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PRIMAVERA

**Planning Your P6 EPPM Implementation
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Oracle Primavera Planning Your P6 EPPM Implementation

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Contents

Legal Notices	2
Preface.....	5
Where to Get Documentation.....	5
Where to Get Training	9
Where to Get Support	9
About the Planning Your Implementation Guide	11
Who Should Help with the Installation?.....	11
Installation and Configuration Process Phases.....	13
Technical Environments.....	15
Planning Your Implementation	17
Which Components Do I Need?.....	17
If We Use P6 Progress Reporter, Which Version Should We Use?.....	19
Required Server Components for Web-based Access in P6 EPPM.....	20
Client and Server Requirements	20
Minimum Hard Disk Space.....	20
Security Guidance Overview	21
Safe Deployment of P6 EPPM	21
Administrative Privileges Needed for Installation and Operation	21
Minimum Client Permissions Needed for P6 and P6 Progress Reporter	22
Minimum Client Permissions Needed for P6 Professional.....	22
Physical Security Requirements for P6 EPPM.....	23
Application Security Settings in P6 EPPM	24
Files to Protect after Implementation	24
Authentication Options for P6 EPPM	25
Authorization for P6 EPPM.....	25
Confidentiality for P6 EPPM.....	26
Sensitive Data for P6 EPPM	26
Reliability for P6 EPPM	26
Cookies Usage in P6 EPPM.....	27
Cookies Usage in P6	27
Cookies Usage in P6 Progress Reporter	29
Cookies Usage in P6 Team Member Web	31
Additional Sources for Security Guidance	31
Choosing Your Installation and Configuration Process.....	33
Installing P6 EPPM Applications.....	33
Configuring Your P6 EPPM Applications with the P6 EPPM Configuration Wizard	34
Configuring Your P6 EPPM Applications Manually.....	34
Installing Additional Applications	35

Where to Go From Here - Post Planning 37

Preface

In This Section

Where to Get Documentation.....	5
Where to Get Training	9
Where to Get Support	9

Where to Get Documentation

For the most up-to-date versions of all manuals and technical documents related to installing, administering, and using P6 EPPM, go to:

http://download.oracle.com/docs/cd/E29618_01/index.htm

Most documentation assumes a standard setup of the product, with full access rights to all features and functions.

You can also access the versions of the product manuals and technical documents that were available at the time of the release from the P6 EPPM Documentation Center, located in the \Documentation\Documentation_library\language folder of the P6 EPPM physical media or download.

The following table describes the core documents available for P6 EPPM and lists the recommended readers by role. P6 EPPM roles are described in the *Planning Your P6 EPPM Implementation* guide.

Title	Description
<i>What's New in P6 EPPM</i>	Highlights the new and enhanced features included in this release. You can also use the <i>P6 EPPM Cumulative Feature Overview Tool</i> to identify the features that have been added since a specific release level. All users should read this guide.
<i>Planning Your P6 EPPM Implementation</i>	This book provides information on planning your implementation. It provides an installation process overview, frequently asked questions, client and server requirements, and security information. The P6 EPPM network administrator/database administrator and P6 administrator should read this guide.


Title	Description
<i>P6 EPPM Installation and Configuration Guide</i>	<p>This documentation set explains how to install and configure the P6 EPPM using the P6 EPPM Installation and Configuration wizards.</p> <p>The P6 EPPM network administrator/database administrator and P6 administrator should read this guide.</p>
<i>P6 EPPM Installation and Manual Configuration Guide</i>	<p>This documentation set explains how to install and configure the P6 EPPM using the P6 EPPM Installation wizards, and how to manually configure individual components.</p> <p>The P6 EPPM network administrator/database administrator and P6 administrator should read this guide.</p>
<i>P6 EPPM Post Installation Administrator's Guide</i>	<p>Once you have installed and configured your P6 EPPM applications, this guide will tell you how to get started using them. You will want to complete most of the tasks in this guide before you let your users work with these applications. These tasks include information about configuring your users and security settings and privileges, setting your P6 Administrator application and P6 Progress Reporter Administrator settings, and finalizing your P6 Integration API and P6 EPPM Web Services settings.</p> <p>The P6 EPPM network administrator/database administrator and P6 administrator should read this guide.</p>
<i>Tested Configurations</i>	<p>Lists the configurations that have been tested and verified to work with P6 EPPM.</p> <p>The network administrator/database administrator and P6 EPPM administrator should read this document.</p>
<i>P6 User's Guide</i>	<p>This guide explains how to plan, set up, and manage projects in a multiuser environment. If you are new to P6, start with this guide to learn how to use the software effectively to plan and manage projects. When you need more detail, refer to the P6 Help.</p> <p>The program manager, project manager, resource/cost manager, and team leader should read this guide.</p>
<i>P6 Data Dictionary</i>	<p>This data dictionary defines fields used in P6.</p> <p>All P6 users should refer to this guide if you need a field</p>

Title	Description
	definition.
<i>P6 Team Member User's Guide</i>	<p>This guide explains how to status activities using P6 Team Member interfaces, which are P6 Team Member Web, P6 Team Member for iPhone, and E-mail Statusing Service.</p> <p>All users of the P6 Team Member interfaces should read this guide.</p>
<i>P6 Team Member Web Help</i>	<p>Describes how to use P6 Team Member Web to provide status on activities.</p> <p>P6 Team Member Web users should read this Help.</p>
<i>P6 Team Member for iPhone Help</i>	<p>Describes how to use the P6 Team Member for iPhone app to provide status on activities.</p> <p>P6 Team Member for iPhone app users should read this Help.</p>
<i>P6 Professional Help</i>	<p>Explains how to use P6 Professional for EPPM to plan, set up, and manage projects in a multiuser environment. If you are new to P6 Professional, use this Help to learn how to use the software effectively to plan and manage projects.</p> <p>The P6 Professional administrator, program manager, project manager, resource/cost manager, and team leader should read this Help.</p>
<i>P6 Help</i>	<p>Describes how to create, manage, plan, and schedule projects, group projects into portfolios, administer all enterprise data, application settings, user accounts, and security profiles, maintain both the organizational breakdown structure (OBS) and enterprise project structure (EPS), manage resources and roles, track risks, issues, and notebooks, create and reuse templates, evaluate budgets, analyze performance and ROI for project portfolios, participate in workflows and document reviews, approve timesheets, and generate reports.</p> <p>The operations executive, P6 EPPM and P6 administrator, program manager, project manager, resource/cost manager, and team leader should read this Help.</p>

Title	Description
<i>P6 Progress Reporter Administrator Help</i>	<p>Describes how to enter database connection information for the P6 Progress Reporter server and modify P6 Progress Reporter server and application settings.</p> <p>The P6 EPPM network administrator/database administrator should read this Help.</p>
<i>P6 Progress Reporter Help</i>	<p>Describes how to use P6 Progress Reporter to enter and update time spent on assignments.</p> <p>Team members using P6 Progress Reporter should read this Help.</p>
<i>P6 Progress Reporter User's Guide</i>	<p>This guide explains how to report work time and provide status on assigned activities using P6 Progress Reporter.</p> <p>Team members using P6 Progress Reporter should read this guide.</p>
<i>Primavera P6 Visualizer Help</i>	<p>Describes how to create, modify, and manage Timescaled Logic Diagrams and Gantt charts. The Visualizer application can connect to a P6 Professional or EPPM database. Visualizer can only be installed via the P6 Professional setup. However, you can run Visualizer without P6 Professional installed.</p> <p>All users should read this Help.</p>
<i>P6 EPPM Web Services Programmer's Guide, and P6 EPPM Web Services Reference Manual</i>	<p>The <i>P6 EPPM Web Services Programmer's Guide</i>, available as an HTML help system, describes how to invoke, use, and troubleshoot the available services/operations within supported environments. The <i>P6 EPPM Web Services Reference Manual</i>, also available as an HTML help system, describes all services and operations available in P6 EPPM Web Services in a comprehensive manner.</p> <p>Anyone who wants to develop applications which interact with P6 should read this guide.</p>
<i>P3 to P6 EPPM Migration Guide</i>	<p>This guide provides best practices for migrating your P3 data to P6 EPPM, and details how P3 functionality maps to P6 EPPM functionality.</p> <p>All administrators should read this guide.</p>

Distributing Information to the Team

You can copy the online documentation to a network drive for access by project participants. Each team member can then view or print those portions that specifically relate to his or her role in the organization.

Throughout this documentation, the Security Guidance icon  helps you to quickly identify security-related content to consider during the installation and configuration process.

Where to Get Training

To access comprehensive training for all Primavera products, go to:

<http://education.oracle.com>

Where to Get Support

If you have a question about using Oracle products that you or your network administrator cannot resolve with information in the documentation or help, click <http://support.oracle.com/>. This page provides the latest information on contacting Oracle Global Customer Support, knowledge articles, and the support renewals process.

P6 EPPM integrates with different Oracle applications; when you create a Service Request, be sure to open the request with the proper Support team. To ensure you reach the proper Support team, enter the correct product information when you create the Service Request. Each product has its own support line.

- ▶ Use the **Primavera P6 EPPM** support line when you are having installation, configuration, or connection issues related to P6 EPPM.
- ▶ Use one of the following support lines when you are having installation or configuration issues that do not relate to P6 EPPM.
 - ▶ Oracle WebLogic Server
 - ▶ Oracle Database Server
 - ▶ BI Publisher
 - ▶ BPM
 - ▶ Oracle Webcenter Content Core Capabilities (formerly Universal Content Management)
 - ▶ Oracle Enterprise Manager
 - ▶ Oracle Access Manager
 - ▶ Oracle AutoVue

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/us/support/contact-068555.html> or visit <http://www.oracle.com/us/corporate/accessibility/support/index.html> if you are hearing impaired.

Using Primavera's Support Resource Centers

Primavera's Support Resource Center provides links to important support and product information. Primavera's Product Information Centers (PICs) organize documents found on My Oracle Support (MOS), providing quick access to product and version specific information such as important knowledge documents, Release Value Propositions, and Oracle University training. PICs also offer documentation on Lifetime Management, from planning to installs, upgrades, and maintenance.

Visit <https://support.oracle.com/epmos/faces/DocumentDisplay?id=1486951.1> to access links to all of the current PICs.

PICs also provide access to:

- ▶ **Communities** are moderated by Oracle providing a place for collaboration among industry peers to share best practices.
- ▶ **News** from our development and strategy groups.
- ▶ **Education** contains a list of available Primavera product trainings through Oracle University. The Oracle Advisor Webcast program brings interactive expertise straight to the desktop using Oracle Web Conferencing technology. This capability brings you and Oracle experts together to access information about support services, products, technologies, best practices, and more.

For more information about working with Support, visit <https://support.oracle.com/epmos/faces/DocumentDisplay?id=888813.2>.

About the Planning Your Implementation Guide

This book provides information on planning your implementation. It provides an installation process overview, frequently asked questions, client and server requirements, and security information.

In This Section

Who Should Help with the Installation?	11
Installation and Configuration Process Phases	13
Technical Environments	15

Who Should Help with the Installation?

Your organization needs several types of employees to install and configure P6 EPPM applications. The following section describes the basic roles, and the responsibilities given to those roles when installing your products. Roles might vary or overlap depending on the structure of your organization.


Network administrators

Network administrators configure an organization's network environment (local- and wide-area networks) for optimal performance with P6 EPPM applications. They install and maintain the server and client modules in the P6 EPPM solution. 🛡️ They manage user access to project data and develop and maintain a comprehensive security policy to protect project data from unauthorized access, theft, or damage. Network administrators ensure that the hardware and software supporting P6 EPPM function reliably by:

- ▶ Setting up and maintaining the network to ensure reliable connections and the fastest possible data transfer.
- ▶ Creating and maintaining accurate lists of network resources and users so that each has a unique network identity.
- ▶ 🛡️ Providing secure connections among applications using SSL/TLS to protect data in transit.



Database administrators

Database administrators (DBAs) are responsible for setting up, managing, and assigning access rights for P6 EPPM. They set and oversee rules on how to use corporate databases, maintain data integrity, and set interoperability standards. Database administrators ensure reliable access to the P6 EPPM database by:

- ▶ Installing, configuring, and upgrading database server software and related products.
- ▶ Creating and implementing the databases.
- ▶  Implementing and maintaining database security, including creating and maintaining users, roles, and privileges for the databases.
- ▶ Monitoring database performance and tuning.
- ▶ Planning for growth and changes.
- ▶ Establishing and maintaining backup and recovery policies and procedures.

P6 EPPM administrators

P6 EPPM administrators ensure that P6 EPPM applications are implemented properly and operate smoothly. They play a key role during implementation by:

- ▶ Working with senior management to establish the enterprise project structure, resource hierarchy, and organizational breakdown structure (OBS); set up basic calendars; and define organization-wide codes in P6.
- ▶  Working with the network administrator to create user accounts and user groups for P6 EPPM.
- ▶  Assigning security rights to P6 EPPM users in P6.
- ▶ Working with the Human Resources (HR) department to keep the resource hierarchy in P6 up-to-date and complete, possibly through integration of an HR component from an enterprise resource planning (ERP) system.
- ▶ Configuring user interface views in P6 to provide efficient, role-based navigation to features.

Web Application administrators

Web Application administrators are responsible for installing, configuring, and deploying P6 EPPM on one of the supported Java application servers. Along with network administrators, they help to maintain server components in the P6 EPPM solution and configure access to P6 EPPM web applications.

Web application administrators ensure reliable access to P6 EPPM applications by:

- ▶ Installing, configuring, and upgrading application server software and related products.
- ▶ Configuring secure access to all web applications, including proxy servers.
- ▶ Monitoring server performance and tuning.
- ▶ Planning for growth and changes.
- ▶ Establishing and maintaining scalability.

LDAP administrators

LDAP administrators are responsible for configuring unified access to P6 EPPM via existing LDAP connection details. They are also responsible for assisting web application administrators and network administrators when configuring single sign-on access to P6 EPPM.

Program and project managers

Program and project managers might also become involved in the initial configuration of the P6 EPPM solution, though they are not normally involved in the installation. They are responsible for managing one or more projects and use P6 or P6 Professional for:

- ▶ Adding projects to the P6 EPPM database.
- ▶ Prioritizing resources across projects.
- ▶ Planning and managing projects.


Installation and Configuration Process Phases

The network administrator, database administrator, and P6 Administrator should work together to successfully install the P6 EPPM solution for your organization.

Oracle recommends installing and configuring the P6 EPPM solution in phases. Each phase is explained below.

Phase 1: Plan your P6 EPPM configuration

Before you begin the installation:

- ▶ Decide how your organization will implement the P6 EPPM solution. See **Planning Your Implementation** (on page 17).
- ▶ Identify the servers and network hardware you will need to support the implementation. See **Client and Server Requirements** (on page 20).
- ▶  Identify the security requirements for your installation. See **Security Guidance Overview** (on page 21).
- ▶ Install and configure the third-party database server software (Oracle or Microsoft SQL Server).
- ▶ Perform any upgrade procedures to roll projects from previous versions into the new version.

Phase 2: Configure your P6 EPPM servers

Once you have set up your network and prepared your servers, you can begin to configure the servers. Start by setting up the P6 EPPM database on the database server. You can choose an automated or a manual method to complete this process. Oracle recommends the automated method.

Phase 3: Install and configure your P6 EPPM applications

You can use the P6 EPPM Installation Wizard to install all of your P6 EPPM applications. You no longer need to install each application one at a time. The wizard installs the following:

- ▶ P6 (and its help, tutorials, and Oracle Configuration Management (OCM))
- ▶ P6 Progress Reporter (and its help)
- ▶ P6 Team Member (includes P6 Team Member Web, P6 Team Member for iPhone, and E-mail Statusing Service)

Note: You will need to configure E-mail Statusing Service separately. The installation wizard will provide the E-mail Statusing Service files and you will use the `config.properties` file to set up this service.

- ▶ P6 EPPM Web Services
- ▶ P6 Integration API (remote mode only)

Note: Oracle provides a separate installer for P6 Integration API local mode.

If you use BI Publisher, BPM, or a content repository, you will need to install and configure them to work with P6 EPPM before you connect them with the wizard.

Once you install your applications, you can use the P6 EPPM Configuration Wizard to configure your database; deploy your P6 EPPM applications in WebLogic and create managed servers; connect BI Publisher, BPM 10g or 11g, or a content repository (Oracle Universal Content Management or Microsoft SharePoint) to P6 EPPM.

Phase 4: Configure P6 Professional

Once your servers are configured and the databases are installed, you can begin to install P6 Professional on your client workstations according to your implementation plan. You can then perform application configuration tasks for your implementation.

Phase 5: Finalize Your Applications

Use the *P6 EPPM Post Installation Administrator's Guide* to finalize the applications so your users can use these applications successfully.

Technical Environments

When deploying P6 components, Oracle recommends maintaining non-production environments in addition to your production environment. Non-production environments are typically known as: Development Environment, Testing Environment, and Staging Environment. Non-production environments allow you to safely test and integrate changes into the system. These changes could include software upgrades, version upgrades, platform and operating system upgrades, configuration changes, and adding new modules. A general description of each environment is shown below. You may choose to maintain only some of them based on the size of your deployment; however, you should consider all of them when setting up your system.

Development Environment

In-house developers or administrators should use development environments to deploy components to develop integrations or proof-of-concept projects.

Testing Environment

Use the testing environment to validate new features of upgraded components, configuration setting changes, or regression testing of existing features.

Staging Environment

This environment is very similar to the Production Environment because it contains all (or mostly all) deployed components of the system. Use it for further testing so you can resolve any integration issues before going live to the Production Environment.

Production Environment (required)

This is the environment where users actually do their work and contains all deployed components of the system.

Planning Your Implementation

Read this chapter when you are ready to plan your implementation. For more detailed information and assistance, please consult with Oracle Global Customer Support (if you have questions about installation) or Oracle Primavera GBU Consulting (if you want Oracle Primavera to assist you with your implementation.)

In This Section

Which Components Do I Need?	17
Client and Server Requirements	20
Security Guidance Overview	21
Safe Deployment of P6 EPPM.....	21
Authentication Options for P6 EPPM	25
Authorization for P6 EPPM	25
Confidentiality for P6 EPPM	26
Sensitive Data for P6 EPPM	26
Reliability for P6 EPPM.....	26
Cookies Usage in P6 EPPM.....	27
Additional Sources for Security Guidance	31

Which Components Do I Need?

When planning your implementation, you will first need to know which client modules and server components you will need to install and configure, and where those modules and components need to be installed. The following is a set of questions that you will want to answer before you begin.

Which relational database management system (RDBMS) will you use on your database server?

You can use either Oracle or Microsoft SQL Server on your database server. If your P6 EPPM database is a Microsoft SQL Server database, you must first install and configure the Oracle Gateway to use P6 Reporting Database with P6 EPPM. Installation and configuration of the Oracle Gateway is explained in the *P6 Reporting Database Installation and Configuration Guide*.

Which workstations will require P6 Professional?

All P6 Professional users will need access to the database server. If using Oracle as the RDBMS, you will need to install the Oracle client software on each computer that runs this client module. If using Microsoft SQL Server as the RDBMS, the required Microsoft SQL Server files have already been included with Windows.

Do you want your administrators to install P6 Professional using standardized preconfigured settings?

If you want your client module to be configured identically, your administrators can run an unattended setup based on a standard configuration. You can create one or more sets of unattended setup files and share them on a network server.

Do you need to integrate your project data with other global systems?

If you need to integrate your project data with other global systems, such as Accounting or Human Resources applications, you will need to install P6 Integration API or P6 EPPM Web Services on computers that require access to the data. The P6 Integration API requires knowledge of Java programming. P6 EPPM Web Services seamlessly integrates P6 EPPM functionality into other applications via open standards, including XML, SOAP, and WSDL.

Do some users require the ability to manage their projects in Microsoft Project while utilizing P6 EPPM to manage global data?

Your organization might currently use Microsoft Project to manage projects. Use P6 and P6 Professional import/export functionality to share projects, resources, and roles data with Microsoft Project. For more information, see the *P6 Help* or the *P6 Professional Help*.

Will your team members use P6 Progress Reporter to submit timesheets to the project/resource managers? If so, will you require that resource and/or project managers review and approve resource timesheets?

If team members will use P6 Progress Reporter, you will need to install P6 Progress Reporter files on an application server.

If you require that resource and/or project managers review and approve resource timesheets, you must install P6. The Timesheet Approval application, which is installed on the P6 EPPM application server when you install P6, enables timesheet approval managers to review, approve, and reject timesheets, communicate with P6 Progress Reporter resources, and run timesheet reports. Once installed, you can configure access to Timesheet Approval from P6.



Do you want to utilize password security features?

When the authentication mode is set to "Native," most of P6 EPPM, with the exception of the P6 Professional SDK, offers a strong password policy feature. When enabled, this feature requires that all new and modified passwords be between 8 and 20 characters and contain at least one number and one letter. P6 offers additional password security enhancements when using Native mode, such as a login lockout count and login lockout duration. If using Single Sign-On or LDAP authentication, the security set on the host authentication server overrides the password security features in P6 EPPM.

What technologies do I need to support my integrations?

You will need these technologies to support your integrations:

- ▶ For reporting, you'll need Oracle BI Publisher (or Oracle Business Intelligence).

- ▶ To support project initiations for Workflows, you'll need Oracle BPM.
- ▶ For Content Repository documents, you'll need Oracle Universal Content Management, Microsoft SharePoint, or a CMIS-compliant content repository.
- ▶ For visualization support in documents, you'll need Oracle AutoVue.
- ▶ To remotely capture configuration information, you'll need Oracle Configuration Management.

Also, you can use Oracle Identity Manager to:

- ▶ Centrally administer user accounts and access privileges
- ▶ Deploy a P6 EPPM plugin in Oracle Enterprise Manager to display P6 EPPM metrics.

For more information about P6 EPPM's integration with Oracle Identity Manager see *Connecting Oracle Identity Manager 10G/11G to P6*.

If We Use P6 Progress Reporter, Which Version Should We Use?

P6 Progress Reporter consists of the P6 Progress Reporter client on the front end, the database server that contains your projects on the back end, and the application server hosting P6 Progress Reporter files in the middle, providing a link between P6 Progress Reporter clients and the database.

P6 EPPM facilitates project communication among team members by providing two types of interfaces for P6 Progress Reporter: a Java Web Start version and a Web Browser version. The Web Browser version is optional and depends on your configuration. The differences between the two interfaces are:

- ▶ **Java Web Start version** Enables users to access their timesheet data across the Internet as a Java *application*.

Java Web Start provides a secure and platform-independent deployment of P6 Progress Reporter, using the Java Network Launching Protocol (JNLP) technology. Java Web Start also ensures that users always launch the most recent version of P6 Progress Reporter under the correct JRE version, even if there is more than one JRE version present. Java Web Start automatically downloads the most recent version of P6 Progress Reporter to the user's computer, so users never have to upgrade manually.

- ▶ **Web Browser version** Performs the same function as the Java Web Start version, but this version runs as a Java applet. You must have this version when using Single Sign-On authentication.

To run the Web Browser version, users visit a specified URL, and the Java applet automatically downloads to their computers; their computer can then run the applet. When many of your users will need to use P6 Progress Reporter, run it as a Java applet to save time with administration—no client-side installation is required, and software updates distribute automatically. The primary disadvantage is the initial download time for the applet.

Required Server Components for Web-based Access in P6 EPPM

P6 provides access to project data via a Web browser. It supports creating and managing projects within the company, provides resource availability and allocation details, and provides project portfolio reporting features to support strategic decision-making.

The following table lists each client component and the corresponding server-based components that it requires.

	RDBMS server	P6 Progress Reporter server	P6 server	Content and Workflows Repositories server
P6 Professional module	x ¹		x	
P6 Progress Reporter module	x	x	x	
P6 module	x	x ²	x	x ³

- ¹ If using Oracle as the RDBMS, these modules require the Oracle client software to be on the client computer.
- ² P6 Progress Reporter is an optional component in this case; you need it only if you are using P6 Progress Reporter functionality.
- ³ The Content and Workflows Repositories are optional components of P6. They can serve as aids in document management and project initiation processes.

Client and Server Requirements

After determining your P6 EPPM implementation plan, ensure that your hardware and software can support it.

For the full list of system requirements, versions, and tested configurations, see the *Tested Configurations* document. For guidance on hardware and software requirements, see the *P6 Enterprise Project Portfolio Management Performance and Sizing Guide*.


Minimum Hard Disk Space

Installing the entire P6 EPPM suite requires 1GB of hard disk space. If you configure the WebLogic domain, that will require 1.75GB of hard disk space; it also requires 4GB of available system memory.

Note: These numbers do not include the space the database requires because that is dependent on how you configure it.

Security Guidance Overview

During the installation and configuration process for P6 EPPM, several options are available that impact security. Depending on your organization's needs, you might need to create a highly secure environment for all P6 EPPM environments. Use the following guidelines to plan your security strategy for P6 EPPM:

- ▶ Review all security documentation for applications and hardware components that interact or integrate with P6 EPPM. Oracle recommends you harden your environment. See **Additional Sources for Security Guidance** (on page 31) for links to information that can help you get started.
- ▶ Read through the summary of considerations for P6 EPPM included in this document. Areas covered include: safe deployment, authentication options, authorization, confidentiality, sensitive data, reliability, and cookies usage.
- ▶ Throughout this documentation, the Security Guidance icon  helps you to quickly identify security-related content to consider during the installation and configuration process. Once you begin the installation and configuration of your P6 EPPM environment, use the Security Guidance icon as a reminder to carefully consider all security options.

Tips

As with any software product, be aware that security changes made for third party applications might affect P6 EPPM applications. For example, if you configure WebLogic to use only SSL v3.0, you must disable TLS v1.0 for the client JRE for P6 to launch properly. If using an Internet Explorer browser, you must also disable TLS v1.0 in Internet Options.

Safe Deployment of P6 EPPM

To ensure overall safe deployment of P6 EPPM, you should carefully plan security for all components, such as database servers and client computers that are required for and interact with P6 EPPM. In addition to the documentation included with other applications and hardware components, follow the P6 EPPM-specific guidance below.

Administrative Privileges Needed for Installation and Operation

As the P6 EPPM Administrator, you should determine the minimum administrative privileges or permissions needed to install, configure, and operate P6 EPPM. For example, to successfully install the required JRE for P6 EPPM Web applications (for example, P6 and P6 Progress Reporter), you must be an administrator on the client machine during this installation or update.

Minimum Client Permissions Needed for P6 and P6 Progress Reporter

Because P6 and P6 Progress Reporter are Web applications, users do not have to be administrators on their machines to run them. Instead, you can successfully run these applications with security at the highest level to create a more secure environment.

Minimum Client Permissions Needed for P6 Professional

Users do not have to be administrators on their machines to run P6 Professional. Instead, you can grant minimum permissions to create a more secure environment.

The following is a summary of the minimum system requirements needed to access and run components of P6 Professional R8.3:

Files within Folders:

- ▶ *local drive*\Program Files\Oracle\Primavera P6\P6 Professional
dbexpsda40.dll
dbexpsda30.dll
dbexpint.dll
dbexpoda40.dll
dbexpoda30.dll
DbExpPrC.dll (only needed when using Compression Server)
dbexpsda.dll
dbxadapter30.dll (only needed when using Compression Server)
Read&Execute/Read permission to access files needed to run P6 Professional applications and to create and modify database alias connections.
- ▶ *local drive*\Program Files\Oracle\Primavera P6\P6 Professional\pm.ini
Read&Execute/Read/Write permission to access the ini file, which is required to log into P6 Professional applications.
- ▶ *local drive*\Program Files\Oracle\Primavera P6\P6 Professional\Java\
dbconfig.cmd
admin.cmd
Read&Execute/Read permissions to run the Database Configuration setup, the P6 Administrator application, and API tools (Update Baseline and Schedule Comparison/Claim Digger).
Write permission may be required for the Database Configuration Setup utility (dbconfig.cmd) for the API tools if you need to create a new configuration and update the BREBootStrap.xml file with the new database configuration information.
For your reference, the following are the default installation locations for the PrmBootStrap.xml and BREbootstrap.xml files:
 - ▶ Windows XP:

\%USERPROFILE%\Local Settings\Application Data\Oracle\Primavera P6\P6 Optional Client

- ▶ Windows Vista and 7:

\%LOCALAPPDATA%\Oracle\Primavera P6\P6 Optional Client

During installation, the PrmBootStrap.xml and BREbootstrap.xml files are also copied to one of the locations below, depending on your operating system. The files will never be modified while using P6 Professional, so they can be copied to the current user location (USERPROFILE or LOCALAPPDATA) if you need to revert P6 Professional back to its original state (for example, if files become corrupted).

- ▶ Windows XP:

\%ALLUSERSPROFILE%\Application Data\Oracle\Primavera P6\P6 Professional

- ▶ Windows Vista and 7:

\%PROGRAMDATA%\Oracle\Primavera P6\P6 Professional

- ▶ Output directory for File > Export , Log output files
Read&Execute/Read/Write to create and write output files.

Registry Keys:

- ▶ HKEY_LOCAL_MACHINE\Software\Primavera
READ


Note: For the Update Baseline and Schedule Comparison/Claim Digger tools, the key opens in Read/Write/Delete mode.

Physical Security Requirements for P6 EPPM

You should physically secure all hardware hosting P6 EPPM to maintain a safe implementation environment. Consider the following when planning your physical security strategy:

- ▶ You should install, configure, manage, and maintain your environment according to guidance in all applicable installation and configuration documentation for P6 EPPM.
- ▶ You should install P6 EPPM components in controlled access facilities to prevent unauthorized access. Only authorized administrators for the systems hosting P6 EPPM should have physical access to those systems. Such administrators include the Operating System Administrators, Application Server Administrators, and Database Administrators.
- ▶ You should use Administrator access to client machines only when you install and configure P6 EPPM modules.

Application Security Settings in P6 EPPM

P6 EPPM contains a number of security settings at the application level. The *P6 EPPM Post Installation Administrator's Guide* details these settings. Use the Security Guidance icon  to quickly identify them.

To help you organize your planning, the following are options Oracle recommends:

- ▶ In your production environment, opt for empty data instead of sample data during the P6 EPPM database setup.
- ▶ Turn on Password Policy in Application Settings. An enabled Password Policy will increase the required length and quality of the password.
- ▶ Enable firewall in the application server and database server. Based on your installation, add exceptions for appropriate ports.

For instance, P6 EPPM SQL Server Database runs on 1433 port and Oracle Database runs on 1521 port by default. P6 EPPM, P6 Progress Reporter, P6 Team Member Web web run on 8203, 8204, 8207 ports respectively in the default installation.

- ▶ In the P6 Administrator application:
 - ▶ evaluate the Login Lockout Count; the default is 5.
 - ▶ keep Multiple User for the Content Repository authentication mode.
 - ▶ use Security Accounts if using Oracle Universal Content Management for the Content Repository.
 - ▶ use STRONG for the Directory Services security level.
 - ▶ keep the Enable Cross Site Scripting Filter setting set to true.
 - ▶ enable LDAP or WebSSO for authentication.
 - ▶ if using WebSSO, set "Application\Logout URL" in the P6 Administrator application to your SSO logout URL to ensure that the SSO sessions end.
 - ▶ enable the HTTPS authentication setting.

Note: The HTTPS authentication setting requires that web server and application server settings support SSL.

Files to Protect after Implementation

While P6 EPPM requires specific files for installation and configuration, you do not need some for daily operations. The following is not a comprehensive list, but you should protect these files or move them to a secure location after installation and configuration:

- ▶ **DatabaseSetup.log**
Captures processes performed during P6 EPPM database installation.
Default Location = user home directory (for example, C:\Documents and Settings\Administrator)
- ▶ **adminpv.cmd** (or **adminpv.sh** for Linux)

Launches the P6 Administrator application.

Default location = P6 EPPM home directory, as specified during installation

▶ **dbconfigpv.cmd** (or **dbconfig.sh** for Linux)

Used to create the connection between the P6 EPPM database and P6.

Default location = P6 EPPM home directory, as specified during installation

▶ **p6-emplugin.jar**

A P6 EPPM-specific plug-in used to enable displaying P6 metrics in Oracle Enterprise Manager.

Default location = P6 EPPM home directory, as specified during installation

Authentication Options for P6 EPPM

Authentication determines the identity of users before granting access to P6 EPPM modules. P6 EPPM offers the following authentication modes:

- ▶ **Native** is the default mode for P6 EPPM. In Native mode, the P6 EPPM database acts as the authority and the application handles the authentication of the user who is logging into that application.
- ▶ **Single Sign-On (SSO)** controls access to Web applications, specifically P6 Progress Reporter and P6. In SSO mode, P6 EPPM applications are protected resources. When a user tries to login to one, a Web agent intercepts the login and prompts the user for login credentials. The Web agent passes the user's credentials to a policy server, which authenticates them against a user data store. With SSO, once the users login, they are logged into all Web applications during their browser session (as long as all Web applications authenticate against the same policy server).
- ▶ **Lightweight Directory Access Protocol (LDAP)** authenticates users through a directory and is available for all P6 EPPM applications. P6 EPPM supports LDAP referrals with Oracle Internet Directory and Microsoft Windows Active Directory. LDAP referrals allow authentication to extend to another domain. You can also configure multiple LDAP servers, which supports failover and enables you to search for users in multiple LDAP stores. In LDAP mode, an LDAP directory server database confirms the user's identity when they attempt to login to a P6 EPPM application.

Single Sign-On or LDAP will help you to create the most secure authentication environment available in P6 EPPM.

P6 EPPM Web Services offers its own authentication options. If you use SAML for P6 EPPM Web Services, you must use Single Sign-on or LDAP authentication for P6 EPPM. See the *P6 EPPM Post Installation Administrator's Guide* for more information on P6 EPPM Web Services authentication options.

Authorization for P6 EPPM

Grant authorization carefully to all appropriate P6 EPPM users. The *P6 EPPM Post Installation Administrator's Guide* details the most secure application security options.

To help you with security planning, consider the following authorization-related options:

- ▶ Use Module Access rights to limit access to P6 EPPM modules.
- ▶ Use Global profiles to limit privileges to global data. Assign the Admin Superuser account sparingly.
- ▶ Use Project profiles to limit privileges to project data. Assign the Project Superuser account sparingly.
- ▶ Assign OBS elements to EPS and WBS nodes to limit access to projects.
- ▶ Assign resource access limitations to each user.

Confidentiality for P6 EPPM

Confidentiality ensures only authorized users see stored and transmitted information. In addition to the documentation included with other applications and hardware components, follow the P6 EPPM-specific guidance below.

- ▶ For data in transit, use SSL/TLS to protect network connections among modules. If you use LDAP or SSO authentication, ensure you use LDAPS to connect to the directory server.
- ▶ For data at rest, refer to the documentation included with the database server for instructions on securing the database.

Sensitive Data for P6 EPPM

Protect sensitive data in P6 EPPM, such as user names, passwords, and e-mail addresses. Use the process below to help during your security planning:

- ▶ Identify which P6 EPPM modules you will use.
- ▶ Determine which modules and interacting applications display or transmit data that your organization considers sensitive. For example, P6 displays sensitive data, such as costs and secure codes.
- ▶ Implement security measures in P6 EPPM to carefully grant users access to sensitive data. For example, use a combination of Global Profiles, Project Profiles, and OBS access to limit access to data.
- ▶ Implement security measures for applications that interact with P6 EPPM, as detailed in the documentation included with those applications. For example, follow the security guidance provided with Oracle WebLogic.

Reliability for P6 EPPM

Protect against attacks that could deny a service by:

- ▶ Installing the latest security patches.
- ▶ Replacing the default Admin Superuser (admin) immediately after a manual database installation or an upgrade from P6 version 7.0 and earlier.
- ▶ Ensuring log settings meet the operational needs of the server environment. Do not use "Debug" log level in production environments.

- ▶ Documenting the configuration settings used for servers and create a process for changing them.
- ▶ Setting a maximum age for the session cookie on the application server.
- ▶ Protecting access to configuration files with physical and file system security.

Cookies Usage in P6 EPPM

View the details below for information on when cookies are created and stored when using P6 and P6 Progress Reporter. As stated in **Reliability for P6 EPPM** (on page 26), set a maximum age for the session cookie on the application server.

Cookies Usage in P6

When using P6, the server generates the following cookies and sends them to the user's browser. The user's machine stores the cookies, either temporarily by the browser, or permanently until they expire or are removed manually.

Cookie Name	Description	Scope	Retention	Encrypted?
ORA_PWEB_CLIENTLOCAL_E_1111	Browser client locale	/p6/	One year	No
ORA_PWEB_SELECTED_DBID_1111	The last database identifier selected by the user	/p6/	One year	No
ORA_PWEB_IA_HD_CODE_1111	IP and identifier of client machine	/p6/	One year	No
ORA_PWEB_LANGUAGE_1111	The translation selected by the user	/p6/	One year	No
ORA_PWEB_Composite_Cookie_1111	Login and user customizations accumulated throughout the session	/p6/	One year	No
ORA_PWEB_COMPOSITE_SESSION_COOKIE_1111	Statistics portlet customizations	/p6/	None (expires at end of session)	No
JSESSIONID	Session identifier	default	None (expires at end of session)	No

sw	Applies only for P6 Help systems. The last search term used in the search tab located on the table of contents frame.	Current working directory only on the current host (for example, if located at http://host/p6help, only valid for the http://host/p6help directory)	None (expires at end of session)	No
sm	Applies only for P6 Help systems. The type of search used in the search tab located on the table of contents frame. Value corresponds as: 0: All words, 1: Any words, 2: Exact phrase. Any other value is invalid.	Current working directory only on the current host (for example, if located at http://host/p6help, only valid for the http://host/p6help directory)	None (expires at end of session)	No
ORA_PHELP_1111	Applies only for P6 Help systems. The current style for the help reference manual. Only valid values are "contrast" or "default".	Any location on the current domain.	One year	No

Cookies Usage in P6 Progress Reporter

When using P6 Progress Reporter, the server generates the following cookies and sends them to the user's browser. The user's machine stores the cookies, either temporarily by the browser, or permanently until they expire or are removed manually.

Cookie Name	Description	Scope	Retention	Encrypted?
ORA_PR_OPENMETHOD_1111	Saves the method to load activities into Timesheet in P6 Progress Reporter based on user's selected options	/pr/	One year	No
ORA_PR_AUTOINC_1111	Selects the option for adding completed assignments in the dialog box	/pr/	One year	No
ORA_PR_COPYADD_1111	Determines whether to select the add current option in the open dialog box	/pr/	One year	No
ORA_PR_COPYINC_1111	Determines whether to select the copy completed option in the open dialog box	/pr/	One year	No
ORA_PR_Highbandwidth_1111	Determines whether the user specified that the network connection is fast	/pr/	One year	No

sw	Applies only for P6 Help systems. The last search term used in the search tab located on the table of contents frame.	Current working directory only on the current host (for example, if located at <code>http://host/p6help</code> , only valid for the <code>http://host/p6help</code> directory).	None (expires at end of session)	No
sm	Applies only for P6 Progress Reporter Help systems. The type of search used in the search tab located on the table of contents frame. Value corresponds as: 0: All words, 1: Any words, 2: Exact phrase. Any other value is invalid.	Current working directory only on the current host (for example, if located at <code>http://host/p6help</code> , only valid for the <code>http://host/p6help</code> directory).	None (expires at end of session)	No

ORA_PHELP_1111	Applies only for P6 Progress Reporter Help systems. The current style for the help reference manual. Only valid values are "contrast" or "default".	Any location on the current domain.	One year	No
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Cookies Usage in P6 Team Member Web

When using P6 Team Member Web, the server generates the following cookies and sends them to the user's browser. The user's machine stores the cookies, either temporarily by the browser, or permanently until they expire or are removed manually.

Cookie Name	Description	Scope	Retention	Encrypted?
JSESSIONID	Session Identifier	/p6tmweb	None	No
notebookTopicsDialogHeight	Saves height if the user resizes the "Notebook Topics" dialog.	/p6tmweb	30 minutes	No
notebookTopicsDialogWidth	Saves width if the user resizes the "Notebook Topics" dialog.	/p6tmweb	30 minutes	No

Additional Sources for Security Guidance

You should properly secure the databases, platforms, and servers you use for your P6 EPPM. You might find the links below helpful when planning your security strategy (not a comprehensive list).

Note: The URLs below might have changed after Oracle published this guide.

Oracle Database

http://download.oracle.com/docs/cd/B19306_01/network.102/b14266/toc.htm

Oracle Linux Security Guide

<http://www.oracle.com/technetwork/articles/servers-storage-admin/secure-linux-env-1841089.html>

Microsoft SQL Server 2005 Database

<http://www.microsoft.com/sqlserver/2005/en/us/security.aspx>

Microsoft SQL Server 2008 Database

<http://www.microsoft.com/sqlserver/2008/en/us/Security.aspx>

Microsoft Windows 2008 Server

[http://technet.microsoft.com/en-us/library/dd548350\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/dd548350(WS.10).aspx)

Microsoft Windows 2003 Server

<http://www.microsoft.com/downloads/details.aspx?familyid=8A2643C1-0685-4D89-B655-521EA6C7B4DB&displaylang=en>

Oracle WebLogic

http://download.oracle.com/docs/cd/E12839_01/web.1111/e13710/intro.htm#sthref8

http://download.oracle.com/docs/cd/E15523_01/web.1111/e13707/toc.htm

http://download.oracle.com/docs/cd/E15523_01/web.1111/e13705/intro.htm

http://download.oracle.com/docs/cd/E12840_01/wls/docs103/secmanage/ssl.html

Oracle Fusion Middleware Security Guides

http://download.oracle.com/docs/cd/E12839_01/security.htm

Choosing Your Installation and Configuration Process

Once you know your components and client and server requirements, you can begin your installation and configuration. P6 EPPM R8.3 provides a simpler way to install and configure your database, web server, and applications by allowing you to install all of your applications at once and configure them with one configuration wizard.

You can choose to install and configure your applications automatically or you can choose a manual process for configuring your database, application server, and applications.

In This Section

Installing P6 EPPM Applications.....	33
Configuring Your P6 EPPM Applications with the P6 EPPM Configuration Wizard	34
Configuring Your P6 EPPM Applications Manually	34
Installing Additional Applications	35

Installing P6 EPPM Applications

You will use the setup.exe in the Primavera P6 Enterprise Project Portfolio Management R8.3 physical media or download to install the following P6 EPPM applications:

Note: You do not have to install all applications; you can pick and choose what you install. However, you must install P6 to run the other P6 EPPM applications.

- ▶ P6 (and its help, tutorials, and Oracle Configuration Management (OCM))
- ▶ P6 Progress Reporter (and its help)
- ▶ P6 Team Member (includes P6 Team Member Web, P6 Team Member for iPhone, E-mail Statusing Service)

Notes:

- You will need to configure E-mail Statusing Service separately. The installation wizard will provide the E-mail Statusing Service files and you will use the config.properties file to set up this service. See the *P6 EPPM Post Installation Administrator's Guide*.
- P6 Team Member for iPhone supports SSL (https) only when it has a certificate signed by a valid authority.

- ▶ P6 EPPM Web Services

- ▶ P6 Integration API (remote mode only)

Note: Oracle provides a separate installer for P6 Integration API local mode. See the *P6 Integration API Configuration Guide*.

Based on whether you are installing or upgrading, see one of the following books:

- ▶ *Installing and Configuring P6 EPPM*
- ▶ *Upgrading and Configuring P6 EPPM*

Configuring Your P6 EPPM Applications with the P6 EPPM Configuration Wizard

Oracle recommends you use the P6 EPPM Configuration Wizard to configure P6 EPPM, its applications, and WebLogic. With this option, you can install or upgrade your database, deploy your P6 EPPM applications in WebLogic, and configure a content repository, BI Publisher, and BPM to work with P6.

See *Installing and Configuring P6 EPPM* for information on how to automatically configure P6 EPPM.

Note: If you are using WebSphere, you can still use the P6 EPPM Configuration Wizard to install or upgrade your database and connect BPM, BI Publisher, and the content repository to P6 EPPM; however, you must manually deploy your P6 EPPM applications in WebSphere. The wizard will not deploy the P6 EPPM applications into WebSphere.

Configuring Your P6 EPPM Applications Manually

Database

You can manually install or upgrade your database. If you want to install or upgrade your database manually, you can still use the wizard to deploy your P6 EPPM applications in WebLogic and configure a content repository, BI Publisher, and BPM to work with P6.

If you want to install or upgrade your database manually, see the *Manually Installing the P6 EPPM Database* or *Manually Upgrading the P6 EPPM Database* guide.

P6 EPPM Applications

You can manually deploy your P6 EPPM applications in WebLogic or WebSphere. Depending on which server you are using, use any of the following:

For WebLogic:

- ▶ *P6 and WebLogic Configuration Guide*
- ▶ *P6 Progress Reporter and WebLogic Configuration Guide*
- ▶ *P6 Team Member and WebLogic Configuration Guide*
- ▶ *P6 EPPM Web Services and WebLogic Configuration Guide*

- ▶ *P6 Integration API and WebLogic Configuration Guide*

For WebSphere:

- ▶ *P6 and WebSphere Configuration Guide*
- ▶ *P6 Progress Reporter and WebSphere Configuration Guide*
- ▶ *P6 Team Member and WebSphere Configuration Guide*
- ▶ *P6 EPPM Web Services and WebSphere Configuration Guide*
- ▶ *P6 Integration API and WebSphere Configuration Guide*

Additional Applications

You can also use the P6 Administrator application to connect additional applications to P6. Depending on your application, use the following:

- ▶ *Connecting the Content Repository to P6*
- ▶ *Connecting BI Publisher to P6*
- ▶ *Connecting BPM 10g to P6 or Connecting BPM 11g to P6*

Installing Additional Applications

The following applications will work with P6 EPPM, but are not installed or configured with the wizard. See the guides mentioned for more information about each product.

- ▶ P6 Professional (see the *P6 Professional Installation and Configuration Guide*)
- ▶ Oracle Identity Manager 10g (see *Connecting Oracle Identity Manager 10g to P6*)
- ▶ Oracle Identity Manager 11g (see *Connecting Oracle Identity Manager 11g to P6*)
- ▶ Oracle Enterprise Manager (see *Connecting Oracle Enterprise Manager to P6 EPPM Metrics*)

Where to Go From Here - Post Planning

Now that you have planned your installation and configuration process, you can begin. Follow these steps to get started:

- 1) Install your applications. See *Installing and Configuring Your P6 EPPM Database* or *Upgrading and Configuring Your P6 EPPM Database*.
- 2) If you are automatically configuring your applications, continue using one of the books mentioned above.

If you are manually configuring your applications, use any of the books mentioned in **Configuring Your P6 EPPM Applications Manually** (on page 34).

- 3) Install any additional applications. See **Installing Additional Applications** (on page 35).