
WebSphere Business Monitor

Overview



This presentation provides an overview of the features in WebSphere® Business Monitor.

Goals

- Introduce WebSphere Business Monitor features, components, installation, configuration and administration

This presentation will give an overview of the features and components that make up WebSphere Business Monitor along with some information on installation, configuration and administration of the product.

Business monitoring goals

- Understand the state of business performance measured against targets using key performance indicators
- Track processes and applications
- View metrics and business measures in customizable dashboards
- Notifications for business situations that require corrective action
- Report and analysis using historical and predictive information



Business monitoring is the understanding, analysis and exploration of business operations. Business executives want the ability to easily and quickly verify business measurements against goals. This can be accomplished easily using key performance indicators which are visible in the monitor dashboard.

Business analysts want to track processes and applications running in disparate environments in near real-time. They might want to track the status of a specific order or identify bottlenecks and reallocate resources. This can be performed using a customized dashboard to display specific metrics for a process, such as duration or cost of an activity.

A complete monitoring system should also detect unusual situations and provide alerts and identify the need to take corrective action. For instance, if inventory levels are down, alerts should be sent in the form of e-mail or text messages to the appropriate individuals. It should also improve business users' decision making through embedded analytics to provide a deeper analysis of trends and data. You should be able to combine real-time performance and historical information to evaluate trends. And you should be able to evaluate predictions of future trends for improved decision making and faster reaction to business changes.

WebSphere Business Monitor components

- Integrated development environment
 - Monitor model editor and integrated test server
 - WebSphere Integration Developer or Rational® Application Developer
- Business dashboards
 - Browser based dashboards, corporate portals, mobile devices, desktop widgets
- Monitor server
 - Stand-alone or network deployment environments
 - Monitor profiles on WebSphere Application Server, WebSphere Process Server, WebSphere Enterprise Service Bus
 - Common event infrastructure
 - Cross-cell configuration for remote event servers

WebSphere Business Monitor includes several components. An integrated development environment can be used to build monitor model applications and iteratively develop and test the application on the embedded test server. The monitor model editor is a plug-in for WebSphere Integration Developer or Rational Application Developer, and it allows you to develop XML based monitor model applications for deployment to the monitor server.

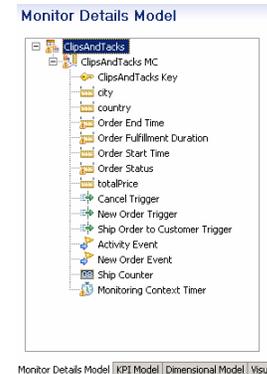
The dashboard component gives you the ability to analyze metrics and key performance indicators. You can use a browser based dashboard, or corporate portal dashboard. You can also view various monitor widgets on mobile devices and computer desktop.

The monitor server is the runtime component that is used to run the monitor model applications for tracking business events and extracting event payloads for storing in monitor metrics and aggregating into business measures and key performance indicators. The monitor server can be installed in a stand-alone configuration for development environments or small scale production environments. It can also be installed in a network deployment environment for use with clusters for maximum scalability and high availability. The monitor profile can be installed on WebSphere Application Server, WebSphere Process Server or WebSphere Enterprise Service Bus.

The common event infrastructure component provides the mechanism to send business events with payload to WebSphere Business Monitor from your processes or applications. These processes and applications can be running on the same monitor server or on remote servers. For remote servers, the cross-cell configuration provides the linkage to route the events to the monitor server.

Monitor model

- XML representation of the monitoring logic
- XSD-based model validation in monitor model editor in the monitor toolkit
- Support for notepad development
- Supports monitoring applications or processes
- Auto-generation of the monitor model from WebSphere Business Modeler or the monitor toolkit in WebSphere Integration Developer
- Generate the Java™ Extended Edition (JEE) application in the monitor toolkit



The monitor model is based on XML. So, as you edit the model in the monitor model editor using the formatted panels in the toolkit, you are making updates to the underlying XML file. But you are also given the option to edit the XML file directly. The model is easy to read in XML notation and the names of the model artifacts are in human readable form in the XML file. The Monitor Model Editor uses the XSD model schema to perform validation operations as you save changes to the model.

The monitor model is constructed using inbound events from the common event infrastructure, so you can easily monitor any application which has been instrumented to generate events for monitoring. There is also built-in support for monitoring processes in WebSphere Process Server, and the events are pre-defined so you can quickly auto-generate a monitor model from the process. You can auto-generate the monitor model based on the process model in WebSphere Business Modeler or the process module in WebSphere Integration Developer.

When the monitor model has been completed, you can use the monitor toolkit to generate the JEE application which can then be deployed to the monitor server.

Event sources

- Common base events emitted from any application or process
- All event sources can be monitored together
- Events can be monitored from:
 - Any application instrumented to submit common base events or XML events
 - WebSphere Process Server or WebSphere Enterprise Service Bus
 - WebSphere Adapters, WebSphere MQ, WebSphere MQ Workflow
 - WebSphere Business Events, WebSphere Business Services Fabric
 - WebSphere Message Broker, WebSphere Sensor Events
 - WebSphere Partner Gateway, Filenet
 - CICS®, IMS™

You can monitor any target application which can be instrumented to emit common base events or XML based events. You can also monitor the built-in events which are emitted for applications running on WebSphere Process Server or WebSphere Enterprise Service Bus. As you can see on this slide, there are also many other WebSphere products with integration points for monitoring, along with products such as Filenet, CICS and IMS. And you can easily monitor events which are produced from multiple sources at the same time using the common event infrastructure.

How to publish events for monitoring

- REST event emitter API
- JMS API
- Common event infrastructure API
- WS-Notification

The WebSphere Business Monitor event emitter services provide alternative methods for an application to emit events. When using the JMS or the REST event emitter service you do not have to code or generate common base events directly. You provide the event XML, and the event emitter services receive the event XML and wrap it in a common base event so that WebSphere Business Monitor can process it.

You can use the REST Event Emitter to synchronously publish events using HTTP without the common base event wrapper.

The Java Messaging Service (JMS) event emitter enables you to asynchronously publish events, without the common base event wrapper, to a predefined JMS queue. The events can be put on the JMS queue even when WebSphere Business Monitor services are unavailable.

For applications which have access to a common event infrastructure server, you can use the associated API to create and publish events for consumption by Monitor.

Web services notification is a publish and subscribe vehicle for Web services. You can send events from most sources to WebSphere Business Monitor through Web services using Web services notification. Web services notification can be used with both Java and .NET Web services.

Version control

- Support for change management
 - For example, if you want to add a new metric to an existing monitor model
- Ability to run the old version and the new version in parallel
 - In-flight instances continue using the old version;
 - new instances use the new version
- Version control for running process instances

Monitor has version handling support, so that you can make changes to an existing monitor model. For example, you might want to add a new metric to the monitor model for viewing in the dashboards. So you create a second version of the model and deploy it to the monitor server. Then the existing monitor instances use the old version of the model, but any new monitor instances are created using the new version of the model. The new instances will have a field in the monitor database for tracking the business payload associated with the new metric.

In the process server you can migrate a running process instance to a new version of the process. This has implications for the associated monitor application because the events for different versions of a process have different monitor model event filtering criteria. To handle the process instance migration, Monitor automatically initiates the migration of the monitoring instance to the new version of the monitor model.

Installation

- Use Installation Manager to install the toolkit or the monitor server
- Toolkit
 - Installs on Rational Application Developer or WebSphere Integration Developer
 - Uses built-in Derby database
- Server
 - Optional software – Alphablox®, WebSphere Portal Server
 - Use with WebSphere Application Server, WebSphere Process Server or WebSphere Enterprise Service Bus
 - Install with existing software or use the launchpad to install Alphablox and WebSphere Application Server
 - Stand-alone or network deployment environments



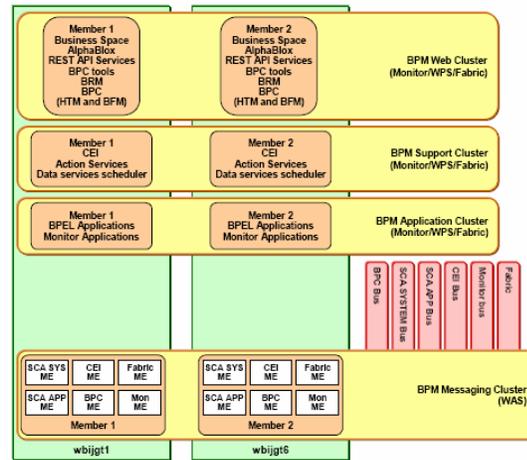
WebSphere Business Monitor is installed using the Installation Manager program. You can use it to install either the toolkit or the server, and after installation it will also handle modifying features, updating versions or uninstalling software.

The monitor toolkit includes both the monitor model editor and the embedded monitor server with Alphablox. You can install the toolkit on Rational Application Developer or WebSphere Integration Developer. Since this is a development environment, the database is automatically set to use the built-in Derby database.

The monitor server can use optional software such as Alphablox for the multi-dimensional dashboard widgets. WebSphere Portal Server is optional and can be used to setup your monitor dashboards into a corporate portal environment. The monitor profile can be built on WebSphere Application Server, WebSphere Process Server or WebSphere Enterprise Service Bus. When installing Monitor, you are given the option of using existing software or installing Alphablox and WebSphere Application Server, since both of these products are included on the installation image. The monitor server can be installed in a stand-alone configuration for development environments or small scale production environments. It can also be installed in a network deployment environment for use with clusters for maximum scalability and high availability.

Configuration

- Component configuration wizards
- Deployment environment wizard
 - Create a one cluster topology for small production environments
 - Create a four cluster topology for increased production isolation and scalability



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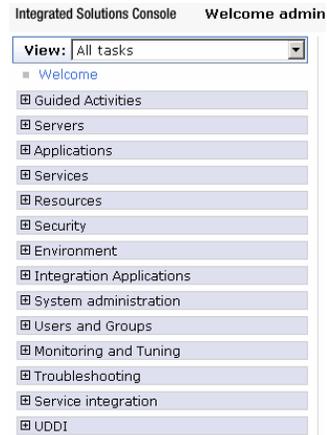
The Monitor component configuration wizards in the administrative console allow you to configure various monitor components in a network deployment environment. You can use the wizards to configure Monitor services, messaging engines, AlphasBlox software, mobile dashboards and business space.

The deployment environment page in the administrative console makes it easy to configure Monitor for supplied patterns. There are two patterns, the one cluster pattern and the four cluster pattern. Typically you use the one cluster pattern for test systems or small production environments. The four cluster topology is used for scalable solutions with failover support. In this case you have clusters for Web applications, support services, business applications and messaging.

In either pattern, the Monitor configuration is automatic, so this greatly simplifies the setup of your environment for the supported patterns. But you still have the option of creating a custom topology using the Monitor component configuration wizards.

Administration

- Using the application server administrative console
- Includes features
 - Configuration wizards, deployment environment wizard, monitor models, event recording, services, monitor data security, error recovery
- Many functions are also available using scripting



Administration is provided with the application server administrative console. You can configure Monitor components using the configuration wizards or deployment environment wizard. You can deploy and manage monitor model applications, including recording and playing back event streams. And you can manage monitor services, data security and failed messages.

Many of these functions can be invoked using scripting commands. For more information about scripting commands, check the reference section of the Monitor information center.

Dashboards

- Browser based access to monitor widgets and other widgets
 - Alerts, diagrams, dimensions, export values, human tasks, instances, KPIs, KPI history and prediction, reports
 - Customizable dashboards using the business space framework
 - Includes templates for quick configuration
- Gadgets for Google Desktop
- Monitor data in Microsoft® Excel and Sametime® Connect
- Mobile dashboards on BlackBerry, iPhone, iPod touch



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Overview



Instance ID	City	ClipsAndTasks Key	COMPLETE	Country	Created
1	Raleigh	o1	TRUE	USA	2008-1
2	Toronto	o2	TRUE	Canada	2008-1
3	Mexico Ctr	o3	FALSE	Mexico	2008-1
4	Raleigh	o4	FALSE	USA	2008-1
5	Toronto	o5	FALSE	Canada	2008-1
6	Raleigh	o6	FALSE	USA	2008-1
7	Toronto	o7	TRUE	Canada	2008-1
8	Mexico Ctr	o8	FALSE	Mexico	2008-1
9	Raleigh	o9	FALSE	USA	2008-1
10	Toronto	o10	FALSE	Canada	2008-1
11	Raleigh	o11	TRUE	USA	2008-1



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A dashboard can be used to view monitored data using the business space framework. You can use the monitor template to quickly create and configure a dashboard containing the monitor widgets, or you can create a blank dashboard and add monitor widgets and other widgets from the palette. There are various widgets available for the WebSphere BPM products and a set of monitor specific widgets for viewing alerts, metrics, KPI's, KPI history and prediction, and there are widgets to use with multi-dimensional analysis.

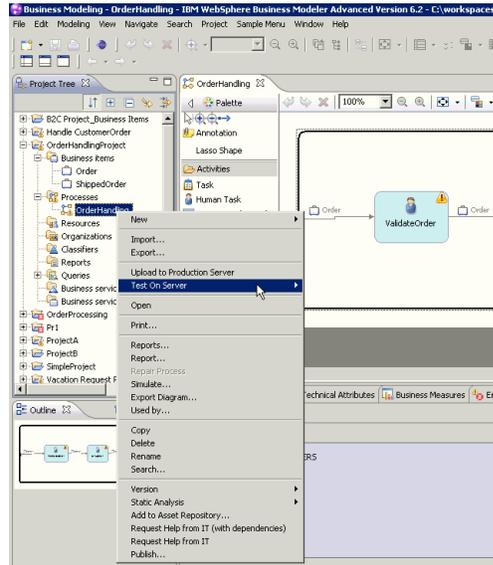
If you have the Google Desktop loaded on your computer then you can also install Monitor dashboard gadgets on your desktop which allows you to view KPIs, search for KPIs and to view alerts.

Using the Excel plug-in you can import instance data, KPI data and alerts into your spreadsheets. Using the plug-in for Sametime Connect you can view alerts, key performance indicators (KPIs) and instances.

For the mobile user, you can use your BlackBerry, iPhone or iPod touch to view Monitor data for human tasks, alerts and KPIs.

Deploy and test from WebSphere Business Modeler

- Enable the business analyst to develop and deploy solutions directly from WebSphere Business Modeler for monitoring processes deployed on WebSphere Process Server



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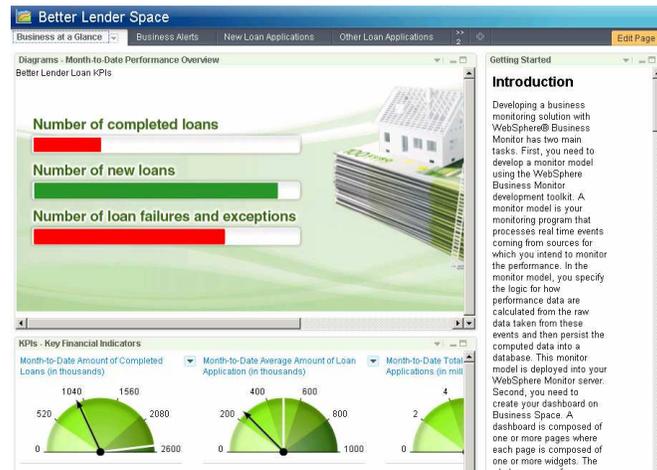
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WebSphere Business Modeler allows you to test your process models and business measures models directly on the process server and monitor server. Some configuration is required to enable it, and then you can easily deploy the models and iteratively step through the processing logic directly on the server using a business space dashboard. This can be advantageous when you want to verify the process logic before handing the models over to IT for implementation and deployment into production.



Showcase model

- Automatically installed in the toolkit
- Sample data and dashboards



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The showcase model which is called Better Lender helps you understand the usage of monitor and especially the usage of the dashboards in business space. Monitoring context instance data and KPI data is pre-loaded into the database, so you can open the provided dashboards and view the various monitor widgets. For a new monitor user, this is helpful when trying to discover the usage of the many widgets in the dashboard. Monitor models are also provided so you can view the model source to see how they are constructed.

The showcase is automatically installed when you install the monitor toolkit with integrated test server. For other installation scenarios, you can install it from the first steps console.



WebSphere Industry Content Packs

- Industries covered: insurance, banking, healthcare, telecommunications, and product life cycle management
- Monitor models, customized dashboards, sample events provided for each industry



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WebSphere Industry Content Packs provide a rich set of pre-built, industry-specific assets to accelerate and enhance delivery of WebSphere BPM-based industry solutions for Banking, Insurance, Healthcare, Telecom, and Industrial Product Life cycle Management. These assets are based on industry standards and thus ensure consistency and reuse across the enterprises and their ecosystems. The content pack assets can be extended to meet an organization's unique business needs.

The industry content packs include monitor models and complete dashboards that display the data particular to each specific industry. The monitor models are a good starting point, but they can also be easily customized to fit your particular needs.

Summary

- Covered an overview of features in WebSphere Business Monitor

In summary, this presentation covered an overview of WebSphere Business Monitor, and how you can use it to monitor a real-time and end-to-end view of business processes and operations.

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