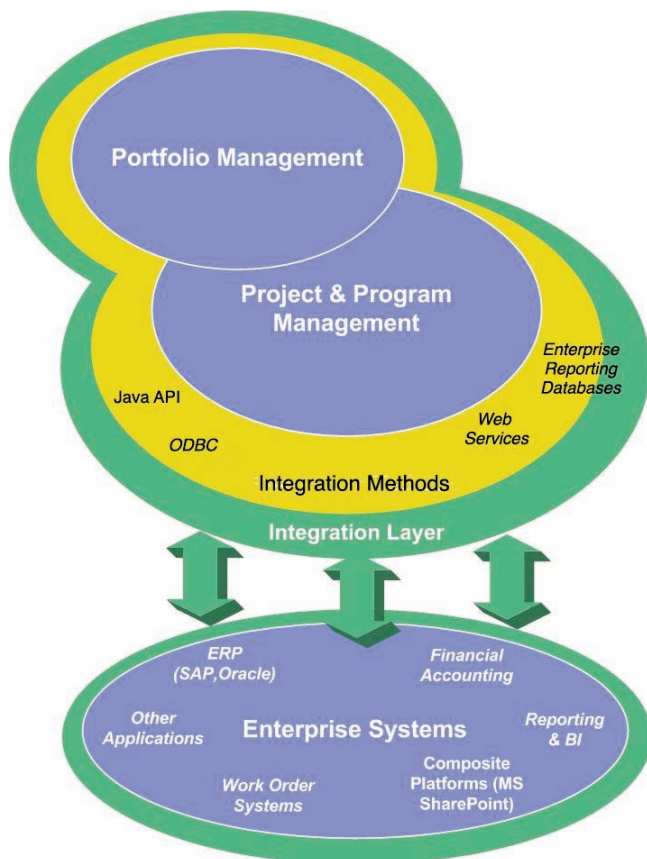# Discover Unlimited Possibilities with Primavera P6 Web Services by Integrating with Existing Business Systems

Introduction

Primavera Web Services for P6 provides enterprise-level integration capabilities to connect Primavera solutions to existing line-of-business systems. From ERP to financial systems, and to desktop productivity tools like Microsoft Outlook and Microsoft Excel, Primavera Web Services for P6 enables a complete enterprise-wide integration strategy that will increase productivity and project success. Web Services also enables organizations to combine project data and dashboards from Primavera into the organization's existing portal strategy, to enable the creation of custom applications from internal systems such as ticketing systems and inventory systems, or mash-ups from Internet-based services such as Google Maps.
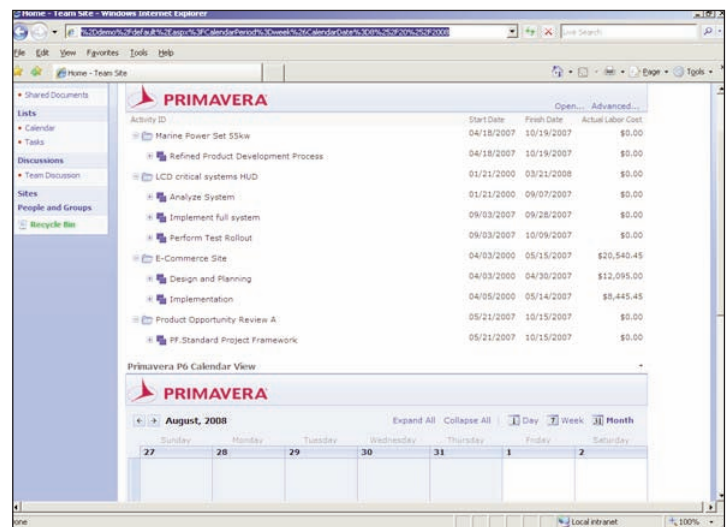
Figure 1. *The Primavera integration strategy.*

Benefits

Leverage your existing IT investments

By adopting industry-standard web services as the primary interface with the Primavera P6 version 6.2 platform, Primavera has made it easy to further leverage existing IT investments in areas such as ERP, ticketing, MRO, reporting and portals. By using web services standards for security, messaging and XML specifications, a web service Application Programming Interface (API) allows users to integrate with P6 from any programming language supporting web services, including .NET and Java, and is not dependent upon any specific operating system platform. This allows users to connect SAP systems running on Sun Solaris to Primavera P6 running on Windows Server 2003, by using any .NET programming language to connect to P6 Web Services. Or use Java to build a custom JSP dashboard with P6 project Key Performance Indicators (KPIs), budgets in Excel, and remedy trouble tickets and deploy to Oracle Portals. Users can integrate systems securely and in real-time or in bulk fashion. These are just a few examples of creative integration capabilities made possible with P6 Web Services.

Figure 2. *Sample Microsoft SharePoint site with Web Parts utilizing Primavera Web Services API.*

Improve Project Team Productivity

Keeping the project team focused and as productive as possible is key to successful project delivery. Improve productivity by keeping project budget data in Microsoft Excel, listing activities in Outlook, or assigning due dates in Lotus Notes calendar. With P6 Web Services, users have all the tools needed to combine these systems to create a more natural environment for employees to keep pace with the project lifecycle in their common front-office tools.

Business Performance Management from a Single Portal

A growing practice in driving continuous business improvement is managing organizations by business objectives. A business performance management (BPM) portal is a vital tool in that process. Typically, this will be presented to project team members as a series of KPI reports showing recent trends and forecasted values. This ensures the health and performance of the business is directly represented to the team members responsible for driving the business. With P6 Web Services, Primavera data can be displayed in a representational graph, allowing users to report on metrics, including schedule performance, cost performance and schedule variance. These graphs can be exposed to a Microsoft SharePoint portal via a Web Part which can also include graphs and KPIs for other areas of a business, such as product lifecycle, sales and customer data.

Figure 3. *BPM portal with KPI reports from P6 using P6 Web Services.*

Sample Scenarios

Map Work Orders Directly to P6 Activities

The Challenge

Your workforce primarily performs activities based on work orders issued through an automated work order system. From the employees' perspective, there is a disconnect between project deliverables and the work that needs to be accomplished to establish a milestone.

The Solution

Primavera Web Services enables a direct link between P6 scheduling and common work order systems. This integration will allow users to map P6 project level activities directly to work orders, with descriptions, due dates, dependencies and assignments. This lets the operations staff have direct visibility into work that needs to be accomplished, so project milestones can be reached on time and on budget.

Activity Due Dates Appear in Outlook Calendar

The Challenge

Ensuring the project team stays focused on their deliverables, aware of due dates and keeping the project schedule on track is daunting for any project manager. Staying on track with the project schedule is a requirement for a successful project.

The Solution

Your business operates by schedules and email, with a majority of time spent in Microsoft Outlook. P6 Web Services allows integration between P6 and Outlook to increase productivity. This eliminates the need to open secondary tools or learn how to navigate between software tools in order for the activity assignees to see scheduled work. By creating email notifications directly in Outlook and scheduling activities in a project team's Outlook calendar, project performance can be improved by allowing the team to be more productive with their time.

Keep P6 Project Updated with Project Material Availability

The Challenge

In many large construction and manufacturing projects, the availability, management and cost of materials can be critical to the project's success. By leveraging P6 Web Services, users can integrate directly with SAP's Material Management module to keep the materials data updated throughout the project lifecycle in P6.

The Solution

SAP exposes integration points through a web services interface, just as P6 Web Services publishes. By leveraging SAP NetWeaver's BPM capabilities, a workflow application can be created by graphically designing a series of workflow steps to trigger an update message to be sent to P6. For example, when the availability of a specific part falls below a level that was set at project inception, a notification can be sent to the project manager via P6 to indicate that there is a pending risk to the project schedule.

Architecture

Primavera P6 Web Services is based on web services standards such as Web Services Description Language (WSDL), Extensible Markup Language (XML) and Simple Object Access Protocol (SOAP). Based on the Apache CXF web services framework, web services can be deployed through a number of J2EE application servers including JBOSS, BEA WebLogic and IBM WebSphere. With proper permissions and security, Web Services will grant access to most P6 data and capabilities to couple into existing business data systems.

Deployment

To deploy a P6 Web Services integration solution, begin by using a J2EE compliant application server such as JBoss, WebLogic or WebSphere. The Web Services distribution files will include WSDL files describing the series of services that are available to programmers. Users can then authenticate and connect to the Primavera product services that are shared over the secure https protocol to build an integration solution. For more information about deploying the web services API, contact your Primavera sales representative and ask about Primavera technical professional services for more information on programming guidance, installation and deployment strategies.
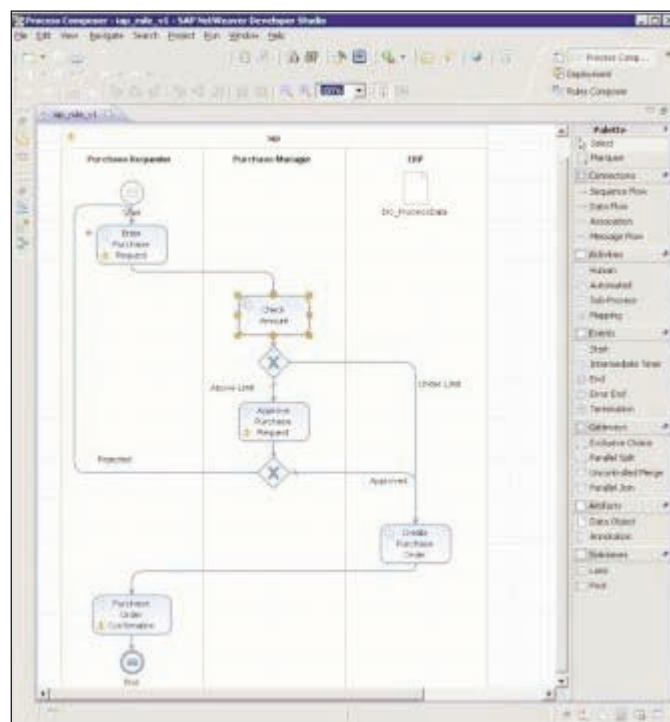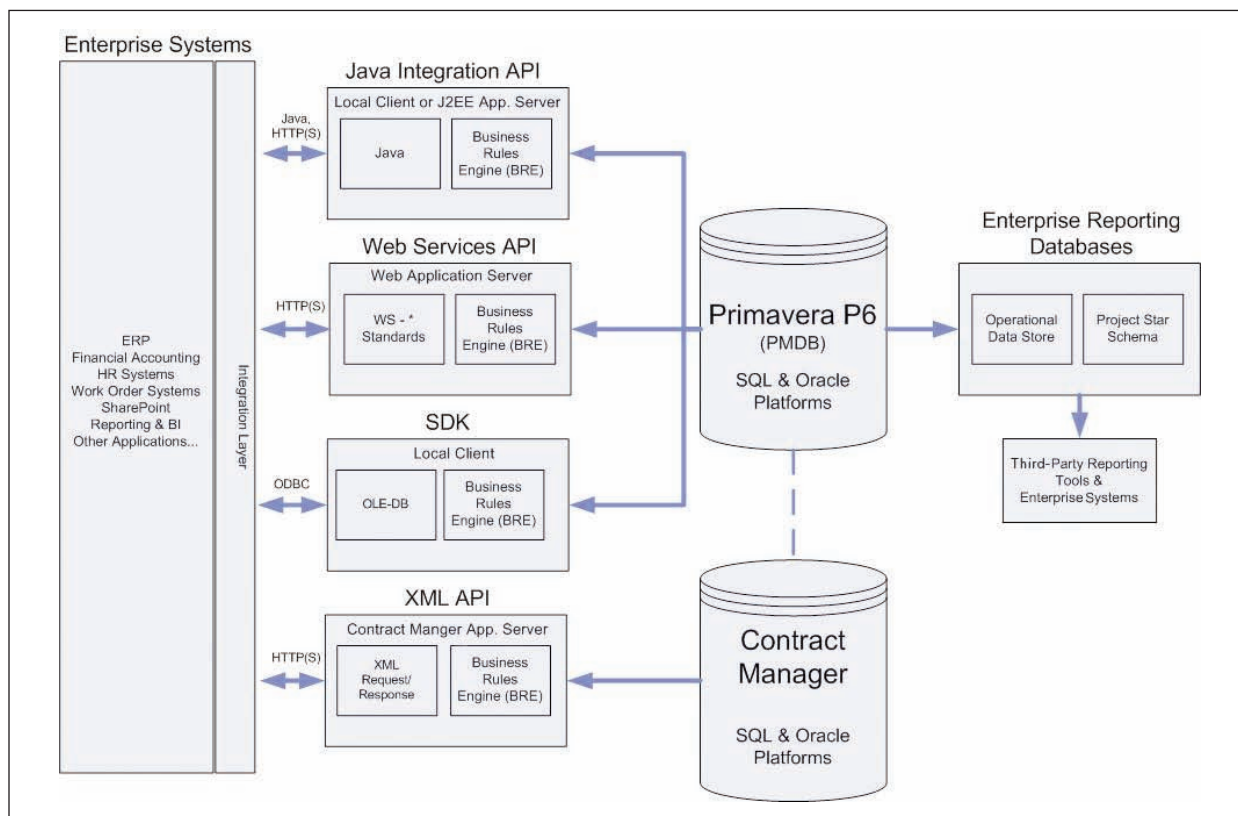

Figure 4. *Sample workflow from SAP NetWeaver.*

Key Features

Connect to Back-Office and Front-Office Systems	Primavera Web Services for P6 is a toolset that will allow users to connect their Primavera systems into existing investments to create a rich, productive environment for project teams.
Programming Language Independence	Create integration solutions using your programming language of choice. While Java and .NET are the most common, any language that supports web services can be used such as C/C++, Ruby and Perl.
Operating System Independence	Primavera Web Services is not bound to any operating system. It can be run on the J2EE server from Linux, Unix or Windows and users can also distribute solutions across different platforms.
Utilizes WS-* Standards	By leveraging the standard specifications for web services through Apache CXF, programmers can use their existing knowledge and understanding of security, messaging and other areas of the WS-* specifications.
Deploy in a Distributed Environment	By leveraging the power of web services, the http protocol and XML, users can create a series of loosely-coupled solutions that execute independently or within a J2EE application server in a distributed environment.

Figure 5. *Sample Diagram – (Technical Overview) Primavera Integration Paths.*

About Primavera

Primavera is the world's leading provider of project, resource and portfolio management software. Our industry-specific solutions help project-driven organizations create a competitive advantage by making better portfolio investment decisions, improving governance, prioritizing project investments and resources, and delivering tangible results back to the business.

Projects totaling more than $6 trillion in value have been managed with Primavera by more than 75,000 customers around the world. Our employees, global partners, award-winning customer support and professional services teams are deeply committed to helping organizations achieve their vision and strategy.

We encourage you to learn how Primavera can help you meet your project goals and business objectives. For greater detail on Primavera solutions and real-world customer successes, visit www.primavera.com today.

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