Working with the Business Process Dashboards

Version 9.7

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About this Guide

This guide is an introduction to the Software AG Business Process dashboards. It contains information to help business analysts who want to use these dashboards to monitor their business environments and react to conditions that are detected. It also contains configuration information for setting up the Business Process dashboards.

Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
Narrowfont	Identifies storage locations for services on webMethods Integration Server, using the convention *folder.subfolder:service* .
UPPERCASE	Identifies keyboard keys. Keys you must press simultaneously are joined with a plus sign (+).
Italic	Identifies variables for which you must supply values specific to your own situation or environment. Identifies new terms the first time they occur in the text.
`Monospace font`	Identifies text you must type or messages displayed by the system.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
|	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the | symbol.
[ ]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [ ] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

Documentation Installation

You can download the product documentation using the Software AG Installer. The documentation is downloaded to a central directory named _documentation in the main installation directory (SoftwareAG by default).

Online Information

Software AG Documentation Website

You can find documentation on the Software AG Documentation website at http://documentation.softwareag.com. The site requires Empower credentials. If you do not have Empower credentials, you must use the TECHcommunity website.

Software AG Empower Product Support Website

You can find product information on the Software AG Empower Product Support website at https://empower.softwareag.com.

To submit feature/enhancement requests, get information about product availability, and download products and certified samples, go to Products.

To get information about fixes and to read early warnings, technical papers, and knowledge base articles, go to the Knowledge Center

Software AG TECHcommunity

You can find documentation and other technical information on the Software AG TECHcommunity website at http://techcommunity.softwareag.com. You can:

■ Access product documentation, if you have TECHcommunity credentials. If you do not, you will need to register and specify "Documentation" as an area of interest.

■ Access articles, demos, and tutorials.

■ Use the online discussion forums, moderated by Software AG professionals, to ask questions, discuss best practices, and learn how other customers are using Software AG technology.

■ Link to external websites that discuss open standards and web technology.

1   Getting Started with the Business Process Dashboards

The Business Process Dashboards

The Business Process dashboards display summary metrics, instance detail, and other performance information about business processes that are under analysis by Optimize. These dashboards are displayed in either My webMethods or the Business Console, though they are rendered by an application that runs on the Presto Server, and you must have licensed copy of Presto installed to use them.

For authorized users who have access to My webMethods but not the Business Console, the dashboards are accessible through the My webMethods left hand menu. For users who have access to the Business Console, the dashboards can be viewed within that interface.

There are two primary dashboard use case scenarios as described below.

■ For authorized users who have access to My webMethods, including the Optimize Analytic engine, dashboards can be used to view business process data. In this scenario, the dashboards enable users to view process metrics, and can generate Email notifications or Escalation events, but there is no infrastructure to create a closed loop process that creates and assigns tasks related to Escalation events, unless users create a custom solution to implement such functionality.

■ Authorized users who have purchased and installed the appropriate Software AG components can take advantage of a true closed loop solution that allows them to view process information with the dashboards and create escalation events and tasks in context of other event enabled applications to create a true closed loop solution. Using this type of solution, dashboard users can create escalation actions assigned to other users based on issues observed on the dashboards. Tasks are assigned to the users based on the escalation action to ensure that the responsible party can observer the situation as noted when the escalation action was created and take an appropriate action.

For both use case scenarios, the list of available dashboards is as follows.

■ **Process Overview Dashboard** - This dashboard provides high-level information about a selected process including intrinsic metrics, historical views, and normality comparisons across a specified time range. This dashboard helps users to quickly identify potential issues, obtain information about alarms and stage activity, and use email or escalation actions to share findings with others.

■ **Stage Instances Dashboard** - This dashboard shows stage activity and performance for a process across a specified time range. The top of the page shows metrics about each stage, including information about activity, cycle time, and alarms. Selecting one or more table rows reveals information about individual stage instances and enables users to send email notifications or escalation actions for individual stage instances.

■ **Process Instances Dashboard** - This dashboard shows process activity and performance across a specified time range. A chart at the top of the page displays historical information about process volume activity and cycle time performance. A table at

the bottom of the page shows individual process instances and enables users to send email notification or escalation actions for individual process instances.

Before you Begin

To use the Business Process dashboards, make sure that:

- Presto is installed and running.

- If you are using the dashboards in My webMethods, you must configure the system settings with the appropriate Presto host, port, and protocol.

- The Business Process dashboards application has been deployed to Presto as described in "Post-installation Configuration Steps for the Business Process Dashboards" on page 28 (the deploy process must be performed by a Presto administrator.)

- You have a user account on Presto.

- Optimize for Process is installed and configured appropriately as described in the Optimize product documentation.

Displaying the Dashboards

Use the following procedure to display the Business Process dashboards from My webMethods. If you are working with the Business Console, refer to the Business Console documentation for information about working with the dashboards.

To display the dashboards

1. In My webMethods: **Applications > Monitoring > Business > Process Dashboards**.

   The Process Dashboards Overview tab is displayed.

2. From the tabs at the top of the page, select the dashboard you want to view:

Dashboard	Description
Overview	Displays performance metrics for a selected process for a specified time range. For more information about this dashboard, see "Understanding the Overview Dashboard" on page 14.
Stage Instances	Displays details about the stage instances that were active during a selected time range. For more information about this dashboard, see "Understanding the Stage Instances Dashboard" on page 21.
Process Instances	Displays details about the processes instances that were active during a selected time range. For more information about this dashboard, see "Understanding the Process Instances Dashboard" on page 23.

3. From the drop-down box in the upper left hand portion of the page, select the process you want to examine.

   Note: The drop-down list displays processes that are "enabled for analysis" in Optimize. If a process is not enabled for analysis, it will not appear in the list.

4. From the choices listed above the dashboard, select the time range you want to apply.

Interval	Displays data...
Today	From 12:00 AM to the current time
1 hour	From the last hour
1 day	From the last 24 hours
1 week	From the last week
4 weeks	From the last four weeks

Interval	Displays data...
Custom	Enables you to specify a date/time range

Note: The caption beneath the time-range options displays the exact start and end time of the time range you have selected or specified.

5. If you click the **Custom** button to specify a custom time range, a calendar/clock selector is displayed that enables you to specify any start and end date/time range that you wish. You can select calendar dates and times down to the minute. The time selector also contains a **Now** button that enables you to set either the start or end time to the current date/time. When a custom time range has been selected and is active, the **Custom** selection above the dashboard is highlighted.

The dashboards are updated to display the appropriate data for the specified time range.

General Behavior of the Dashboards

The following are general behaviors of the Business Process dashboards:

- Dashboards usually display additional details about a graphic element through the use of tool tips. For example, you can display the actual measurement for a given data point in a line graph by hovering over the point with your cursor.

- For space considerations, a dashboard might truncate the labels or names in a graph. To see the full label, hover over it with your cursor.

- The times and dates shown in a dashboard are expressed in the timezone of the machine where your browser is running.

- Some panels include a button or icon that enables you to email information from the dashboard to other interested parties. When you use this feature, the "From" field is filled automatically based on the email address associated with your Presto user account.

- When a dashboard reports an "average" value for a measurement, the value represents the *arithmetic mean*.

2   Understanding the Dashboards

General Behavior of the Process Dashboards

The following are general behaviors of the Business Process dashboards:

■ Dashboards usually display additional details about a graphic element through the use of tool tips. For example, you can display the actual measurement for a given data point in a line graph by hovering over the point with your cursor.

■ For space considerations, a dashboard might truncate the labels or names in a graph. To see the full label, hover over it with your cursor.

■ The times and dates shown in a dashboard are expressed in the timezone of the machine where your browser is running.

■ Some panels include a button or icon that enables you to email information from the dashboard to other interested parties. When you use this feature, the "From" field is filled automatically based on the email address associated with your Presto user account. The generated email includes a link that enables the recipient to view the dashboards in the state in which the email was created.

■ In addition, some panels also include an Escalation icon that enables you to create an escalation event related to information observed on the dashboards. This event includes similar information that is included in the email option. However, with an appropriately event-enabled system configuration that is set up to support closed loop analytics functionality, this event can be propagated through other applications to schedule tasks create or initiate process steps, etc. The functionality is available out of the box, only to users who have purchased the Business Console and other required system components and configured them appropriately.

■ When a dashboard reports an "average" value for a measurement, the value represents the *arithmetic mean*.

Understanding the Overview Dashboard

The Overview dashboard displays performance metrics for the selected process.

Process Volume

The Process Volume panel plots the number of process instances that completed during the selected time range.
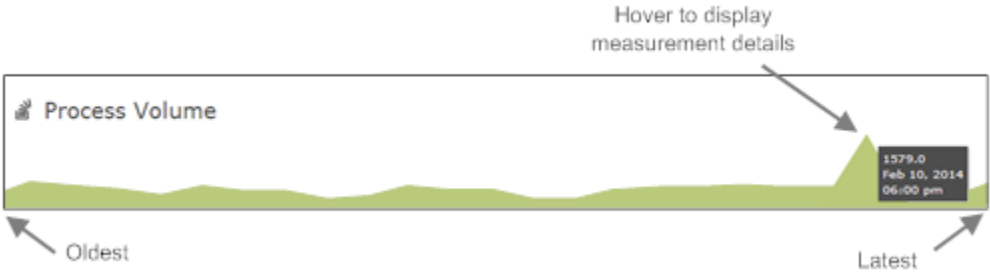
When viewing with this panel, be aware that:

◼ The graph plots measurements from left (the first measurement in the selected time range) to right (the most recent measurement) for the selected time range.

◼ A measurement represents the number of process instances that *completed* during a given interval within the time range.

◼ The length of an interval varies as follows according to the selected time range.

Selected range	Length of each interval
Today	One minute (if range is less than 12 hours)One hour (if range is greater than 12 hours)
1 hour	One minute
1 day	One hour
1 week	Four hours
4 weeks	One day
Custom	Varies according to what is most appropriate for the specified time range.

◼ You can display the time and exact measurement for a given data point by hovering over the point with your cursor.

◼ The time displayed for a data point represents the end of the interval. For example, if you are viewing the graph for a **1 day** time range (which reports measurements at hourly intervals), the data point at 2:00 represents the measurement for the interval 1:00:00:001 to 2:00:00:000 (inclusive).

Process Activity

The Process Activity panel reports the following metrics for the selected process:

This measurement..	Represents...
Running instances	The number of instances still in progress at the end of the time range.
Completed instances	The number of instances that finished processing (successfully or not) during the time range.
Total instances	The total number of instances that were active during the time range. (This value represents the sum of *Running Instances* and *Completed Instances*.)
Started instances	The number of new instances of this process that began during the time range.

This panel also includes the escalation action which enables you to create an escalation event. If you have a closed loop solution configured this event assigns a follow up task to the designated user. To use this action, click the escalation icon (p) and complete the form.

Process Alarms

The Process Alarms panel displays all *error types* that occurred during the selected time range. An error type represents a system-defined or user-defined condition that Optimize tracks. When the condition occurs (that is, when the condition is "true"), Optimize reports it.

Typically an error type represents a problem or an error condition you want to know about. However, error types can report positive events too. For more information about defining error types, see the "Configuring Business Processes" chapter in *Administering webMethods Optimize*.

This panel includes the email action, which enables you to send the alarm information to other interested parties. To use this action, click the email icon ✉ and complete the email form.

This panel also includes the escalation action which enables you to create an escalation event. If you have a closed loop solution configured for your system, this event assigns a follow up task to the designated user. To use this action, click the escalation icon (p) and complete the form.

Process Cycle Time

The Process Cycle Time panel displays the average cycle time for the selected time range relative to the normal cycle time for this process. This panel also reports the minimum and maximum cycle times for the time range.

Note: *Cycle time* refers to the total time required for a process to run from beginning to end, including the time spent waiting to be processed and the process execution time.

When viewing with this panel, be aware that:

■ The gauge represents the normal cycle-time distribution for the process. The midpoint on the gauge represents the historical mean. The marks on either side of the midpoint represent one standard deviation from the historical mean. The ends of the gauge are two standard deviations from the historical mean. (You can hover over the gauge to display the exact values.)

Note: The gauge does not become fully functional until Optimize has collected enough performance data to produce valid baseline statistics for the process. Until then, the gauge is gray, the needle remains in the center position, and the "normal" statistics are absent from the tool tip that displays when you hover over the gauge.

■ The needle position represents the average cycle time for the process instances that completed during the selected time range.

Note: Process instances in the canceled or suspended state do not contribute to the cycle-time measurement. If a suspended process resumes and completes successfully, it will contribute to the cycle time less the time spent suspended.

■ If the average cycle time is in the normal range (that is, within one standard deviation of the historical mean for this process), the center segment of the gauge displays in green. If the average cycle time moves beyond the normal range, the segment beneath the needle turns orange.

■ When the needle moves to the very end of the gauge, it indicates that the average cycle time is at or beyond two standard deviations from normal.

■ This panel also includes the escalation action which enables you to create an escalation event. If you have a closed loop solution configured for your system, this event assigns a follow up task to the designated user. To use this action, click the escalation icon ⦿ and complete the form.

Stage Activity

The Stage Activity panel lists the *stages* associated with the process and, for each stage, reports the number of running, incomplete, and completed instances.

Note: A *stage* is a sequence of process steps that you want to monitor as a unit. You identify stages when you define your process model. For additional information about defining stages in a process, see the section on working with stages in *webMethods BPM Process Development Help*.
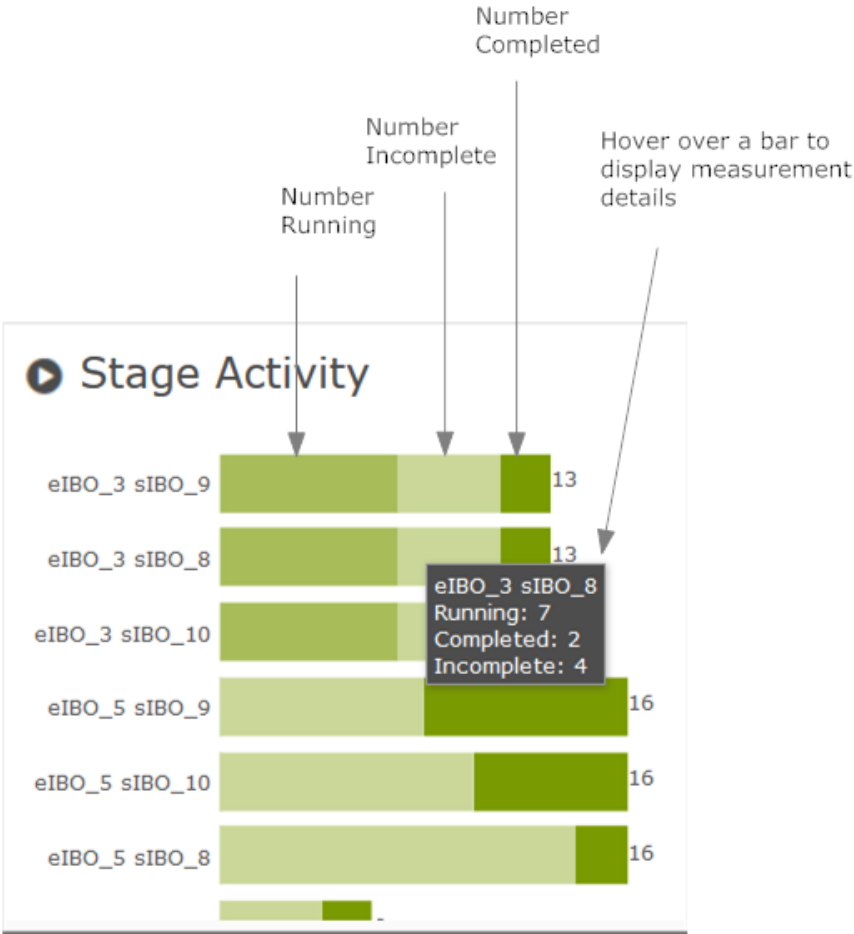
This count...	Represents...
Running	The number of stage instances that were still in progress at the end of the time range.
Incomplete	The number of stage instances that were started but not completed during the time range. Note that, in some cases, processes can be complete even though particular stage instances do not complete. This can occur because a process may step

This count...	Represents...
	through the first milestone of a stage, but take a branch that does not lead to the stage's end milestone. A process may also end prematurely, due to various reasons which would prevent the stage's end milestone from being encountered.
Completed	The number of stage instances that finished processing (successfully or not) during the time range.
	Note: This count will include any stage instances that Optimize marked as complete because the parent process completed before the stage instance did. This can happen, for example, when the parent process takes a path that does not include the end of the stage.

When viewing this panel, be aware that:

- You can hover over a bar in the graph to display the exact number of running and completed instances for the stage.

- You can use the buttons at the bottom of the graph to hide or show the segments in the bar graph.

- This panel also includes the escalation action which enables you to create an escalation event. If you have a closed loop solution configured for your system, this event assigns a follow up task to the designated user. To use this action, click the escalation icon and complete the form.

Stage Alarms

The Stage Alarms panel reports the number of *breaches* that occurred during the selected time range by stage.

Note: A *breach* represents a violation of a condition that is specified for the stage. For example, a condition might specify that a given stage is expected to run in less than 5 minutes. If the stage takes longer than specified, the stage is breached. For more information about specifying the conditions for a stage, see *webMethods BPM Process Development Help*.

This panel also includes the escalation action which enables you to create an escalation event. If you have a closed loop solution configured for your system, this event assigns a follow up task to the designated user. To use this action, click the escalation icon and complete the form.

Stage Cycle Times

The Stage Cycle Times panel shows the average cycle time for each stage during the selected time range relative to the normal cycle time for the stage.
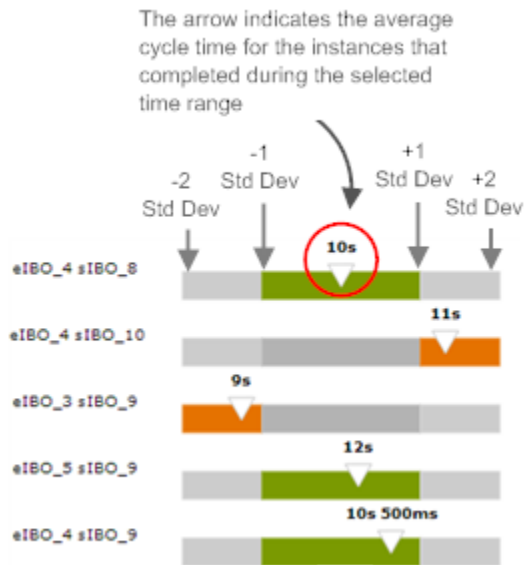
Note: *Cycle time* refers to the time from the beginning of a stage instance to the end of the instance.

When viewing this panel, be aware that:

- The bar represents the normal cycle-time distribution for the stage. The midpoint on the bar represents the historical mean for the stage. The marks on either side of the midpoint represent one standard deviation from the historical mean. The ends of the bar are two standard deviations from the historical mean. You can hover over the arrow to display the exact values for these statistics.

- The arrow position represents the average cycle time for the stage instances that completed during the selected time range.

  Note: Stage instances that have been marked complete because their parent process ended prior to the completion of the stage do not contribute to the cycle-time measurement.

- The position of the arrow and the color of the bar indicate whether the average cycle time for the selected time range is within the normal range.

 The bar is green when the average cycle time is within one standard deviation of the historical mean.

 The bar turns orange when the average cycle time is beyond one standard deviation from the historical mean.

 The arrow turns red when the average cycle time is beyond two standard deviations from the historical mean.

- A graph for a given stage does not become fully functional until Optimize has collected enough performance data to produce valid baseline statistics for that stage. Until then, the graph is gray, the arrow remains in the center position of the bar, and the "normal" statistics are absent from the tool tip that displays when you hover over the arrow.

This panel also includes the escalation action which enables you to create an escalation event. If you have a closed loop solution configured for your system, this event assigns a follow up task to the designated user. To use this action, click the escalation icon and complete the form.

Understanding the Stage Instances Dashboard

The Stage Instances dashboard displays detailed information about stage instances that were active during the selected time range.

Stages

The Stages table displays the stages associated with the selected process and reports summary statistics for each.

This column...	Reports...
Stage	The name of the stage.
Started	The number of instances that began during the time range.
Running	The number of instances that were still in progress at the end of the time range.
Completed	The number of instances that completed (successfully or not) during the time range.
Alarms	The number of instances that breached a condition of the stage.
Cycle Time	The average cycle time for instances that completed during the time range.
Details	Metadata about the stage.

Stages Instances

The Stage Instances table displays detailed information about the stage instances that were active during the selected time range.

To display data in this table, select one or more stages in the **Stages** table.

Note: The table can display details for up to 2000 instances. If your selection produces more than 2000 results, try reducing the number of selected stages in the Stages table or adjusting the time range.

The Stage Instances table contains the following columns:

Column	Description
SID	The stage instance ID. Click on the ID to view the Optimize Process Instances Detail page with additional information on this process instances related to this stage.
Start date and time	Time when the instance began.
End date and time	Time when the instance ended.
PID	The ID of the process instance to which this stage instance belongs.
Cycle Time	The duration of the instance (for completed instances only).
Actions	Actions you can take for this instance. ■ Click the email icon ✉ and complete the provided email form to send details about the stage instance to other interested parties. ■ Click the Escalation icon ⦿ and complete the provided form to create an escalation action event.

Use the controls below the table to search the table and change the column display.

Click...	To...
🔍	Search for instances in the results table that match criteria you specify.
▦	Select the columns you want to display in the table.

Understanding the Process Instances Dashboard

The Process Instances dashboard displays detailed information about the instances of the process that were active during the selected time range.

Process Volume and Cycle Time

The graph in this panel plots process volume and average cycle time for the selected time range.
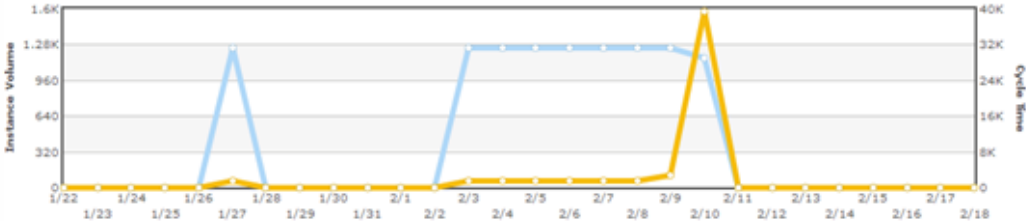
When viewing this panel, be aware that:

■ Each point in the **Instance Volume** series reports the number of process instances that *completed* during the given interval.

■ Each point in the **Cycle Time** series reports the average cycle time for the given interval.

■ You can toggle the graphs on and off individually by clicking the series name in the legend.

■ You can display the time and exact measurement for a given data point by hovering over the point with your cursor.

■ The time displayed for a data point represents the end of the interval. For example, if you are viewing the graph for a **1 day** time range (which reports measurements at hourly intervals), the data point at 2:00 represents the measurement for the interval 1:00:00:001 to 2:00:00:000 (inclusive).

Process Instances

The **Process Instances** table displays detailed information about instances that were active during the selected time range.

You can use the filtering options above the table to choose the set of process instances you want to view.

Select...	To display...
All	All instances in the time range (in any state).

Select...	To display...
Started	All instances that began during the time range.
Running	All instances that were still in progress at the end of the time range.
Completed	All instances that ended (successfully or not) during the time range.

Note: The table can display details for up to 2000 process instances. If your selection produces more than 2000 results, try filtering the instances using the buttons above the table or adjusting the time range.

Column	Description
Instance ID	The process instance ID. Click on the ID to view the Optimize Process Instances Detail page with additional information on this process instance.
Ver.	The deployment version of the model that defines this process.
Start date and time	Time when the instance began.
Last Updated	Time of the last process-control event for the instance (for example, step start, step end, stage start, stage end).
State	The state of the instance at the end of the time range. This column displays: ■ **Running** if the instance was in progress at the end of the time range. ■ **Completed** if the instance ended (successfully or not) during time range.
Cycle Time	The duration of the instance (shown for completed instances only).
Actions	Actions you can take for this instance. ■ Click the email icon ✉ and complete the provided email form to send details about the stage instance to other interested parties.

Column	Description
	■ Click the Escalation icon 〔ᵎ〕 and complete the provided form to create an escalation action event.

The controls below the table enable you to search the table and change the column display.

Select...	To...
🔍	Search for instances in the result table that match criteria you specify.
▦	Select the columns you want to display in the table.

3 Configuring the Business Process Dashboards

Post-installation Configuration Steps for the Business Process Dashboards

The Business Process dashboards are installed with Presto. However, to make the dashboards operational, an administrator must deploy them as described in "Deploying the Business Process Dashboards" on page 28.

Deploying the Business Process Dashboards

Use the following procedure to deploy the Business Process dashboards that are installed with Presto.

To perform this procedure:

■ Presto must be installed and running.

■ You must have a Presto user account that belongs to the Presto_Administrator group.

■ You must know the host name and port number for the Optimize Analytic Engine's web services.

■ Though not required for most system configurations, you should know the authentication credentials (user ID and password) that the dashboards will use to connect to the web services on the Optimize Analytic Engine. For more information about the authentication credentials used by the dashboards, see "Specifying Authentication Credentials for the Business Process Dashboards" on page 30.

To deploy the Business Process dashboards

1. On the machine where Presto is installed, locate the following file and open it with a text editor:

   SAGInstallDirectory\Presto\ibo-dashboards\build.properties-template

2. Specify the following properties:

For this property...	Specify...
presto.username	Your user ID (or other valid administrative ID). The ID you specify must belong to the Presto_Administrator group.
presto.password	The password associated with the user ID specified in presto.username.

For this property...	Specify...
presto.hostname	The host name or IP address and port number for Presto. **Example** `presto.hostname=localhost:8080`
presto.install.dir	The path to the Software AG installation directory. **Note:** If Presto is running on Windows, use double backslashes in the path name as shown in the example below. **Example** `presto.install.dir=C:\\SoftwareAG`

optimize.server	The URL for the Optimize Analytic Engine web services.
	
	Example
	
	`optimize.server=http://`
	`myOptimizeServer:12503`

optimize.user	The user ID that the dashboards will use to connect to the web services in the Optimize Analytic Engine.
optimize.password	The password associated with the user ID specified in `optimize.user`.

3. Save your changes and close the build.properties file.

4. From the command line, do the following:

   a. Navigate to the following directory:

      SAGInstallDirectory \Presto\ibo-dashboards

   b. Execute the following command:

      ■ `deploy.bat` (Windows)

      ■ deploy.sh (Linux)

      This command will deploy and configure the artifacts associated with the dashboards. The process will take a few minutes to complete.

Note: If you need to change the server, user, or password settings after you import the dashboards, you can do so using the procedure in "Changing Configuration Settings for the Business Process Dashboards" on page 31.

Specifying the Presto Server in My webMethods

If you want to view the dashboards in My webMethods, you must configure the Presto server location and port number on the My webMethods System Settings page. Note that this specification links the Presto Business Process dashboards and the information they display to a specific Analytic Engine.

To specify the Presto Server location and port number in My webMethods

1. Navigate the following path in My webMethods:**Applications > Administration > My webMethods> System Settings> Servers**.

   The System Settings Servers page is displayed. There are two fields for the Presto Server on this page: **Host** and **Port**. Both fields are required. Note also, that there are different lines of fields that correspond to specific Analytic Engines and environments (for instance, BAM, BPM, or BPM and BAM). Make sure to configure your Presto Server in line with the appropriate Analytic Engine and environment.

2. In the **Host** field for the Presto Server, type the name of the host machine on which your Presto Server resides.

3. In the **Port** field for the Presto Server, type the number of the port used by your Presto Server.

4. If your Presto Server is configured to use SSL, you can click the **Use SSL** check box to implement it.

5. Click the **Save** button to save your settings, or click the **Cancel** button if you wish to discard them.

Specifying Authentication Credentials for the Business Process Dashboards

The Business Process dashboards obtain data from web services running on the Optimize Analytic Engine. To access these services, the dashboards must submit a set of authentication credentials (user ID and password) that correspond to a valid user entry in the access control list (ACL) on the Analytic Engine.

When you deploy the dashboards to Presto, you have to specify the user ID and password the dashboards will use to connect to the Analytic Engine. If you do not know the credentials to use, ask the administrator of the Optimize Analytic Engine. If you are the administrator of the Analytic Engine, refer to "Changing the Optimize Authentication Credentials" in the *Administering webMethods Optimize* guide for information about defining user credentials in the Analytic Engine ACL.

Changing Configuration Settings for the Business Process Dashboards

If, after deploying the Business Process dashboards, you need to change the URL for the Optimize Analytic Engine or the authentication credentials that the dashboards use to connect to the Analytic Engine, you can do so by editing the following Presto global attributes in the Presto Admin Console.

■ `optimize-server`

■ `optimize-user`

■ `optimize-password`

For information about setting global attributes in Presto, see "Managing Presto Global Attributes" in the Presto product documentation.

4   Closed Loop Analytics Configuration

About Closed Loop Analytics

The Business Process dashboards are a central component of Software AG's closed loop analytics solution. If you have the Business Process dashboards installed in a BPM configuration with the appropriate additional Software AG components, you can take advantage of a true closed loop solution that enables you to identify business process related problems and issues and create escalation tasks that are assigned to the appropriate individuals in your organization for follow up.

This type of solution automates the process of assigning a formal task to an appropriate individual to deal with a process problem or exception. When a task is assigned, it includes a link back to the dashboards so the assignee can view the issue as seen on the dashboards at the time it was assigned. You can monitor the status of these tasks and what steps were taken to address the underlying issues.

The following components must be installed and configured correctly to implement a closed loop analytics solution:

- Software AG Designer
- Deployer
- Integration Server
- My webMethods Server
- Optimize (Analytic Engine)
- Task Engine
- Rules Engine
- Business Console (optional, but recommended)

The following diagram shows typical closed loop analytics architecture.

Closed Loop Analytics Architecture
9.7, With BPM
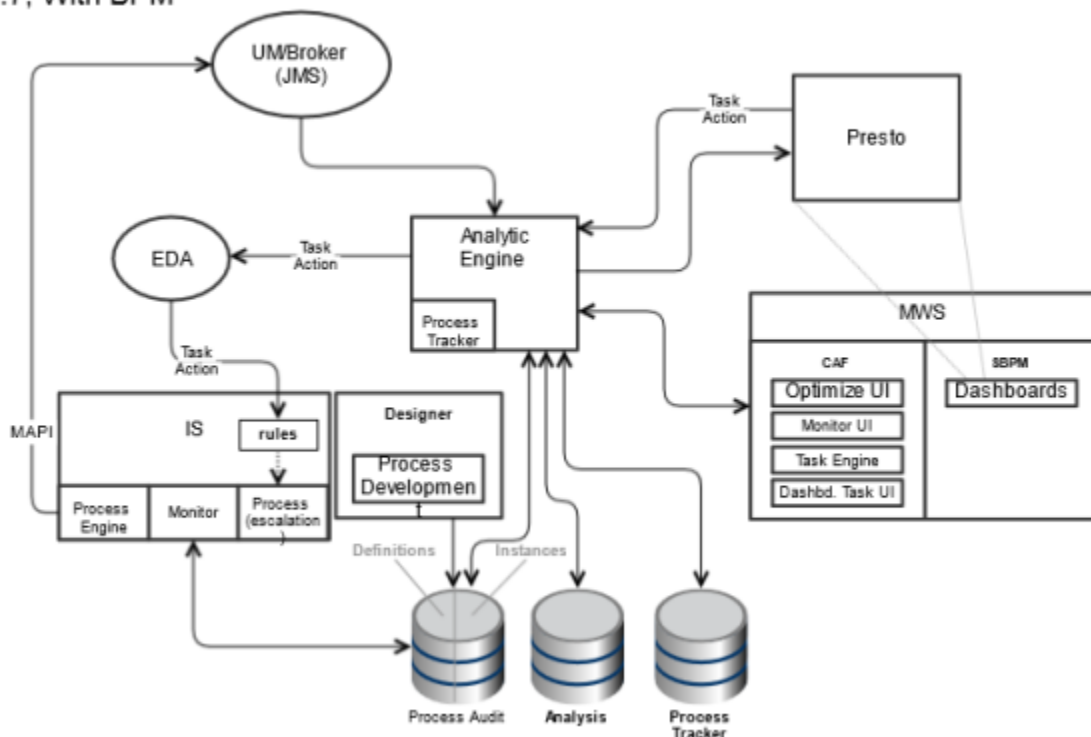
Configuring Closed Loop Analytics

Use the following procedure to configure closed loop analytics components. Note that this procedure assumes that you have installed closed loop analytics and all related components in an appropriate manner using the Software AG installer. Refer to *Installing webMethods and Intelligent Business Operations Products* for more information and instructions about installing the required Software AG components.

In addition to the procedure below, you must import the appropriate escalation related assets into Software AG Designer. These assets include the following:

■ ClosedLoopAnalyticsProcessProject

■ EscalationTaskApplication

■ WmClosedLoopAnalytics (rules project)

See the "Working with Escalation Processes" section of the Process Development help (available through the Software AG Designer Help menu) for more information on importing these assets into Designer and configuring them for use.

If you are using Universal Messaging as a JMS provider, and it does not run locally, you must use the following procedure to configure JMS settings for Business Process Management (BPM) and the Rule Server on the appropriate Integration Server.

To configure JMS settings for BPM and the Rules Server

1. Start the following components: Universal Messaging server, My webMethods Server, and Integration Server.

   If the Universal Messaging server does not run locally, you must configure JMS settings on the Integration Server:
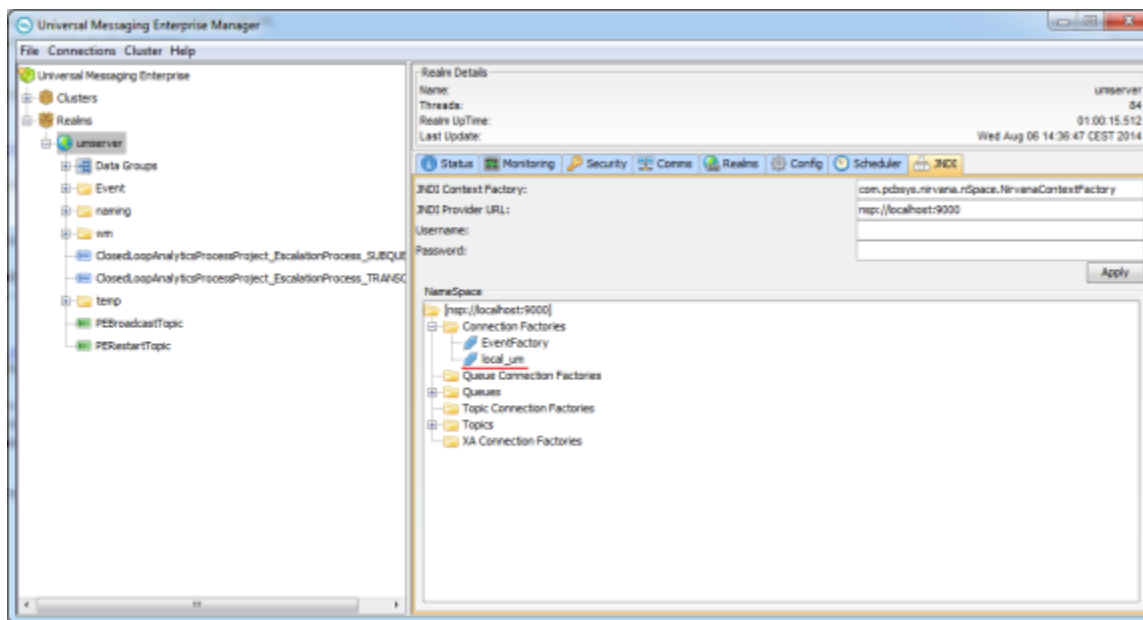
   a. In Integration Server Administrator: **Settings > Messaging**

   b. Click **webMethods Messaging Settings** under the webMethods Messaging Configuration heading.

   c. In the webMethods Messaging Connection Alias Definition table list, verify that the IS_UM_CONNECTION alias exists and is configured as shown below. The Realm URL value must specify the location of the remote UM server.

General Settings	
Connection Alias Name	**IS_UM_CONNECTION**
Description	**system generated UM connection alias**
Client Prefix	**J_jRQtEolDEurgAVIwwwADXaZQs_**
Share Client Prefix	**No**
Connection Settings	
Realm URL	**nsp://localhost:9000**
Maximum Reconnection Attempts	**5**
Producer Settings	
Enable CSQ	**Yes**
Maximum CSQ Size (messages)	**UNLIMITED**
Drain CSQ in Order	**Yes**
Publish Wait Time while Reconnecting (milliseconds)	**30000**

   d. Click **Change Default Connection Alias**

   e. In the **Connection Alias Name** list, select 'IS_UM_CONNECTION' and click **Update**

   f. On the webMethods Messaging Settings page, enable IS_UM_CONNECTION.

2. Configure the JNDI connection using the Integration Server Administrator.

   a. In Integration Server Administrator: **Settings > Messaging**.

   b. Click **JNDI Settings** under the JMS Configuration heading.

   c. In the JNDI Provider Alias Definition list, verify that DEFAULT_IS_JNDI_PROVIDER alias exists and its settings are as shown below (in particular, ensure that the **Provider URL** value specifies the remote Universal Messaging server).

d. Verify that the EventBusJndiProvider alias exists and that the **Provider URL** value specifies the appropriate Universal Messaging server).

3. Start Enterprise Manager for Universal Messaging server and add "local_um" in the JNDI settings under "Connection Factories" (right click on Connection Factory and select 'New Connection Factory (Shared Durable)'). See the *Administering webMethods Process Engine* guide for more information.

   a. In the directory tree shown on the NameSpace panel, right click on the Universal Messaging server and rename it to `local_um`.

   b. In the panel above the Namespace panel on the JNDI tab, specify a value in the **JNDI Provider URL** field for the connection URL as appropriate for your system using the following format: `nsp://<hostname>:9000`

Alternatively, you can run the following script:

```
cd...\UniversalMessaging\java\umserver\bin set
RNAME=nsp://<hostname>:9000jmsadmin bind connectionFactory local_um
```

4. In Integration Server Administrator: **Settings > Messaging > JMS Settings**

5. Enable the EventBus and PE_NONTRANSACTIONAL_ALIAS aliases.

6. In Deployer, complete the following:

   a. In a command line window, navigate to the bin folder for Deployer as follows:

   ```
   cd {InstallPath}/IntegrationServer/instances/default/packages/
   WmDeployer/bin
   ```

   b. Import the CLA pre-packaged Deployer project by running the following:

   ```
   ./projectautomator[Unix.sh|.bat] {InstallPath}/Solutions/ClosedLoopAnaly
   tics/Scripts/ProjectAutomator/InstallCLA_ProjectAutomator.xml
   ```

   Optionally, you can also import the Business Rules project into Software AG Designer from the source folder and export it to My webMethods Server.

   c. Ensure that the email server settings in My webMethods are correct and enabled to support email feedback for closed loop analytics. To check email settings, in My webMethods, select **Administration > My webMethods > E-mail Servers**.

7. In Deployer, provide closed loop analytics assets to your product runtimes, using the following procedure:

   a. Use Deployer to open the pre-packaged Deployer project.

   b. Adjust this Deployer project by entering the server infrastructure and its components.

   c. Deploy the project.

8. Restart Integration Server Note that this step is necessary to activate the triggers in thw WmClosedLoopAnalytics package.

9. If the Universal Messaging server does not run locally, enable the BMP process using the IS service according to the following procedure.

   a. In Integration Server Administrator: **Packages > Management > WmPRT**.

   b. Click the wm.prt.model:enableProcessForExecution service.

   c. Click **Test enable ProcessForExecution**.

   d. Enter the following values:

   ProcessModelID: ClosedLoopAnalyticsProcessProject/EscalationProcess

   ProcessModelVersion: 1

   e. Click **Test (with inputs)**.

A   Escalation Action XML Structure

Escalation Action XML Content and Structure

The Escalation action is designed to work in an event driven environment, so that actions can be assigned and scheduled automatically in response to a potential problem condition observed on the Business Process dashboards. If you are working with a the Business Console and have the appropriately configured Software AG components, you have access to a true closed loop solution in which the escalation action and subsequent tasks are created and assigned in an appropriate manner for your system. If you do not have this configuration but still wish to use the Escalation action in a custom event driver architecture, you can use the information herein and the appropriate coding to design and implement an appropriate solution.

User can gain access to escalation action events by subscribing to them on the EDA Event Bus.

Assignee User ID	User ID of the individual assigned to address the escalation.
Originator	User ID for the individual who originated the escalation action.
Originator Comments	Text comments added to the escalation event by the originator as well as process activity criteria (as shown in the following list) and dashboard specific process activity metrics. ■ `Process Name`: The name for the process relevant to the escalation action. ■ `Process ID`: The ID for the process relevant to the escalation action. ■ `Start Time`: The beginning time for the process data being displayed. ■ `End Time`: The end time for he process data being displayed.
Timestamp of Creation	The time at which the escalation action was created on the originator's computer.
Task Assignee	User ID of the individual who is assigned a task related to the escalation action.
Due Date	Date by which the appropriate action should be completed.

`RefUrl`	The URL of the process dashboards for the time and state when the escalation action was generated. This URL enables the assignee to view the dashboards as the originator saw them.
`Process Name`	The name for the process relevant to the escalation action.
`Process ID`	The ID for the process relevant to the escalation action. The ID is composed of the folder/path and process name from Designer.
`StartDateRange`	The starting time and date as displayed on the dashboards when the escalation event was generated.
`EndDateRange`	The ending time and date as displayed on the dashboards when the escalation action was generated.
`Escalation Type`	The name of the dashboard panel from which the escalation action was originated.