

Businesses Interest in Business Intelligence Solutions for JD Edwards EnterpriseOne

An Oracle White Paper
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ORACLE
JD EDWARDS ENTERPRISEONE

PURPOSE STATEMENT

This document provides considerations when reviewing system performance relative to your JD Edwards EnterpriseOne system. Many factors can influence performance and your results may differ depending on many different variables.

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EXECUTIVE OVERVIEW

According to a Harvard Business Review study, “seven out of eight large corporations failed to achieve profitable growth”. Profitable growth was measured by annual real growth in revenue and earnings above 5.5 percent. Over 90 percent of the companies in the study fell short of their strategic plans.¹

There are however, companies investing in analytics and business intelligence that are successful in increasing revenue and profitability, lowering operating cost, interacting more effectively with their customers and reducing risk. These companies have embraced business intelligence and have identified data as a corporate asset and realize that “properly collecting, aggregating and analyzing their data, opens up opportunity to discover bits of knowledge that can both improve operational processing and provide better insight into customer profiles and behavior”.²

This white paper establishes a framework for business intelligence from a strategic, tactical and operational perspective and provides an understanding of the increasingly important role of analytics in business. This business intelligence framework demonstrates the JD Edwards EnterpriseOne commitment to the analytics landscape with comprehensive performance management and business intelligence solutions.

BUSINESS INTELLIGENCE AS A BUSINESS PRIORITY

Business intelligence is a top priority among CIOs today. A Gartner survey found many CIOs plan to increase business intelligence investments, making BI their top technology priority, over security technologies, mobile workforce enablement applications and other technology imperatives.³

For many companies, years of data are locked up in transactional silos. Business intelligence provides greater business insight for all levels of the corporation, from

¹Competing on Analytics, Thomas H. Davenport, Harvard Business Review January 2006; study size = 1,800 companies

² Business Intelligence: The Savvy Manager’s Guide, David Loshin, Knowledge Integrity Inc., Morgan Kaufmann Publishers 2003

³ Gartner press release, Gartner Survey of 1400 CIO’s Shows Transforming of IT Organizations is Accelerating, January 23, 2006

executive staff to line of business managers and staff.

The Evolution of Business Intelligence

Business intelligence technology has evolved to the point where business intelligence tools can be deployed deeper into organizations, moving analytics and decision-making capability closer to the line of business level. The convergence of business intelligence and reporting, dashboard and other visualization tools as well as the technical underpinnings provide a platform for users to unlock the massive amounts of data stored in their transaction processing systems. Business intelligence usability has increased dramatically as have all applications on the Web, making casual analytics users more effective at quickly understanding an out-of-tolerance condition, navigating the data to better understand the root cause, and identifying the next course of action.

Deploying analytics out to the masses or delivering “pervasive business intelligence” provides several measurable benefits:

1. Users monitor a set of metrics providing a constant reminder of the overall corporate strategy and their role in executing on the strategy
2. Provides the ability to stay the course in strategy execution
3. Enables real-time decision making

A cultural aspect of analytics is a corporation must allow for dissemination of business critical data. Many business cultures keep information close to the vest. These types of organizations will continue to have the finance organization either make all decisions or deliver all analysis and data to support business decisions.

More effective business cultures will empower their decision makers by training line managers and staff in financial acumen and providing applicable business intelligence technology at the line of business level. A culture where the line of business is accountable will rely on business intelligence tools to enable more effective decision-making.

Framework for Analytics

Companies are deploying an integrated business intelligence strategy focusing on performance management, where strategy is formulated using budgeting and business planning applications. Tactical measurements and key performance indicators provide a feedback mechanism to ensure all users understand and are executing on the strategy and also monitor how the strategy is being executed, identifying potential adjustments or refinements to the strategy.

Fitting BI Tools and Users

Information producers generally comprise 10 percent of the user population and use desktop tools to create reports or models. These reports and models are deployed broadly to the business community. Information producers consist of

statisticians, using data mining tools, and report authors, who use report design tools to create standard or custom reports.

Information consumers are primarily casual users who regularly view reports for decision-making but don't do heavy number crunching on a daily basis. Casual users typically consist of executives, managers, line of business managers and staff and external users. Information consumers are a large group served by technology including dashboards, guided analysis, interactive reports (OLAP, parameterized, linked or searchable) and standard management reports. Most of these tools provide a Web interface to promote ubiquities access and ease of use so deployment can go deeper into organizations.

The chart below illustrates the differences between strategic, tactical and operational BI. As BI continues to emerge as an important capability with users having an operational focus, organizations must deploy an integrated BI strategy focusing on strategic planning and analysis, predictive modeling and other techniques to develop their corporate strategy.⁴ From there, tactical measurements are taken as a feedback mechanism to understand how the strategy is progressing, and what adjustments need to be made to the plan.

Table 1. Mapping BI Types to Business Requirements			
	Strategic BI	Tactical BI	Operational BI
Business Focus	Achieve long-term organizational goals	Conduct short-term analysis to achieve strategic goals	Manage daily operations, integrate BI with operational systems
Primary Users	Executives and analysts	Executives, analysts, and line-of-business managers	Line-of-business managers, operational users and systems
Time Frame	Months and years	Days, weeks, and months	Intra-day
Data	Historical and predictive	Historical metrics	Right-time metrics

Operational BI provides a mechanism to deploy the strategy out to the masses. End users are provided their own dashboard with key metrics associated with the overall corporate objective. These metrics are individualized so each line individual is provided insight into the performance of their particular business process.

⁴ Enterprise Business Intelligence, Dr. Claudia Imhoff, Intelligent Solutions Inc., May 2006

ENTERPRISE PERFORMANCE MANAGEMENT

JD Edwards EnterpriseOne fulfills the analytics continuum with Enterprise Performance Management (EPM) deployed through two components.

- **Analytical Models for Business Information Organization:** The first is a set of analytic applications allowing customers to plan, model, or consolidate information about their business. Examples of these applications include:

1. Global Consolidations
2. Budgeting and Planning
3. Activity-Based Management

These applications are strategic and support the strategic planning process, allow companies to consolidate financial results and understand product profitability at the product, region or channel level. Analytic applications are part of the performance management infrastructure required for strategic analysis.

- **Analytical Models for Business Analysis:** The second component of Enterprise Performance Management is a set of analytical models developed to help organizations analyze their business. The EPM analytical models consist of the following three elements:

1. Robust data model optimized for reporting and analytics
2. ETL (Extract, Transform and Load) capability from the source transactional system (PeopleSoft Enterprise, JD Edwards EnterpriseOne or JD Edwards World solutions)
3. Content in the form of reports and key performance indicators developed in the Oracle Business Intelligence Enterprise Edition toolset. Similar content has also been developed in third party Business Intelligence tools.

There are 22 data models developed for PeopleSoft Enterprise and JD Edwards EnterpriseOne. The data models, listed in Table 2, have tight, limited or no integration to JD Edwards EnterpriseOne systems.

The EPM packaging consists of the following components:

- **Data Marts:** The typical data mart provides general ledger information from the F0911 detailed transaction table and summary level balances stored in the F0902 tables. The data models also include dimensions to analyze data based on the way you have set up category codes, chart of accounts and business units. This dimensionality provides navigation down to the most atomic level of detail as well as across your business structure. Examples include G/L and profitability.

Table 2. Data Models Deployed in JD Edwards EnterpriseOne

Type	Business Category	Business Functionality
Tight Integration	Financials	<ul style="list-style-type: none"> ▪ G/L and Profitability ▪ Advanced Cost Accounting ▪ Accounts Payable (A/P) ▪ Accounts Receivable (A/R) ▪ Real Estate
	Supply Chain	<ul style="list-style-type: none"> ▪ Fulfillment and Billing ▪ Inventory ▪ Manufacturing ▪ Procurement ▪ Spend Management ▪ Supply Chain Planning
Limited Integration	Human Capital Management	<ul style="list-style-type: none"> ▪ Compensation ▪ Recruiting ▪ Workforce Profile
	CRM	<ul style="list-style-type: none"> ▪ Sales Force Automation

- **Functional Warehouse:** Companies may also deploy analytics at a functional warehouse level. The financials warehouse includes five data marts:

1. G/L and Profitability
2. Accounts Payable (A/P)
3. Accounts Receivable (A/R)
4. Advanced Cost Accounting (ACA)
5. Real Estate

Companies may deploy all five financial data marts in one implementation project.

- **Performance Management Warehouse:** This provides the ability to deploy all 22 data marts or a large subset of these analytical models.

Customers have the flexibility to start small at the single data mart level and build out from there, or deploy analytics over large functional areas.

Regardless of the packaging, there are specific technical underpinnings that apply both at the data mart level as well as the functional and performance management warehouse level. Those technical underpinnings include the following:

- Ascential DataStage™ Data Integration tool (ETL)
- Ascential MetaStage™ tool (metadata management)
- Business Intelligence tool (Oracle Business Intelligence or other third party tool)
- PeopleSoft PeopleTools

Regardless of the system source (PeopleSoft Enterprise, JD Edwards EnterpriseOne or JD Edwards World), there is a robust set of analytical capabilities delivered with the EPM solution.

EPM data models can provide strategic or tactical analysis. Data can be mined from transactional systems to identify trends, find anomalies or enable predictive strategies.

Data marts can also provide tactical guidance on plan or strategy attainment. Questions answered can include:

1. Is the strategy working?
2. Have operations become more profitable?
3. Has customer attrition slowed as a result of new incentives?

These are all interim measurements that can be taken to evaluate the progress of the strategic plan. Understanding how a business is performing on a daily basis keeps focus on the strategy and provides a feedback mechanism if the plan needs adjustment or fine-tuning.

OPERATIONAL DASHBOARDS

The launching pad for analysis has been the dashboard. Information consumers are able to quickly assess performance and are provided first level analysis without stepping out of their current application to aggregate data or run a query or report. If there is an exception condition, the user can drill into the details to understand the root cause, or take action by launching into an application, sending an e-mail communication or simply providing an inquiry into another part of the organization and asking for further analysis.

CFO Magazine identified the “driving force behind dashboards is the desire to put business intelligence functionality into the hands of users not trained in business analysis”.⁵

Operational dashboards provide:

- Intuitive, multi-layered interface
- Deliver individualized views of information
- Manage exceptions only
- Determine the cause of the exception and take appropriate action
- Interactive view of data
- Communicate strategy out to the organization

Another key benefit in operational dashboards is closing the knowledge and execution gap. Without an operational dashboard to view organizational health, many times companies are unaware of an out-of-tolerance condition that may be impacting operations. A supplier delivering poor quality parts may be driving returns higher throughout a particular month. Without proper vigilance through a dashboard application, the knowledge of this condition may not exist until the end of a month or quarter when analysts look into the high number of returns. This knowledge gap results in lost value to the organization.

Additionally, having knowledge of this does not resolve the issue. The line of business manager needs to identify the defective part and the particular supplier delivering the defective parts. Once the situation is rectified, even more time is lost (execution gap).

Operational dashboards reduce time to action by displaying dashboards containing threshold values so users understand if a particular business process is within variance. If not, the user is made aware by glancing at the particular KPI to view the out of tolerance condition, or an automatic alert can be sent to the user notifying them an exception condition exists and they need to take action.

⁵ “Gauging Success – What You See is Only Part of What Your Get”, Doug Bartholomew, CFO Magazine, August 2, 2005

JD Edwards EnterpriseOne is delivering a set of operational dashboards where users will be delivered packaged content. Customers or partners can then create their own content in the form of Key Performance Indicators or can extend or modify existing content for their specific purposes. Table 3 lists existing and planned dashboards and their associated metrics.⁶

Table 3. JD Edwards EnterpriseOne Dashboards and Associated Metrics	
Dashboard	Metrics
Plant Manager (available for 8.11SP1 and 8.12)	<ul style="list-style-type: none"> ▪ Revenue Management ▪ Customer Shipment Performance ▪ Manufacturing Performance ▪ Supplier Performance ▪ Cash and Capital Management
Financials and Compliance (available FY 2008)	<ul style="list-style-type: none"> ▪ Cash Flow ▪ Actual vs. Plan ▪ Un-posted Transactions ▪ Liquidity Ratios ▪ Leverage Ratios ▪ Activity Ratios ▪ Profitability Ratios ▪ Accounts Payable ▪ Accounts Receivable ▪ Changes to Write-off Settings ▪ Changes to Credit Limits ▪ Changes to A/R Aging Settings ▪ Changes to Expense Management Settings ▪ Segregation of Duties Alert

Additional dashboards will be delivered in 2007 and beyond.

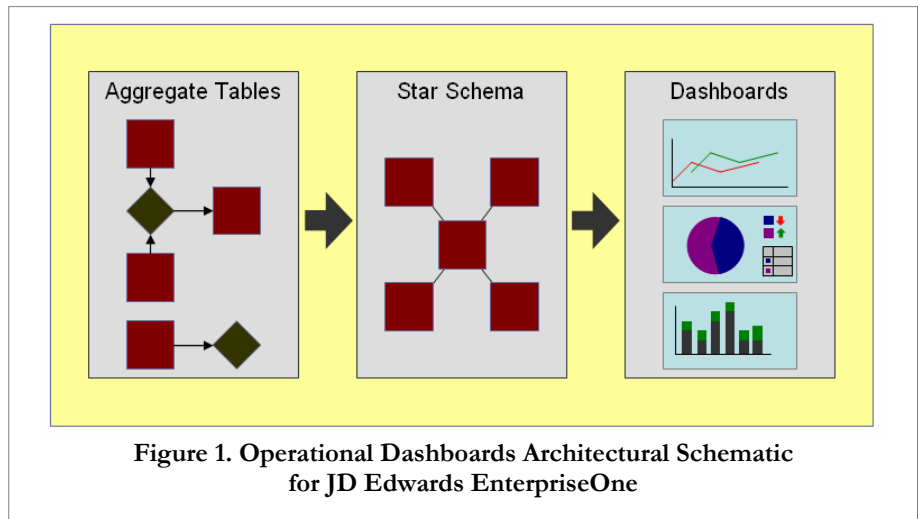
Operational Dashboard Architecture

JD Edwards EnterpriseOne operational dashboards are developed completely within the JD Edwards EnterpriseOne tools and technology environment. Data is pushed from the operational tables to a set of aggregate tables (See Figure 1). From the aggregate tables data is migrated to a target data structure optimized for reporting and analytics (e.g. star schema). The dashboards read the data stored in the star schema and the data is then rendered in the dashboard.

JD Edwards EnterpriseOne tools are used to render the metrics or Key Performance Indicators in a dashboard framework. Users are able to select the metrics they wish to track. There is a library of graphics for users to determine

⁶ All listed metrics are subject to change without notice

how they wish to visualize the metrics they either have developed on their own or metrics delivered as part of the Operational dashboard content.



Additional dashboards will be delivered for other functional areas including Human Capital Management, Customer Relationship Management and Supply Chain Management. Also, role-based dashboards will be delivered similar to the Plant Managers Dashboard. Industry dashboards will be developed for JD Edwards EnterpriseOne customers. Examples may include:⁷

- Real Estate
- Homebuilder
- Asset Intensive
- Engineering and Construction
- Projects and Services

⁷ List subject to change without notice

ORACLE BUSINESS INTELLIGENCE ENTERPRISE EDITION

Oracle Business Intelligence Enterprise Edition provides a robust business intelligence solution for organizations interested consolidating onto one business intelligence platform. The Oracle BI platform provides a single enterprise architecture providing the following:

- Interactive dashboards
- Reporting and publishing capability
- Ad hoc analysis
- Proactive detection and alerts
- Disconnected analysis
- Microsoft Office plug-in

The above user capability provides a seamless user experience across all products. There is a unified metadata and shared services model so Oracle BI EE is truly a BI platform as opposed to a series of independent BI products using multiple metadata formats.

The Oracle BI Server provides users and systems administrators a simplified business model view. There is also enhanced calculation capability and a library of statistical and business functions to select from when building queries or performing calculations.

Oracle BI EE can be deployed over multiple database platforms including native database support for Oracle, Microsoft SQL Server, IBM DB2 and Teradata.

Expanded clustering and replication provides mission critical performance and scalability to your business intelligence environments.

End user products consist of the following:

1. Interactive dashboards for guided analysis, leading users from insight to action.
2. Oracle Answers provides ad hoc data navigation and true business user self-sufficiency. End users can create, modify and author analysis, pivots and dashboards.
3. Oracle Delivers provides automated analytic workflows on a subscription or exception basis. End users can detect problems or opportunities via e-mail, PDA device WAP phone or other device.
4. Oracle Reporting and Publishing allows end users to schedule and deliver enterprise class reports with pixel level layout for board presentations or customer facing reports and analysis.

Many companies are looking to deploy analytics deeper into their organizations. Moving decision-making capability closer to the business process and those best

equipped to make these decisions. Because many line of business users are not necessarily business analysts, Oracle BI provides guided analysis capability to lead users from discovery to action. As end users evaluate dashboard information, there can be a set of links to assist the end user with where to go next in terms of more detailed reports or additional metrics leading the end user to action.

Oracle BI EE also provides alerting capability for urgent business circumstances demanding immediate attention. Proactive, event-based, or scheduled alerts that automatically detect problems or opportunities are delivered directly to users via e-mail, handheld and other portable devices. This places powerful information in the hands of those required to make daily decisions.

The Oracle BI platform should be considered if you are looking into consolidating your BI technology. Oracle BI provides an exceptional platform for performing analytics across the enterprise.

Oracle BI Enterprise Edition and EPM

The Oracle BI EE platform is integrated with EPM (See Figure 2) so you can access the rich EPM content in the form of reports and key performance indicators. Oracle will continue to develop and expose rich content through the Oracle BI EE platform.

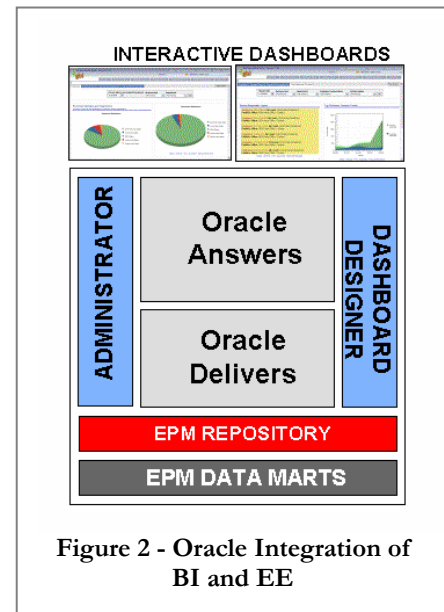
EPM provides a robust, comprehensive data model for reporting and analytics, integrated with multiple versions of PeopleSoft Enterprise and JD Edwards EnterpriseOne and World solutions.

There are pre-built ETL maps to EPM data marts pulling detailed atomic level detail from the transaction systems.

Oracle BI EE provides JD Edwards customers a market leading business intelligence tool reporting over:

- Financial Management
- Human Capital Management
- Supply Chain Management
- Customer Relationship Management

Role based dashboards are available for all major subject areas listed above and Oracle BI EE is integrated with EPM for a seamless and secure user experience.



CONCLUSION

Business intelligence is no longer reserved for a small group of business analysts identifying anomalies in a prior periods result. BI is emerging as a critical technology in providing business value throughout the organization. BI technology has progressed to the point where organizations are able to arm their line of business users with appropriate tools enabling in-process business decision-making.

Oracle provides the appropriate level of technology depending on your most urgent requirements. Customers requiring better consolidated reporting or are focused on their forecast to budget business process can deploy Oracle's Enterprise Performance Management applications. For more tactical analysis over heterogeneous data sources, the EPM analytics modules leveraging Oracle BI EE provides flexible deployment opportunities.

Dashboards for business users are an option for JD Edwards EnterpriseOne customers looking to deploy operational analytics out to their user community.

ACRONYMNS

A/P	Accounts Payable
A/R	Accounts Receivable
BI	Business Intelligence
EE	Enterprise Edition (for Oracle BI)
EPM	Enterprise Performance Management
ETL	Extract Transform and Load
G/L	General Ledger
KPI	Key Performance Indicator
OLAP	Online Analytical Processing



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