Monitoring a Business Process in Oracle BPM 11g: Narration Script

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Hello, and welcome to this online, self-paced course entitled Monitoring a Business Process in Oracle BPM 11g. My name is Rosie Piller, and I will be your tour guide for the next 30 minutes of interactive lectures, product demonstrations, and review sessions. As the title suggests, this course aims to familiarize you with monitoring business processes using Oracle Business Process Management 11g, also known as Oracle BPM 11g.

Using the Player

Before we begin, take a look at some of the features of this Flash-based course player. If you’ve attended a similar self-paced course in the past, then feel free to skip this slide. On the left of your screen, you will find a hierarchical outline. This format enables and even encourages you to go at your own pace, which means you are free to skip over topics you already feel confident about, or jump right to a feature that really interests you, or go back and review topics that were already covered. Simply click a slide title in the outline to display its contents. However, note that by default we will automatically walk you through the slides without requiring you to use the outline.

Standard Flash player controls are found at the bottom of the player, including Pause, Previous, and Next buttons. There is also an interactive progress bar to fast forward or rewind the current slide. Interactive slides may have additional controls and buttons along with instructions on how to use them.

The audio narration script for this course is available from the Attachments button. This course will now pause, so feel free to take some time and explore the interface. Then when you’re ready to continue, click the Next button below or alternatively click The BPM Life Cycle in the outline on the left.

The BPM Life Cycle: Introduction

Business Process Management is a strategy for managing and improving the performance of a business through continuous optimization of business processes in a closed-loop cycle of modeling, implementation, execution, and measurement. Oracle follows a methodology that it developed over many years of working with a wide variety of companies. Here is the typical life cycle Oracle uses for business process management. Click each phase of the life cycle to hear more details. If you’re familiar with this life cycle, feel free to advance to the next slide.

The BPM Life Cycle: Planning, Strategy, Analysis, Design

Just as with any large project, good planning is important to the success of a BPM initiative. A company with a high level of BPM maturity goes beyond the departmental level and takes a comprehensive view of the entire enterprise—namely, its goals, operations, processes, and IT systems—so it can align BPM projects with business objectives. Coming out of the planning and strategy phase, you’ll have a BPM steering committee, a BPM scope document, some BPM process candidates, and a BPM repository that will be used to hold requirements, data models, and various project artifacts. BPM process candidates should be high-value processes which are amenable to automation and have a high benefit-to-risk ratio.

The Enterprise Architect will then analyze the technical aspects of the BPM process candidates and create a BPM Road Map. The BPM Road Map describes the current state, creates the future
vision, identifies the gaps between the two, and defines a road map to get from the current state to
the desired state.

**The BPM Life Cycle: Model and Simulate**

Once the Enterprise Architects have completed their work, Process Analysts model the flow of a
business process, document its steps, and define process metrics based on Key Performance
Indicators and Service Level Agreements identified by business users. Models are simply a way
for Process Analysts to document processes in a structured way. A model is a “picture” of the
process, if you will, and as the saying goes, a picture is worth a thousand words.
A very important and sometimes overlooked part of modeling is simulation. This involves testing
the process with real world assumptions regarding staffing levels, system performance, cost,
throughput, and so on. It’s worth taking the time to do simulations, because it helps to run what-if
experiments to see what the impact would be of, say, reducing or increasing the number of people
assigned to an activity, or a sudden increase in the number of items flowing through the process.

**The BPM Life Cycle: Implement and Deploy**

After the Process Analysts have modeled the process, Developers need to implement the process.
In this step, Developers refine the process model and make technical configurations so it is
executable. For example, for each activity in the process, they define the necessary technical
components to ensure the appropriate participants are notified when they have a task to perform.
They create the forms end users will see when they participate in the process. And they integrate
the process with back-end databases and other systems.
After the implementation work has been done and thoroughly tested, Administrators perform
some configuration tasks, and you are ready to deploy the process to run time. This is when you
go live with the process, making it available to end users.

**The BPM Life Cycle: Execute**

Once the process is deployed, it is used within the business, and end users start participating. For
example, a Sales Rep can enter a quote, and according to the process flow, participants are
automatically notified when they need to perform a task. Some of the tasks may be performed by
the system, without any human interaction, according to how the process is modeled and
implemented.

**The BPM Life Cycle: Manage**

Now that your project is up and running, Administrators need to manage the deployed
application, to ensure it is running properly and to resolve any issues that occur.

**The BPM Life Cycle: Monitor and Analyze**

You've come a long way, but your job is not done! Process Owners will want to monitor the
running process to see how it is performing. With Oracle BAM, you can even set up alerts on
abnormal business conditions, or configure automated actions when certain thresholds are passed.

**The BPM Life Cycle: Collaborate**

A key factor in the BPM life cycle is collaboration. For example, there might be several Process
Analysts collaborating on a single BPM project. And Developers may need to interact with
Process Analysts in order to tweak the process model. Process Owners may want to review the process model before it goes live. And so on. The Oracle BPM Suite facilitates collaboration by providing tools that allow all parties to share the same process model.

**The BPM Life Cycle: Continuous Improvement**

As we mentioned earlier, Business Process Management is a strategy for managing and improving the performance of a business through continuous optimization of business processes in a closed-loop cycle of modeling, implementation, execution, and measurement. So this is an iterative process. Actual performance data from the monitoring phase can be fed back into the model in preparation for another round of performance improvement. Companies that take the time to do this and manage the resulting changes effectively are poised to excel. Oracle BPM supports the whole BPM process life cycle. It provides tools used by all participants in each stage of the BPM life cycle.

**The BPM Life Cycle: Manage, Monitor, and Analyze**

Our focus in this course is two-fold: we’ll talk briefly about BPM Administrators and SOA Administrators managing the deployed application, to ensure it is running properly and to resolve any issues that occur. Then we’ll spend some time talking about how Process Owners will want to monitor the process to ensure the business goals defined earlier are met. Oracle BPM provides several tools for this purpose, and as you’ll soon see, you can set up alerts and even configure the software to take corrective action automatically.

**Course Road Map**

Before we move on to Monitoring and Analyzing, let’s take a quick look at administrative tasks.

**Two Types of Administrators**

In Oracle BPM, there are in fact two types of administrators. BPM Administrators manage BPM roles, Organization Units, Approval Groups, and perform a few other BPM-process-specific administrative tasks. They use the Administration view of both Business Process Composer and Business Process Workspace. SOA Administrators configure and monitor the whole SOA Suite system along with its deployments. Their main tool is Enterprise Manager.

**Business Process Composer: Administration View**

In the Administration view of Business Process Composer, BPM Administrators can create and manage Process Composer roles, as shown here, delete or release locks on BPM projects, and import or delete project templates.

**Business Process Workspace: Administration View**

In the Administration view of Business Process Workspace, BPM Administrators can create and manage BPM roles, Organization Units, and Approval Groups, update human workflow rules at run time, resolve failed human tasks (for example, by reassigning them), and perform other administrative tasks specific to Oracle BPM.
Enterprise Manager

Enterprise Manager provides access to all deployed SOA composite applications, service engines, service components, and other elements. The home page, shown here, summarizes the status of the whole system, from the deployments to the SOA composite applications to the WebLogic domain to Oracle BAM.
You can use the left navigation bar to drill down into detailed views that help you configure and manage various parts of the system. For example, you can manage faults, retire old deployments, deploy new composites, view performance statistics, and perform many other administrative tasks.

Course Road Map

Now that you’ve had a glimpse of administrative tasks for Oracle BPM, let’s move on to monitoring and analyzing the BPM process metrics. We’ll start with an overview of monitoring in Oracle BPM 11g.

Why Monitor?

So if you’ve done all the analysis up front, aligning BPM projects with business objectives, you may ask yourself: why monitor? Just automating your business process should yield huge improvements.
Well, that’s true, but there are many reasons you may want to monitor your deployed processes. Using Oracle BPM, you can measure Key Performance Indicators (or KPIs)—namely business indicators you care about. For example, for the RequestQuote process, you may want to measure the total number of quotes submitted, the number of quotes that have been approved, or how long it takes on average to approve a quote.
With Oracle BAM, you can set up alerts on abnormal business conditions so you can take corrective action if necessary. Corrective action can even be automated, as you’ll soon see.

Built-In Measures and Dimensions

All business processes share some common metrics, such as the number of active instances and average cycle time. By default, Oracle BPM automatically captures the value of these metrics for each process, activity, and participant, so you can group the values of measures in your process. You have a lot of control over whether and where these measures are collected, and you can also configure custom (or user-defined) measures according to your needs.

Custom Metrics: Business Indicators

Oracle BPM uses the term “business indicators” to describe data objects you create to track custom, process-specific metrics. You can define business indicators to store values of Key Performance Indicators or of categories you can use to slice or filter your data in custom dashboards.
For example, in a Sustaining Engineering department, you might decide to measure the number of code bugs, the severity of the bugs, and the effort expended in resolving these bugs. In the RequestQuote process, you might want to measure discounts by industry and by revenue category, and the number of times a quote had to be revised due to rejection.

Two Tools for Visualizing Process Metrics
So where is monitoring data sent? You can configure Oracle BPM to send run-time data to Business Process Workspace as shown on the top, or to Oracle BAM as shown on the bottom. Or to both simultaneously. The data that is sent includes both standard and user-defined metrics gathered during the execution of a process, and you have two tools available to you for viewing process metrics.

**Course Road Map**

With that background, let’s take a look at the first of these tools: Oracle Business Process Workspace.

**Process Workspace Standard Dashboards: Introduction**

Oracle Business Process Workspace provides four standard dashboards out of the box. The two workload dashboards report on in-flight instances, whereas the performance dashboards report on completed instances. Click the tabs on the left for more details. Remember that you can click the images to zoom in and out.

**Sample “Workload per participant” Dashboard**

The “Workload per participant” dashboard displays the number of active instances waiting for completion, by role. You can drill down to see details for one role or another. In this example, you see details for participants with the BusinessPractices role in the RequestQuote process.

**Sample “Workload per process” Dashboard**

The “Workload per process” dashboard displays the number of active instances waiting for completion, by process. When you drill down into a specific process, the right panel displays the total number of instances waiting for completion in each of the activities in the selected process. The last drilldown displays the instances waiting for completion for the selected activity and process.

**Sample “Performance per participant” Dashboard**

The “Performance per participant” dashboard displays the average time taken across all processes, by role. When you drill down into the chart for a specific role, the right panel displays the average time taken to complete instances by process for the selected role. The drilldown at the bottom displays the list of completed instances for the selected role and process.

**Sample “Performance per process” Dashboard**

The “Performance per process” dashboard displays the average time taken per process. In our case, there is only one process running. When you drill down into a specific process, the right panel displays the average time taken to complete each activity. The last drilldown displays the completed instances for the selected activity and process.

**Demo: Exploring the Standard Process Workspace Dashboards**
Let’s look at a quick demo of the four standard dashboards in Business Process Workspace.

**Custom BPM Dashboards (Business Process Workspace)**

In addition to the four standard dashboards, Oracle Business Process Workspace allows end users to create custom dashboards—that is, user-defined dashboards that track business indicators that go beyond standard process metrics and are of particular interest to your organization. The top chart shows an example of displaying discounts by revenue (less than 100K, between 100K and 250K, and so on), grouped by industry. So you could see at a glance that discounts on quotes for software companies averaged 65% if the revenue was between 100K and 250K, but only 30% if the revenue was over 500K.

**Course Road Map**

So now you’ve seen one monitoring tool: Oracle Business Process Workspace. The next tool we’ll look at is Oracle BAM.

**What Is Oracle BAM?**

Oracle Business Activity Monitoring (Oracle BAM, for short) allows you to monitor business activities in real time. Oracle BAM can collect events from a wide variety of components, some of which are listed on the left. The key benefit of a BAM environment is that you can monitor operational processes and act upon them in real time.

**Comparing Oracle Business Process Workspace and Oracle BAM**

Here is a quick comparison of Oracle Business Process Workspace and Oracle BAM. As you can see, Oracle BAM requires additional setup, but it provides far more features, including real-time streaming updates and the ability to aggregate events from multiple sources, raise alerts, and perform actions. It also offers an extensive set of display features.

**BAM (Best Practice Visualizations): Introduction**

Let’s take a look at some of the highlights of Oracle BAM. Click the center circle to see a list of view types, click segments in the middle circle to see sample views, and click the outer circle to learn about other features of Oracle BAM.

**BAM (Best Practice Visualizations): Views**

Here is a list of the types of views you can use when presenting data in a BAM report. For example, there are fifteen types of chart views, among them bar, line, area, combo, and pie charts in both two-dimensional and three-dimensional formats. Click some of the segments in the middle circle to see sample BAM views.

**BAM (Best Practice Visualizations): Sample Bar Chart Views**

Here are sample bar charts in 3D. The chart on the right is known as a stacked bar chart. Because bar charts present summarized information, they work best with numeric values. As you may
expect, you can control the color of the bars, the labels applied to various chart elements, and whether to display a legend.

**BAM (Best Practice Visualizations): Pie Chart Views**

Pie charts display values in segments of a circle. As you can see, they are available in both 2D and 3D styles. Because pie charts present summarized information, they work best with numeric values.
You can control the color of the segments, the labels applied to various chart elements, whether to display a legend, and even whether to explode the slices of the pie so they appear separated from each other.

**BAM (Best Practice Visualizations): Sample List Views**

The Streaming List view shown on the left displays rows of data, with new rows appearing at the top of the list when active data arrives. Existing rows are not updated until the report is refreshed. So this view type is best when you want to see new entries more readily and are not as concerned with updates to existing data.
In contrast, the Updating List view shown on the right displays rows of data that are updated in place when active data is changed. New rows don’t appear until the report is refreshed. This view type is best when it’s most important to see updates to existing data and seeing new rows of data is less important.

**BAM (Best Practice Visualizations): Action List**

Action List views allow the end user to take action based on data in a report. The screenshot on the top shows an example. You can configure action buttons to insert, update, or delete data, to open a URL in a separate window, to open a report and map values from the current report to the new report, and so on. The lower screenshot lists all available actions. Picture using this view to update data on the backend system when you get an alert regarding values falling below a certain threshold, or you’re in danger of missing a target service level agreement!

**BAM (Best Practice Visualizations): Crosstab and Summary Crosstab**

Crosstab views use a spreadsheet format that combines rows and columns to display a multidimensional view of values. You can add summary functions such as sum, average, count, minimum, and maximum to summarize data vertically and horizontally, as shown in the Summary Crosstab view on the right.
End users interacting with these views can additionally sort, filter, drill down, roll up, and pivot using the headers in the Crosstab view. They’re extremely versatile!

**BAM (Best Practice Visualizations): Key Performance Indicator Views**

There are several views we refer to as Key Performance Indicator views. Here are three of them: the Range Gauge, Dial Gauge, and Arrow.
What is unique about Key Performance Indicator views is that they display only one value at a time. You need to summarize the data appropriately or use a filter to narrow the scope down to one row of data.
The Range Gauge shows red, yellow, and green markings on the gauge to help bring meaning to the position of the dial.
The Dial Gauge doesn’t have any color markings but indicates the current value in a numeric marked gauge. The Arrow view displays a positive or negative Key Performance Indicator. And you can display additional fields across from the arrow diagram for more information (for example, sum, average, count, minimum, or maximum).

**BAM (Best Practice Visualizations): Filters**

You can add filters to all views. For example, the chart on the right shows a filtered version of the chart on the left, namely, the filtered chart displays sales for the Eastern Region only. Filters can be quite complex, by combining entries and headers and involving dependencies on other lines in the filter.

**BAM (Best Practice Visualizations): Drilling Down, Drilling Up**

Drilling in views enables you to select an item in a series and view data at a more detailed level—even viewing the actual data rows. Oracle BAM offers four types of drilling: drilling down, drilling up, drilling through, and drilling across.

As shown on the left, drilling down displays data one level down the drill path using the same view type as in the current report. As shown on the right, drilling up displays data one level up the drill path, also using the same view type.

Drilling through, not shown here, displays data at the lowest level of the drill path, and drilling across opens another report altogether, according to how the original report has been designed.

**BAM (Best Practice Visualizations): Views Driving Other Views**

You can configure one view (say, the Action List view on the left) to drive another view (the 3D bar chart on the right). In this example, the 3D bar chart has been set up to display only those products that are selected in the Action list view. Driving is available in all List and Crosstab views.

**BAM (Best Practice Visualizations): Action Types**

An action button can perform more than one action, and behind each action is an “action type.” This screenshot shows the action types available in Action List views. Other types of views may have fewer options.

**BAM (Best Practice Visualizations): Alerts**

In most real-time scenarios, users want to be notified of real-time updates to a report as soon as a specific event occurs. With an alert, you specify the parameters to watch out for. If a specified threshold is met, Oracle BAM automatically sends an email based on the settings in the alert. These sophisticated rules mean the burden is no longer on users to initiate queries for reports. Instead, Oracle BAM sends an email to the right people at the right time. In addition to simple alerts, Oracle BAM can send entire reports to users via email.

**Oracle BAM Toolsets (Console)**

BAM offers these four tools, catering to the needs of four different users.
• Business Users use Active Viewer to view reports. When new, pertinent information is available, the Business User receives an email that contains a link to the information.
• Using Active Studio, Power Users can create, edit, and share reports. They can also create alert rules for report delivery.
• Using Architect, the Data Designer creates and manages data objects that Power Users use to create reports. The Data Designer also uses Architect to manage real-time message processing.
• The System Administrator uses the BAM Administrator tool to define security levels for users, roles, and objects, and to configure user distribution lists. Creating users and roles is actually handled separately—you use the Oracle WebLogic Server Administration Console to create users and roles.

**Demo: Viewing a BAM Report Using BAM Active Viewer**

Let’s see how easy it is for Business Users to view a BAM report.

**End**

You should now be familiar with the various monitoring tools available in Oracle BPM 11g. Thanks for participating in this self-paced training, and hope to see you in one of the other online courses in this Oracle BPM 11g series.