BPM Product Analysis

A Comparison of IBM Business Process Manager and Oracle BPM

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This white paper was sponsored by Oracle but was written by AVIO Consulting as an independent comparison between the BPM products offered by IBM and Oracle.
Executive Summary

Business Process Management (BPM) software from the various vendors has become very difficult to evaluate and compare. The market is now at the maturity level where most of the vendors appear on the surface to have the similar functionality. Using RFPs to compare products is made difficult because a “full support” check mark does not reflect a feature’s ease of use or if it will be included in the product without an additional charge. Having both IT and the business with their differing needs and weighting factors work together to select a BPM tool adds to the complexity of the selection. As a result, companies are often left unsure that they have selected the best product for their needs.

IBM and Oracle have taken similar approaches to BPM. Both products originate from a BPM pure play heritage. IBM acquired Lombardi’s BPM product in 2010. Oracle acquired BEA and its AquaLogic BPM product in 2008. IBM Business Process Manager consists of a variety of development tools and runtime engines from both their Lombardi and existing IBM legacy products. Oracle BPM Suite is a more unified product with tools designed specifically for the disparate needs of business users and developers.

Based on feedback from customers and industry consultants familiar with both products, the following factors combine to make Oracle BPM Suite the superior choice:

1. **Functionality** – Oracle BPM includes comprehensive features customers need on BPM projects. Included are: web-based business user process modeling, content management, case management, portal, fully functional business rules, Business Activity Monitoring (BAM), data model and its entire portfolio of pre-built Process Accelerators.

2. **Product Integration** – Oracle BPM’s development tools and its runtime architecture is very tightly integrated. The functionality in one tool is not duplicated in another. Development time is saved because artifacts in the project are kept in synch and are not lost as the work transitions between the business users and developers. Whatever is modeled is exactly what will be executed. While Oracle BPM developers use a single well integrated tool, IBM BPM developers use two loosely spliced development tools with overlapping features.

3. **Ease of use** – Oracle BPM is the easier of the two products to use in three essential areas. First, the processes are modeled by the business and enhanced with technical details by developers in an easy to understand common format that both understand. Second, both developers and business people each have tools specifically built for their different skills and needs. The technical implementation components needed by developers in the tool they use are masked in the business users’ tool. Third, the tooling required to integrate to back-end systems is much easier to use in Oracle BPM.
4. **Cost** – IBM Business Process Manager and its Industry Packs are significantly more expensive than Oracle BPM and its Process Accelerators. In addition, Oracle BPM comes with features IBM Business Process Manager either does not possess or only includes at an additional charge. IBM Business Process Manager’s Integration Designer tool has a very steep learning curve and more professional services to integrate the disparate components are required. Because Oracle BPM projects perform better than IBM Business Process Manager projects, less hardware and software needs to be purchased.

5. **Business User Empowerment** – The business plays a much more important role on Oracle BPM projects. The dependency on IT is reduced because actual business users participate in the full lifecycle of Oracle BPM projects by creating their own processes, user interfaces, business rules and even the information carried by the individual work item instances using a simple web-based tool.
**Evaluation Methodology**

As a well-known leading expert in BPM, AVIO Consulting has extensive experience helping organizations evaluate, select and implement BPM products through product demonstrations, hands-on proof of concepts and enterprise project implementations. This analysis report incorporates these experiences.

The products were also evaluated based on detailed interviews that were conducted. The interviewees, primarily developers and administrators, were selected based on their hands-on experience with at least one of the BPM products, and in the case of some interviewees, both BPM products. Each was asked a series of detailed questions that covered each product’s business and technical approaches and the features of the product.
Overview of the Products

BPM products are changing rapidly to keep pace with the demands of the market. As a result, BPM is becoming more difficult to define and areas once outside of BPM are now fully integrated in many products.

In its purest form, companies use BPM today to create seamless end-to-end business processes. Using BPM, companies can handle the difficult challenge of integrating existing systems, outside events, data, documents and human interactions. This means that people and systems can have discrete activities inside cohesive processes that support the organization’s business objectives across different parts of the organization and its heterogeneous applications. As work flows through the processes, people have tasks automatically assigned to them at the right time in the process with exactly the right contextual data they need to do their work. Similarly, when BPM processes need to communicate with various external systems, the BPM processes invoke the external system’s services automatically at runtime resulting in a seamless integration.

With IBM Business Process Manager, IBM spliced together two products that were conceptually and architecturally different products – the Lombardi BPM product and IBM’s own legacy WebSphere BPM product. Two of the ways that the product is packaged are called the Advanced and Standard Editions.

**IBM Business Process Manager Editions**

![Diagram of IBM Business Process Manager Editions](image)

A third edition not shown above is called Express. Designed for customers just getting started, it is identical to the Standard Edition, but can only run on a single server, cannot be clustered and therefore does not have the scalability needed for most production environments. Only the Advanced Edition contains Integration Designer, a complex IBM legacy Eclipse based integrated development environment (IDE) tool developers use to create, expose and orchestrate services and databases.
Process Designer originated from the Lombardi BPM tool. Even though both Integration Designer and Process Designer run on the Eclipse IDE, they are not integrated and are installed and run completely independent of one another on different versions of Eclipse. Developers use Process Designer to model processes and create end user interfaces. The business rules used by the processes can be added here using a scaled down version of IBM’s Operational Decision Manager (ODM) tool with key functionality disabled. Even though Process Designer and Integration Designer are distinctly different tools, some of their functionality overlaps and to varying degrees both can expose back-end services and databases.

Developers use IBM Business Process Manager’s Process Center to manage, deploy and interact with the Business Process Modeling and Notation (BPMN) and BPEL processes they create in the two different development tools. Process Server is the runtime environment where process work item instances of IBM’s Business Process Manager are executed. If IBM Business Process Manager’s Advanced Edition is purchased, separate runtime environments execute the two different types of processes (BPMN and BPEL). Customers purchasing the Standard Edition can only execute BPMN processes. Although IBM Business Process Manager does not come with a true web 2.0 portal, end users access IBM Business Process Manager’s Process Portal web-based tool to interact with work item instances as they flow through the processes.

Oracle’s BPM product is the result of Oracle’s acquisition of BEA’s pure-play BPM product called AquaLogic BPM.

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**Oracle Business Process Management Editions**

**Oracle BPM Suite**
- Business Process Composer
- Oracle BPM Studio
- Business Activity Monitoring
- WebCenter Content
- Unified Runtime
  - BPMN
  - BPEL
  - Rules
  - Mediator
  - Human Workflow
- Workspace
- WebCenter Portal

**Oracle BPM Standard Edition**
- Business Process Composer
- Oracle BPM Studio
- Business Activity Monitoring
- WebCenter Content
- Unified Runtime
  - BPMN
  - Rules
  - Mediator
  - Human Workflow
- Workspace
Following the acquisition of BEA’s product line, Oracle invested heavily in unifying and tightly integrating their BPM line of software from both a design time and a runtime perspective. In 2010, Oracle completed this integration of their process modeling, business rules, service orchestration, content management and analytic components into what now constitutes Oracle BPM.

Oracle BPM has two development environments called Oracle Business Process Composer and Oracle BPM Studio targeted for business users and developers, respectively. Process Composer is an easy to use web-based tool specifically designed for business users and Oracle BPM Studio is designed for developers use. Oracle BPM comes with Oracle’s Business Activity Monitoring (BAM) tool, WebCenter Content for content management and a standalone web-based end user environment called the Workspace.

Oracle BPM is packaged in two different configurations called Oracle BPM Suite and Oracle BPM Standard Edition. The primary difference is that Standard Edition does not include the BPEL editor, the BPEL engine for service orchestration and the WebCenter Portal that Oracle BPM Suite includes. Although the IBM and Oracle BPM packaging may appear similar, Oracle BPM provides additional functionality with BAM, content management, and a fully enable business rules modeling and runtime engine. In addition, when purchasing the Oracle BPM Suite, a true web 2.0 portal called WebCenter Spaces and full case management are included.

Oracle BPM is a core component in Oracle’s Fusion Middleware stack – the platform used to develop Oracle’s Fusion Middleware Application portfolio of products.

**Business Approach to BPM**

Until recently, BPM tools have been almost exclusively used by technically oriented business analysts and developers. Today, business people want to play a much more active role that goes beyond initial requirements gathering and high level process modeling.

Using IBM’s hosted Blueworks Live product, business people on BPM projects initially model and document high level business processes. Although easy to use, Blueworks Live is a separately purchased product outside of the IBM Business Process Manager stack. Initial requirements gathering and process modeling are the software’s intended functions.
IBM’s hosted environment outside of the company’s firewall stores the processes created in Blueworks Live. In order to access process design definitions created in Blueworks Live, a developer manually imports them into IBM’s on-premise Process Designer tool. The models in Process Designer and Blueworks Live are not kept in synch with one another. Although high level process definitions carry over, many artifacts and properties created in Blueworks Live are lost as they are manually imported into Process Designer (e.g., who the expert is, risk factors). Similarly, developers who enhance processes using Process Designer and manually export them back into Blueworks Live lose a significant portion of the BPMN artifacts as well as all of the implementation artifacts that were added.

Business people assigned to Oracle BPM projects play a much more important role than on an IBM Business Process Manager project. Using Oracle BPM’s web-based Process Composer, they not only create and document process models, but also run simulations, create and edit business rules, design process payload, create end user interface forms and interactively test their processes. With Oracle BPM, the business seamlessly shares their work with developers without losing process artifacts. Business people have the ability to take a process all the way from modeling to execution using Process Composer.

“I became discouraged with Blueworks Live. I was unable to work when IBM had it down for maintenance and once developers got a hold of the processes, I knew I would never again view its current state again in Blueworks Live.”

– IBM BPM Business Analyst, Major Manufacturer

Technical Approach to BPM
The technical tools in a BPM product used by developers to add the implementation activities and events into processes and to create, expose, orchestrate and integrate the underlying services and databases needed by the processes. BPM technical tools typically have four key facets. First, they need to be tightly integrated so work is not lost between the tools. Second, the tools should each have a common and easy to use interface that reduces the length of time it takes for a developer to become proficient. Third, the tools should allow business users to
have substantial input into the design of both business processes and their business rules. And finally fourth, a vendor’s BPM technical tools should be easy enough to use so developers who are not highly technical or skilled in a specific technology can easily integrate the various services and provide the database access that the processes will use at runtime.

If IBM Business Process Manager’s Advanced Edition is purchased, developers use both Process Designer and Integration Designer tools to add the implementation details need on BPM projects. The two tools are distinctly different. Included from a legacy IBM product, most developers find Integration Designer very difficult to use. Integration Designer has a completely different look and feel than Process Designer, they are not tightly integrated, and the artifacts created in the two tools are stored, tested and run in a completely different manner. Because of their overlapping functionality, developers are often confused about which tool to use to integrate to web services, databases and Java. Because integration in the two is done differently, developers either have a steep learning curve or simply avoid using Integration Designer altogether.

If IBM Business Process Manager’s Standard Edition is purchased, developers can only use Process Designer for integration. Although easier to use, it has only a small subset of the integration capability Integration Designer includes and is not intended to be used to expose services for general consumption outside of a BPM project.

“Although we purchased Integration Designer, we avoid using it and it has remained shelfware. It just takes too much effort to use.”
– IBM BPM Developer, Major Insurance Provider

With Oracle BPM, both the developers and the business analysts access the same underlying Business Process Modeling and Notation (BPMN) 2.0 process artifacts through a common repository. This means that when viewing and editing projects in either Process Composer or Studio, artifacts are never lost between the two tools.

Using Studio, developers add the more technical BPMN 2.0 artifacts into processes developed by the business analysts (e.g., service tasks, script tasks, message tasks, signal events), edit business rules, and map and transform complex data from one format to another. Oracle BPM Studio rests on top of Oracle’s SOA foundation of products and can add and orchestrate new

Differences:

- IBM BPM’s Integration Designer development tool is difficult to use, and requires deep technical skills and extensive training.
- IBM BPM’s two development tools are distinctly different and result in a steep learning curve.
- The Oracle BPM Studio is the single tool developers use without extensive training throughout a project’s lifecycle.
services simply. Note that Oracle BPM Studio provides the functionality included in the two separate IBM BPM products, Process Designer and Integration Designer.

Feature Comparison

I. Design Capabilities

Process Modeling

Process models created in a BPM tool graphically represent how the work will flow to the various people, systems and applications once the project is put into production. Ideally, business people and business analysts modeling business processes would use a web-based modeling interface instead of an IDE.

Differences:

- IBM’s hosted Blueworks Live lacks Oracle Business Process Composer’s rich BPMN modeling capability.
- Parts of processes are lost as Blueworks Live processes are exported into IBM BPM and vice versa. The processes are not kept in synch between the two.
- Oracle BPM uses standard BPMN 2.0 artifacts to model business processes that can be easily understood by business people. Both business people and developers collaborate seamlessly viewing the same models.
- Modeling how work should be assigned is more powerful in Oracle BPM and based on commonly used patterns.
- With Oracle BPM, the business’s view of the process reflects exactly how it will be executed.

Although outside of IBM Business Process Manager’s products, IBM’s hosted Blueworks Live product is where the business can do high level requirements gathering. As a result, business people are typically limited to creating preliminary high level process models with the tool. Although business people have become more knowledgeable and comfortable using BPMN modeling artifacts in recent years, Blueworks Live is not fully BPMN 2.0 compliant and contains only a subset of the process modeling artifacts business analysts have become accustomed to using on a BPM project.

Blueworks Live process models are imported by developers into IBM’s Eclipse based Process Designer process modeling IDE. Although some artifacts are lost during the import, developers are then able to add more detailed process artifacts. Although pools and signal events and some activities are missing, Process Designer’s process modeling tool is still more comprehensive than Blueworks Live and is for the most part BPMN 2.0 compliant from a modeling perspective. Because of the loss of artifacts between the two modeling tools and their lack of synchronization, what is modeled in Blueworks Live is not how it will be executed.
Both Oracle Business Process Composer and Oracle BPM Studio fully support BPMN 2.0 process swimlane roles, activities, gateways and events. Although some might argue that BPMN 2.0 may be too complex for the business to understand, the business-oriented Process Composer tool handles this by initially offering a simple palette containing the most commonly used activities, gateways, and events. If the business user wants to add more sophisticated activities, gateways or events, they can click the More button at the bottom of the drag and drop palette.

Oracle BPM’s full BPMN support gives both business users and developers viewing the process models a clear mutual understanding of what will occur at runtime. With Oracle BPM, what is modeled in a process reflects exactly how it will be executed.

Oracle BPM can use business rules to assign tasks. In addition, Oracle BPM can model task assignment using any of these powerful yet intuitive out-of-the-box patterns:

- **User** – simple pattern to assign work to a single user, a list of users or everyone in a role.
- **FYI** – inform a user that something has occurred but the work item continues on in the process.
- **Management** – a sequential series of approvals that automatically escalate up a user’s management chain.
- **Group** – based on the list of users specified, each user is sent the work item simultaneously.
- **Complex** – a combination of any of these patterns.

“*Process modeling in Oracle BPM is just what I need. It was simple to learn and it lets me create implementable processes that my whole extended team can comprehend.*” – Oracle BPM Business Analyst, IT Services Provider

**Simulation**

When modeling processes the focus is on the activities, sequence flows, gateways and defining who owns the work for the various activities in the process. While processes do a good job of showing the activities and how they are connected to one another, they do not provide the information regarding the variations that might occur when the process is actually executed in production. As a result, it is difficult to pinpoint exactly where bottlenecks and cost overruns will occur once a project is deployed into production.

By creating and running simulations, business analysts are able to emulate what will happen very early in the project’s lifecycle and long before a process goes into production. Simulations find exactly where process related bottlenecks and budget overruns will occur. Designers, developers, and managers can then focus on optimizing those critical areas of the process.
IBM’s Blueworks Live does not include simulation. Although simulations are rarely performed by developers, Process Designer can be used to run simulations.

Unlike Blueworks Live, simulations can be run in Oracle BPM by the business using its web-based Process Composer tool as well as its developer oriented Oracle BPM Studio tool. The simulation features provided in IBM’s Process Designer and those provided in Oracle BPM’s Process Composer and Studio are roughly equivalent.

**Business Rules**

Business rules are invoked by BPM business processes to route and assign work items. The rules consist of business configurable if-then statements or decision tables that look like spreadsheets. As the name implies, ideally business rules are externalized into tools that give non-technical business users the ability to create and modify them. Because of the separation between processes and business rules, the two should be able to be changed independently with differing lifecycles. As the business needs to change and the business rules are changed, the processes that invoke them should remain unchanged.

Although IBM BPM includes a scaled down version of IBM’s Operation Decision Manager (ODM) product for its business rules, it has some significant limitations:

- Business rules can only be created and modified using the Eclipse based Process Designer IDE. Business people have no way to change the rules using a web-based tool.
- Business rules changes cannot be made independently of the process. Even the simplest business rule changes cannot be activated without also activating the changes also made in its process. This limits the business agility that business rules are designed to provide.
- Unless the full ODM business rules product is purchased, IBM process business rules are not externalized and can only be invoked from inside business processes.
- IBM ODM’s capability has been significantly limited in IBM BPM’s business rules engine. Business rules are executed sequentially in a procedural manner. This results in poorer performance at runtime and unnecessary additional debugging as rule sequences change or when individual rules are edited, modified or deleted.
- Debugging business rules is difficult because design-time rule gap and conflict analysis is not included with the IBM BPM product’s limited business rule capability.

Differences:

- Simulation is not included with IBM’s Blueworks Live.
- In Oracle BPM, process simulations can be run from both Process Composer and Studio tools.
“With IBM business rules, you are given only small a taste of what using business rules is like, but to do anything beyond the basics we had to buy business rules software separately.” – IBM BPM Business Analyst, System Integration Provider

Typically people with differing skill sets model processes and create business rules. Oracle BPM’s tools speed development by allowing the business rules to be defined separately and in parallel with the processes that are modeled. Because rules are separate from processes, the business becomes more agile and adaptable to change. Business people can change Oracle business rules as often as the business needs them to change. The changes take effect immediately without redeploying the associated processes each time.

Oracle BPM business rules are created, modified and run using a fully enabled business rules engine called Oracle Business Rules. Both business people and business analysts using their web-based Process Composer tool and developers using Oracle BPM Studio can create and edit business rules. Once changed, the changes can take effect immediately if desired. The processes that invoke the rules remain unchanged and do not have to be redeployed.

Instead of invoking rules sequentially, Oracle BPM’s business rules engine includes the Rete algorithm. From a practical viewpoint, this means:

- Performance is improved as multiple rules with common conditions store the partially matched results in memory.
- The rules in rulesets do not have to execute sequentially in a defined order. Rules can be added, modified or deleted without impacting other rules.

Oracle BPM’s business rule editor reduces the possibility of runtime errors by automatically detecting when there are rule overlaps, conflicts and gaps in the rules.

Differences:

- IBM BPM business rule changes cannot be made without also activating the changes made in the process as well.
- With IBM BPM, a business person cannot create or modify business rules independently using a web-based interface.
- IBM BPM’s business rules do not support complex decisions requiring chaining, stateful execution or the Rete algorithm.
- Agility is improved because Oracle BPM process models and business rules are loosely coupled, which simplifies development, and provides a division of labor.
- With Oracle BPM, business people can make changes to business rules in any phase of development or production. Changes can be made without having to redeploy its associated process.
Once created, the Oracle BPM business rules can be invoked both from processes by adding a business rule activity and also externally by other applications as a web service.

**User Interface Form Creation**
The user interfaces created inside BPM tools are how the information about a work item is displayed to the end-users at runtime. The user interfaces can display dynamically rendered graphical charts, graphs and maps to help represent the data.

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<th>Differences:</th>
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<tr>
<td>• In IBM BPM’s latest version, web forms should be designed by a developer.</td>
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<td>• Oracle BPM’s Web Form Designer is simpler to use than IBM’s Process Designer form design tool.</td>
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<tr>
<td>• With Oracle BPM, both non-technical business people and developers can create the user forms using tools specifically designed for them.</td>
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Both IBM BPM and Oracle BPM have user interface development tools that use a declarative diagram drag-and-drop, property driven approach to creating end user forms.

IBM’s hosted business oriented Blueworks Live tool does not include a user interface form design tool. Although building user interface forms in IBM BPM Process Designer was simple enough for business people to use in previous versions, the latest version of IBM Business Process Manager now requires substantially more technical expertise. As a result, forms are now primarily created by developers.

With Oracle BPM’s Web Form Designer, non-technical business people create user interface forms quickly with very little training. Forms are created either using its simple drag and drop interface or automatically generated from a data object. A developer might assist when there is a requirement to hide and show or disable and enable fields or populate dropdowns where JavaScript is required.

Developers use Oracle BPM Studio’s Application Development Framework (ADF) tool to create the complex end-user forms that require sophisticated controls and functionality. ADF is a best-in-class tool used by thousands of developers both inside Oracle BPM and also outside to develop forms in portals, standalone web applications and in Oracle’s own Fusion Application packages. It is a complete Model View Controller (MVC) JavaServer Faces (JSF) standards based environment. Because it is MVC based, it is transparent where the information displayed on the ADF forms comes from and can include an aggregation of the data coming from the process’s payload, web services, databases, Java classes and EJBs. Although ADF is a very powerful tool, it does have a higher learning curve associated with it. Having the assistance of someone who has used ADF on a previous project can help developers get who are new to the technology.
**Data Modeling**

Data modeling tools define how information will be stored in a relational database. A diagram is used to define the tables, how the information is stored in each table, and lines are drawn between the tables to reflect how the tables relate to one another. For example, a data model diagram shows that an order can have many order lines by showing an ORDER table and an ORDER_LINE table and a line between the two indicating that orders have zero, one or more order lines. Data modeling is often needed on a BPM project to model how its underlying data is to be stored. This becomes especially important if information needs to be persisted beyond the life of a work item in a process.

IBM Business Process Manager does not include a tool for relational database modeling, and if this is a requirement, a third party tool must be purchased separately.

Oracle BPM Studio includes the same tool that developers have used for years to create and maintain relational data models. Logical data models are created declaratively in a diagram that shows the tables, their foreign keys and primary keys. The logical data model is then used to easily create the physical tables either through Oracle BPM Studio directly or by the SQL it generates.

**Integration**

Integration refers to a BPM tool’s ability to automatically connect to and invoke backend systems and databases as work items flow through the processes. One of the key benefits of a BPM product is its ability to integrate to backend systems inside the tool without developers having to resort to hand coding the interfaces. An average developer should be able to integrate services and backend system without having deep technical skills in a specific technology.

IBM Business Process Manager’s Process Designer tool is used to integrate processes with back end services that are exposed as Java, web services and databases. Process Designer’s integration capability is sometimes limiting, cumbersome, error prone and (because it is JavaScript based) slower at runtime. Some specific examples cited by customers included:

- Process Designer has no data mapping tool, information passed into and back out of the called service has to be mapped using hand coded JavaScript by a developer. For complex XSDs this can be a time consuming and error prone task.
- Although backend systems typically expose themselves using web services, Process Designer has some limits to what it can handle. For example, services cannot be
exposed or invoked when the service’s WSDL uses a reserved JavaScript word (e.g., “return”), when an element uses the xsd:any type or when polymorphic elements are used.

- Process Designer is not always able to integrate with Java component methods. For example, Process Designer can only invoke methods in introspected Java if they use simple scalar parameters and have a default constructor.

When developers using IBM’s Process Designer to integrate database information with a process, they are required to hand code SQL. Database integration with Oracle BPM has no such restriction. Because Oracle BPM developers are provided wizards that automatically check the syntax and guide them through database table and column selections, developers are much more productive and spend less time correcting SQL issues.

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**Differences:**

- IBM BPM’s Process Designer has some very significant limitations.
- Data mapping, XSLT and database SQL must be hand coded in Process Designer.
- For training purposes, developers can get hands-on experience using Oracle BPM by simply downloading and installing the openly available software from Oracle.
- Oracle BPM’s Composite diagram visually represents the integration between the components.
- Oracle BPM uses a simple drag-and-drop, standards based diagram to easily transform data between services.

As the underlying services are exposed and connected, the data going into and back out from services often require XSLT to perform the complex transformations from one data schema’s format into another. Complex transformations requiring XSLT in IBM’s Process Designer must be hand coded or created using a third party tool. Oracle BPM on the other hand includes a best-in-class declarative drag-and-drop mapping tool and stores the mapping in XSLT standard syntax. Using the tool, both simple and complex logic driven mappings are available as the data is transformed.

To overcome the shortcomings in IBM BPM’s Process Designer, customers either purchase IBM’s IT centric Integration Designer tool by upgrading to IBM BPM Advanced Edition or a developer hand codes a wrapper to the service or method invoked. With either of these options, skilled developers with deep technical skills are required.

A key benefit of Oracle BPM Suite is that it is seamlessly layered on top of Oracle's SOA platform and its complete set of best-in-class adapters and tools. Oracle's SOA platform is a proven, standards based approach to exposing and integrating databases and backend services using standard Java EE Connector Architecture (JCA) adapters. Some of the adapters included are: B2B, database, EJB,
File, FTP, HTTP, JMS, MQ and web service adapters. Adapters to business applications such as Oracle E-Business Suite, PeopleSoft, Siebel and others are also available.

In addition to the vendor’s training, developers can easily learn how to integrate services using Oracle BPM’s documentation inside its tools, commercially available books, Oracle’s online Oracle BPM Learning Library or through the Oracle Technical Network (OTN). Developers can get hands-on practical experience using Oracle BPM by simply downloading the software openly available from Oracle’s website.

Oracle BPM Suite is definitely the best choice to integrate and supplement Oracle Fusion Application solutions. Oracle Fusion Applications are easily made process-aware and integrated with Oracle BPM through:

- **Pre-built integration** – Fusion Applications come with pre-built Oracle BPM processes and the reusable services required for integration.

- **Built using Oracle BPM** – Both Oracle Fusion Customer Relationship Management (CRM) and Oracle Fusion Human Capital Management (HCM) Fusion applications were created using BPMN processes. This means that both can be modified and extended natively using Oracle BPM.

Each Oracle BPM project has a standards-based Service Component Architecture (SCA) composite diagram associated with it that is used to not only define the components, but also to depict how the components are assembled and connected to one another declaratively by simply dragging the wires between components on the diagram.

Both IBM Advanced Edition and Oracle BPM Suite include the robust service-to-service orchestration tools BPM projects sometimes require. Both use BPEL’s standards based approach to model services, manage transactions, and handle compensations when exceptions occur. When complex service orchestration is required, a BPM process’s service activity can invoke a BPEL process.

“Simply put – we find IBM BPM integration is very confusing and complicated.”

– IBM BPM Developer, Major Financial Institution
II. Execution Capabilities

Business User Experience

End users only see and perform the tasks assigned to them or to their assigned groups based on the process model's design. Although business users select, execute, re-assign, delegate and escalate tasks similarly in both IBM Business Process Manager and Oracle BPM, the collaboration between business users is handled differently.

Although not truly a portal, end users interact with IBM Business Process Manager’s work item instances assigned to them using the standalone web-based product called Process Portal. As well as having the ability to list and perform their assigned tasks, IBM Business Process Manager’s Process Portal allows users to interactively collaborate with one another.

Oracle WebCenter is a full featured Web 2.0 portal and collaboration environment, and Oracle BPM Suite includes WebCenter’s Process Spaces. Process Spaces is role-based, and business users only see and perform the tasks assigned to them or to their assigned groups. Based on the business user’s permissions, they can also view, create or modify process models, business rules and user interfaces using Process Composer’s web user interface. Business users select and work on process instances from a task list and collaborate with one another using WebCenter’s chat. A true enterprise portal, portlets are easily added to the portal without code (JSR 168), the portlets added are able to easily communicate with one another (JSR 286) and users can add their own applications onto the portal. Social media discussions, announcements, IM, Blog and Wiki are included as well.

Through WebCenter portal, end users can also be granted access to view, create and modify process models.

For customers without a portal implementation, the task list can also be exposed using a web-based Workspace tool or through Oracle BPM’s API.

Content Management

The purpose of content management is to manage, version and view files that end users upload based on the individual’s role and permissions. When used with BPM, content management transparently associates files with specific work items flowing through processes. Content management’s ability to seamlessly upload and version the files associated with work items is a key element of most BPM projects.
IBM Business Process Manager does not include content management software, which must be licensed separately. Oracle BPM Suite includes content management within the product.

While IBM Business Process Manager has a limited capability to store documents, it does not include full featured content management software. Although IBM BPM can integrate to content management software packages that use Content Management Interoperability Services (CMIS) protocol, the content management software is a separate purchase.

Oracle WebCenter Content is packaged with Oracle BPM Suite and has out-of-the-box integration with the product. If a customer has an existing content management software solution, it can be integrated with Oracle BPM using the content management software’s API.

### Case Management

Most BPM vendors have recently added case management into their products. Using case management, knowledge workers are able to create, manage, maintain and share a case. A case is a collection of tasks, information, documents and decisions that are made during its lifespan. Instead of a work item flowing through a pre-determined or deterministic process, a case can be created to dynamically invoke several different processes, which are managed by a business rule. Individual case workers can invoke sub-cases along the way.

Although included in several BPM tools, case management’s practical use will remain dependent on the level of BPM maturity inside an organization and it will remain limited until there is a more widespread need for ad-hoc and custom case solutions.

IBM Business Process Manager does not have an integrated case management solution, and a separate product called IBM Case Manager must instead be purchased and custom integrated. Where IBM Business Process Manager originated from IBM’s Lombardi acquisition, IBM Case Manager is based on the BPM product it acquired in an earlier acquisition called FileNet. While FileNet’s content management software might prove useful in a case’s lifecycle, not including case management functionality with IBM Business Process Manager does not make sense to customers. IBM customers wanting both case management and BPM must purchase two different products from two different sales teams and two different development runtime environments. IBM’s case management solution entails a steep learning curve and is expensive to acquire and implement.

### Differences:

- IBM Business Process Manager does not include case management and is included in another IBM product.
- Oracle BPM Suite includes case management within the product with no extra charge.

IBM Business Process Manager does not have an integrated case management solution, and a separate product called IBM Case Manager must instead be purchased and custom integrated. Where IBM Business Process Manager originated from IBM’s Lombardi acquisition, IBM Case Manager is based on the BPM product it acquired in an earlier acquisition called FileNet. While FileNet’s content management software might prove useful in a case’s lifecycle, not including case management functionality with IBM Business Process Manager does not make sense to customers. IBM customers wanting both case management and BPM must purchase two different products from two different sales teams and two different development runtime environments. IBM’s case management solution entails a steep learning curve and is expensive to acquire and implement.
Oracle BPM includes the Adaptive Case Management (ACM) product at no additional charge. Developers define the different processes, tasks, milestones and the underlying business rules that form a case using Oracle BPM Studio. Instead of viewing the individual granular pieces of a case, end-users view the overall cases at runtime using Oracle BPM’s Case Space tool inside of Process Spaces.

III. Analysis and Monitoring

Process Monitoring

For business executives and managers, one of the most significant problems with enterprise software has been the scarcity of meaningful reports that represent the flood of underlying data. Business Activity Monitoring (BAM) abstracts the raw data and presents meaningful views of easily understood graphical charts designed in the BAM product. Authorized end-users can view graphical reports that display the current status or past status of KPIs and service level agreements (SLA). Monitoring can be made active by setting thresholds and then used to automatically send notifications to workers when a threshold is about to be reached (e.g. automatically notify a manager and escalate a work item’s priority when its SLA is about to expire).

Both IBM BPM and Oracle BPM gather process performance and KPI metrics as work items flow through the processes. Based on process, activity and people performance times and the business indicator KPIs built into the process, pre-built reports display the aggregated information to end users. Additional reports can be constructed by business users in both BPM tools.

In addition to the process analytics included in both products, Oracle BPM also includes Oracle BAM. Oracle BAM is not limited to displaying process KPIs from within the BPM Workspace and can also be used by other applications. It can display not only process information but also event feeds from outside of Oracle BPM to create a complete picture of the status of the business.

Oracle BAM charts are loosely coupled with Oracle BPM. This means that Oracle BAM charts can be displayed from within Oracle BPM Spaces and Workspace as well as from Oracle BAM’s standalone web application or other applications. Additionally, Oracle BAM can be used to automatically trigger both BPM and non-BPM related events when a threshold is reached (e.g., to start or interrupt or escalate a work item).
**Process Intelligence**

While BAM tools display pie and bar charts that are populated as instances flow through processes, some BPM tools also use process intelligence that provides sophisticated real-time analytics to improve the decisions that are being made. Based on the metrics input, processes are capable of continuing to improve their decisions or suggestions to end-users over time.

Sometimes referred to as intelligent business operations, this enables:

- Real-time awareness of the actions that should be taken. Cases previously sent to business users to analyze or approve can instead be handled without human intervention.
- Visibility of events occurring throughout the enterprise and the changes needed.
- Faster and better decisions to help drive revenue, decrease cost and improve customer satisfaction.
- Improved compliance and fraud detection.

IBM Business Process Manager does not have a tool with this capability. With Oracle BPM, Oracle’s Real-time Decisions (RTD) add-on product is used to automatically make these types of decisions and provide real-time recommendations. Because RTD is loosely coupled with Oracle BPM, it can add value to the entire enterprise outside of a BPM work item or process context. The metrics input can come from either inside or outside of BPM processes, and they can expose their decisions to both BPM processes as well as an enterprise’s other applications and web forms.

**IV. Technical Components and Capabilities**

**Runtime Architecture and Tools**

While some aspects of the runtime architecture of the IBM Business Process Manager and Oracle BPM products appear similar, there are significant differences in the out-of-the-box functionality between the two products.
Oracle BPM includes the key features customers want and need on BPM projects at no additional charge. Software components missing in IBM Business Process Manager that must be purchased separately include BAM, content management, case management and a true portal. In contrast, Oracle BAM, WebCenter Content for document management, Oracle
WebCenter Portal, Adaptive Case Management, and data modeling are included out-of-the-box.

IBM BPM’s Integration Designer provided with its Advanced Edition is not tightly integrated with the rest of the IBM BPM architecture. Unlike IBM’s Process Designer tool which adds every artifact immediately to Process Center’s BPM Repository database when a project is saved, Integration Designer stores artifacts on a developer’s local machine. This has two disadvantages:

- In order to do any work, developers using Process Designer must always be connected to Process Server via a fast and reliable network connection.
- Developers using Integration Designer have to manually push their work to Process Server.

With Oracle BPM, Oracle BPM Studio is the one tool that developers use to create and modify processes and web forms. The same developer using Studio can also expose services and create new services. Once a service exists, a developer using Studio can then integrate the service directly into a BPMN process using a service activity or through a BPEL process’s orchestrated service.

IBM Integration Designer’s ability to create and expose services is similar to Oracle BPM Studio’s, but it is only available at an additional charge with IBM BPM Advanced Edition. Customers who purchase the Advanced Edition still tend to avoid using Integration Designer because it is a very difficult tool to use, and unlike Oracle BPM Studio, requires deep technical skills.

IBM Process Server’s integration and execution of BPMN and BPEL processes is still a work in progress. As IBM Business Process Manager work item instances travel through processes at runtime, execution occurs in two dissimilar ways. Process Designer BPMN processes execute using interpreted code read from the BPM Repository database. The services and BPEL processes created in IBM’s Integration Designer, on the other hand, are deployed on Process Server as EAR files and are executed as compiled code on the application server. The overhead of BPMN process interpreted execution and its frequent database access adversely affects IBM Business Process Manager’s performance and limits its scalability. As a result, IBM Business Process Manager projects require additional hardware and software when compared to Oracle BPM projects.
Oracle BPM’s runtime architecture handles process execution more efficiently. First, each Oracle BPM project, is deployed as a composite EAR file and runs in a compiled manner. Second, a dedicated BPMN service engine directly executes BPMN models at runtime and a separate dedicated BPEL service engine executes BPEL process models. Work is offloaded from the engines because the two have a common process core that handles the services shared by both BPMN and BPEL processes (e.g., scheduling alarms, storing instance information in the database and when services need to be invoked). This separate BPMN engine also means that BPMN processes do not need to be converted to BPEL at runtime. Each type of process is executed natively and the underlying Service Component Architecture (SCA) server optimizes and eliminates the overhead and performance issues that would otherwise occur with a mixed process model execution.

Although both Oracle BPM and IBM Business Process Manager run on Java EE runtime environments, IBM Business Process Manager’s Process Server only runs on an IBM WebSphere application server. With Oracle BPM, customers are not locked into using an Oracle’s application server. Oracle BPM runs on both WebSphere and WebLogic application servers.

Industry Packs / Process Accelerators
BPM vendors create pre-built industry specific or horizontal solutions using their products that give customers a jump start on projects. IBM calls these Industry Packs and Oracle calls them Process Accelerators. Built to speed development and to help customers adhere to industry best practices, they are created using the BPM tool and can be deployed as is or customized to meet the specific needs of a customer. BPM vendors provide both industry specific solutions (e.g., financial industry client on-boarding application) and horizontal solutions (e.g., a cross industry Customer Relationship Management application). They normally include BPM process models, business rules, end-user interfaces, database schemas, key performance indicators (KPI), dashboards and work item payload definitions.

Originating from its Lombardi heritage, IBM’s Industry Packs focus on banking, telecom and healthcare verticals. Its banking pack includes models for customer on-boarding, payments, customer care, and risk management. Its healthcare pack has models supporting enrollment, and employer and claims management. The telecom pack includes models for order management, incident management and billing. IBM charges a premium price for each of these packs and they typically are sold as templates packaged in with IBM consulting service package offerings.
IBM’s industry pack development has been intermittent and there is presently no team dedicated to creating new packs or maintaining the existing ones. Because they were created with earlier releases of the product, customers purchasing them should consider them to be templates of solutions that will then need to be enhanced and upgraded.

Oracle’s pre-built Process Accelerators became available in 2012. They are built, extended and deployed using the current version of Oracle BPM. Each includes the processes, business rules, payload schemas, database schema definitions, user interfaces and dashboards needed for production.

Created by a dedicated development team, there are both vertical and horizontal Oracle BPM process accelerators. Vertical process accelerators include: Public Sector Incident Reporting, Financial Service Loan Origination and Business Account Opening. Oracle BPM horizontal process accelerators include Travel Request Management, Document Routing and Approval, Internal Service Request and Employee On-boarding.

Oracle provides the BPM process accelerators to customers at no extra charge. Clients make the decision to use the accelerators as part of their solution or simply as a training aid to illustrate best practices on an Oracle BPM project.

Cost Considerations
There are a variety of factors to be considered when comparing the cost of IBM Business Process Manager and Oracle BPM that include software licensing, product configurations, maintenance and support and support, implementation, hardware and training. Although there are similarities, significant differences also exist due to the different configurations and licensing models. The cost of the prebuilt BPM solutions provided by the vendors and the cost of other software licenses must also be factored in as well (e.g., application server, content management, case management, and business rules).

Acquisition
Comparing IBM Business Process Manager and Oracle BPM pricing can be challenging given their different licensing models. IBM licenses Business Process Manager on a Processor Value Unit (PVU) basis with a variable cost per core based on the processor vendor, brand, type, and
model number. IBM BPM customers are charged a premium if more powerful processors are used. Oracle BPM on the other hand is licensed either on a flat CPU basis (with no additional charge for more powerful processors) or on a per user basis.

Both products require an application server in order to run. IBM includes WebSphere application server as part of its BPM license, but because Oracle BPM has the flexibility to run on either WebSphere or WebLogic, the application server is not included with Oracle BPM’s license.

IBM Business Process Manager only offers very limited business rules and content management licenses with the product and additional licenses are required if more robust business rule and content management functionality is required. Robust business rules and content management are included with Oracle BPM at no additional charge.

If case management is desired from IBM, a completely different software product called IBM Case Manager must be licensed separately. Oracle BPM on the other hand includes case management at no additional charge.

Two sample scenarios are shown below to help provide context and a comparison between the pricing of these two products.

**Maintenance and Support**

Both IBM and Oracle have similar models for Support and Maintenance costs based on the original license fee. IBM charges 20% and Oracle charges 22% annually. The first year of maintenance and support is included in IBM’s software license, while it is not included in Oracle software license. But given the higher cost of the license for IBM BPM in the examples below, the Maintenance and Support fees are correspondingly higher as well.

**Scenario A: HP-ProLiant DL360** – Entry level environment with room for growth primarily for human workflow, business activity monitoring and integration usage but without case management, content management, or a portal.

<table>
<thead>
<tr>
<th>Core</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPUs</td>
<td>2</td>
</tr>
<tr>
<td>Sophisticated Portal</td>
<td>No</td>
</tr>
<tr>
<td>Fully Functional Business Rules</td>
<td>No</td>
</tr>
<tr>
<td>Case Management features</td>
<td>No</td>
</tr>
<tr>
<td>Fully Functional Content Management required</td>
<td>No</td>
</tr>
<tr>
<td>Named Users</td>
<td>100</td>
</tr>
<tr>
<td>Process Designers</td>
<td>5</td>
</tr>
<tr>
<td>Integration Designers</td>
<td>0</td>
</tr>
<tr>
<td>Case Management Users</td>
<td>0</td>
</tr>
<tr>
<td>Content Management Users</td>
<td>0</td>
</tr>
<tr>
<td>Small Entry Level Environment</td>
<td>Oracle BPM Standard Edition</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Software license</td>
<td>User based</td>
</tr>
<tr>
<td>Extra charge optional add-ons</td>
<td>- Oracle SOA Suite</td>
</tr>
<tr>
<td></td>
<td>- WebCenter Portal</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
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<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Options included at no additional charge</td>
<td>- Oracle Business Rules (fully functional)</td>
</tr>
<tr>
<td></td>
<td>- Oracle Adaptive Case Management</td>
</tr>
<tr>
<td></td>
<td>- WebCenter Content Management</td>
</tr>
<tr>
<td>Required software</td>
<td>Application Server, Database (both extra)</td>
</tr>
<tr>
<td>License Cost</td>
<td>USD $347,700</td>
</tr>
</tbody>
</table>

- **Oracle** - This scenario would lend itself to a user-based license for Oracle BPM and WebLogic Server. The initial user based license is USD $285,000 and is $347,700 after the first year of maintenance and support is included. The five year cost is $598,500, which includes the fully functioning case management, content management, and portal capabilities at no additional charge.

- **IBM** - The licensing fees for these limited requirements exceeds USD $654,100 for the first year alone and just over $1.2 million for five years. Because it is mainly PVU based, there is no restriction on the number of users. To include case management, content management, and portal capabilities, the first year cost is over $2 million and requires the Advanced Edition.
**Scenario B: Sun SPARC T5-8** – Large, complex, full-featured implementation on a high-end server configuration.

<table>
<thead>
<tr>
<th><strong>Cores</strong></th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPUs</strong></td>
<td>8</td>
</tr>
<tr>
<td><strong>Sophisticated Portal required</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Fully Functional Business Rules required</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Case Management features required</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Fully Functional Content Management required</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Named Users</strong></td>
<td>100k</td>
</tr>
<tr>
<td><strong>Process Designers</strong></td>
<td>20</td>
</tr>
<tr>
<td><strong>Integration Designers</strong></td>
<td>20</td>
</tr>
<tr>
<td><strong>Case Management Users</strong></td>
<td>5,000</td>
</tr>
<tr>
<td><strong>Content Management Users</strong></td>
<td>5,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Large Production Environment</strong></th>
<th><strong>Oracle BPM Suite</strong></th>
<th><strong>IBM BPM Advanced Edition</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Software license</strong></td>
<td>CPU Based</td>
<td>PVU based</td>
</tr>
<tr>
<td><strong>Extra charge optional add-ons</strong></td>
<td>(none – all are included with Oracle BPM Suite)</td>
<td>• Industry Packs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bluelworks Live</td>
</tr>
<tr>
<td><strong>Additional products licensed separately from BPM license</strong></td>
<td>(none – all are included with Oracle BPM Suite)</td>
<td>• IBM Content Manager (for content management)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• IBM Advanced Case Management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• IBM Operational Decision Management (for fully functional business rules)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• IBM Business Monitor (for BAM)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• WebSphere Portal (for fully functional portal)</td>
</tr>
<tr>
<td><strong>Required software</strong></td>
<td>Application Server, Database (both extra)</td>
<td>WebSphere Application Server (included), Database (DB2 included)</td>
</tr>
<tr>
<td><strong>License Cost</strong></td>
<td>USD $1,561,600</td>
<td>$5.3 million if Advanced Case Management, Business Monitor and Content Manager are not included. (Otherwise, the total is over USD $12 million, if these components are included)</td>
</tr>
</tbody>
</table>

- **Oracle** – The standard list price for Oracle BPM Suite, WebLogic Server, and Oracle SOA Suite for a production environment is USD $1,561,600 for the first year including support and maintenance. The five year total for Oracle is $2,688,000.
• **IBM** – The standard list price for IBM Business Process Manager Advanced Edition that includes WebSphere Application Server, Process Center, Process Designers and Integration Designers, and the separately licensed products that include IBM Content Manager, IBM Advanced Case Manager, IBM Operational Decision Management, IBM Business Monitor and WebSphere Portal for a large production environment is over USD $12 million for the first year including support and maintenance and subscription fees. The total five year cost for these products is over $38 million for a single environment. Although its functionality is already included with Oracle BPM Suite at no additional charge, if the IBM Advanced Case Management, IBM Content Manager and IBM Business Monitor are not purchased, the first year price for IBM is still $5,283,280.

**Implementation**

Comparing the cost of an implementation between both products is nearly impossible. The variation in skill levels, availability of skilled resources, project requirements and each client’s existing hardware and software environment make implementation comparisons difficult. In both products, implementations can be achieved from installation to production within ninety days given a narrow scope and highly experienced resources.

Regardless of the vendor, the best strategy to minimize the long-term services costs is to get internal resources trained and involved immediately to learn how to design, develop, and deliver solutions. Oracle tends to focus more on software revenue with only limited professional services staffing when deep product expertise is required while IBM’s leading revenue source is professional services. When comparing both vendors, obtain detailed services quotes for the specific project broken down by each person’s role, responsibility, deliverables, and rate. Finding consulting resources with cross-product IBM Business Process Manager, IBM Case Manager, IBM Business Monitor, ODM and Content Manager will significantly drive up the cost of the implementation. Expect to pay $175-250 per hour for experienced senior resources from either IBM or Oracle professional services.

**Training**

Training is an essential element for success with any software product and BPM products are no exception. Both Oracle and IBM offer role-based training that allows business and technical resources to gain the knowledge needed to use their respective products. Oracle charges between $700 and $840 per student per day for training. IBM charges between $560 and $780 per student per day. Below are the BPM courses listed by each vendor.

**IBM Business Process Manager Technical Training**

<table>
<thead>
<tr>
<th>Course</th>
<th>Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing Applications in IBM Process Manager Advanced – I</td>
<td>5 days</td>
</tr>
<tr>
<td>Developing Applications in IBM Process Manager Advanced – II</td>
<td>5 days</td>
</tr>
<tr>
<td>Reporting with IBM Process Manager</td>
<td>2 days</td>
</tr>
</tbody>
</table>
## IBM Business Process Manager Business-Focused Training

<table>
<thead>
<tr>
<th>Course</th>
<th>Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Discovery and Modeling in Blueworks Live</td>
<td>.5 days</td>
</tr>
<tr>
<td>Blueworks Live Account Administration</td>
<td>.5 days</td>
</tr>
<tr>
<td>Blueworks Live BPM Change Management</td>
<td>2 hrs</td>
</tr>
<tr>
<td>Process Modeling with IBM Process Manager</td>
<td>2 days</td>
</tr>
<tr>
<td>BPM Process Analysis Methods</td>
<td>3 days</td>
</tr>
</tbody>
</table>

## Oracle BPM Technical Training

<table>
<thead>
<tr>
<th>Course</th>
<th>Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle BPM: Implement the Process Model</td>
<td>5 days</td>
</tr>
<tr>
<td>BAM - Building Real-Time Dashboards</td>
<td>3 days</td>
</tr>
</tbody>
</table>

## Oracle BPM Business-Focused Training

<table>
<thead>
<tr>
<th>Course</th>
<th>Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle BPM: Modeling – 3 day model, simulations, BAM dashboard training</td>
<td>3 days</td>
</tr>
</tbody>
</table>

### Other Costs

When comparing the total cost of Oracle BPM and IBM Business Process Manager, a key factor is that Oracle BPM bundles and integrates best-of-breed fully enabled products that are sold separately with IBM. These include a content management system that can be used to store, secure, and associate documents with the individual work item cases, an advanced case management solution that facilitates ad-hoc and unstructured processes, a sophisticated business rules engine, robust process monitoring, and a world-class portal that can be tailored to user needs. The cost of IBM’s additional product licenses significantly increases the purchase price and in many cases cost as much or more than the BPM software.

The cost of hardware is reduced with Oracle BPM because of its superior runtime performance.

The pre-built solutions provided in Oracle BPM’s Process Accelerators and IBM Business Process Manager Industry Packs can significantly reduce development time. Oracle currently offers its Process Accelerators free of charge while IBM charges $59,000 per application instance or $354,000 per establishment or site.

### Differences:

- Oracle BPM’s license cost is significantly less than IBM BPM’s.
- Due to its performance, IBM BPM requires additional hardware to be purchased.
- IBM requires additional products to be licensed that are included with Oracle BPM.
- IBM Business Process Manager requires 2x more BPM training than Oracle.
Summary
Even though the different BPM products continue to evolve rapidly, the market is gradually becoming more mature, and many of the products appear on the surface to have similar functionality. However, a BPM product that is a perfect fit for one company might easily be a very poor fit for another. Before beginning an evaluation, one should always ensure that both the business and technical teams involved have evaluated their needs and have determined the critical areas of functionality they require.

Although IBM Business Process Manager and Oracle BPM share a similar heritage, the two products have key fundamental differences in functionality, integration and maturity.

- **Functionality** – Oracle BPM includes comprehensive features customers need on BPM projects. Unlike IBM Business Process Manager, Oracle BPM includes: web-based business user modeling, content management, case management, a fully functional rules engine, data modeling, a web 2.0 portal, BAM and an entire portfolio of prebuilt Process Accelerators.

- **Product Integration** – Oracle BPM’s development tools and its runtime architecture is very tightly integrated. The functionality in one tool is not duplicated in another. Artifacts are not lost as they are transitioned between its tools. What the business and what the developers see is always kept in synch. In essence, what you model is what you execute.

- **Ease of use** – Oracle BPM is the easier of the two products to use in three essential areas. First, the processes are modeled by the business and enhanced by developers in an easy to understand common format that both understand. Second, both developers and business people each have tools specifically built for their different skills and needs. Third, the tooling required to integrate to back-end systems is much easier to use in Oracle BPM.

- **Cost** – Unlike Oracle BPM with its flat CPU pricing, IBM BPM’s acquisition cost increases significantly as more powerful processors are used. IBM Business Process Manager and its Industry Packs are significantly more expensive than Oracle BPM and its free Process Accelerators. IBM has a steeper learning curve and more professional services to integrate the disparate components. Lastly, Oracle BPM comes with features IBM Business Process Manager either does not possess or includes at an additional charge.

- **Business User Empowerment** – Business people play a much more important role on Oracle BPM projects. The dependency on IT is reduced because business users participate in the full lifecycle of Oracle BPM projects that include creating processes, user interfaces, business rules and even the information carried by the individual work item instances.
AVIO Consulting partners with customers to optimize their investments in middleware technologies, process improvement initiatives and business strategy / IT capability alignment efforts. AVIO offers full lifecycle consulting services from infrastructure to implementation, instructor-led and virtual training and mentoring for BPM and SOA enterprise initiatives.