



AIM

BR.050 INTEGRATION FIT ANALYSIS

Integration of Oracle Projects 11i with Primavera P6

Author: [Mohammed Sadiq](#)
Creation Date: October 24, 2010
Last Updated: November 11, 2010
Version: 1.4

Approvals:

Document Control

Change Record

Date	Author	Version	Change Reference
24-Oct-10	Mohammed Sadiq	1.0	Initial understanding
27-Oct-10	Mohammed Sadiq	1.1	Revised according to reviewer comments
27-Oct-10	Mohammed Sadiq	1.2	Included a section for alternative solution analysis
08-Nov-10	Mohammed Sadiq	1.3	Updated process best practices received from Oracle
09-Nov-10	Mohammed Sadiq	1.4	Revised according to reviewer comments

Reviewers

Name	Position	Review Date

Distribution

Copy No.	Name	Location
1		
2		

Table of Contents

Document Control ii

Introduction..... 1

 Purpose 1

 Scope and Application..... 1

 Related Documents 1

 Alternative Solution Analysis 2

Overview 3

Business Scenario 4

Oracle PPM Integration Process Flow..... 5

Oracle PPM Integration Benefits 6

Integration Point Mapping..... 7

Synchronizing Global Objects 8

Process Integration of Project Data..... 10

Solution Assumptions and Constraints..... 12

Open and Closed Issues for this Deliverable 13

 Open Issues..... 13

 Closed Issues 13

Table of Figures

Figure 1 - Oracle PPM Integration Pack Process Flow 5

Figure 2 - Process flow of global data between Oracle Projects and Primavera P6..... 8

Figure 3 - Planning resources created in Oracle Projects and synchronized as resources to 9

Figure 4 - Planning resource rates created in Oracle Projects and synchronized as resource rates 9

Figure 5 - Project Created in Primavera P6 and synchronized to Oracle Projects..... 10

Figure 6 - Project Created in Oracle Projects and synchronized to Primavera P6..... 11

Figure 7 - Budgets created in Oracle Projects and synchronized to Primavera P6 11

Figure 8 - Budgets created in Oracle Projects and synchronized to Primavera P6 11

Introduction

Purpose

The purpose of the **Integration Fit Analysis** document is to document the analysis made for the Oracle Projects product with Primavera P6.

The purpose of this document is to provide the project team a single reference for:

- ☐ Integration points between Primavera P6 and Oracle Projects Accounting.
- ☐ Integration points between distributed data installations of Oracle Projects module and Primavera P6.
- ☐ Supported application interface points available for implementation of the identified integration points as automated interfaces.

Scope and Application

This deliverable covers the following types of integration points:

- ☐ External integration points. These are integration points between heterogeneous applications and cover:
 - ☐ Integration between two implemented heterogeneous applications (Oracle Projects and Primavera P6).
- ☐ Distributed data integration points. These are integration points between separate installations of the same application or application suite:

Related Documents

The following are key documents related to the present deliverable:

Oracle Datasheet - Oracle Project Portfolio Management (PPM) Integration Pack for Primavera P6 and Oracle E-Business Suite

This document serves the required input on the integration points and the supported technologies available to leverage the proposed integration.

Implementation Guide – Oracle Project Portfolio Management Integration Pack for Primavera P6 and Oracle E-Business Suite 2.5

The document, which helped to understand the product and license requirements to facilitate the proposed integration.

Alternative Solution Analysis

The following products are considered for the proposed solution and chosen one based on the weightage decision analysis and resolution strategy:

S. No.	Product Name	Product Vendor	License Requirements (apart from the base products)	Documentation/Reference
1.	Oracle Project Portfolio Management Integration Pack for Primavera P6 and Oracle E-Business Suite 2.5	Oracle Corporation	<ul style="list-style-type: none"> Oracle Process Integration Pack (PIP) Oracle Application Integration Architecture (AIA) Foundation Pack Oracle Project Management Oracle Project Portfolio Management 	<ul style="list-style-type: none"> Metalink SR #3-2168237741: Integrating Primavera with Oracle Project Costing (logged using metalink@manna.com.qa) Note 1091836.1 - How to Integrate Primavera with Oracle Projects E-Business Suite? Note 956562.1 - Oracle Project Portfolio Management Integration Pack for Primavera P6 and Oracle E-Business Suite 2.5 – Implementation Guide
2.	OP3™	Project Partners	<ul style="list-style-type: none"> Oracle Project Management OP3 middleware 	<ul style="list-style-type: none"> Fact Sheet - R3 for use with Oracle Project Management Fact Sheet - R2 for use with Oracle Project Costing

The following table provides the weightage parameters that facilitated the decision analysis and resolution:

S. No.	Alternative Solution	Issues with impact factor				
	Weightage	Prerequisites	Cost*	Effort	Support	Total
1.	Oracle PPM PIP	3	5	4	5	17
2.	Project Partners OP3™	4	3	3	3	13

Rating in the scale of 1 to 5, where, 1 being unsatisfied and 5 being satisfied.

** Cost – Exact cost for both solutions is unknown. The rating has been given considering that customer will be able to get a better pricing from Oracle.*

Based on the above analysis, the product “Oracle PPM PIP” has scored a higher rating, so the rest of the following sections of this document will consider this product as the integration solution.

Overview

The world's leading Project Management solutions are Oracle Primavera® applications - used extensively by project management professionals, and Oracle E-Business Suite Projects® applications - a powerful enterprise backbone for financial managers. In order to utilize the best in class products for both project management and project costing, the integration between these two products is important.

The following Oracle products serve as the prerequisites for the proposed integration:

- 1. Oracle Project Management (PJT)**

With respect to the integration, implementation of Oracle Project Management is a major pre-requisite. This serves as the connector between the project management information from Primavera P6 and costing information from Oracle Projects Costing. The workplan (schedule) and financial plan (budget) are synchronized between Primavera P6 and Oracle Project Management, with a constraint, to have a common Work Breakdown Structure (WBS) to be shared between these two products.

- 2. Oracle's Application Integration Architecture (AIA)**

Oracle Application Integration Architecture (AIA) offers prebuilt solutions at the data, process, and user interface level, delivering a more complete process solution to business end users. All Oracle Application Integration Architecture components are designed to work together in a mix-and-match fashion and are built for configurability, ultimately lowering the cost and IT burden of building, extending, and maintaining integrations.

- 3. Oracle's Process Integration Pack (PIP)**

The Process Integration Pack (PIP) is pre-built using process integration best practices. The PIP will provide enterprises with the foundation to support integrated project based business processes thus eliminating the need for duplicate data entry and lowering the chance of errors and the risk to your project.

- 4. Oracle Project Portfolio Management (PPM) Integration Pack for Primavera P6 and Oracle E-Business Suite**

This pre-built integration combines Primavera's best in class work management application with Oracle EBS' best in class financial management solution in a configurable application designed to meet the unique requirements of the organization. This removes the barrier that separate traditional PPM and ERP systems while improving the project success rate.

- 5. Implementation of Primavera P6 on a central database**

As this integration solution works mainly on sharing data between the two systems via Oracle Database, a common repository of projects and global resources need to be maintained for Primavera. Hence, the implementation of Primavera on a central repository is mandatory for the integration tools to manipulate data to and from Oracle ERP system.

Note: Licensing and implementation of Oracle Projects Project Management (PJT) and Oracle Projects Portfolio Management (PPM) is required in order to facilitate the integration prerequisites.

Business Scenario

The present business scenario uses Primavera P6 for scheduling purpose and the Oracle Projects Accounting module for budgeting, costing and billing purposes with no sharing of data between the two systems, which has the following difficulties:

1. The project data needs to be redundantly defined in two different systems, which will be time consuming and prone to data entry errors.
2. There is no sharing of organization or global data such as man-power and project resource availability to take proactive decisions.
3. The project progress need to be updated periodically in two systems, which will be time consuming and redundant in nature.
4. The various project status reports are done manually at present, as the data required is maintained separately in different systems and files.
5. The project data becomes more user dependent, as each user maintains the project related information in their desktop computers following their own fashion. Putting in simple words, there is no centralized repository or processes available to maintain organization project information and this is from Primavera end as it is not really centralized.
6. The control on versioning of various work products such as project schedule, estimates and progress updates remains with the respective user and this leads to difficulties in tracking changes and reporting up-to-date information to top-management.

The following are the business requirements with respect to the integration are concerned:

1. The current process flow of creation of estimate projects will not be taken into the scope of the integration.
2. The approval of contract projects and cost budgets will stay with Oracle Projects as in the current process flow.
3. Project work plan or schedule will be maintained in Primavera P6, sharing the common repository with version control features.
4. The organization resources are used by both the systems from a common repository, which will be maintained by one system, without duplicates.
5. The project updates, including progress and cost will be carried in either of the two systems and the same needs to be copied to other system automatically through minimal user intervention.
6. The information in one system must be synchronized with the other system to facilitate management report extraction.

Oracle PPM Integration Process Flow

Primavera and Oracle Projects integrate at the following points (the direction of flow of information is indicated by arrow heads):

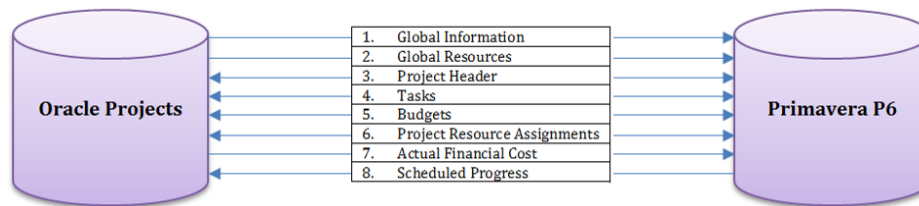


Figure 1 - Oracle PPM Integration Pack Process Flow

The salient features of this integration pack are listed below:

- **Create projects in Primavera or Oracle EBS**

The PIP has provided the ability to create a project in either application and gather the relevant details to establish the project in the other application. Customer's current integration requirement of creating the project in Primavera and importing that into Oracle ERP for costing processes could be achieved as a standard functionality.

- **Choose level of summarization or integrate all task details**

The Oracle PPM Integration Pack for Primavera P6 and Oracle E-Business Suite (EBS) has been designed to give control over how and when your data is synchronized between the applications. The level of detail transferred between the applications is configurable.

- **Integrate Financial Plans or Workplans**

We can link a project scheduled in Primavera with either the project workplan or financial plan in Oracle Project Management. Resource assignments made in Primavera are shared with Oracle to create either equivalent assignments in Oracle workplans, or budget lines in Oracle financial plans. The costs for these assignments or budget lines are calculated using the planning resource rates defined in Oracle Projects.

Note: In order to synchronize workplan structures, Oracle Project Management module need to be licensed, installed, and implemented. And a common WBS needs to be established between the two systems, i.e. decision has to be made to determine at what level the costing information is maintained such as, at BOQ level or project milestone level.

- **Synchronize global resources and rates between applications**

To further ensure data consistency between the applications the PIP will control which system serves as the master for data. Global information regarding resources and rates will be controlled by EBS Projects as well as all financial cost information. Primavera P6 will control the schedule and the resource assignments. This ensures that both systems are fully utilizing their strengths while leveraging the strength of the other application.

- **Capture actual costs in Oracle and send to Primavera**

Oracle Projects maintains and controls your project-based resource rates and calculates the cost amounts from quantities interfaced from Primavera. Schedule and progress updates will flow from Primavera to Oracle, with corresponding cost amounts and actuals passing back from Oracle to Primavera.

- **Configure synchronization to run when you choose**

With the provided controls you will have the ability to schedule the frequency of when a project is synchronized.

Oracle PPM Integration Benefits

Using Oracle PPM Integration Pack for integrating Oracle EBS and Primavera P6 can contain the following benefits:

- ***Flexible setup options allows to configure level of details to be transferred between Oracle Projects and Primavera***

Frequency of synchronization between the two systems is controllable. Data consistency between the applications is achieved in automated fashion, with one system serving as the master for data. This ensures every user will share the same data without need to have data redundancy.

- ***Support by Oracle***

Oracle provides an integration solution that is fully supported with future upgrades, thus minimizing integration risk with upgrades leading to possible lower cost of ownership over time.

Integration Point Mapping

The below table provides a complete list of data sharing between the Oracle Projects and Primavera integration points:

From Primavera® to Oracle Projects®	From Oracle Projects® to Primavera®
<ul style="list-style-type: none"> Project Start and Finish Dates Work Breakdown Structure and Activities Activity Constraints, Constraint Dates and Duration Types Start and Finish Dates for Activities and Resource Assignments Early Start/Finish and Late Start/Finish Dates for Activities Milestones Resource Assignments to Workplan Resource Assignments or Financial Plan Budget Lines Activity Codes to update Task Organization, Task Type, Service Type, Work Type, Billable and Chargeable Flags Primary Resource as Task Manager Estimate to Complete and Estimate at Completion quantities Activity Codes to Update Progress Overview, Progress Status and Progress Comments 	<ul style="list-style-type: none"> Planning Resource List including Resource Organizations, and Employee Data Project Start and Finish Dates Work Breakdown Structure and Tasks Classification Category/Codes as Enterprise Project Structure Codes Workplan Resource Assignments or Financial Plan Budget Lines as Resource Assignments Scheduled Start and Finish Dates for Tasks and Resource Assignments Task and Resource Assignment Planning, Estimate to Complete and Estimate At Completion Costs Project Manager Task Manager as Primary Resource Project Status, Project Type and Project Classification Categories/Codes as Project Codes Actual costs and quantities

Note: Data is shared via Oracle Database. Thus, maintaining Oracle Primavera on centralized database is a prerequisite.

The standard integration points under consideration of the Oracle PPM architecture are listed below:

S. No.	Integration Points	Description
1.	Global Information	Such as product version, integration checklists, etc.
2.	Global Resources	Such as resource list, employee information, expenditure items.
3.	Project Header	Such as project name, start date, end date, customer information.
4.	Tasks	Such as Work Breakdown Structure (WBS), chargeable flag, etc.
5.	Budgets	Cost budgets or financial plans
6.	Project Resource Assignments	Assignment of resources for project tasks, their duration and rates
7.	Actual Financial Cost	Cost accumulated thru transactions such as, supplier invoices
8.	Scheduled Progress	Project progress updates or percent completion information

The following sections will further discuss on the integration points listed above.

Synchronizing Global Objects

Global objects represent data elements that are shared between two applications. For example, global objects can be planning resources, roles, schedule rates, and expense category. The data originates in Oracle Projects and Primavera P6 receives the updates.

The following table discusses the mapping of global objects between Oracle Projects and Primavera P6:

Oracle Projects	Primavera P6
All planning resources and rates with resource class as People, Material Items, and Equipment except for planning resources with resource format as Team Role and Job. <i>Note: Resource class definition is a feature of Oracle Project Management (PJT).</i>	Resources
Planning resources and rates with resource format as Team Role or Job, and resource class as People.	Role
Planning resources and rates with resource class as Financial Element.	Expense Category

The following diagram illustrates the process flow of global data between Oracle Projects and Primavera P6:

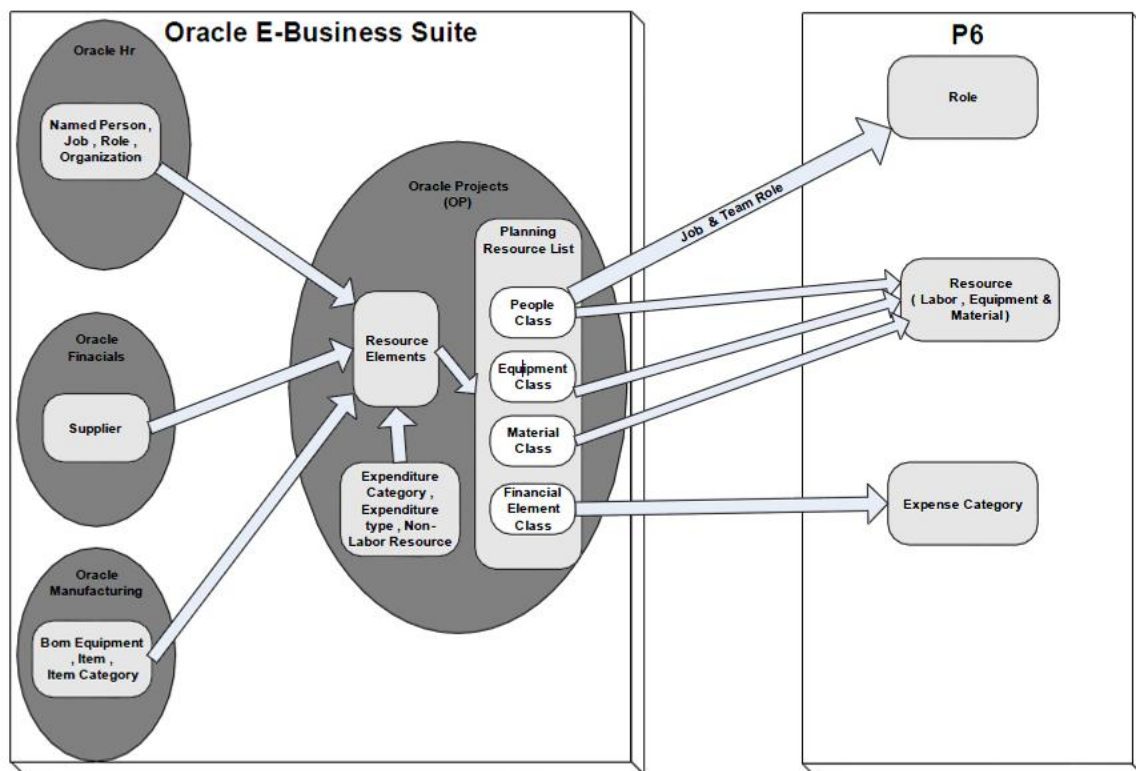


Figure 2 - Process flow of global data between Oracle Projects and Primavera P6

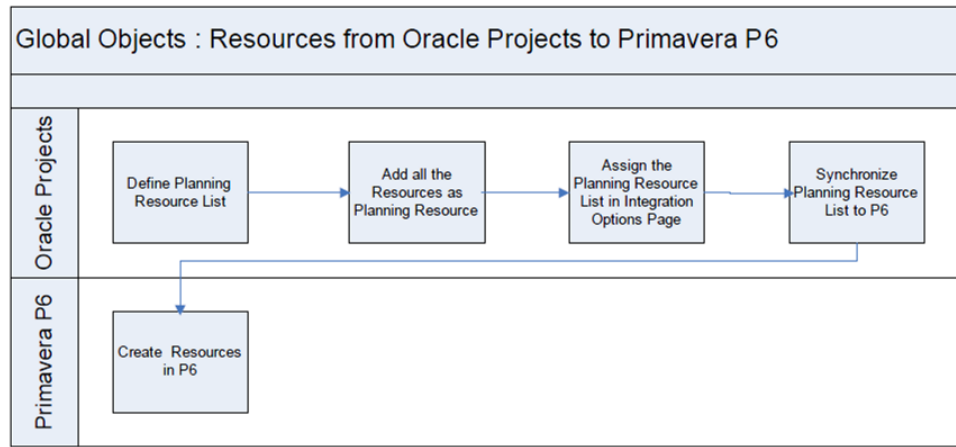


Figure 3 - Planning resources created in Oracle Projects and synchronized as resources to

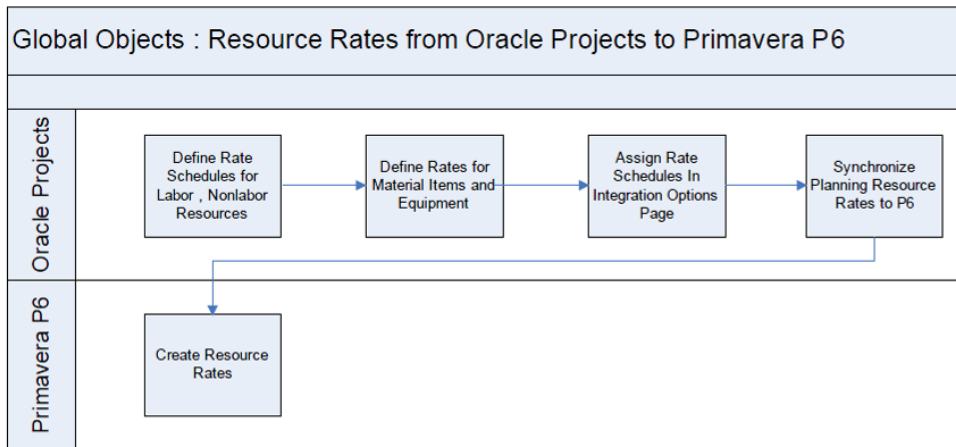


Figure 4 - Planning resource rates created in Oracle Projects and synchronized as resource rates

Process Integration of Project Data

The synchronization of project data from Oracle Projects to Primavera P6 and vice-versa supports the following process flows:

- Creating project data in Oracle Projects and synchronizing to Primavera P6
- Updating project data in Oracle Projects and synchronizing to Primavera P6
- Creating project data in Primavera P6 and synchronizing to Oracle Projects
- Updating project data in Primavera P6 and synchronizing to Oracle Projects

Synchronization of project data between Oracle Projects and Primavera P6 includes the following components:

- Project header
- Work Breakdown Structure (WBS)
- Resource assignments
- Budgets
- Actual Cost

The following process flow diagrams illustrate the above mentioned integration points.

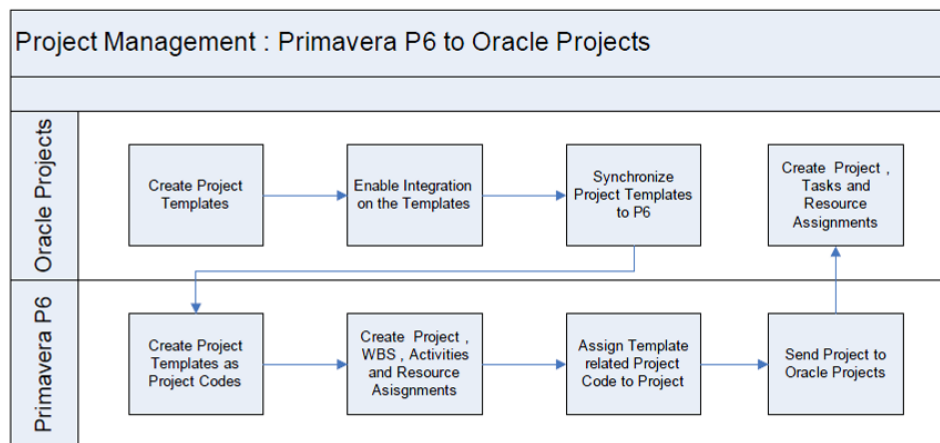


Figure 5 - Project Created in Primavera P6 and synchronized to Oracle Projects

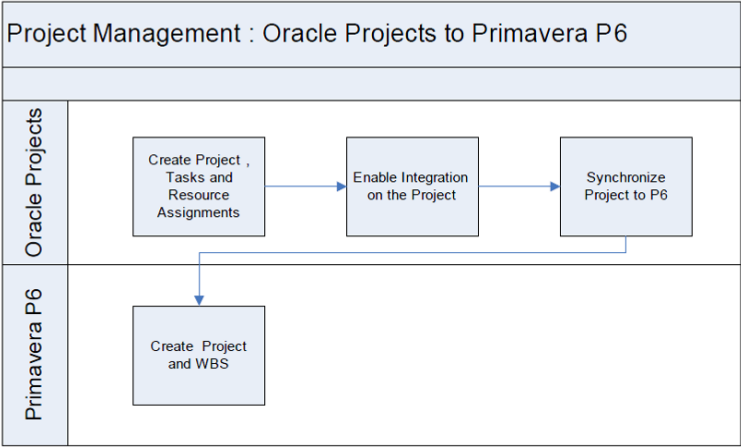


Figure 6 - Project Created in Oracle Projects and synchronized to Primavera P6

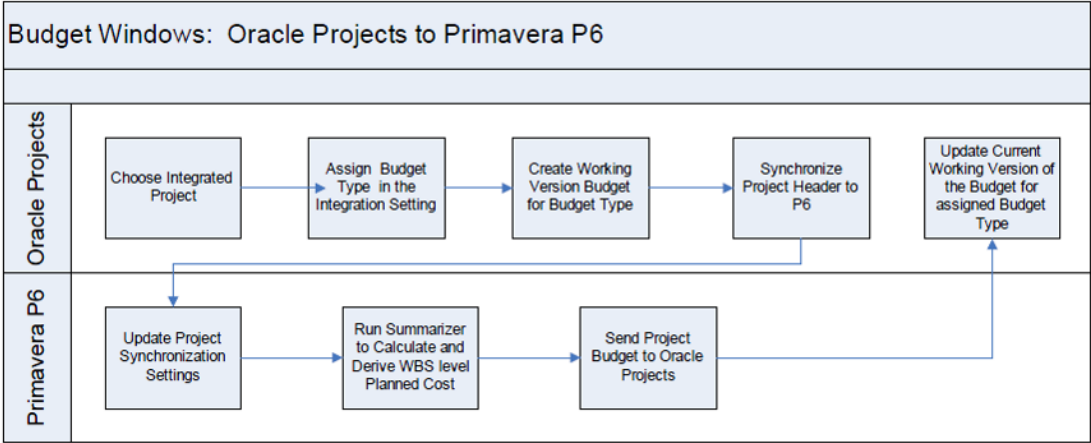


Figure 7 - Budgets created in Oracle Projects and synchronized to Primavera P6

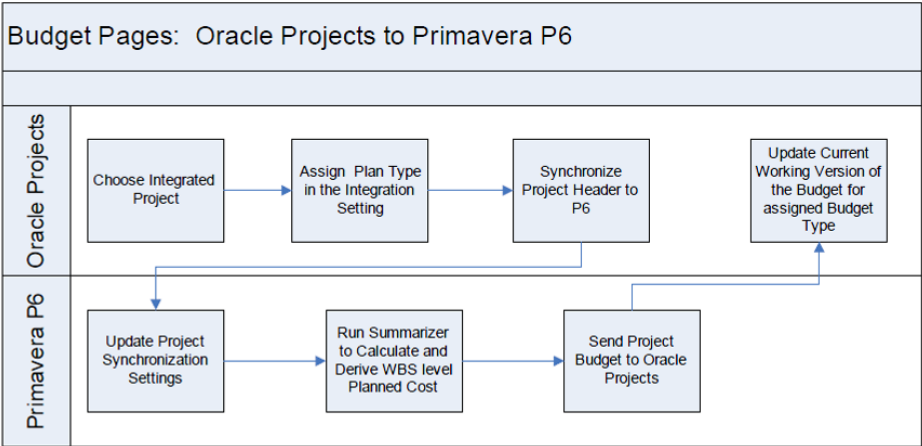


Figure 8 - Budgets created in Oracle Projects and synchronized to Primavera P6

Solution Assumptions and Constraints

This section discusses the following assumptions and constraints that are associated with the proposed integration points and technology under consideration:

1. This PIP is limited to a new Primavera P6 v7 PPM installation and an existing or new Oracle Projects installation.
2. Each Primavera P6 installation supports only one base currency.
3. Oracle Projects owns the global objects. Any changes to global objects in Primavera P6 are overwritten by Oracle Projects information in the subsequent synchronization.
4. Every P6 installation is associated with one or more operating units. Projects belonging to these operating units must be transferred to the corresponding P6 installation.
5. A single global planning resource list that is centrally controlled is used for one P6 instance.
6. A single global planning resource list is assigned to all the projects belonging to the operating unit that is being integrated. The project workplan and budgeting are done by the planning resources.
7. Projects can be created in Oracle Projects or Primavera P6. But, Project execution and scheduling aspects occur in Primavera P6 and Oracle Projects owns the financial aspects of all projects.
8. Project managers or integration administrators select the projects that must be synchronized. Changes in Oracle Projects or Primavera P6 projects are synchronized at particular intervals of time
9. A project's budget data can be updated in Oracle Projects.
 - a. Planned cost of the WBS, activities, and resource assignments comprises of budget data in Oracle Projects.
 - b. The budgeted cost from Oracle Projects is sent to Primavera P6 as current budget attribute of the Primavera P6 WBS node. Please note that, this does not include the synchronization of custom budget forms used for material budgets, as customizations cannot be synchronized.
 - c. Any change in the current budget amount from the previous value from Oracle Projects is created as budget change log in Primavera P6.
 - d. The source application from which the synchronization is initiated overwrites the existing budget data.
10. WBS and Activity Short Name or Code in Primavera P6 is mapped to Task Number in Oracle Projects. In Oracle Projects, task number is unique for a project and for all the WBS levels. However, in Primavera P6 this is unique only for a given level. You must provide a unique Activity Short Name or Code in Primavera P6.
11. In Oracle Projects, for the project templates you must select the following quick entry fields only to enable integration to Primavera P6:
 - a. Project Name
 - b. Project Number
 - c. Project Start Date
 - d. Project Finish Date
12. You must synchronize the global objects before attempting to synchronize projects between Oracle Projects and Primavera P6.
13. All integration mentioned above is for standard flows and processes only.
14. The form personalization (if any) at the integration scenarios may not function as expected due to the limitations of the tools involved in the integration processes.

Open and Closed Issues for this Deliverable

Open Issues

ID	Issue	Resolution	Responsibility	Target Date	Impact Date
1.	Centralized data store for Primavera P6				
2.	Utilization of Oracle Project Management (PJT) module.				
3.	Definition of global resources				
4.	Understanding integration scope and limitations				

Closed Issues

ID	Issue	Resolution	Responsibility	Target Date	Impact Date