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An Oracle White Paper  
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# JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor A New Way for Deeper Project Financial Insight

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|   |           |
|---|-----------|
| Executive Overview .....  | 1         |
| Introduction .....  | 2         |
| Introduction to Engineered Systems .....                        | 4         |
| Oracle Exalogic .....   | 4         |
| Oracle Exadata Database Machine .....                           | 4         |
| SPARC SuperCluster .....  | 5         |
| JD Edwards Technical Foundation for Oracle Engineered Systems   | 5         |
| <b>THE OBJECTIVE: SINGLE VIEW OF PROJECT PORTFOLIO .....</b>    | <b>7</b>  |
| Reduce Time to Analyze and Manage Projects Across the Portfolio | 7         |
| Increase Management Control of Global Multi Currency Projects   | 10        |
| <b>THE OBJECTIVE: OPTIMIZE PROJECT PROFITABILITY .....</b>      | <b>12</b> |
| Increase Project Profits.....                                   | 13        |
| Increase Insight into Cash Flow for Projects .....              | 14        |
| Performance Benchmarking .....                                  | 15        |
| Conclusion .....  | 18        |

## Executive Overview

Executive insight into the real time status of the state of the business requires the summarization of a wide variety of financial information and potentially the combination of tens of thousands of tasks for hundreds of individual projects. In order to understand and gain insight into budgets, actual costs, estimate to complete, earned value and profitability of their business at any point in time, executives need to summarize project information in many different ways. Project managers and executives perform a series of analyses including earned value analysis and other industry and company-specific methodologies. Results of this analysis that are out of a specified tolerance need to be drilled down on to pinpoint the root cause and take effective action. The JD Edwards In-Memory Project Portfolio Advisor solution is part of Oracle Engineered Systems which combine the hardware of Oracle (Exadata/Exalogic or SPARC SuperCluster) with the application layers of JD Edwards EnterpriseOne providing unprecedented speed to gather, aggregate, and summarize real time project information. The JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor solution provides executive level visibility into project portfolio cost and profitability that has never been possible until now.

JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor helps executives and project managers make quicker, more informed decisions about their portfolio and projects. Dramatically faster access to results will provide your organization with more relevant information and valuable time for analysis, planning, and effective decision making.

For more information on JD Edwards EnterpriseOne and Oracle Engineered Systems please see the *Benefits of Running JD Edwards EnterpriseOne on Oracle Engineered Systems* white paper.

## Introduction

Executives and business managers need to know the state of the business at any time of the day or night. In today's economy, organizations are looking for a competitive advantage and are finding ways to do more with less in the same timeframes to improve their bottom line. Efficiency in all aspects of the organization is extremely important. This spans everything from staffing and facilities to manufacturing and logistics. Global businesses must be able to operate across all time zones. The CFO in London should not have to wait for the ERP system in China to finish processing before viewing current information. Access to the most current and accurate information is vital for business managers to make timely and well informed decisions. Business processes along with IT and ERP systems must be optimized to support the organization's goals rather than causing a bottleneck.

Managing a single complex project is a challenge for any project manager. The task of managing a portfolio of projects for project executives is even more challenging and it is essential for them to be able to understand and assess the state of their business at any point in time. The need goes well beyond making sure projects complete on time and on budget. Ultimately, for companies to thrive, the project portfolio needs to be profitable. In order to achieve this, executives need to have their finger on the pulse of numerous project data elements such as budgets, actuals, forecasts, open commitments, invoices, and cash received.

The JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor solution is part of Oracle Engineered Systems which combines the hardware of Oracle (Exadata/Exalogic or SPARC SuperCluster) with the application layers of JD Edwards EnterpriseOne that provides unprecedented speed to gather, aggregate, and summarize real time project information. The JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor solution provides new executive level visibility into project portfolio cost and profitability.

This white paper will explore the benefits of the JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor solution and point out new and automated features to help project managers and executives make quicker, more informed decisions about their portfolio and projects.

## Introduction to Engineered Systems

Oracle Engineered Systems combine best-of-breed hardware and software components with game-changing technical innovations. Designed, engineered, and tested to work best together, Oracle's Engineered Systems can power the cloud or streamline data center operations to make traditional deployments even more efficient. The components of Oracle's Engineered Systems are preassembled for targeted functionality and then—as a complete system—optimized for extreme performance. By taking the guesswork out of these highly available, purpose-built solutions, Oracle delivers a solution that is integrated across every layer of the technology stack—a simplicity that translates into less risk and lower costs for your business. Only Oracle can innovate and optimize at every layer of the stack to simplify data center operations, drive down costs, and accelerate business innovation.

### Oracle Exalogic

Oracle Exalogic is an Engineered System on which enterprises deploy Oracle business applications, Oracle Fusion Middleware, or third-party software products. Exalogic comes pre-built with compute nodes, memory, flash storage, and centralized storage; all connected using InfiniBand in a high redundancy architecture delivering five-nines availability, with fault tolerance and zero-down-time maintenance.

Exalogic dramatically improves performance of Oracle Applications, Fusion Middleware, and 3<sup>rd</sup> party applications without requiring code changes and reduces costs across the application lifecycle, from initial set-up to on-going maintenance, as compared to conventional hardware platforms. Oracle has made unique optimizations and enhancements in Exalogic firmware, Exalogic software, and in Oracle's middleware and Oracle's applications. These include on-chip network virtualization based on near zero latency InfiniBand fabric, high-performance Remote Direct Memory Access, workload management in Oracle Weblogic server, and optimizations in Oracle Coherence and Oracle Traffic Director. Exalogic includes support for a highly optimized version of the Oracle VM, which significantly outperforms comparable virtualization solutions and is an ideal consolidation platform for Oracle Applications. Templates to simplify install, deployment, and configuration of applications on Exalogic are available.

### Oracle Exadata Database Machine

Oracle's Exadata Database Machine is Oracle's database platform delivering extreme performance for database applications including Online Transaction Processing, Data Warehousing, Reporting, Batch Processing, or Consolidation of mixed database workloads. Exadata is a pre-configured, pre-tuned, and pre-tested integrated system of servers, networking, and storage all optimized around the Oracle database. Because Exadata is an integrated system, it offers superior price-performance, availability, and supportability. Exadata frees users from the need to build, test, and maintain systems and allows them to focus on higher value business problems.

Exadata uses a scale out architecture for database servers and storage. This architecture maintains an optimal storage hierarchy from memory to flash to disk. Smart Scan query offload has been

added to the storage cells to offload database processing. Exadata implements Smart Flash Cache as part of the storage hierarchy. Exadata software determines how and when to use the Flash storage for read and write as well as how best to incorporate Flash into the database as part of a coordinated data caching strategy. A high-bandwidth low-latency InfiniBand network running specialized database networking protocols connects all the components inside an Exadata Database Machine. In addition to a high performance architecture and design, Exadata offers the industry's best data compression to provide a dramatic reduction in storage needs.

## SPARC SuperCluster

Oracle's SPARC SuperCluster is the world's most efficient multi-purpose engineered system, delivering extreme efficiency, cost savings, and performance for consolidating mission critical applications and rapidly deploying cloud services. Oracle's SPARC SuperCluster represents a complete, pre-engineered, and pre-tested high-performance enterprise infrastructure solution that is faster and easier to deploy than a collection of individual database and application servers. The system combines innovative Oracle technology—the computing power of Oracle's SPARC servers, the performance and scalability of Oracle Solaris, the Sun ZFS Storage Appliance, the optimized database performance of Oracle Database accelerated by Oracle Exadata Storage Servers, and a high-bandwidth, low-latency InfiniBand network fabric—into a scalable, engineered system that is optimized and tuned for consolidating mission-critical enterprise applications.

Oracle's SPARC SuperCluster provides both the capacity for growth, as well as the fine-grained server virtualization needed to isolate individual application components. With multiple layers of enterprise application infrastructure consolidated onto a high-performance, highly available SPARC SuperCluster system, deployment speed, application performance, and availability can all be optimized. Designed as a pre-configured, pre-tested, and ready-to-deploy SPARC SuperCluster engineered system, the solution provides a complete and optimized infrastructure solution for applications, built around robust compute, networking, storage, virtualization, and management resources. The result is a system that is orders of magnitude easier to manage, and up to five times faster to deploy than alternatives, all while occupying considerably less real estate requiring less power. Furthermore, the SPARC SuperCluster system provides full built-in redundancy resulting in a highly reliable infrastructure without single point of failure. An issue with one component will not impact other components of the system offering true isolation. Customers can consolidate multiple environments with minimum disruption, without fear of performance degradation, and the ability to achieve required service levels.

## JD Edwards Technical Foundation for Oracle Engineered Systems

Oracle JD Edwards EnterpriseOne applications have long benefitted from its metadata based architecture which abstracts the applications from the underlying technology infrastructure. This technology platform, delivered in the form of the JD Edwards EnterpriseOne tools set, provides a highly scalable, reliable, and secure platform for running the JD Edwards EnterpriseOne applications. Also included is a broad set of tools for building highly interactive applications, batch processes, workflows, and other technologies required for an enterprise class ERP system.

A major innovation and key enabler of this new class of transformational JD Edwards EnterpriseOne In-Memory applications is the engineering that has gone into the JD Edwards EnterpriseOne toolset to take advantage of the unique and powerful capabilities of Oracle Engineered Systems. This platform has been engineered to leverage the massive parallel processing capabilities including executing core business logic in multiple, concurrent process threads and managing this expansive thread pool. With this improved platform, more of the processing is done on the super fast database tier, including an expansion in the size of the database table joins in business views, additional join types, and database operators. Finally, since the JD Edwards EnterpriseOne applications are database i/o intensive and much of the processing is done in parallel, the high-bandwidth low-latency InfiniBand network provides a major boost to this new class of applications.

## **THE OBJECTIVE: SINGLE VIEW OF PROJECT PORTFOLIO**

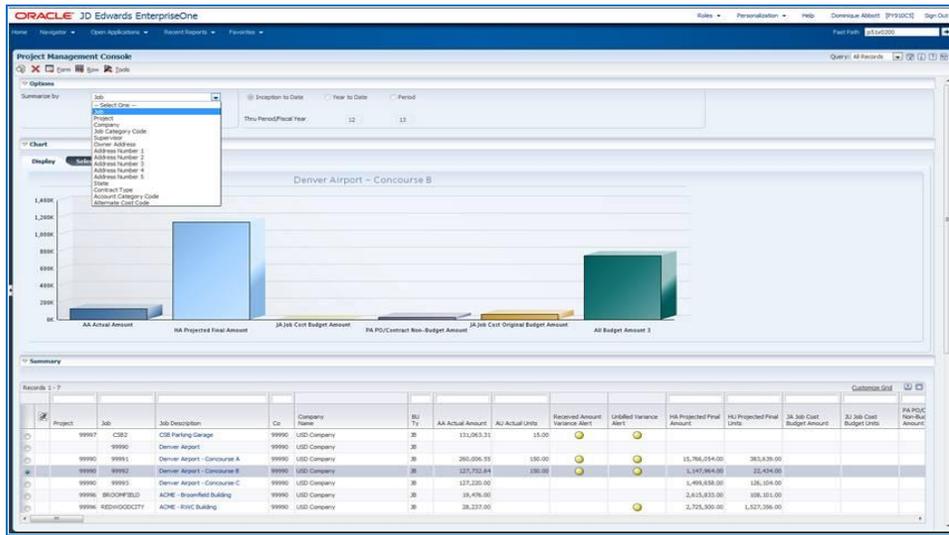
In order to manage their business, project executives need to be able to see the financial status of all projects. On a regular basis (for example, monthly, quarterly, annually), project managers and executives are challenged to quickly aggregate, summarize, and analyze project financial information across the project portfolio to give them the amounts and metrics they need in order to make management decisions concerning each individual project as well as the entire project portfolio.

### **Reduce Time to Analyze and Manage Projects Across the Portfolio**

JD Edwards EnterpriseOne currently provides deep and rich solutions for hundreds of project-oriented companies that successfully manage their projects world-wide. Companies have the ability to manage a wide variety of projects from very simple to very complex, from one project to hundreds of projects, from projects that are performed by internal resources to projects performed by subcontractors. And now the JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor solution leverages this robust functionality and takes it to another level by providing in-memory applications that deliver a real time view of key metrics across single or multiple projects. By leveraging the Oracle Engineered Systems technology of multi-threaded logic processing, the JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor accesses the financial information of many projects at the same time, thus giving you the information you need quicker and changes the game in that you are now able to manage your entire portfolio rather than managing just your projects.

### **A Single Integrated Project Management Solution**

JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor provides real time access to project financial information in one application. This application provides you with the information you need to manage projects through the entire lifecycle from budgeting and planning, to project execution, change management, and billing to project closeout. By leveraging the Oracle Engineered Systems technology insert from select and aggregation, this provides a single view and eliminates the need for you to manually aggregate project amounts from multiple sources, thus saving you days of extra work each reporting cycle. You will see significant time saving in your day-to-day project management reviews as well as seeing a decreased time to prepare for your recurring project reporting cycles.



**Figure 1**

The above figure shows an example of summarized amounts (such as original budgets, revised budgets, actuals, and projected final costs) graphed for all active projects for a company. You can quickly scan these amounts, determine which amounts are out of tolerance to the company's standards, and then drill down to specific projects within the portfolio to pinpoint any anomalies identified in the graph.

### Visibility into Multiple Views of Projects

For project managers and project executives, there is not just one view of a project. Since projects have many different stakeholders involved, you need to view a project or series of projects with one view, focusing on the financial information pertinent to one set of stakeholders, and then quickly go to another view, and focusing on the financial information pertinent to another set of stakeholders of that same set of projects. For example, you may need to see overall project status for a company's four regions — east, west, north, and south to reflect the summary of projects by regional manager. And then, right after that, you may want to quickly change the view to look at these projects grouped by project manager to assess the performance of projects by project manager. These are only two ways you may want to look at projects but there are dozens and dozens of other ways you can view projects based on the ways you organize your business.

JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor gives you the ability to quickly change the view of projects with just a few clicks. This allows you to quickly view all angles of projects to assess how the needs and interests of all stakeholders are being met with the goal that the projects are running on budget and with the optimum profitability.

### **Drill Down Capabilities Across Project Portfolio**

With a single click, you can quickly navigate from the top of the portfolio down to individual projects and even down to individual tasks within a project.

With possibly hundreds of projects to manage within a portfolio, you have the ability to view, at a summarized level, the entire group of projects and then drill down to individual projects as you see anomalies or exceptions. This gives you a way to quickly and easily keep your project costs under control.

For example, a project executive may have responsibility for all projects within the east and west geographic regions. So, in this example, the project executive would see two summarized lines which would represent all projects within the east region and all projects within the west region. The project executive would be able to see all summarized information for each region such as total budgets, total actual costs, total projected costs, total billed amounts, and total cash received. And, if for some reason the project executive saw that some amounts did not look as expected, for example, the actual costs exceeded the budgeted amounts, the project executive could click on the region and have all the projects display for that region. The project executive could then quickly scan through this list and see which project or projects had actuals that exceeded the budgets. The project executive then could again click on a project to view the detailed tasks for that project to identify the task or tasks where the actuals exceeded budgets. And then the project executive could also drill into each task to view all individual transactions (including labor, material, or indirect costs) charged to this task. The project executive could then discuss these specific transactions with the project manager to better understand them and take appropriate action to keep the project on track.

### **Access to Actionable Tasks**

JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor facilitates a way for you to act on the amounts presented, to retrieve more information or update various aspects of a project when needed, provided that you have the security access rights for the information being requested or modified.

The system saves you time with the ability to access a number of actionable tasks. This may include access to account progress entry, job progress entry, budget revisions, work order management, contract billing, and change management. The sooner you can perform necessary actionable tasks, the better you will be able to mitigate project risk, reduce cost overruns, reduce waste and ultimately increase profitability and ensure projects remain on budget.

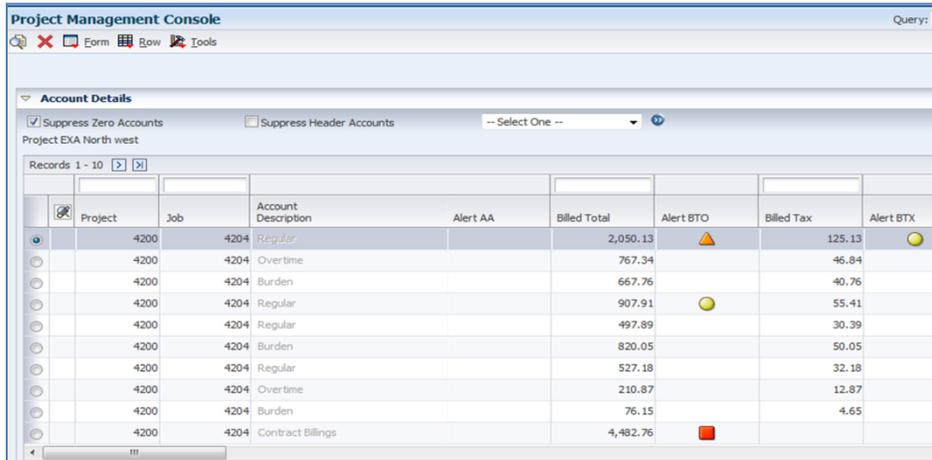
### **Project Metrics to Drive Management Decisions**

Project managers and executive are buried with a huge volume of information across the project portfolio. They need a way to sort through this volume of information to help them quickly make informed decisions.

JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor provides the ability for you to create user-defined calculations based on project amounts and units, and billing amounts. These user-defined

metrics can be standard metrics used in earned value analysis or can be specific to an industry or company.

Another way JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor provides the ability for managers to quickly assess all aspects of their project portfolio is through visual status indicators.



| Project | Job  | Account Description | Alert AA | Billed Total | Alert BTO | Billed Tax | Alert BTX |
|---------|------|---------------------|----------|--------------|-----------|------------|-----------|
| 4200    | 4204 | Regular             |          | 2,050.13     | ▲         | 125.13     | ●         |
| 4200    | 4204 | Overtime            |          | 767.34       |           |            |           |
| 4200    | 4204 | Burden              |          | 667.76       |           |            |           |
| 4200    | 4204 | Regular             |          | 907.91       | ●         |            |           |
| 4200    | 4204 | Regular             |          | 497.89       |           |            |           |
| 4200    | 4204 | Burden              |          | 820.05       |           |            |           |
| 4200    | 4204 | Regular             |          | 527.18       |           |            |           |
| 4200    | 4204 | Overtime            |          | 210.87       |           |            |           |
| 4200    | 4204 | Burden              |          | 76.15        |           |            |           |
| 4200    | 4204 | Contract Billings   |          | 4,482.76     | ■         |            |           |

**Figure 2**

Figure 2 shows how project managers can quickly identify issues in their projects, thus help identify and prioritize issues so project managers can better manage their time to work on the most important/critical issues first.

### Mid-period reporting

With low margins and high risks, project managers require real time access to all costs related to a project in order to ensure that projects remain on budget. Project managers need to be aware of charges to projects as they occur in real time. For example, project managers need to be aware of up to the minute updates to the purchase orders charged to a project to ensure that the proper material and subcontract labor has been ordered. The project manager has the ability to react quickly to any questionable transactions against a project, thus keeping projects on budget.

The JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor solution provides the ability to view transactions charged to a project made mid-period. You have the ability to view posted or unposted transactions against projects.

### Increase Management Control of Global Multi Currency Projects

As companies become more global, many of them will diversify the work of a large project into smaller projects which can span multiple geographic regions and incur costs in multiple currencies. Some of these smaller projects will be managed in the local currency but project managers have the need to manage the entire multi-currency project with a view in a single currency.

### Common Currency for Management Control

The JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor solution provides real time “as-if” currency conversion for multicurrency projects. When an “as-if” currency is specified, the system will automatically convert and display all amounts in the currency specified.

#### **View Affects of Currency Exchange Fluctuations**

The JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor solution provides real time “as-if” currency conversions based on specified “as-if” currency exchange rate dates for multicurrency projects. The risk you have when outsourcing project work to different parts of the world is that currency rates can fluctuate drastically and can quickly eat away at project profits because of the change in the value of various currencies.

With the ability to specify “as-if” currency exchange rate dates, you can use the projected future currency exchange rates and see the affects they have on their global projects. This will help you determine if they should continue to do work in certain parts of the world or move some work from one location to another where the currency exchange rate and associated fluctuations are less volatile.

## THE OBJECTIVE: OPTIMIZE PROJECT PROFITABILITY

Many project-oriented organizations, such as engineering and construction firms, run their business with low margins and so the need to manage and track cash flow for all projects is crucial. Executives need to be able to assess the profitability of any project or group of projects.

Project cost management is a primary activity throughout the lifecycle of a project. In order to manage costs affectively, project managers are challenged to track and manage a variety of project-related amounts.

On one hand, project managers are challenged to minimize costs. Cost-related amounts project managers are concerned about include budgeted and actual costs, open commitments, and projected final amounts.

On the other hand, project managers are challenged to see what they can do to optimize profitability. Amounts the project managers are concerned about related to profitability include potential billed amounts and billed/invoiced amounts.

Throughout the lifecycle of each project, project managers continuously manage the work and related costs while at the same time gaining insight into how projects are contributing to the cash flow and the profitability of the organization. With this insight into profitability, project managers may make changes to the work being done or who does the work to drive increased billing and profitability.

The challenge is that the way project managers manage their projects (focusing on budgets, actual costs, estimate to complete and earned value) does not always easily coincide with the ways a company's customers require they are billed (focusing on markups, fees, etc). Figure 3 shows an example of how three projects with work breakdown structures (WBS) that include regular time, overtime, and subcontract labor are associated with one contract and the customer wants to be billed for one summarized amount for labor.

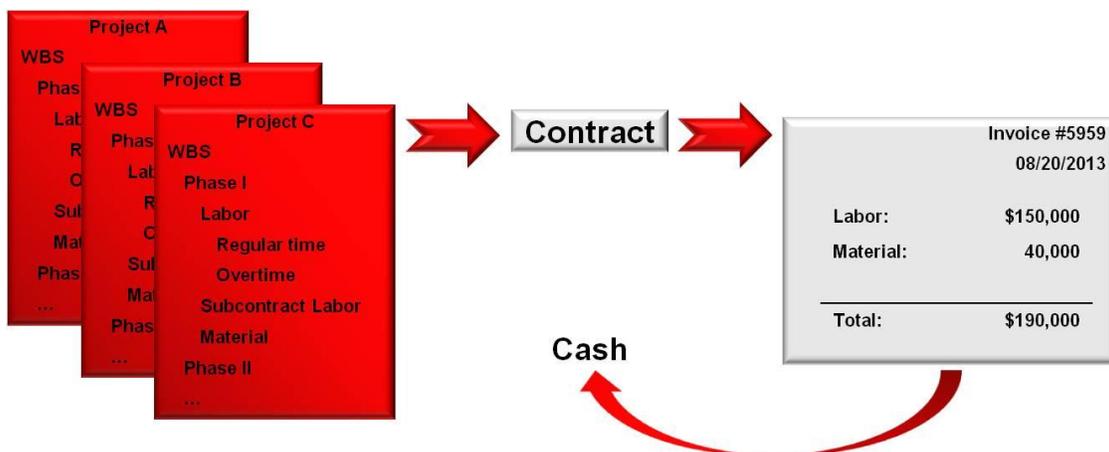


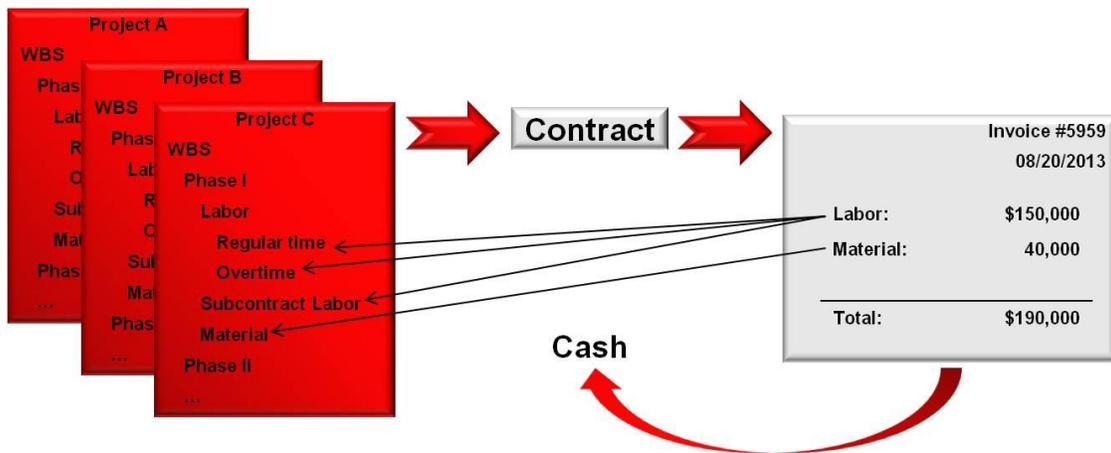
Figure 3

Because project costs do not always align with billing amounts, project executives are challenged with manually pulling this information together each month to gain insight into project profitability.

## Increase Project Profits

### Monitor Project Profitability with Project Billing

By leveraging the Oracle Engineered Systems technology of multi-threaded logic processing, insert from select and aggregation, the In-Memory Project Portfolio Advisor solution ties the project financial amounts (budgets, costs, open commitments, projected costs, etc) with the associated billing together into a single, consolidated view.



**Figure 4**

Figure 4 takes that same example above and shows that the billing amounts for labor can be directly tied to each individual labor task in each project's WBS.

With this solution, project managers, throughout the lifecycle of each project, can continuously manage the work and related costs while at the same time gaining insight into how projects are contributing to the cash flow and the profitability of the organization. With this insight into profitability, project managers can make changes to the work being done or who does the work to drive increased billing and profitability.

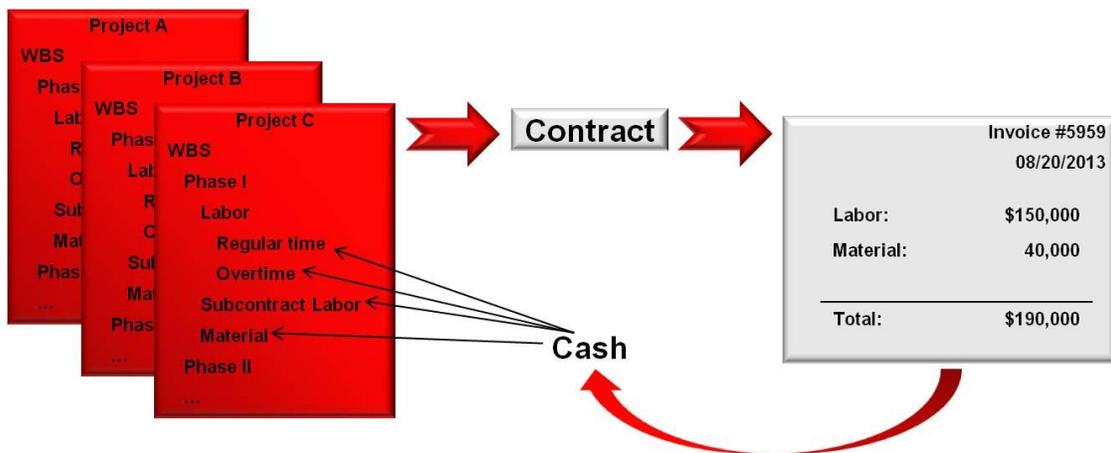
This gives you insight into project profitability. For projects associated with time and material billing, you can see the invoice amounts down to the specific tasks in the WBS. These invoice amounts typically include markups, fees, and other additional charges. For all other types of billing, you will be able to see the invoice amounts at the project level. During the course of the execution of a project, using JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor, you will have real time insight into a project's profitability.

## Increase Insight into Cash Flow for Projects

Besides optimizing profits, project-oriented organizations that have low margins are also challenged with the fact that they limited cash on hand. And so after a customer has been billed for the work done on a project, the project managers are not finished with their work. It is equally important for project managers to have insight into what their customers have paid. Once a customer is billed, it could be 30, 60, or 90 days or more before a payment is received. So knowing what projects and type of work are getting paid is crucial for management. By having insight into the cash brought in for each project helps management make informed decisions on how to use the limited cash available.

### Monitor Cash Tied to Projects

The JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor solution automatically ties the project amounts (budgets, costs, open commitments, projected costs, etc) with the associated billing and paid receivables. And the paid receivables could be partial payments or full invoice payments.



**Figure 5**

Figure 5 takes the above example one more step to show the cash received from the customer can be apportioned to the individual tasks within the WBS for each project.

This gives you insight into cash related to a project. For projects associated with time and material billing, you can see the invoice and receivable amounts down to the specific tasks in the work breakdown structure. For all other types of billing, you will be able to see the invoice and receivable amounts at the project level. During the course of the execution of a project, using JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor, you will have real time insight into the available cash.

# Performance Benchmarking

## Approach

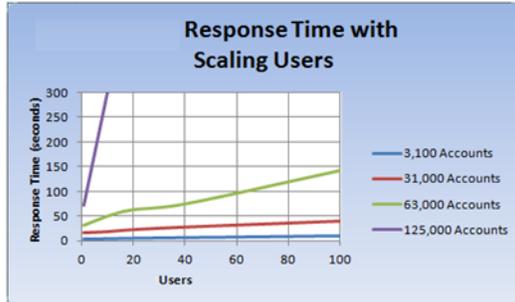
The approach to the performance benchmarking for In-Memory Project Portfolio Advisor was to measure the performance affects of the primary variables for users in the Project Management space. This included three major sets of tests. The first set of tests focused around the variability in data (such as total number of accounts/cost codes queried for a set of jobs, number of ledger types, and billing and receivable information). The second set of tests focused around the variability in the number of concurrent users using In-Memory Project Portfolio Advisor. And the third set of tests focused around running standard EnterpriseOne “day in the life” (DIL) performance tests (including upwards of 1,000 concurrent interactive users and 400 concurrent batch jobs across EnterpriseOne modules) concurrently with the first two set of In-Memory Project Portfolio Advisor tests. These three sets of tests were run on two Oracle engineered systems environments:

- Oracle Exadata X3-4 (quarter rack) and Oracle Exalogic X3-4 (eighth rack)
- Oracle SuperCluster M6-32

In both environments only a fraction of the available resources were utilized.

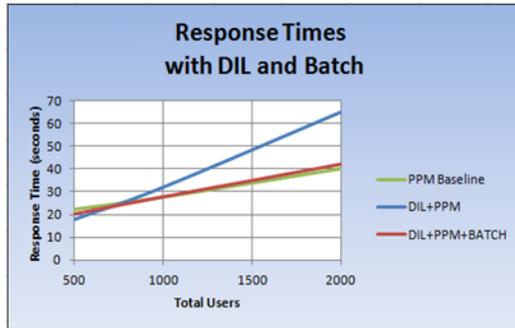
## Results

The upper range of testing for In-Memory Project Portfolio Advisor included tests of 100 concurrent users, inquiring over a total of 6,300,000 accounts with 500,000,000 database I/Os which took approximately 120 seconds for the initial data load and view of the selected set of project information into memory. Subsequent views and summarizations (based on 50 category codes and other project information) of the same set of data resulted in less than one second response times.



Performance measurements between the X3 and M6 machines resulted in similar performance results.

The JD Edwards EnterpriseOne suite (DIL) running on Engineered Systems has shown an overall performance improvement of 3 to 5 times. And, there was no measureable difference in performance to the DIL measurements when additionally running In-Memory Project Portfolio Advisor. Conversely, there was no measureable difference in performance to the In-Memory Project Portfolio Advisor measurements when additionally running the JD Edwards EnterpriseOne suite (DIL). See red and green lines in graph below.



The JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor solution is up to 20 times faster than the existing JD Edwards EnterpriseOne Project Costing Job Status Inquiry application looking at the same set of project information running on a standard non-Exa supported platform and up to 5 times faster than the existing JD Edwards EnterpriseOne Project Costing Job Status Inquiry application running on an Exa platform. Also, besides significantly faster performance returns for similar sets of information, In-Memory Project Portfolio Advisor returns a greater set of project information (including billing, revenue, profitability and project status metrics) that was never possible in an interactive application.

### Interpretation

The performance benchmarking showed that In-Memory Project Portfolio Advisor successfully reported hundreds of millions pieces of financial project information for individual users as well as concurrent users. Performance benchmarking showed that by using the interactive In-Memory Project Portfolio Advisor application users can now report on key financial project information (actuals, budgets, forecasts, billings, receivables, project status metrics, etc.) at all levels across the portfolio that was previously only available through long running batch programs and time consuming manual processes.

Performance measurements showed that an initial query of a project portfolio with a combined total of 6,300,000 accounts/cost codes for 100 concurrent users returned in seconds. After the initial query, subsequent views and summarizations of this same dataset (by region, by sales rep, by project type, level of detail, etc.) resulted in sub-second response time.

Performance measurements that included all three sets of tests (data, users and DIL) showed that virtually no performance impact was seen for In-Memory Project Portfolio Advisor users and the JD Edwards interactive and batch DIL processes, running concurrently. Performance measurements showed that by adding In-Memory Project Portfolio Advisor to an existing DIL JD Edwards EnterpriseOne environment had little, if any, performance impact to the DIL JD Edwards interactive

and batch processes. And, finally, performance measurements showed that by adding DIL JD Edwards EnterpriseOne interactive and batch processes to an existing In-Memory Project Portfolio Advisor environment had little, if any performance impact to the In-Memory Project Portfolio Advisor application.

Individual performance results may vary based on system configuration and setup.

For additional information, please see the following link containing white papers and other information related to JD Edwards EnterpriseOne on Oracle Engineered Systems:

<http://www.oracle.com/us/products/applications/jd-edwards-enterpriseone/in-memory/resources/index.html>

## Conclusion

Managing the entire project portfolio for project executives and project managers is a critical part of any project-oriented organization. The process to aggregate, summarize, and analyze consolidated project information can be very time consuming for your staff. Informed business decisions and planning are at risk whenever access to the timeliest information is delayed by this process. By using Oracle Engineered Systems such as the JD Edwards EnterpriseOne In-Memory Project Portfolio Advisor solution, the summarization, aggregation, and analysis of projects within a portfolio can be done quickly and efficiently within a single view to ensure that projects remain on time and on budget. These systems significantly decrease the amount of time the system takes to facilitate your earned value and other analyses. This will give your staff access to the results faster; allow them to take appropriate actionable steps quicker; and provide accurate and timely information to executives and managers for planning and decision making purposes.

Oracle Engineered Systems offer unequalled performance gains and time reduction for processes like the management of projects. Companies can re-think their internal expectations and improve their processes. This will result in a reduction in waste, timely initiation of project change controls, and increased portfolio performance with utilization of available cash. Hardware and software designed to work together provides optimization to key processes.



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Author: David Scott

Oracle Corporation  
World Headquarters  
500 Oracle Parkway  
Redwood Shores, CA 94065  
U.S.A.

Worldwide Inquiries:  
Phone: +1.650.506.7000  
Fax: +1.650.506.7200

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