared Service Provider (SSP) design (from Project Server 2007) has been updated to a Service Application model that helps to increase scalability by allowing more services to run on the application tier. Project Server 2010 architecture now requires 64-bit capability across all servers in the farm, which inherently provides additional scalability and throughput for project data profiles. Project Professional 2010 is available in 64-bit and 32-bit options. The 64-bit option ensures that project managers can more easily work with

## Scalable, Connected, and Programmable Platform

larger project plans and master projects that exceed the 2-gigabyte (GB) memory limit on earlier 32-bit options.

### Architecture

Project Server 2010 is built on Microsoft .NET Framework 3.5 to provide true multi-tier architecture. Client applications can access the server business layer through Web service calls to the PSI (see Figure 95). The PSI is the API to Project Server that enables efficient remote access by using datasets. External applications can define handlers for server-side events. Business objects access multiple Project Server databases through the data access layer.

Project Server 2010 extends the architecture introduced in Project Server 2007. The Project Server 2010 architecture includes Project Professional 2010 and Project Web App clients in the front-end tier. The front-end applications communicate with the middle tier only through PSI Web services, which in turn communicate with the business object layer. Business objects use the databases through the Data Access Layer (DAL). Client applications do not directly access the primary databases; Project Server hides business objects and the DAL from clients.

# Scalable, Connected, and Programmable Platform

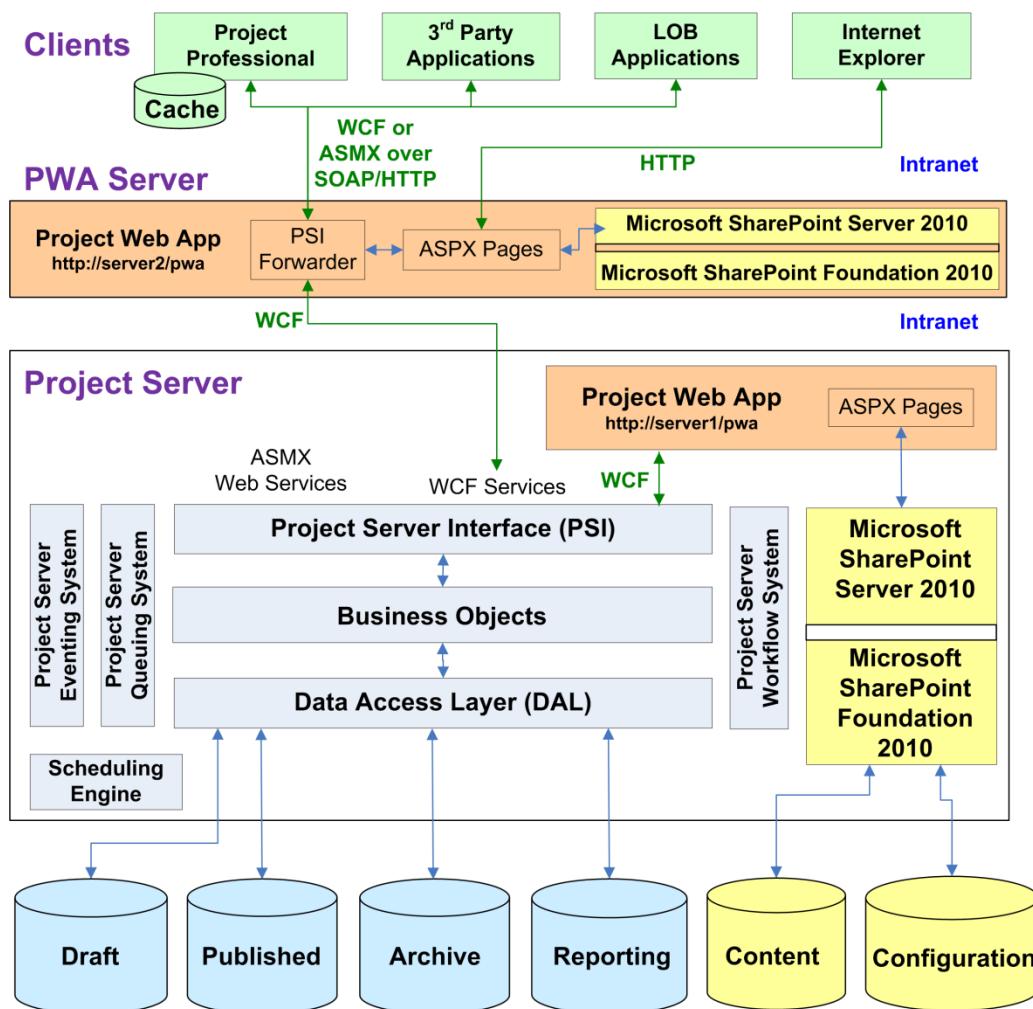


Figure 95. Project Server 2010 – General Project Server architecture

## Deployment

Similar to SharePoint Server 2010, a Project Server 2010 farm deployment can vary in complexity and size, depending on your business requirements. As a three-tier application, Project Server 2010 supports all farm topologies—small, medium, and large (see figure 96). As with Project Server 2007, Project Server 2010 can be deployed on physical servers or on virtual servers (using Hyper-V™ technology) depending on your IT requirements. In addition, organizations can configure Project Server 2010 for extranet access if resources outside of your organization need to collaborate on projects. For more information about setting up extranet access, see the [EPM Solution System Requirements](#) section.

## Scalable, Connected, and Programmable Platform

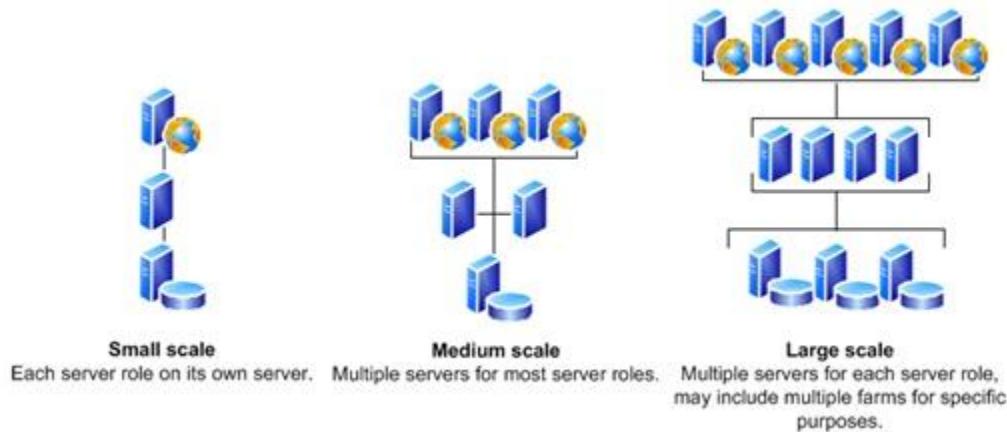


Figure 96. Project Server 2010 – Topologies

## High Availability

Several feature improvements in Project Server 2010 that are targeted at the database level and at the Project Server service help achieve high-availability architecture. Project Server 2010 leverages underlying SQL Server high-availability technologies such as log shipping, clustering, and database mirroring.

## SharePoint 2010 Administration

Because Project Server 2010 is built on SharePoint 2010, it's important to describe key SharePoint 2010 enhancements that all Project Server 2010 administrators benefit from.

The SharePoint Server 2010 Central Administration Web site is redesigned to provide a more familiar experience and to make it easier for users to find what they are looking for. The Central Administration Web site groups major functional areas together and lists many of the most common tasks. Each one of the major areas—Application Management, Monitoring, and so on—is represented on the start page and is accessible by clicking its name or by clicking the corresponding link in the left nav menu (see Figure 97).

# Scalable, Connected, and Programmable Platform

Figure 97. SharePoint Server 2010 – Central Administration

Although the user interface has changed somewhat, users will find many of the menus familiar, with some new options and functionality. One of the places where this is more obvious is in managing Web applications. Web applications are still created with the same process, but the experience is now managed through a Ribbon interface on the Manage Web Applications page. Using the Ribbon, users can more easily view or change details about a Web application because all options are just a click away. In SharePoint Server 2007, many of these tasks required the user to click a different menu and reselect the Web application each time. Now, you simply click the Web application, and all options are laid out on a single menu.

SharePoint Server 2010 provides additional maintainability capabilities, including a number of features that provide the administrator with tools for monitoring the health and performance of the SharePoint farm. These features are categorized in the following groups: diagnostics, reliability and monitoring, and reporting. The following table shows the various categories and their corresponding features.

Category	Functionality
Diagnostics	Unified Logging Service (ULS) Usage database Developer dashboard
Reliability and Monitoring	SharePoint Maintenance Engine (SPME) rules System Center Operations Manager monitoring
Reporting	Out-of-box usage reports System Center Operations Manager reports

# Scalable, Connected, and Programmable Platform

The screenshot shows the SharePoint Server 2010 Central Administration Diagnostic Logging interface. On the left, there's a navigation menu with links like Application Management, System Settings, Monitoring, Backup and Restore, Security, Upgrade and Migration, General Application Settings, and Configuration Wizards. The main content area has a title "Event Throttling" with a description about controlling event severity. Below this is a "Select a category" section with a list of checkboxes for various service categories, with "Project Server" checked. To the right is a "Event Level" table showing specific events and their levels: Active Cache Enterprise Resource Load (Information), Active Cache Load (Information), Active Cache operations (Information), Active Cache Save (Information), Active Directory Synchronization (Information), Administration (Information), Analysis Cube Building (Information), and Archive, Restore (Information).

Figure 98. SharePoint Server 2010 – Diagnostic logging

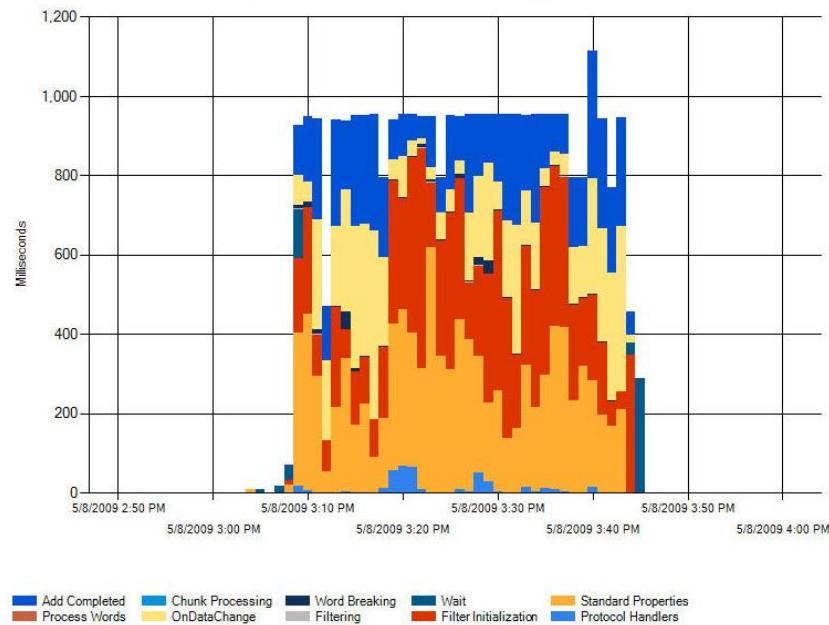


Figure 99. SharePoint Server 2010 – Crawl Activity Report

## Diagnostics

## Scalable, Connected, and Programmable Platform

The Unified Logging Service (ULS) in SharePoint Server 2010 includes manageability improvements, log file improvements, correlation ID tracing, and Windows PowerShell™ scripting. Event throttling is one of the manageability enhancements in Project Server 2010. The ULS is configured on the Diagnostics Logging page (see Figure 98). Event throttling controls the severity of events that are captured in the Windows event log and trace logs. As the severity decreases, the number of events logged will increase. Events are categorized, and administrators can change the settings for any single category or for all categories. Updating all categories will lose changes to individual categories. Event Log Flood Protection (EVFP) can also be enabled on the same Web page. When EVFP is enabled, repeating events are detected and suppressed until conditions return to normal. The ULS then contains all application log events, and third-party logging software can be integrated into the ULS. The logs have been reduced in size by more than 50 percent by using NTFS file system compression. Trace logs can also be located in a specified location, and administrators can also configure the storage duration and amount of storage. Correlation IDs that are associated with each request can help troubleshoot errors related to the request. SQL Profiler traces also show correlation IDs, to further assist with troubleshooting. SharePoint Server 2010 includes several Windows PowerShell cmdlets administrators can use to retrieve information and configure the ULS.

SharePoint Server 2010 logs feature usage and performance information that is entered into the usage database. This logging is carried out by the usage service application, and is enabled by default. Administrators can read, query, and build reports directly from the usage database because the schema is public. Because of this, third-party applications can also write their data to the usage database. The types of events that are logged are shown in Figure 100 and include page requests, feature usage, search query usage, site inventory usage, timer jobs, and rating usage. Because the usage database tracks feature usage and licensing information, an administrator can track the use of enterprise features against the number of enterprise client access licenses (CALs) purchased, to help ensure compliance.

# Scalable, Connected, and Programmable Platform

The screenshot shows the SharePoint Central Administration interface for configuring web analytics and health data collection. On the left, there's a navigation menu with links like Central Administration, Application Management, System Settings, Monitoring, Backup and Restore, Security, Upgrade and Migration, General Application Settings, and Configuration Wizards. The main content area has a warning message: "Warning: this page is not encrypted for secure communication. User names, passwords, and any other information will be sent in clear text. For more information, contact your administrator." Below this, there are two sections: "Usage Data Collection" and "Event Selection". Under "Usage Data Collection", there's a note about usage data collection logging events whenever various events occur in SharePoint. It also mentions that Usage Logging enables analysis and reporting, but also uses system resources and can impact performance and disk usage. There's a checkbox labeled "Enable usage data collection" which is checked. Under "Event Selection", there's a note about logging enabling analysis and reporting, but also using system resources and impacting performance and disk usage. It suggests only logging specific events. There's a section titled "Events to log:" with a list of checkboxes. Most checkboxes are checked, including Analysis Services Connections Usage, Analysis Services Unloads Usage, Page Requests, Analysis Services Loads Usage, Feature Use, Analysis Services Requests Usage, and Rating Usage.

Figure 99. SharePoint Server 2010 – Usage logging

A new addition to server diagnostics is the developer dashboard. This dashboard displays detailed information for each page load and in this way helps troubleshoot performance issues. This dashboard is disabled by default and can be independently enabled for each Web application by using Windows PowerShell.

## Reliability and Monitoring

A new addition to SharePoint Server 2010 includes the SharePoint Maintenance Engine (SPME). The SPME is a new and improved version of the Best Practices Analyzer. It periodically, or on an on-demand basis, checks the administrative configuration, performance, best practices, and security issues, and makes recommendations to resolve potential issues.

Available only to users who have farm administrator credentials, the results are accessible through Central Administration through the Review Problems and Solutions link in the Monitoring section and the Health Status section, and they are available in System Center Operations Manager (see Figure 101). The SPME maintains a list of rules called Health Rule Definitions. The list is created by the system to help

## Scalable, Connected, and Programmable Platform

ensure that the SharePoint environment is properly configured and healthy.

The screenshot shows a SharePoint page titled "Health Analyzer Rule Definitions - Accounts used by application pools or serv...". The page has a ribbon with "View" selected. Below the ribbon is a toolbar with icons for "Edit Item", "Version History", "Manage Permissions", "Alert Me", and "Run Now". The main content area displays a table of rule definitions:

Title	Accounts used by application pools or service identities are in the local machine Administrators group.
Scope	All Servers
Schedule	Daily
Enabled	Yes
Repair Automatically	No
Version	1.0

At the bottom left, there is a note: "Version: 1.0  
Created at 1/20/2010 2:27 PM by Contoso Administrator  
Last modified at 1/20/2010 2:27 PM by Contoso Administrator". On the right side, there is a "Close" button.

Figure 100. SharePoint Server 2010 – Health Rule Definitions

SharePoint Server 2010 will ship a management pack for System Center Operations Manager. It provides real-time alerts and troubleshooting in the context of a larger infrastructure. It watches events, monitors performance counters, and takes corrective action where necessary. The management pack for SharePoint Server 2010 understands and discovers topology; grabs events from ULS, the Windows Event Log, usage database, and SPME; and is integrated with ULS.

## Upgrade from Project Server 2007

Microsoft is aware that our customers have made significant investments in deploying Project Server 2007 across their organizations. With this in mind, we have invested in upgrade processes and strategies to help ensure that customers can smoothly migrate from Project Server 2007 to Project Server 2010.

There are two primary methods for upgrading from Project Server 2007 to Project Server 2010:

- In-place
- Database attach

An in-place upgrade allows you to install Project Server 2010 on the same hardware as your Project Server 2007 installation, and then migrate the content and settings in your server farm as part of a single process.

## Scalable, Connected, and Programmable Platform

A database attach upgrade allows you to "attach" restored copies of your Project Server 2007 databases to a new Project Server 2010 installation. Project Server 2007 farm databases are backed up and restored on SQL Server, and the new Project Server 2010 farm points to these restored databases when the Project Web App instance is created. When you connect to the databases from the new Project Server 2010 instance, the databases are upgraded to Project Server 2010. For additional upgrade and migration scenarios for other product versions, visit [TechNet Upgrade and Migration Resource Center for Microsoft Project Server 2010](#).

Please refer to TechNet for the respective IT pro documentation for both Project Server 2010 and SharePoint Server 2010:

- <http://technet.microsoft.com/projectserver>
- <http://technet.microsoft.com/sharepoint>

## Extensible and Programmable Platform

Leading PPM solutions need to provide an open, extensible, and programmable platform to help ensure that organizations can develop and deploy custom offerings and effectively integrate the toolset with LOB systems. The EPM Solution includes the Project Server Interface (PSI), a flexible API that helps ensure that customers and Microsoft partners can continue to extend Project Server to meet their unique requirements. The PSI includes the following enhancements in Project 2010:

- With the portfolio capabilities of Project Portfolio Server 2007 incorporated into Project Server 2010, the PSI has been extended to include both project and portfolio capabilities.
- Compatibility with all PSI 2007 methods helps ensure the seamless migration of all custom solutions developed using Project Server 2007.
- Because Project Server 2010 is built on SharePoint Server 2010, developers can take advantage of a consistent and robust platform to rapidly build and deploy solutions using familiar tools and services, including Windows Communication Foundation, Business Connectivity Services, Visual Studio 2010, and SharePoint Designer 2010.

Project Server 2010 offers a wealth of new development capabilities and scenarios that administrators can use to adapt and extend the capabilities and application of Project Server 2010 in large enterprises and small organizations. The integration of Project Server 2010 with SharePoint Server 2010 enables easier customization of many pages in Project Web App, in addition to many new technologies and SharePoint features. Using Windows Communication Foundation improves performance, security, and deployment of client applications that connect with Project Server. Similar to Project Server 2007, Project Server 2010 has a fully documented, dedicated relational and decisional database (reporting database and Online Analytical Processing [OLAP] cubes) that administrators can query to build custom reports, dashboards, and key performance indicators using familiar Microsoft Business Intelligence solutions such as SQL Server Reporting Services and PerformancePoint Services.

## Scalable, Connected, and Programmable Platform

For additional information about Project Server 2010 and Microsoft EPM Solution extensibility and programmability, visit <http://msdn.microsoft.com/project>. Refer specifically to the Project 2010 Software Development Kit (SDK); it contains documentation, code samples, "How to" articles, and programming references to help customize and integrate Project 2010 clients and Project Server 2010 with other applications for enterprise project management.

## SharePoint 2010 Development

Because Project Server 2010 is built on SharePoint Server 2010, key enhancements made to SharePoint Server 2010 extend Project Server 2010 in key ways that developers will benefit from.

SharePoint Server 2010 provides the business collaboration platform for developers to rapidly build solutions using familiar tools while leveraging a rich set of out-of-the-box features. Visual Studio 2010 and SharePoint Designer 2010 help developers be more productive, and Visual Studio Team Foundation Server delivers support for application life cycle management. Developers can integrate LOB data in SharePoint Server 2010 with read/write capability delivered by Business Connectivity Services. Sandboxed solutions can be deployed to a shared hosting environment to limit the impact of unpredictable code on other applications in use.

SharePoint Server 2010 is a major step forward for SharePoint products and technologies as a development platform not only because of the richer set of overall features that the platform supports, but also because significant investments have been made in the suite of tools to make developers more productive, and to be more accessible to developers of all skill levels.

SharePoint Server 2010 includes numerous new capabilities and features for professional developers, most of which are discussed here. The following list summarizes new features.

### Developer Productivity

- Visual Studio 2010 SharePoint project types and items
- Visual Studio 2010 SharePoint tools extensibility
- Visual Studio extensions for SharePoint upgrade
- Windows 7 and Windows Vista® operating system support
- SharePoint Designer 2010
- Developer dashboard
- Team Foundation Server 2010 integration

### Rich Platform Services

- SharePoint Ribbon
- SharePoint dialogs
- Silverlight® Web parts
- List lookups and relationships

## Scalable, Connected, and Programmable Platform

- Business Connectivity Services
- LINQ to SharePoint
- Performance enhancements
- Solution throttling
- Event enhancements
- Workflow enhancements
- Client object models
- REST APIs

### Flexible Deployment

- Sandboxed solutions
- SharePoint Online
- Upgrading solutions

For additional resource information about SharePoint Foundation 2010, and for the SharePoint Server 2010 Software Development Kit (SDK), visit [MSDN](#).

## List of Acronyms

### List of Acronyms

AMO	Analysis Management Object
API	application programming interface
BI	Business Intelligence
CPM	Critical Path Method
CRM	Customer Relationship Management
ECM	Enterprise Content Management
EPM	Enterprise Project Management
EPT	Enterprise Project Type
ERP	Enterprise Resource Planning
EVM	Earned Value Management
FTE	full-time equivalent
IRR	internal rate of return
ISV	independent software vendor
ITPPM	IT Project and Portfolio Management
JIT	just-in-time
KPI	key performance indicator
LOB	line of business
NPD	new product development
NPV	net present value
OLAP	Online Analytical Processing
PDP	Project Detail Page
PLM	product life-cycle management
PMBOK	Project Management Body of Knowledge
PMO	project management office
PMP	Project Management Professional
PPM	project and portfolio management
PSI	Project Server Interface
PTO	paid time off
RDB	Reporting database
ROI	return on investment
SSP	Shared Services Provider
WAN	wide area network

# EPM Solution System Requirements

## EPM Solution System Requirements

### Project Standard 2010 and Project Professional 2010

Project Standard 2010 and Project Professional 2010 are offered in 32-bit and 64-bit options to support a diverse range of project types and sizes. 64-bit options take advantage of the expanded memory and optimized capabilities of the latest processors and 64-bit versions of Windows® 7 and Windows Vista®. 64-bit Project Professional 2010 also offers enhanced performance and handles extremely large project files with ease when used with Project Server 2010.

Project Standard 2010 and Project Professional 2010 have the following minimum system requirements:

Processor	700 megahertz (MHz) or faster
Memory	512 megabytes (MB) or more RAM
Hard Disk	1.5 gigabytes (GB); a portion of this disk space will be freed after installation if you remove the original download package from the hard disk.
Drive	Required drive number and type(s) will depend on the application components and languages you install.
Display	1024 × 768 or higher resolution monitor
Operating System	Windows 7 or later operating systems, Windows Vista with SP1, Windows XP with SP3 (32-bit), Windows Server 2008 with SP2 (32-bit or 64-bit), or Windows Server 2003 Release 2 (R2) with Microsoft XML Core Services (MSXML) 6.0

### Project Server 2010

#### Software Requirements

Internet Browser	Windows Internet Explorer 8.0 or 7.0 is required for users that will be using Project Web App
Microsoft Project Professional	2010 or 2007 SP2 (using Backward Compatibility Mode)
Microsoft Office	2010 or 2007 (to create and modify reports with SharePoint 2010 Excel Services)

# EPM Solution System Requirements

Excel

Windows Server® 64-bit version of 2008, or 2008 R2

SQL Server 64-bit version of 2008 R2, or 2008 or 2005 (please refer to [TechNet](#) for exact service pack/cumulative update version)

SharePoint Server 2010 Enterprise Edition

## Hardware Requirements

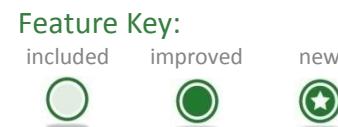
The requirements in the following table apply to single-server with built-in database installations and server farm installations that include a single server or multiple servers in the farm.

Processor	64-bit dual processor, 3 GHz, please refer to <a href="#">TechNet</a> for disk capacity planning guidance
Memory	8 GB or higher for web front end and application servers, 16GB or higher for SQL servers, please refer to <a href="#">TechNet</a> for capacity planning guidance
Hard Disk	80 GB, please refer to <a href="#">TechNet</a> for disk capacity planning guidance

# EPM Solution System Requirements

## Enterprise Project Management (EPM) Solution Version Comparison

The Microsoft Enterprise Project Management (EPM) Solution ensures organizations select and deliver the right projects, while gaining greater visibility and control of resources. Innovative new capabilities in Project Server 2010 built on Microsoft® SharePoint® Server 2010 lead to improved productivity and better business performance. Compare enterprise level capabilities across versions.



	EPM 2003	EPM 2007	EPM 2010		
<b>Demand Management</b>	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007	Project Portfolio Server 2007	Project Server 2010 & Project Professional 2010
<b>Governance Workflow</b> Define and enforce governance workflows to subject projects to the appropriate controls throughout their lifecycle.					
<b>Establish Accountability and Project Lifecycle Approvals</b> Drive accountability and control by designating individual approvers or approval groups at key gates in the workflow.					
<b>Capture Project Requests</b> Capture all project requests in a central repository.					
<b>Capture Non-project Work</b> Capture and manage non-project work (e.g., incidents, tickets etc.)					
<b>Configurable Business Case Template</b> Standardize data collection (including, general information, cost estimates, resource estimates, strategic impact, etc.) for all types of work through configurable business cases / forms.					

# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010		
<b>Demand Management</b>	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007	Project Portfolio Server 2007	Project Server 2010 & Project Professional 2010
<b>Business Unit-specific Templates</b> Flexibility to define business case templates for different departments within the organization.					
<b>Initiate Work from Other Systems</b> Initiate work from other Microsoft applications and line of business systems (e.g., SharePoint Task lists, Visual lists, Visual Studio Team Foundation Server, Help Desk Systems, CRM, etc.)					
<b>Best Practice Templates</b> Save time and enforce standards by defining templates based on your organization's best practices or take advantage of industry best practice templates (e.g., Business Case, Project and Project site).					
<b>Portfolio Selection</b>					
<b>Business Strategy Prioritization</b>					
<b>Define and Communicate Organization's Strategy</b> Define and communicate actionable business drivers and key performance indicators (KPIs)					
<b>Business Unit Specific Business Drivers</b> Define different business drivers for each department / line of business.					
<b>Objectively Prioritize Business Strategy</b> Objectively prioritize business drivers using pairwise technique to drive executive consensus and communicate strategic imperatives.					
<b>Manually Prioritize Strategy</b> Manually prioritize business drivers.					

# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010	
Portfolio Selection	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007	Project Portfolio Server 2007
Prioritization & Optimization				
Prioritize Projects from Varying Dimensions				
Prioritize competing project requests from varying dimensions (e.g., strategic value, financial value, risk, etc.)				
Identify Business Dependencies				
Capture inter-project dependencies that affect selection and execution.				
Identify Optimal Portfolio within the Constraints				
Run what-if analysis under varying budgetary constraints to recommend the optimal project portfolio.				
Include Mandatory Projects and Understand Trade Offs				
Force projects In or Out of a portfolio (e.g., used to force in compliance or pet projects) to instantaneously understand tradeoffs.				
Easily Compare Scenarios				
Compare and contrast optimization analyses side by side.				
Advanced Portfolio Analytics				
Utilize advanced portfolio analytical techniques (e.g., Efficient Frontier Modeling and Strategic Alignment Assessment) to further refine portfolio selection and gain insights.				
Support Portfolio Analysis throughout Project Lifecycle				
Prioritize and optimize pending and in-flight projects within the same analysis (i.e., support annual and just in time planning methodologies).				

# EPM Solution System Requirements

	EPМ 2003	EPМ 2007	EPМ 2010
<b>Portfolio Selection</b>	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007

## Configurable Views to Support Decision Making

Configure and dynamically modify views by adding fields and applying filters to support decision making.



## Capacity Planning (Skill level)

### Understand Resource Capacity

Proactively identify resource (by skill) surplus and deficit across a planning horizon.



### Reschedule Projects to

### Maximize Resource Utilization

Improve utilization and fully staff projects by adjusting schedules within the planning horizon.



## Model Headcount Decisions

Model headcount decisions by hiring full-time or contract resources and understand impact on the project portfolio.



## Easily Compare Capacity

### Planning Scenarios

Compare and contrast capacity analyses side by side.



## Automate Portfolio Selection

Commit selected portfolio scenario and automatically update project workflow.



# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010
Schedule Management	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007

## Schedule Management

### Best Practice Project Templates

Initiate project plans using best practice templates with schedule and resource assignments pre-defined.



### Flexible Scheduling Methods

Enable or disable the CPM scheduling logic to better support occasional and professional project managers.



### Top Down and Bottom Up

#### Planning Support

Support for top down planning and rolling wave planning.



### Web-based Scheduling

Create web-based schedules.



### Advanced Web-based

#### Scheduling

Create, modify and manage simple and complex project schedules on the web.



### Effectively Communicate

#### Project Schedules

Effectively communicate project schedules using intuitive views and tools.



### Generate Timeline View

Build and customize timeline view to visualize schedule details and communicate with stakeholders.



### Easily Move Schedule Data

#### between Applications

Easily copy and paste information from the project plan to other office applications while maintaining data fidelity.



# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010
Schedule Management	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007

## Schedule Management

### Easily Move Schedule Data between Applications

Easily copy and paste information from the project plan to other office applications while maintaining data fidelity.



### Easily Move Schedule Data between Applications

Easily copy and paste information from the project plan to other office applications while maintaining data fidelity.



### Initiate Projects from Other Applications

Quickly create project plans by importing SharePoint Task lists or copying bulleted text from Office applications.



### Excel-Like Ease of Use

Make Project Professional simpler to use, just like Microsoft® Excel, by easily adding new columns, enabling text wrapping and sorting and filtering columns.



### Perform What-if Analysis and Undo Actions

Model different scenarios and safely return to the original state with multi-level undo/redo.



### Model Scheduling Scenarios

Active/inactivate tasks to view various scheduling scenarios and perform what-if analysis.



### View Impact of Changes

Instantaneously see the impact on the project schedule with Change Highlighting.



# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010	
Schedule Management	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007	Project Portfolio Server 2007
<b>Schedule Warnings</b> Be alerted to scheduling issues, drill down to identify issues and take corrective action.				
<b>Multiple Baseline Support</b> Set multiple baselines to measure project performance.				
<b>Reschedule Uncompleted Work</b> Easily reschedule all uncompleted tasks and see impact on the schedule.				
<b>Set Project and Task Dependencies</b> Simply define task relationships (e.g., start to finish) and capture inter-project dependencies.				
<b>Specify Project Deliverables</b> Define soft inter-project dependencies (i.e., Deliverables) that will not automatically impact the project schedule if there is a slippage.				
<b>Versatile Views to Review the Schedule</b> Utilize Gantt Charts, Calendars, Task Sheets, and a variety of views to manage and present project information.				
<b>Critical Path Identification</b> Quickly identify critical path within the project schedule and across multiple projects.				
<b>Project and Task Calendars</b> Define project and task specific calendars to accurately reflect working time and non-working exceptions.				

# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010		
<b>Resource Management</b>	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007	Project Portfolio Server 2007	Project Server 2010 & Project Professional 2010
<b>Effectively Manage Resources</b> Intuitively and effectively manage assignments by resource and quickly visualize over allocation.					
<b>Easily Substitute Resources</b> Effectively substitute resources.					
<b>Communicate and Delegate Tasks</b> Tasks Communicate resource assignments and allow individuals to accept and delegate tasks.					
<b>Balance Resource Workloads</b> Use resource leveling features to overcome over-allocation.					
<b>Time and Task Management</b>					
<b>Web-based Timesheet System</b> Easy to use time entry for timesheet (including working and non-working time, e.g., vacation, sick leave, etc.) and task updates.					
<b>Consolidated Progress and Time Tracking</b> Submit project status and timesheet entries from a single interface.					
<b>Integrate Time Reporting with Financial Systems</b> Report actual hours for project, administrative, and non-working time to financial systems (e.g., for payroll, costing, chargeback, etc.)					
<b>Create New Tasks for Time Reporting</b> Allow users to add tasks to projects and timesheets for complete time reporting.					

# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010		
<b>Time and Task Management</b>	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007	Project Portfolio Server 2007	Project Server 2010 & Project Professional 2010
<b>Use Outlook to View and Update Tasks</b> Maximize user productivity by managing tasks in Outlook.					
<b>Communicate on Task Assignments</b> Receive task notification and updates via PC and Web.					
<b>Timesheet Approvals</b> Project and functional managers approve progress and timesheet updates.					
<b>Multi-Level Timesheet Routing</b> Perform multi-step timesheet reviews and approvals.					
<b>Approval Preview</b> Preview changes online before accepting them into your schedule.					
<b>Control Timesheet Entry</b> Allow time entry within approved and open date ranges.					
<b>Submit and Approve Time on Behalf of Others</b> Take on a role of another user to perform time entry and task approvals when needed.					
<b>Extensible Timesheets</b> Flexible and extensible timesheet design.					

# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010	
Financial Management	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007	Project Portfolio Server 2007
<b>Project Cost Estimates</b> Capture time-phased cost estimates during business case development.				
<b>Define Project Benefits</b> Capture time-phased benefit estimates during the development of the business case.				
<b>Define Financial Metrics</b> Derive financial valuation metrics (e.g., NPV, ROI, IRR, etc.)				
<b>Define High Level Project/Program Budget</b> Define a high level budget so the project manager can allocate funds and track actual costs against the budget.				
<b>Budget Year Planning Support</b> Supports calendar year or fiscal period accounting.				
<b>Earned Value Management</b> Use EVA calculations including Schedule Performance Index (SPI), To Complete Performance Index (TCPI), Cost Performance Index (CPI), Cost Variance Percentage (CV%), and Schedule Variance Percentage (SV%).				
<b>Financial Systems Integration</b> Integration with Financial, ERP and line of business systems for financial data.				
<b>Microsoft Platform Applications Integration</b> Integration with Dynamics AX & SL for invoicing, procurement, expense management, multi-currency, etc.				

# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010	
<b>Team Collaboration</b>	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007	
<b>Effective Project Team Collaboration</b> Provision a Project Workspace for each project to drive collaboration and knowledge sharing.				
<b>Customize Project Workspaces for Each Project Type</b> Define custom Project Workspaces for different types of projects and work.				
<b>Track Project Issues and Risks</b> Create, manage and track issues and risks throughout the life of the project.				
<b>Enterprise Content Management</b> Includes best practice enterprise content management capabilities.				
<b>Support Common Types of File Formats</b> Ability to handle common types of file formats, e.g., Word, Excel, PowerPoint and Visio, PDF, HTML & other standard file formats.				
<b>Establish Document Templates</b> Define best practice document templates and include in Document libraries.				
<b>Document Review and Approval</b> Utilize workflow to streamline document review and approval.				

# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010
<b>Team Collaboration</b>	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007

## Web 2.0 Capabilities

Utilize Web 2.0 capabilities to enhance team collaboration and communication (e.g., Wikis, Blogs.).



## Intelligent Enterprise

### Search

Utilize search technologies to more easily locate project data, artifacts and people.



## Knowledge Management

Integration with Windows

SharePoint Services (or SharePoint Foundation) for knowledge management and collaboration.



## Expanded Knowledge Management and Collaboration

Integration with SharePoint Server for knowledge management and collaboration.



## Reporting and Business Intelligence

### Powerful Business Intelligence Center

Utilize Microsoft's Business Intelligence capabilities to easily create powerful reports and dashboards (e.g., Excel Services, PerformancePoint Services, SQL Reporting Services, Self Service Business Intelligence, etc.)



## Quickly Build and Share Reports

Publish or use out-of-the-box best practice report templates to quickly build and share reports.



# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010	
<b>Reporting and Business Intelligence</b>	Project Server 2003 & Project Professional 2003  Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007  Project Portfolio Server 2007	Project Server 2010 & Project Professional 2010	
Surface Information and Deliver Reports through SharePoint				
Deliver the right levels of information to each user through reports using SharePoint web parts.				
<b>Multi-Dimensional Decision and Analysis Services</b>				
Define and build OLAP cubes for analysis and reporting of various dimensions of project data, including tasks, resources, projects, timesheets, etc.				
<b>Departmental Cubes</b>				
Provide business-unit specific cubes containing only data relating to a specific line of business.				
<b>Portfolio Views across Entire PPM Lifecycle</b>				
Configure scorecard views to gain visibility and control across all project portfolios.				
<b>Project Performance Tracking</b>				
Track project performance against status KPIs (e.g., health, schedule, resource, cost, etc.)				
<b>Central and Extensible Data Store for All Portfolio Data</b>				
Dedicated reporting database for all project and portfolio data allowing for easy creation of customized reports.				
<b>Easily Configurable Dashboards and Views</b>				
Easily configure and publish dashboards and views.				

# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010
<b>Reporting and Business Intelligence</b>	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007
<b>Role-based Dashboards</b> Create audience based dashboards and views.			
<b>BI Tools Integration</b> Integration with Microsoft and 3rd party Business Intelligence tools.			
<b>Program Management</b>			
<b>Program Business Case Definition</b> Capture programs and develop business cases (including general info, cost, benefit, strategic impact, etc.)			
<b>Track Programs throughout PPM Lifecycle</b> Ability to track programs throughout the lifecycle (initiation to post-implementation).			
<b>Associate Projects with Programs</b> Link underlying projects to programs through master projects.			

# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010	
<b>Administration, Deployment and Extensibility</b>	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007	
Built on SharePoint Server 2010				
Rich, full-featured productivity platform that delivers project portfolio management capabilities and flexible collaboration tools.				
<b>Consistent, Easy to Use Interface</b>				
Reduce training requirements and drive adoption with a familiar and easy to use interface.				
<b>Simplified Central Administration</b>				
Centralized administration module for configuring and managing both project and portfolio management capabilities.				
<b>Flexible and Comprehensive Security</b>				
Control security and access privileges at the group and individual level.				
<b>Delegate Permissions to Other Users</b>				
Allow users to delegate responsibilities when on vacation or out of the office.				
<b>Centralized Cube Management</b>				
Intuitive interface for managing the reporting infrastructure to quickly add, edit delete, copy or refresh available cubes.				

# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010		
<b>Administration, Deployment and Extensibility</b>	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007	Project Portfolio Server 2007	Project Server 2010 & Project Professional 2010
<b>Enterprise Standards with Business Unit Customization</b>	Provide specific configuration for each department / line of business, but maintain enterprise standardization.				
<b>Zero Desktop Footprint</b>	No ActiveX download requirement.				
<b>Server and Desktop Scalability</b>	64-bit infrastructure delivers high performance and large program support.				
<b>Wide Area Network Deployments Support</b>	Support EPM deployment across high work volume, geographically dispersed locations.				
<b>Quick Response Time and Efficient Processing</b>	Enhanced performance through infrastructure improvements to support efficient processing and high volume operations.				
<b>Exchange Server Integration</b>	Maximize productivity with out-of-the-box Exchange Server integration to receive and update your task assignments in Outlook via PC and Web.				
<b>Extensible and Scalable Interface</b>	Documented read / write Application Programming Interface (API).				

# EPM Solution System Requirements

	EPM 2003	EPM 2007	EPM 2010		
<b>Administration, Deployment and Extensibility</b>	Project Server 2003 & Project Professional 2003	Project Portfolio Server 2006	Project Server 2007 & Project Professional 2007	Project Portfolio Server 2007	Project Server 2010 & Project Professional 2010
<b>Backward Compatibility for Custom Applications</b> API is backward compatible with previous version (n -1 only).					
<b>Localized Project and Portfolio Capabilities</b> Project and Portfolio capabilities are localized to support varying countries / geographies.					
<b>Line of Business Integration</b> Effectively integrate PPM solution with line of business applications.					
<b>Visual Studio Team System Integration</b> Support Agile planning and better connect the worlds of PPM and Application Development.					

Note: Project Server 2010 software and system requirements located at <http://www.microsoft.com/project>

## Additional Resources

### Additional Resources

For expanded help, step-by-step guides, and video training on how to get the most of Project Server 2010 and the Microsoft EPM Solution, visit [Microsoft Project](#).

To learn more about Project 2010 and the Microsoft EPM Solution, refer to the following list of related links:

#### Product information

[MSDN Project 2010 Beta](#)

[Project 2010 Blog](#)

[Project Team Blog](#)

#### Interactive content - Videos & Sessions & Webcast

[Project 2010 Video Showcase](#)

[Enterprise Project Management Microsoft Events](#)

[Project Developer Center](#)

[Microsoft Office Project TechNet](#)

#### Project Professional 2010 and Project Server 2010 Demo Image:

[Download](#)

[Hosted Virtual Lab](#)

#### IT Professional related – Tech Center at TechNet

[Project Server](#)

[SharePoint](#)

[Project Administration Blog](#)

#### Developer related - Developer center at MSDN

[Project](#)

[SharePoint](#)

[Programmability blog](#)

#### Additional questions? Project 2010 Forums!

[Project 2010](#)

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