IBM WEBSPHERE BUSINESS MONITOR 7.0 – LAB EXERCISE

WebSphere Business Monitor V7.0 Business space dashboards

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What this exercise is about

The objective of this lab is to show you how to use WebSphere Business Monitor dashboards in business space.

Lab requirements

List of system and software required for the student to complete the lab.

- WebSphere Integration Developer V7.0.
- WebSphere Business Monitor V7.0 Toolkit Installation including the Monitor Model editor and Monitor Server
 - DB2 Alphablox is an option during the installation of the Monitor toolkit. If you choose not to
 install it, then you will not be able to use the report and dimension widgets in the dashboard.

What you should be able to do

At the end of this lab you should be able to:

- Import the ClipsAndTacks model into a new workspace
- Create a new dashboard and add widgets to the dashboard
- Configure dashboard widgets
- Configure Alphablox based widgets

Introduction

Similar to the dashboard of an automobile that provides easy access to your odometer and check-engine light, WebSphere® Business Monitor offers a browser-based dashboard that can provide easy access to important information about the current state of your business.

Business Space is the featured browser-based dashboard that is provided with WebSphere Business Monitor and other WebSphere products. WebSphere Business Monitor also provides portlet-based dashboards for WebSphere Portal users. Business Space and portlet-based dashboards provide the same functionality.

This lab shows you how to use business space dashboards.

Widgets: Alert manager, alerts, instances, KPI manager, KPIs, KPI history and prediction, diagrams, human tasks, export values

Alphablox based widgets: Dimensions and Report

For more information about the human tasks and export values, refer to lab for Clips And Tacks BPM, WBMonitorV70_ClipsAndTacksLab_BPM.pdf.

For more information about the KPI history and prediction widget, refer to lab for KPI history and prediction, WBMonitorV70_KPIHistoryPredictionLab.pdf.

Prerequisite: For displaying the SVG diagrams in the diagrams widget, ensure that one of the following is installed:

- Adobe SVG Viewer 3.0.3 http://www.adobe.com/svg
- Examotion Renesis Player 1.1.1 http://www.examotion.com

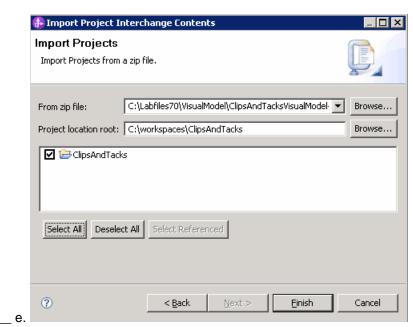
prompted

Part 1: Import the Clips And Tacks visual monitor model

In this section, you will import the supplied project interchange into the workspace.

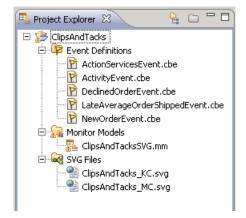
1.	Start Rational Application Developer or WebSphere Integration Developer and setup the environment
_	_ a. Start Rational Application Developer or WebSphere Integration Developer, and when point to a new workspace such as c:\workspaces\ClipsAndTacks

- b. Click OK
- __ c. Close the Welcome tab
- __ d. Open the Business Monitoring perspective. From the main menu select Window → Open Perspective → Business Monitoring
- __ e. If prompted for Confirm Enablement, click OK
- ____ 2. Import the project interchange file
 - __ a. Right click the Project Explorer, then select Import... from the pop-up menu
 - __ b. Select Other > Project Interchange, then click Next
 - __ c. Click the **Browse** button to locate the .zip file, for example, <LABFILES70>\VisualModel\ClipsAndTacksVisualModel-Solution-Pl.zip
 - __ d. Click Select All



__ f. Click Finish. You will see the new project in the Project Explorer view

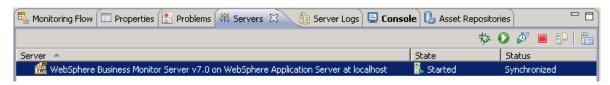
_____ 3. Expand the project in the Project Explorer view, then expand the Event Definitions and you will see the new events listed. Expand Monitor Models and you will see the new ClipsAndTacks model listed. Expand the SVG files and you will see the SVG files listed.



Part 2: Publish the model to the server

In this section you will use Rational Application Developer or WebSphere Integration Developer to publish the monitor model to the monitor server.

- ___ 1. In Project Explorer, expand ClipsAndTacks → Monitor models → ClipsAndTacksSVG.mm. Right click over ClipsAndTacksSVG.mm and then select Generate Monitor JEE Projects from the pop-up menu
- 2. If you have already generated the ClipsAndTacks model for another lab, then you may need to select 'overwrite existing projects'. Then click **Finish**.
- A progress dialog shows the status of the operation and it closes when the operation is complete. Check for errors in the Problems view. There may be warnings, but there should not be any errors. If you see errors, then try to perform a clean to see if the errors can be removed: Project > Clean... > select 'Clean all projects', then click OK.
- 4. Click the Servers tab, then right click and select the **Start** option to start the server WebSphere Business Monitor Server v7.0. This may take a few minutes to complete.



- _____ 5. Right click in the servers view and then select Add and Remove Projects...
 - Click Add to move the ClipsAndTacksSVGApplication from the list of available projects to the list of configured projects. Click Finish. Note: If the application is already in the list of configured projects, then you may have run another lab and published this application already, so in that case, cancel this window and select the 'Publish' option from the server menu.
- 7. A progress message is displayed in the lower right corner of the window.
- 8. Check the messages in the console view. You should see the following message when the application has been started:

Application started: ClipsAndTacksSVGApplication

- 9. In the servers view, right click, then select Administration > Run administrative console. You should see it open in a separate tab. It will prompt you for user ID and password. Enter admin for user ID and then enter admin for password.
- Click Log in
- ____ 11. Click **Applications > Monitor Models**. The application should show green status if it started successfully.



____ 12. If the model shows red (stopped), then wait a moment, then refresh by clicking on the icon to the right of Status in the last column of the table. You should see green (started) for the model. If it does not show green, be patient and keep refreshing until it does show green.

13.	Check the server log to ensure there are no problems. You can check this in the console view.
14.	If you are using the integrated server within WebSphere Integration Developer or Rational Application Developer, then you do not need to setup Monitor data security, since the administrative user is automatically authorized to all models. If you are using a different server, then you should open the administrative console, navigate to Security > Monitor Data Security , then add the model, role and user information to a resource group.

Part 3: Run events to exercise the model

Rather than installing a J2EE application to actually create the events that you want to monitor, you are going to use a program to simulate the submission of events from the application.

The supplied program is 'BatchCBEWriter61' and it will submit the events to the Common Event Infrastructure. Look for the program in \Labfiles70\BatchCBEWriter. This program reads XML files which represent the common base events for the model.

Update BatchCBEWriter61.bat to point WAS HOME to the monitor server home, for example 'set WAS HOME=C:\IBM\WebSphere\AppServer'. If you are using the integrated monitor server in WebSphere Integration Developer, the path would be <WID WTE HOME>\runtimes\bi v7. If you are using the integrated monitor server in Rational Application Developer, the path would be <RAD_WTE_HOME>\runtimes\base_v7. Update config.properties, setting the serverName and portNumber. You can find the port number by browsing the server log and finding 'bootstrap port'. For example, check for the log at C:\IBM\WebSphere\AppServer\profiles\WBMon01\logs\server1\SystemOut.log . For the integrated server in WebSphere Integration Developer, the path would be <WID WTE HOME>\runtimes\bi v7\profiles\gmwps\logs\server1\SystemOut.log. For the integrated server in Rational Application Developer, the path would be <RAD WTE HOME>\runtimes\base v7\profiles\WBMonSrv\logs\server1\SystemOut.log. Here is an example of the config.properties settings: a. connect.serverName = localhost __b.connect.portNumber = 2809 Open a command window, then change directory to the folder containing BatchCBEWriter61, for example, type this command a. cd \Labfiles70\BatchCBEWriter 4. Run commands to load the common base events to the server. __ a. batchcbewriter61 -Dsource.filename=allevents.xml __ b. When it prompts you for user identity and password, enter 'admin' for both (without the quotation marks)

When you run BatchCBEWriter61, you should see results such as:

```
C:\Labfiles70\BatchCBEWriter>batchcbewriter61 -Dsource.filename=allevents.xml
Getting CBEs.
Getting Emitter.
Removing GlobalInstanceIds.
Setting missing values.
Changing Instance Ids.
Updating timestamps.
Validating CBEs.
Sending CBEs.
START=12:42:18.953
Sending cbe[10].
Sending cbe[20].
Sending cbe[30].
Sending cbe[40].
Sending cbe[50].
Sending cbe[60].
END=12:42:24.546
TotalTime=5593 milliseconds.
C:\Labfiles70\BatchCBEWriter>_
```

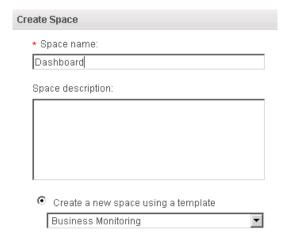
Part 4: Create a dashboard in business space

In this section you will build a dashboard in business space.

- Create the dashboard.
 - __ a. The default browser is 'Internal Web Browser', but you should not use this one since some standard functions are not provided that you may need. Select Window > Preferences > General > Web browser > select 'Use external Web browser'. Select an external browser. Click OK.
 - __ b. In WebSphere Integration Developer, in the servers view, right click and select Launch > Business Space
 - __ c. When prompted, enter admin for the user ID and enter admin for the password. You must log in with 'admin' so that you can view the alerts which were setup in action manager to be sent to this particular user ID. Also, in the toolkit environment, this is the user ID that is automatically defined on the secured server.
 - __ d. Click in the Actions menu to create a new space



__ e. Enter a name such as Dashboard, and select the Business Monitoring template.



f. Click Save.

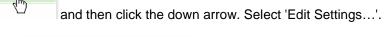


Part 5: Instances widget

- _____ 1. Configure the instances widget and configure it to cooperate with other widgets.
 - __ a. On the new space, click the Operational tab.



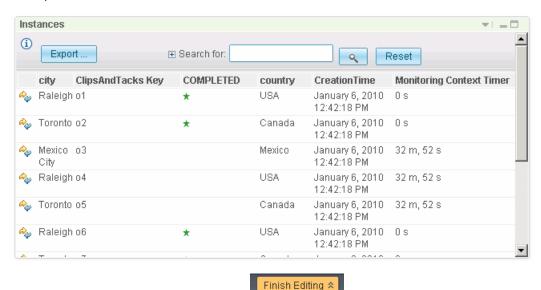
- __ b. Click the 'Edit Page' link to enter edit mode.
- __ c. To configure the Instances widget, hover the mouse over the right corner of the widget





- __ d. Click the **Show/Hide** tab, and select monitoring context 'ClipsAndTacks MC'.
 - ClipsAndTacks(Across all versions)

 Click button >> to move all the fields to the Selected box. Also, click button 'Set as default' which will make this the default monitoring context to display.
- __ e. Click the **Wiring** tab, then select 'Enable this widget to send events over wires.' This will allow you to link this widget to other widgets such as diagrams or KPIs.
- __ f. Then click **OK**. You should see a list of monitoring context instances for the events that you just processed.



__ g. Click 'Save' to save your changes.

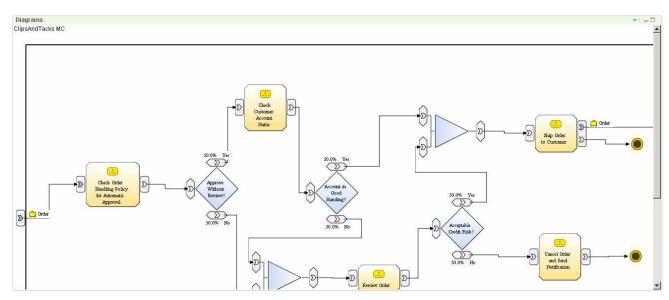
Bave Save

Part 6: Diagrams widget and cooperation with instances widget

- _____ 1. Configure the diagrams widget and configure it to cooperate with other widgets.
 - __ a. On the Operational tab, if you are not in edit mode already, click the 'Edit Page' link to enter edit



- __ b. Click **Edit Settings...** on the Diagrams widget menu.
- c. Select the model and monitoring context.
 - Select the ClipsAndTacks model
 - Select "Monitoring context"
 - Select "ClipsAndTacks MC"
- __ b. Click the **Wiring** tab, then select 'Enable this widget to send events over wires.'
- __ c. Then click **OK**. You should see the diagram displayed in the view.



- _____ 2. Click the diagram icon in the instances widget to see the diagram for specific instances.
 - __ a. In the dashboard, scroll up to the instances widget and find one of the monitoring contexts that show 'Cancelled' in the order status column.

Raleigh o6	*	USA	January 6, 2010 0 s 12:42:18 PM	August 26, 2006 4 3:20:05 AM	d, 0 h, 0 m, 0 s August 22, 2006 3:20:05 AM	Cancelled
🍫 Toronto o7	*	Canada	January 6, 2010 0 s 12:42:18 PM	August 27, 2006 5 4:14:55 AM	d, 0 h, 0 m, 0 s August 22, 2006 4:14:55 AM	Cancelled

__ b. For this item, click the icon in the first column. This will cause the diagram view to be updated for this specific monitoring context. The visual model in the monitor model is designed to color code the shapes in the diagram based on the status of the order. Since this particular order is cancelled, the diagram should show the task 'Cancel Order and Send Notification' as blue in color.



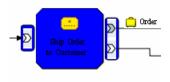
__ c. Click 'Restore Original Context' at bottom of this diagram to return this diagram to the generic diagram.

Restore Original Content

__ d. In the dashboard, scroll up to the instances view and then find one of the monitoring contexts that show 'Shipped' in the order status column.



__ e. For this item, click the icon in the first column. This will cause the diagram view to be updated for this specific monitoring context. Since this particular order is shipped, the diagram should show the task 'Ship Order to Customer' as blue in color.



__ f. Click 'Save' to save your changes.

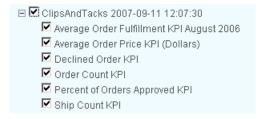


Part 7: KPIs widget

- ____ 1. Configure the KPIs widget
 - __ a. Click the KPIs tab.



- b. Click the 'Edit Page' link to enter edit mode.
- __ c. Click **Edit Settings...** on the KPIs widget menu.
- __ d. On the KPIs tab, click the () icon to expand the ClipsAndTacks model's available KPI metrics



- __ e. Select the check boxes next to the KPIs you want to monitor.
- __ f. Click the Wiring tab, then select 'Enable this widget to send events over wires.'
- __ g. Click OK
- h. The KPIs are displayed in the default table view as shown below:



- __ i. The status column shows icons for the range that is associated with the current value. In this case, the icons have not been defined. You can define the icons for the ranges by opening the KPI properties, and clicking the Range tab. The KPI properties can be accessed in the Actions column of the KPI table.
- __ j. This widget shows for each KPI the current value, target value and a bar chart that depicts the current value, target value and ranges.

- __ k. On the widget menu you can select 'Send Widget...' to send a screen capture of the KPIs as an attachment to a human task. Note that you must exit out of edit mode to see this menu item.
- __ I. In the Actions column, you can click icons to perform various functions:
 - 1) Show instances in the instances widget for this KPI. For this to work, you need to click the **Wiring** tab on both the instances widget and the KPIs widget, and select 'Enable this widget to send events over wires.'
 - 2) Show KPI properties for this KPI.
 - 3) Show alerts for this KPI. This will open the Alert Manager and show only alerts for this KPI.
 - 4) Open the KPI history and prediction configuration for this KPI.
- __ m. To view the KPIs in a different layout, click one of the icons in the lower left corner of the widget. For example, here is the widget after selecting the half gauge format:



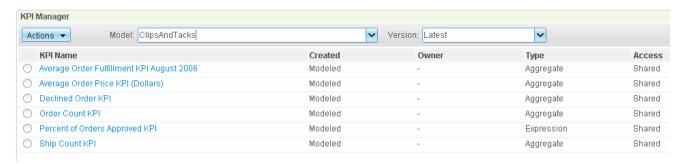
__ 2. Click 'Save' to save your changes.



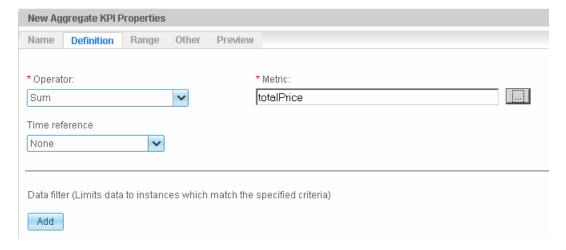
Part 8: KPI manager

You can use the KPI manager to view existing KPIs and to create, copy, and delete KPIs.

- ____ 1. Click the KPI Manager tab.
- 2. Select ClipsAndTacks from the drop down list for the Model field
- You see a list of the existing KPIs that were defined using the Monitor Model Editor. You can click the KPI Name to edit a KPI, or you can use the Actions button to create, edit, copy or delete KPIs. Note that for KPIs that were created in the monitor model editor, you can only update the target, and the remainder of the settings including ranges are not modifiable. If you need to update these settings, you could make a copy of the KPI, then update the copy.



- 4. To create a new KPI, click the **Actions** button. You can create an aggregate KPI that performs a function against a metric. You can also create a calculated KPI that uses calculations that reference other KPIs. For this example, select **New Aggregate KPI**.
- ____ 5. Create a KPI that sums the total price of orders. Select the Name tab and enter the following information:
 - __ a. KPI Name : Total Price KPI
 - b. Select the Definition tab and enter this information:
 - Operator: Sum
 - Metric: Browse to ClipsAndTacks MC > totalPrice



	abs to see that you can enter target You can also click the Preview tab t	
d. Click OK		
e. The new KPI has been a your dashboard.	dded to the list of KPIs, and now it c	an be displayed in the KPI view of
	KPI Name	
	Average Order Fulfillment KPI August 2006	
C	Average Order Price KPI (Dollars)	
C	Declined Order KPI	
C	Order Count KPI	
C	Percent of Orders Approved KPI	

Ship Count KPITotal Price KPI

Part 9: Alert manager widget and subscriptions

Using the Alert Manager dashboard widget, you can subscribe or unsubscribe to predefined alert notifications and have the notification sent to your dashboard, e-mail inbox, pager, or cell phone. From the Alert Manager, you can also create new alerts.

- ____ 1. View the alert manager widget
 - __ a. Click the Alert Manager tab.
 - b. In the alert manager widget you will see existing alerts listed, so you can edit, copy or delete them. You can also change your subscription information or create new alerts.



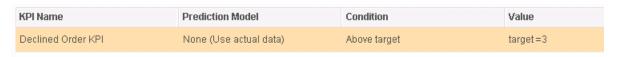
- Create a business user alert when the declined orders are greater than the target.
 - Click the New Alert button.
 - b. Enter an alert name and optionally a description and select the Clips And Tacks model.



__ c. In the Conditions section, click Add, which will add a row to the conditions table.



- __ d. For KPI Name, click to choose Declined Order KPI.
- __ e. For Condition, click to choose 'above target'.
- __ f. Value is automatically set to 3.



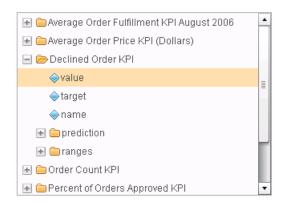
__ g. In the timing section, set the timing to one minute, and set the notification frequency to 'Only once when the condition applies'. So this means that the condition will be checked every minute, but the alert will be created only once.



- __ h. Click the Alert Content tab, and view the default message that is created.
- __ i. Update the body to include the KPI value.
 - 1) Select 'Define your own content'
 - 2) Add a blank line and put text 'Value is ' on the third line.



- 3) Click 'Insert dynamic value' in the body section
- 4) Navigate to Declined Order KPI > value

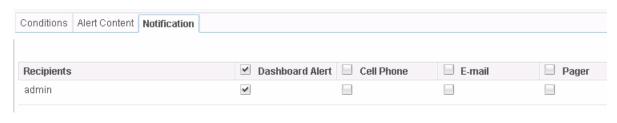


5) Click OK and you will see the dynamic value added to the body on the third line.



6) Click OK

__ j. Click the Notification tab, and you see that the user 'admin' is notified using a dashboard alert.



- k. Click OK.
- __ I. Click OK. You should see the new alert in the list.



Subscribe to an alert

_ a. In the alert manager widget, you can select the check box next to the alerts you want to subscribe to and click Save. When new alerts are sent, you will be notified via the mechanism that you choose: either dashboard alert, cell phone, e-mail or pager. Phone, pager, and e-mail information is configured by the administrator using the administrative console pages for action services configuration in conjunction with user registry information. The pager and telephone fields typically reference an e-mail address for a telephone and pager service that handles the routing of the messages.

Part 10: Alerts widget

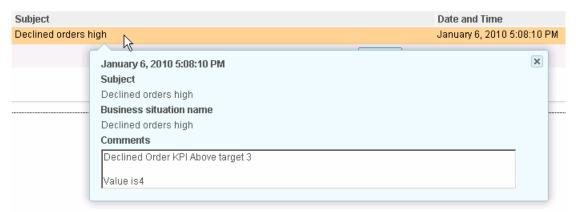
____ 1. Configure the Alerts widget.



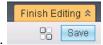
- __ a. On the Operational tab, click the 'Edit Page' link to enter edit mode.
- __ b. Click **Edit Settings...** on the Alerts widget menu.
- __ c. Click the **Wiring** tab, then select 'Enable this widget to send events over wires.'
- __ d. The alerts view is added to your dashboard. You should see the alert that you defined using the Alert Manager.



- __ e. There are buttons to mark and alert as read or unread. There are also buttons to forward the alert or remove an alert.
- __ f. You can click an alert in the list, then you will get a pop-up showing the details of the alert.



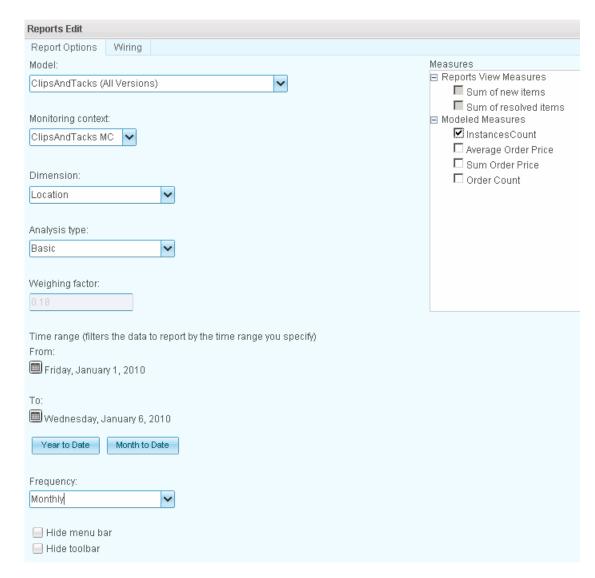
- __ g. The column **Alert Source** can be used to show the instance or diagram for the alert. Notice that in this case, the alert source icons are not available; that is because these alerts were based on KPIs rather than on monitoring context instances. If you have alerts based on instances and you setup the wiring mode on the widgets, then you can click the alert source to see the corresponding instance data or diagram instance information.
- __ h. Click **Edit Settings...** on the widget menu and you can customize the view including changing the color of the read and unread alerts.
- ____ 2. Click 'Save' to save your changes.



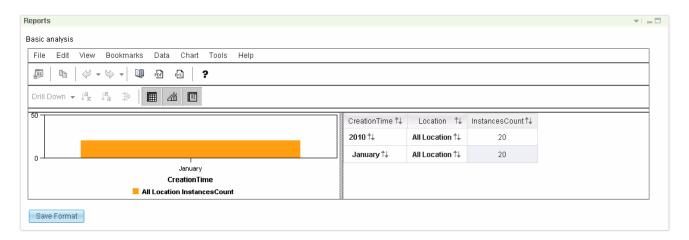
Part 11: Reports widget

The reports widget uses Alphablox for displaying multi-dimensional data in graph form, where the data is displayed relative to the time axis.

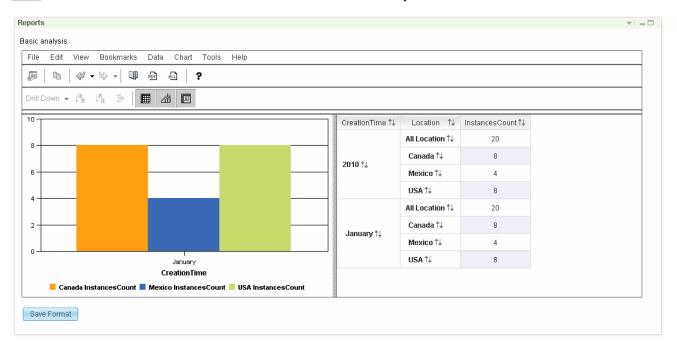
- ____ 1. Configure the **Reports** widget.
 - __ a. On the Analysis tab, click the 'Edit Page' link to enter edit mode.
 - __ b. Click **Edit Settings...** on the Reports widget menu.
 - __ c. On the report options tab select the following values:
 - Monitoring Model : ClipsAndTacks (All Versions)
 - Monitoring Context : ClipsAndTacks MC
 - Dimension : Location
 - Analysis Type : Basic
 - Time range : Click button 'Year to Date'
 - Frequency : Monthly
 - Measures : Select the check box next to InstancesCount



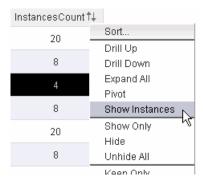
- __ d. Click the **Wiring** tab, then select 'Enable this widget to send events over wires.'
- __ e. Click OK
- __ f. The Reports view displays the instances count based on location relative to creation time as shown below.



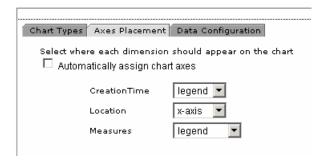
2. Double click **All Location** on the first row to drill down by location.



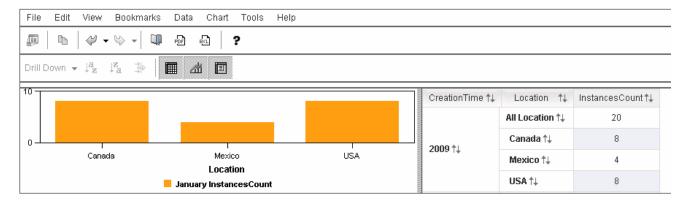
- ____ 3. You can click the 'Save Format' button to save any personalization that you perform on the view. For example, you may want to have the drill down by location be saved so that the widget always opens with the drill down already performed.
- 4. Use the main menu of the reports view to manipulate the visualization of the performance analysis to your needs
- _____5. To see the instances that aggregate to the counts in the table, just right click any cell in the table and select menu item **Show Instances**, then this will show the instances in the instances widget. You also need to setup **Wiring** mode on both widgets to enable this capability. And you need to add the instances widget to the same page and configure it to display the ClipAndTacks monitor model.



- _____ 6. You can also configure additional measures in this view. To do this, click the configure option and select any of the **Measures** and save the configuration.
- _____ 7. If you want to see how to place a different dimension other than CreationTime on the X axis of the chart, then follow this procedure.
 - __ a. Click Chart > Axis Placement...
 - __ b. Change CreationTime to 'legend', and change Location to 'x-axis'. This will put Location on the X axis of the chart.



- __ c. Click OK.
- __ d. Now you will see Location on the X axis of the chart.



___ 2. Click 'Save' to save your changes.

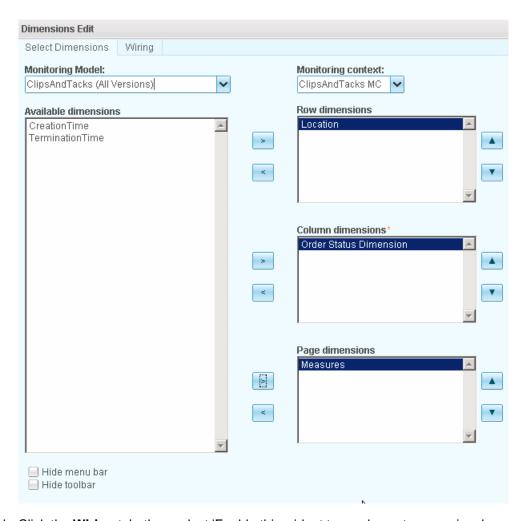
Part 12: Dimensions widget

The dimensions widget uses Alphablox for displaying multi-dimensional data in graph form, where the data can be displayed and analyzed using dimensions which are defined in the model.

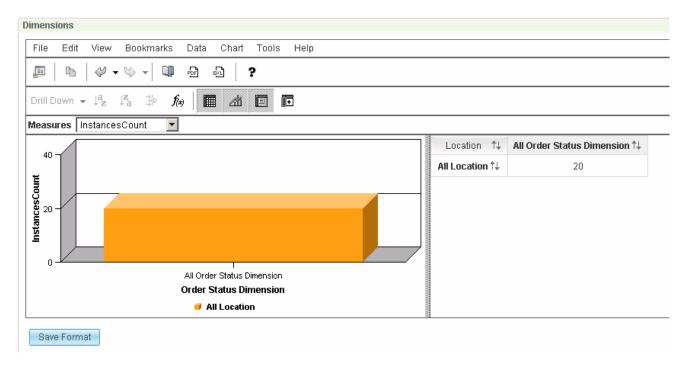
- _____ 1. Configure the **Dimensions** widget.
 - __ a. On the Analysis tab, if you are not already in edit mode, click the 'Edit Page' link to enter edit



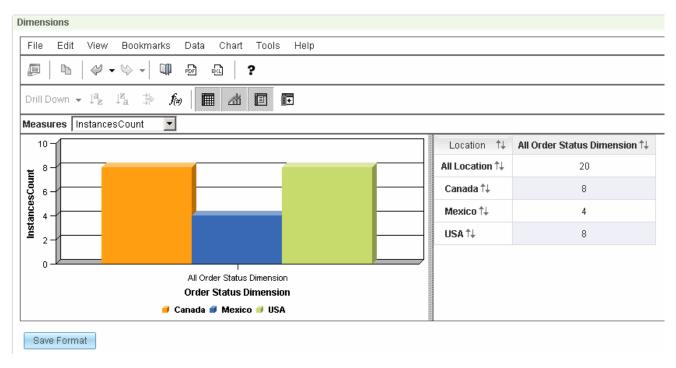
- __ b. Click **Edit Settings...** on the Dimensions widget menu.
- __ c. In the Select Dimensions tab, select the following values:
 - 1. Monitoring Model: ClipsAndTacks (All Versions)
 - 2. Monitoring Context: ClipsAndTacks MC
 - 3. Select **Location** from the **Available Dimensions** list and click the right direction arrow () next to **Row Dimensions** text area.
 - 4. Now select **Order Status Dimension** from the **Available Dimensions** list and click the right directional arrow () next to **Column Dimensions** text area
 - 5. Now select **Measures** from the **Available Dimensions** list and click the right direction arrow () next to **Page Dimensions**



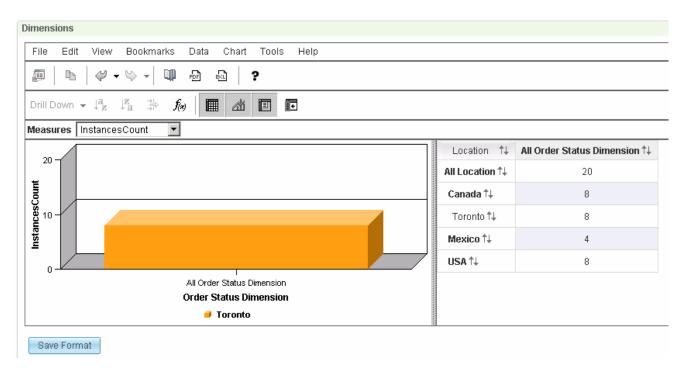
- __ b. Click the Wiring tab, then select 'Enable this widget to send events over wires.'
- __ c. Click **OK**.
- __ d. The Dimensions view displays the instances count based on location and order status.



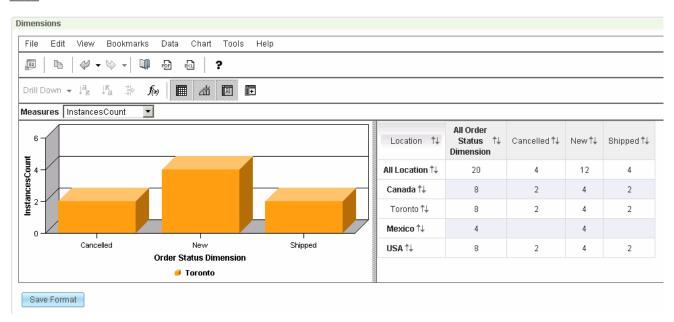
3. You can double click **All Location** to drill down on location.



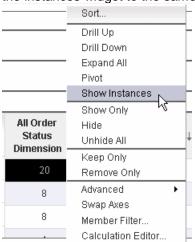
4. You can double click **Canada** to drill down on a specific country.



5. You can double click 'All Order Status Dimension' to drill down on order status.



- ____ 6. You can click the 'Save Format' button to save any personalization that you perform on the view. For example, you may want to have the drill downs saved so that the widget always opens with the drill downs already performed.
- _____ 7. To see the instances that aggregate to the counts in the table, just right click any cell in the table and select menu item **Show Instances**, then this will show the instances in the instances widget. You also need to setup **Wiring** mode on both widgets to enable this capability. And you need to add



the instances widget to the same page and configure it to display the ClipAndTacks monitor model.

- 8. If you want to perform analysis on different dimensions in the model, select the Edit Settings... widget menu option and move different dimensions to the row, column and page dimensions.
- ____ 9. Click 'Save' to save your changes.

What you did in this exercise

In the lab, you imported the ClipsAndTacks model to a new workspace and published it to the Monitor Test Environment

You used the supplied program to simulate the submission of events from the monitored application.

You created a new dashboard and added widgets to the dashboard and configured them.

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