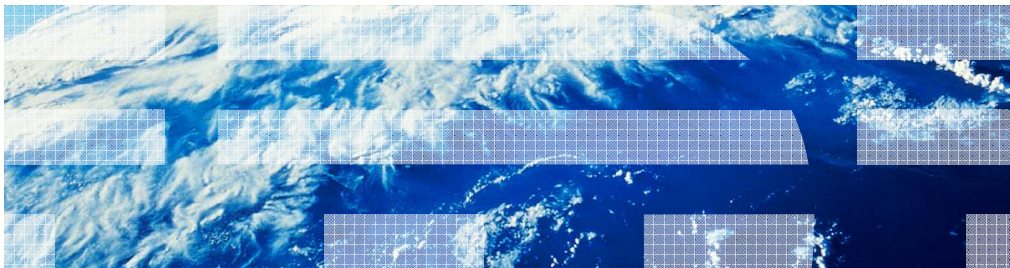IBM

IBM Business Monitor

Dashboards

This presentation should provide an overview of the dashboard widgets for use with IBM Business Monitor.

Goals

- Introduce the dashboard widgets in IBM Business Monitor

WBPM_Monitor_Dashboards

This presentation will give you an overview of the monitor dashboard including the various widgets that are available in IBM Business Monitor.

Agenda

- Overview
- Monitor template
- Widgets
  - Alert manager
  - Alerts
  - Diagrams
  - Dimensions
  - Export values
  - Human tasks
  - Instances
  - KPIs
  - KPI manager
 - KPI history and prediction
  - Reports

This is the agenda for this presentation. You will see an overview of the monitor dashboard. In addition you will review the monitoring template and how to use it when creating a new business space. Then you will review each of the widgets that are provided with IBM Business Monitor.

Overview

- IBM Business Monitor provides a set of widgets for business activity monitoring
  – Alert manager, alerts, diagrams, export values, human tasks, instances, KPIs, KPI manager, KPI history and prediction, report designer, report viewer
- You can create spaces and pages within spaces, adding any widgets from the palette to those pages
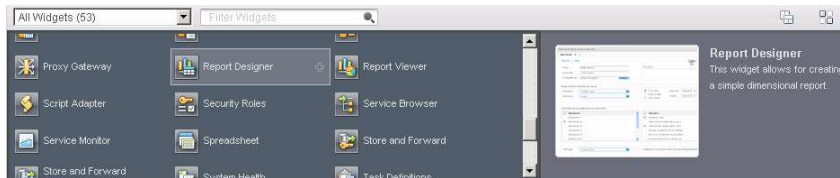
- Most widgets require configuration before displaying the data
  – Select the monitor model to display
  – Adjust other visualization settings

4   WBPM_Monitor_Dashboards   © 2011 IBM Corporation
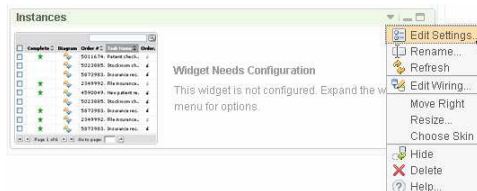
IBM Business Monitor provides widgets for monitoring business activities. You can create spaces and then create pages within each space. For each page, you can add widgets from the palette, as you can see in this screen capture. Widgets are provided for each BPM product that you have installed, plus there can be generic widgets or custom widgets that are also installed on the business space server.

For each widget you should use the menu option called 'Edit Settings…' to configure the widget to display the data for your selected monitor model, using the formatting options that you choose.

Business monitoring template

- When creating a space, select template 'Business monitoring'
- You get eight pages with widgets already added
  – Analysis, operational, KPIs, export values, alert manager, KPI manager, report designer, viewers
- You need to configure the widgets on each page to display the correct monitor model data
- You can customize the pages

WBPM_Monitor_Dashboards   © 2011 IBM Corporation
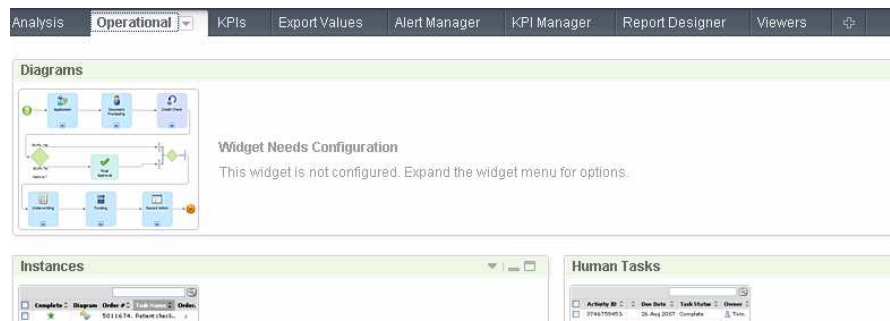
When creating a dashboard, you can use the Business Monitoring template to create a space designed for monitoring business activities. The space created will contain eight pages, each page with one or more widgets that are ready to be configured. The title of each page created by the template indicates the type of information you will find there. For example, the Operational page contains the Diagrams, Instances, Human Tasks and Alerts widgets, which are ideal for displaying business operations information.

You can customize the space by changing the page names, adding widgets to pages, removing existing widgets, and by adding new pages.

Alert manager

- Create alerts based on KPIs
  - Create, edit, copy, delete alerts
  - Alert subscriptions
- Modeled alerts are also displayed but are not editable
- An alert can be defined on both modeled KPIs and runtime KPIs
- An alert can be defined on predicted KPI values or actual values
- Alerts are automatically migrated for new model versions

Alert Manager

Alert Name	Description	Owner	Dashboard Alert	Cell Phone	E-mail	Pager	Actions
Total orders is low	Total order count is too low	admin	☑	☐	☐	☐	
Print 72 hours exceeded Alert			☑	☐	☐	☐	
NTB Failure Alert			☐	☐	☐	☐	
Invalid Loan Application Alert			☐	☐	☐	☐	
Fee Compliance Alert			☑	☐	☐	☐	

In the alert manager widget you can create alerts dynamically based on KPIs that are defined in the model. You can manage the alerts in this widget so you can create, edit or delete them. And you can update your alert subscriptions so that you can be notified in the dashboard, cell phone, email or pager. In the alert manager you can filter alerts to list all alerts, modeled alerts or alerts by model name. For modeled alerts, you can view the information but you cannot edit the information. Note that the KPI that you reference for the alert can be either a modeled KPI or a KPI that you have created dynamically in the KPI manager widget. Also, you can base the alert on the KPI actual value or on predicted KPI values.

New alert – Conditions tab

- Actual data or prediction model
- You can specify conditions such as above, below or within range; or above, below or at target
- Notify
  – Once per selected period when the condition applies
  – Only once when the condition applies
  – Only once during the KPI time period when the condition applies

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When defining a new alert, you can specify conditional information on the conditions tab. In this example an alert is created when the value of the KPI moves above the high range. You can also specify other criteria such as above, below or within any range; or you can specify above, below or at the target. In this example the alert is based on KPI actual values, but you can also use the KPI manager to create a prediction model, then reference that prediction model on the alert condition.

In the timing section of the condition definition, you can adjust the timing interval, the starting timestamp, and the notification criteria.

New alert – Alert content, notification

In the screen capture at the top of this slide you see the alert content tab for business user alerts. Here you can enter the details of the alert message or you can accept the default content. You can enter the subject and body and you can insert dynamic values into the text. If you click to insert dynamic values, you are presented a list to select from KPI value, target, name, and range information.

In the screen capture at the bottom of this slide you see the notification tab for business user alerts. Here you can manage the recipients of the alert and you can manage the notification method - either dashboard, cell phone, email or pager.

Alerts

- Widget for managing alerts
  - Mark read, unmark read, forward, remove
  - Click an alert to view the detailed description
- Modeled alerts are displayed along with alerts created in the Alert Manager widget
- Use 'Send widget' menu option to send a screen capture of the alert to another user
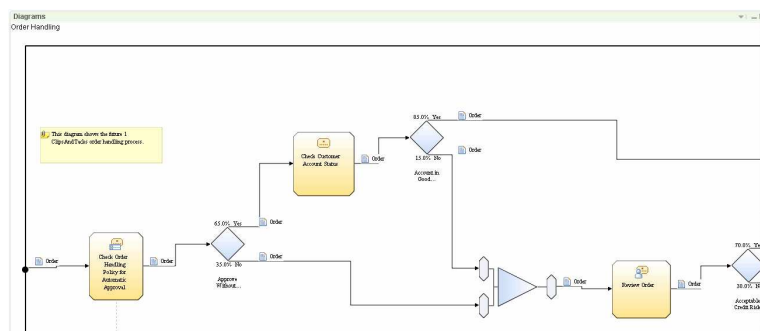- Use 'Edit settings' menu option to customize the widget
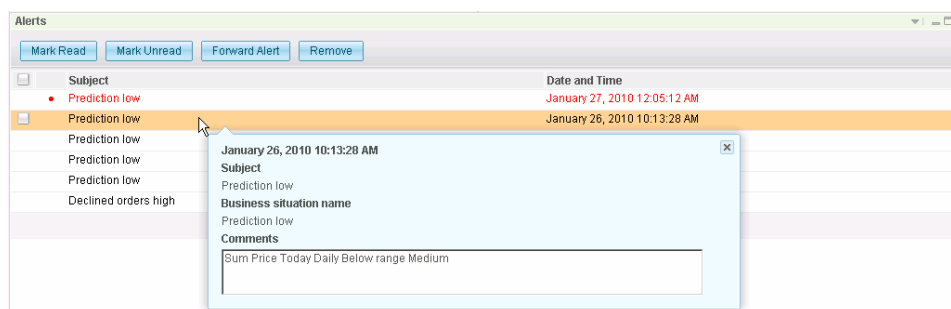
The Alerts widget displays alert notifications of predefined business situations occurring at run time. There are two ways that a user can view alerts, by model design in WebSphere Business Modeler, or by subscription. Generally, an administrator designs models with specific business situations defined to trigger alerts. Users then receive alert notifications when these situations occur. Alert notifications can be sent to a dashboard, pager, cell phone, or an email message. Users who are not designed to receive these alerts by the administrator can subscribe to view the same alerts using the Alert Manager dashboard widget.

If you are viewing an alert and notice something that requires attention, then you can invoke an action to create a new human task to have the issue investigated by the specified user. A screen capture of the alert is sent along with the human task.

The Diagrams widget can display visual representations of business processes, such as flowchart diagrams, with visual cues for the status of the process and access to sub-processes.

A diagram is associated with a key performance indicator (KPI) context or monitoring context.

The Diagrams widget requires a monitor model that contains a visualization element, consisting of one or more Scalable Vector Graphics (SVG) diagrams associated with a monitoring context or a KPI context.

The visual model is created using the Monitor Model Editor and it contains annotations that allow you to customize the diagram display at runtime. You can display text dynamically on the diagram, or you can color code elements on the diagram based on expressions in the model. Also, you can use define inter-diagram navigation so that you can click an element in the diagram and drill down to a new diagram.

To display SVG diagrams in Internet Explorer, you will need to install a supported version of an SVG viewer, such as Adobe SVG Viewer. SVG diagrams display using native support in Firefox.

You can integrate the diagram widget with the human task widget so you can select a human task in a diagram to see the related tasks. You can also setup wiring with the instances widget so you can select an instance to see its related diagram.

Diagram integration with human tasks and instances

- Show diagram associated with an instance
- Show human tasks for selected task in the diagram
- Add widgets to your page and enable wiring on widgets
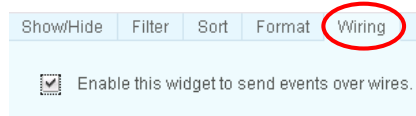
- Select task in diagram to view related tasks

- Select record in instances widget to view diagram
  - In the diagrams widget, use button to restore original content

11   WBPM_Monitor_Dashboards   © 2011 IBM Corporation

You can wire the diagram widget with the human tasks widget and instances widget. Make sure that the human tasks, instances and diagrams widgets are added to your dashboard page, and make sure that the widgets have the wiring enabled. To use the human task wiring, select a human task in the diagram to see the related task instances in the human task widget. To use the instances wiring, select a record in the instances widget to display the diagram for it. Note that the diagram displayed is the generic visual model diagram, unless annotations have been applied to the visual model to affect the visual formatting. After viewing the diagram, there is a button on the diagrams widget to restore the diagram to the original content.

Export values

- Aggregated measures can be marked to be tracked in the Business Measures View in WebSphere Business Modeler
- The monitor model will contain the tracking information for each marked measure
- Then the file can be imported into WebSphere Business Modeler to update estimated values with actual monitored values
- You can track process and activity durations, costs, revenue, and decision branch percentages
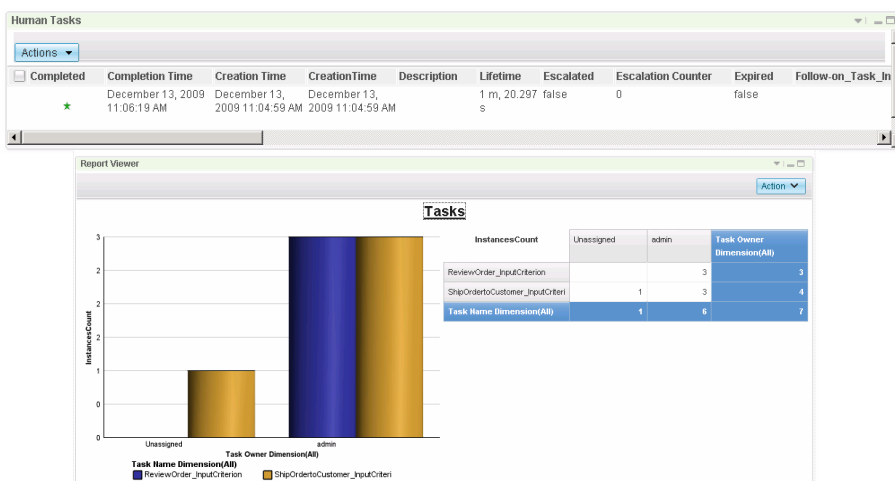
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The Export Values widget allows you to export your observed monitoring data for import back into WebSphere Business Modeler. You specify the model and optionally a time range, then these values can be imported into WebSphere Business Modeler to update the model so that simulations can then be run with real observed values instead of estimates. This provides a continuous end to end improvement cycle. You can track durations, costs and revenue for processes or activities within processes. You can also track decision branch percentages.

To setup exporting values, you first mark the aggregate measures for tracking in the Business Measures View in Modeler. Then, when you export the monitor model from Modeler it will contain a tracking key for each business measure that you want to track. Later, when you use the export values widget to export data, then only those business measures that have the tracking key are exported.

Human tasks

- View monitored data for inline or stand-alone human tasks running in IBM BPM Process Server
- Configure the human tasks widget to specify fields, filtering
  - Using Actions button, you can assign, claim, release and transfer tasks
- Create report to display data for the Global Human Task Monitor Model

The Human Tasks widget displays human task instances. Human task instances can be inline tasks running inside any Business Process Execution Language (BPEL) process or they can be stand-alone human tasks running in the process server. You must first configure the Human Tasks widget before you can monitor human task instances. You can select which properties are displayed. You can also use the actions button on the human tasks widget to assign, claim, release and transfer tasks.

In the upper screen capture you see the Human Tasks widget which shows instance information for each human task.

You can also use the report designer widget to create a report to display aggregated human task information. You need to configure them to display the measures and dimensions for the Global Human Task Monitor Model. In the lower screen capture you see the report viewer showing the aggregated information for tasks and users, and you can easily see the total tasks assigned to each user.

Instances

- View monitored instances, such as individual orders in an order processing system
- Drill down to child instances
- Configure the instances widget to specify fields, filtering, sorting, formatting
- Export instance data to a comma delimited file
- Use wires to link alerts, KPIs, diagram, custom widgets to the instances widget

Instances								▼ ▬ ❑
Export ...								Show

ClipsAndTacks MC ⓘ

| ☐	city	ClipsAndTacks Key	COMPLETED	country	CreationTime	Monitoring Context Timer	Order End Time	Order Fulfillment Duration	Order
	Raleigh	o1	★	USA	July 28, 2011 7:56:39 AM	0 s	August 9, 2006 2:20:05 AM	2 d, 0 h, 0 m, 0 s	Augus
	Toronto	o2	★	Canada	July 28, 2011 7:56:39 AM	0 s	August 11, 2006 3:14:55 A...	4 d, 0 h, 0 m, 0 s	Augus
	Mexico City	o3		Mexico	July 28, 2011 7:56:39 AM	50 m, 8 s		0 s	Augus
	Raleigh	o4		USA	July 28, 2011 7:56:39 AM	50 m, 8 s		0 s	Augus

WBPM_Monitor_Dashboards

In business monitoring, an *instance* represents a specific construct of data that is being processed by IBM Business Monitor. In an order processing scenario, an order can be considered an instance. Information about each order instance can be monitored, such as the dollar amount of each order. The instances widget displays the available monitoring context instances along with specific metrics which have been defined in the monitor model.

You can use the Instances widget to view the available instances of a monitoring context for a specific monitor-model version, or for all instances across all versions of the monitor model. You can also navigate through all the descendants of a certain monitoring context instance by drilling down through the hierarchy.

You can configure the widget to specify fields, filtering, sorting and formatting. You can use the export button to export instance data to a comma delimited file, and you can specify to export just the current page or all pages. In addition, you can wire other widgets to the instances widget. So for example, you can click an alert or a KPI and the associated instances are displayed in the instances widget.

Filtering instances

- Allows inline filtering of data
- Settings remembered between browser sessions
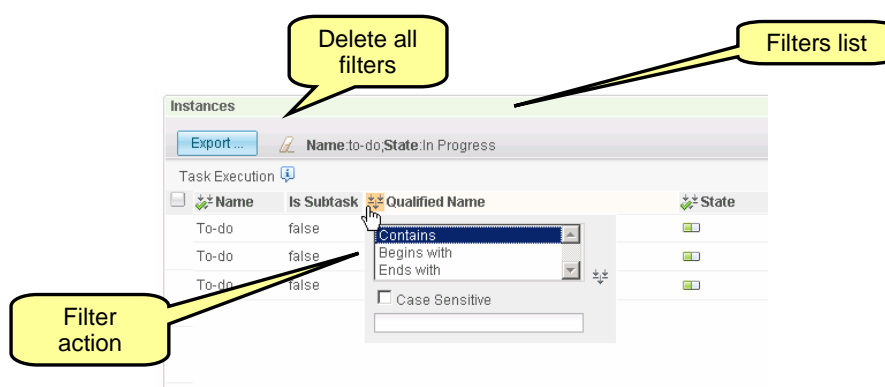
You can use inline filters to restrict the data that is displayed in the instances widget. The filters are persisted so once you log out and log back in the filters are still applied.

To enable a filter, just click the icon in front of the column name, and use the dialog box to complete the filter. You can set more than one filter and they are displayed at the top of the widget. You can also delete all filters using the icon next to the Export button. To delete just one filter, click the filter icon in front of the column name then in the filter dialog click the eraser icon.
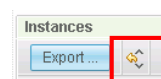
Multi-column sort

- Select columns to sort in 'edit settings'

- Click a column header to sort ascending, click again to sort descending, click again to remove sort

- For each subsequent field, you can set it as the first sort or as the next sort in sequence

- Button to reset all sorts
- Settings remembered between browser sessions

In the instances widget, you can sort on more than one column. First, you need to select the storable columns using the 'edit settings' option in the widget menu. Then when you are displaying the data in the instances widget, you can click a column header to apply an ascending sort or descending sort. An arrow icon then shows the direction of the sort that you have set. You can also set sorts on any number of columns, and each sorted column shows an index number that designates the sort sequence. There is a button that resets all the sorts that you have applied. Any sorting that you apply is also saved between browser sessions.
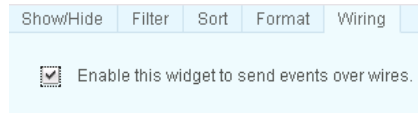
Breadcrumbs for drill-down

- Use the hypertext breadcrumb trail to go up through the monitoring context hierarchy without drilling up one level at a time

State	Owner	Start Date	Due Date	End Date	
	Steve Jones	February 04, 2010 10:37:16 AM	February 06, 2010 12:00:00 PM	-	
	Sonya Wallingham	February 04, 2010 09:21:34 AM	February 07, 2010 12:00:00 PM	-	
	Dave Anderson	February 03, 2010 04:41:19 PM	February 07, 2010 05:00:00 PM	February 07, 2010 03:21:09 PM	
	Dave Anderson	February 02, 2010 02:14:54 PM	February 09, 2010 12:00:00 PM	-	
	Sonya Wallingham	February 02, 2010 12:18:12 PM	February 04, 2010 01:00:00 PM	-	

Process Definition > Claims Handling Task definitions > Claim Receive Task definition instances

There are breadcrumbs listed for use with nested monitoring contexts. As you drill down to child contexts, the breadcrumbs display the path you have taken. You can easily click anywhere in the breadcrumb trail to directly access a parent context.

Alerts and KPIs - Show instances

- Show specific instances that aggregate to the KPI
  - Not available for expression based KPIs

- Show instance associated with an alert
  - Alert must be a triggered in the monitor model based on an instance trigger, not a KPI trigger

- Add widgets to your page and enable wiring on widgets

- Use 'alert source' icon or KPI 'show instances' icon to view instances in the instance widget

- In the instances widget, use button to restore instances content

You can wire the instances widget to the alerts widget and KPIs widget. Then you can click a KPI to show the instances that comprise the aggregated value. However the menu option is disabled if the KPI is based on an expression rather than a metric with aggregation function. You can also click an alert to show the monitored instance that is associated with the alert. The alert must be triggered by a monitored instance in the monitor model. If the alert is based on a KPI, then the alert source icon is disabled. Make sure that the alerts, KPIs and instances widgets are added to your dashboard page, and make sure that the widgets have the wiring enabled. Use the 'alert source' icon on the alerts widget to display the associated instance in the instances widget. Use the 'show instances' icon in the KPIs widget to display the instances that comprise the KPI aggregation. After viewing the instances, there is a button on the instances widget to restore the instances to the original content.
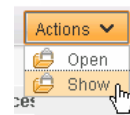
Wiring instance metrics to custom widgets

- Send metric data to custom widgets
- On the wiring tab select the metrics to send over the wire
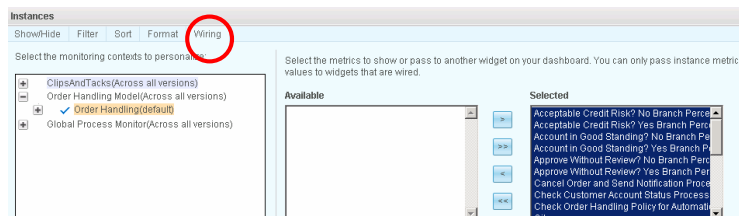
- Wire the widgets and select 'Show instances metrics'
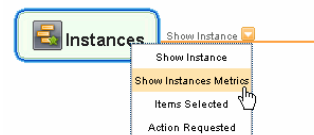
- To send the event, select the instance and 'show' it

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You can send instance metrics in the instances widget to a custom widget. This can be useful to display associated data from other applications. On the wiring tab in the instances widget settings, select the metrics to send to the target widget. Then in the wiring widget, wire the instance widget to the target widget using the event called 'Show instances metrics'. Now you are ready to use the wire. To send the event, select a record in the instances widget, and click the show action.

The KPIs widget displays the target and current status of key performance indicators (KPIs) in the form of graphical gauges and tables. Key performance indicators (KPIs) are quantifiable measures designed to track the critical success factors of business processes. These measurements break down key areas of your business so that you can see how each area contributes to the overall business results. You can select different formats for display, such as table, half gauge, full gauge, bar and simple. These formats are displayed in the screen captures on this page.

You can use the KPIs widget to show instances that comprise a KPI, view KPI properties, and open alert manager to create an alert for a KPI. You can also open KPI history and prediction configuration options for a KPI, and send a KPI widget to another dashboard user.

IBM

KPI menu

- Menu options
  - Show KPI properties
  - Open alert manager – shows alerts just for this KPI
  - Open KPI history and prediction settings for this KPI
  - Show instances – only displayed on menu when wiring is enabled
- Shows as an arrow on most KPI views
- Shows as the actions column in KPI table view

KPIs
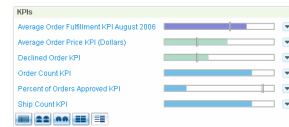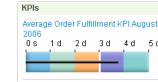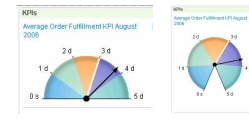
Average Order Fulfillment KPI August 2006

| KPI Properties |
| Alert Manager |
| History and Prediction |
| Show instances |

Actions

In the KPI menu you can select KPI properties, alert manager, history and prediction or show instances. The KPI properties lists the definition of the KPI. The alert manager option shows alerts just for the specific KPI in the originating widget. You can open the KPI history and prediction settings for the KPI. And you can show the instances which comprise the aggregated KPI value.

The menu is a drop down arrow on most of the KPI views, however, for the KPI table view you will see a separate actions column in the table with icons representing each of the menu options.

KPI manager

- View, edit, copy existing KPI's or create new ones
- Create alerts for KPI's
- Configure KPI history and prediction

KPI Manager

Actions ▾	Model: ClipsAndTacks		Version: Latest		
		Created	Owner	Type	Access
New Aggregate KPI					
New Expression KPI					
Copy	t KPI August 2006	Modeled	-	Aggregate	Shared
Delete	(Dollars)	Modeled	-	Aggregate	Shared
Properties		Modeled	-	Aggregate	Shared
Alert Manager		Modeled	-	Aggregate	Shared
History and Prediction					
Percent of Orders Approved KPI		Modeled	-	Expression	Shared
Ship Count KPI		Modeled	-	Aggregate	Shared
Sum price		Dashboard	admin	Aggregate	Shared

The KPI Manager widget displays the key performance indicators (KPIs) that you own or have been given access to view and allows you to work with them directly from a dashboard.

Use the KPI Manager widget to define, copy, and modify KPIs; view KPI properties; view and create alerts for KPIs; and configure settings for collecting history and prediction data.

All the properties are available for your modification, such as targets and ranges and filters. As you make changes, you can see a graphical display of your changes on the preview tab. However, for KPI's that were originally created in the toolkit rather than in the KPI Manager, denoted in this widget as Modeled, you cannot change all the properties. You are restricted to changing only the target value for Modeled KPI's.

KPI history and prediction widget

- KPI historical and predictive data in graph and data table with target and ranges
- Granularity
  - Hour, day, week, month, quarter, year
  - For example, if you configure the KPI widget to see weekly KPI values, then only the week-end data points are displayed
- Time range

KPI History and Prediction

| Prediction | 1D | 7D | 1M | 3M | 6M | MTD | YTD | 1Y | 09/02/2008 00:00 | --- | 10/26/2008 23:00 |

Show data points Daily

Time	Value
Sep 1, 2008	$12,456.56
Sep 2, 2008	$12,064.80
Sep 3, 2008	$19,586.46
Sep 4, 2008	$8,281.18
Sep 5, 2008	$18,149.43
Sep 6, 2008	$7,601.24
Sep 7, 2008	$3,785.49
Sep 8, 2008	$23,473.93
Sep 9, 2008	$18,623.29
Sep 10, 2008	$24,589.93
Sep 11, 2008	$13,520.55
Sep 12, 2008	$7,881.28
Sep 13, 2008	$5,273.02
Sep 14, 2008	$5,526.57
Sep 15, 2008	$22,415.60

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The KPI History and Prediction widget displays historical and predictive data for a KPI in a graph format that is fully interactive. The flexibility of the graphical interface allows you to easily change the time periods and data points displayed on the graph. Using the KPI Manager widget or the KPIs widget, you can enable the history and prediction capabilities for a KPI.

For KPIs that have history collected, you can use the prediction capabilities to see future trends. Using the Alert Manager, you can create alerts that are based on the predictions so that you can receive a notification when a predicted value is approaching the threshold defined in the alert condition.

You can view the data in graph or tabular format. The granularity on the widget can be set to display data points on various intervals such as hourly, daily or yearly. When you set the granularity, only the data points at the end of the granularity periods are displayed. You can also select a time range for the widget, so you can display historical information for an hour, day, week, month, quarter, or year. And you can enter specific time ranges by date.

Using the report designer widget you can design reports for analysis of data against different dimensions. The report viewer widget then allows you to view that data and drill down on dimensions. In this screen capture you can easily see the order count for all orders or the order count for a specific country or the order count for a specific order status.

Summary

- Covered an overview of the dashboard in IBM Business Monitor

WBPM_Monitor_Dashboards

In summary, this presentation covered an overview of the dashboard widgets for use with IBM Business Monitor.

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WBPM_Monitor_Dashboards

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