WebSphere® Business Monitor V6.1

Dashboards overview

This presentation introduces using the new features of the dashboards in WebSphere Business Monitor Version 6.1.

Goals

- Give a high level overview of the technology

- Explain what is new in WebSphere Business Monitor V6.1 Dashboards

The goal of this presentation is to give a brief overview of the technology used and show you the new features in the Dashboard component of WebSphere Business Monitor Version 6.1

Agenda

- Technology overview

- What is new in V6.1 dashboards
  - ▸ Web-based dashboards
  - ▸ Portlet-based dashboards

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You will see a high level technology overview and the new features in Monitor dashboards.

Section

Technology overview

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This section will review the technology aspects in Monitor Version 6.1 dashboards.

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Web 2.0 architecture

- AJAX (asynchronous JavaScript and XML) based Dojo rich functionality

- Monitoring Data exposed in REST (representational state transfer) style

- Data transfer using JSON (JavaScript object notation)

AJAX and RESTfull JSON

Web Browser

User Interface

JavaScript Call

Update Page
(HTML DOM)

AJAX Engine

Server side components

REST Services | Application Server

HTTP (s)
Request

Data Transfer
(JSON Format)

Data store

HTTP (s) Response

Note: The diagram depicts a general overview

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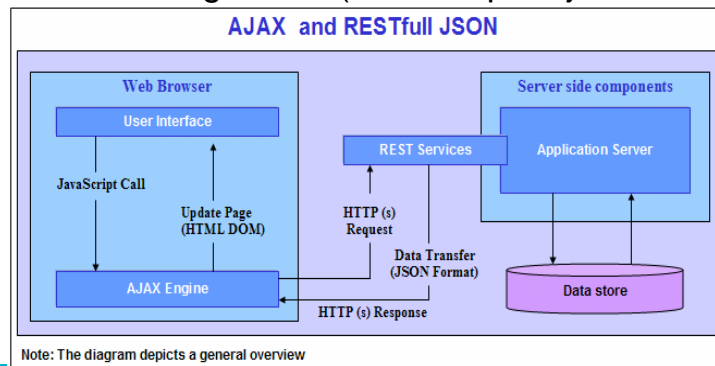
Monitor V6.1 dashboards are designed to give a rich user experience made possible using Web 2.0 technology and AJAX (**A**synchronous **J**avaScript **a**nd **X**ML). AJAX is a combination of several existing technologies, each at its best, coming together in powerful new ways. AJAX incorporates standards-based presentation using XHTML and CSS, along with dynamic display and interaction using the Document Object Model (DOM). AJAX provides data interchange and manipulation using XML and XSLT, and asynchronous data retrieval using XMLHttpRequest; and JavaScript binding everything together. The DOM is a structured, tree-like representation of the Web page which makes it easy to traverse using JavaScript. There are methods to dynamically set properties of objects and add and remove objects, thus allowing for dynamic content.

Dojo is an Open Source DHTML toolkit written in JavaScript and allows you to easily build dynamic capabilities into Web pages.

The data required by the Dashboard is retrieved from a **REST** style URI landscape. REST stands for **RE**presentational **S**tate **T**ransfer. REST is a broad term that defines an architectural style for interaction between systems. REST is not a protocol or a standard; rather it's an architectural style. The Web is composed of resources accessed using URI's. When you access a URI, a **representation** of the resource is returned. The representation places the client application in a **state**. The result of the client traversing a hyperlink in the resource is that another resource is accessed. The new representation places the client application into yet another state. Thus, the client application changes state with each resource representation. In restful Web services, the resources are stateless, so each request from client to server must contain all the information necessary to understand the request, and cannot take advantage of any stored context on the server. All resources are available to be accessed using URLs.

The Monitoring data is returned in JSON format. **JA**vaScript **O**bject **N**otation is a lightweight syntax for representing data. JSON is a text format that is completely language independent and consists of a collection of name/value pairs and ordered lists of values, wrapped in curly braces and brackets.

WBMonitorV61_DashboardOverview.ppt

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Data access

- RESTful services
  - ▸ Abstracts the monitoring data
  - ▸ Dashboard views obtain relevant data
  - ▸ Returns Data in JSON format
  - ▸ Scalability comes for free

- Dashboard scenario : JSON data over HTTP
  - ▸ The Business Monitor dashboards use Dojo based Ajax components. The data exchange between RESTful services and the dashboard uses the lightweight JavaScript Object Notation (JSON) format

Dojo based Ajax client
- Rich user experience
- Client state stays on the client
- Dojo APIs keep processing on client
- Server communication through (Feeds, JSON-RPC, etc)

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The RESTful services running on the Monitor Server abstract the monitoring data to a language and platform independent format for consumption by anyone. As a result, the AJAX-based Dojo Widgets use these services to obtain the relevant data returned in JSON format.

The biggest advantage is that "Scalability" has been achieved, since REST is based on simple HTTP which has proven its scalability and generality, leveraging the existing performance oriented infrastructure.

In a dashboard scenario, the business monitor dashboards use Dojo based AJAX components. The data exchange between RESTfull services and the dashboard uses the light weight JavaScript Object Notation (JSON) format, made popular in the Web 2.0

Section

What is new in V6.1 dashboards?
Web-based dashboard
Portlet-based dashboard

This section describes the new features in WebSphere Business Monitor Version 6.1 Dashboard.

What is new in V6.1 dashboards?

- Rich Web 2.0 user experience
- Introduces new light weight Dojo-based Web-based dashboards
- Highly functional Dojo-based Portlet-based dashboards
- Refresh rate available on many views
  - Instances, alerts, human tasks, KPI, diagram
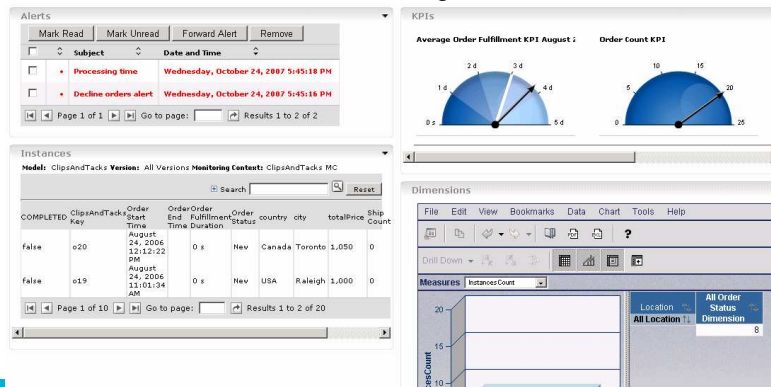
Monitor V6.1 dashboards delivers a highly rich user experience made possible by Web 2.0. With the extensive use of the Web 2.0 technologies, Monitor V6.1 introduces a new light weight Dojo-based Web dashboard and highly functional Dojo-based Portal dashboard.   Using the Dojo JavaScript toolkit, the Monitor dashboards provide a rich user experience with highly dynamic content. Each view in the dashboard can be updated dynamically and asynchronously, so the entire page does not have to refresh in order to see updates in each view.

Web-based dashboards

- Lightweight Dojo-based Web-based dashboards
  - Uses Dojo to provide Web 2.0 capabilities
  - Provides a light weight alternative to Portlet-based dashboards with a rich set of functions
  - Views are identical to that of Portlet-based dashboards
  - Installed in the presence of the Monitor Server
  - Runs on WebSphere Application Server V6.1
  - Serves as highly functional unit test environment
- Transition made possible
  - Portlet-based dashboards to a production Portlet-based dashboards
  - Web-based dashboards to a production Web-based dashboards

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The Web Dashboard uses Dojo to provide the Web 2.0 capabilities. The Web Dashboard furnishes lightweight functionality without requiring WebSphere Portal Server by providing a lightweight client side aggregation framework. The dashboard views available are identical to those offered in Portal.

The WebSphere Business Monitor V6.1 Web Dashboard is installed on WebSphere Application Server V6.1 eliminating the need for a WebSphere Portal Server and is installed and runs in the presence of Monitor Server. Web Dashboard also serves as a highly functional Unit Test Environment by virtue of its presence on the Monitor Server coupled with its light weight nature.

You can copy the dashboard meta-data from a unit test environment to a production environment. You can use the import/export capability of the Web dashboard to copy dashboard metadata between Web dashboard databases. For copying dashboard data from one Portal database to another, there are Portal utilities to do that. But copying data from a Web dashboard to a Portal dashboard is not supported in this release.

Web-based dashboards

- Supports these views
  - ▶ Diagrams, KPIs, instances, alerts and human tasks
  - ▶ Optional Alphablox® based views
    - Dimensions and reports
- Provides following utilities
  - ▶ Alert subscription, export values and KPI explorer
- Data retrieval
  - ▶ Monitoring data is retrieved from a REST style URI landscape
  - ▶ Data returned in JSON format
- Security
  - ▶ Forced to authentication if WebSphere Application Server security is enabled
 - ▶ Provides a simple login (no password) if WebSphere Application Server security is disabled

Monitor V6.1 Web dashboards supports these views: Diagrams, KPIs, Instances, Alerts and Human Tasks. The optional Alphablox views are dimensions and reports. There are other tools which allow you to subscribe to alerts, export monitored values back to Modeler and to maintain KPI's.

The Web dashboard retrieves the data from a RESTful style URI landscape. The RESTful services running on the Monitor Server present the data in a JSON format.

The Web Dashboard is configured in such a way to force the authentication if the WebSphere Application Security is enabled. If the WebSphere Application Server Security is disabled, the Web Dashboard still provides a simple login with no password field to establish a user identity but this identity is not validated by any registry.
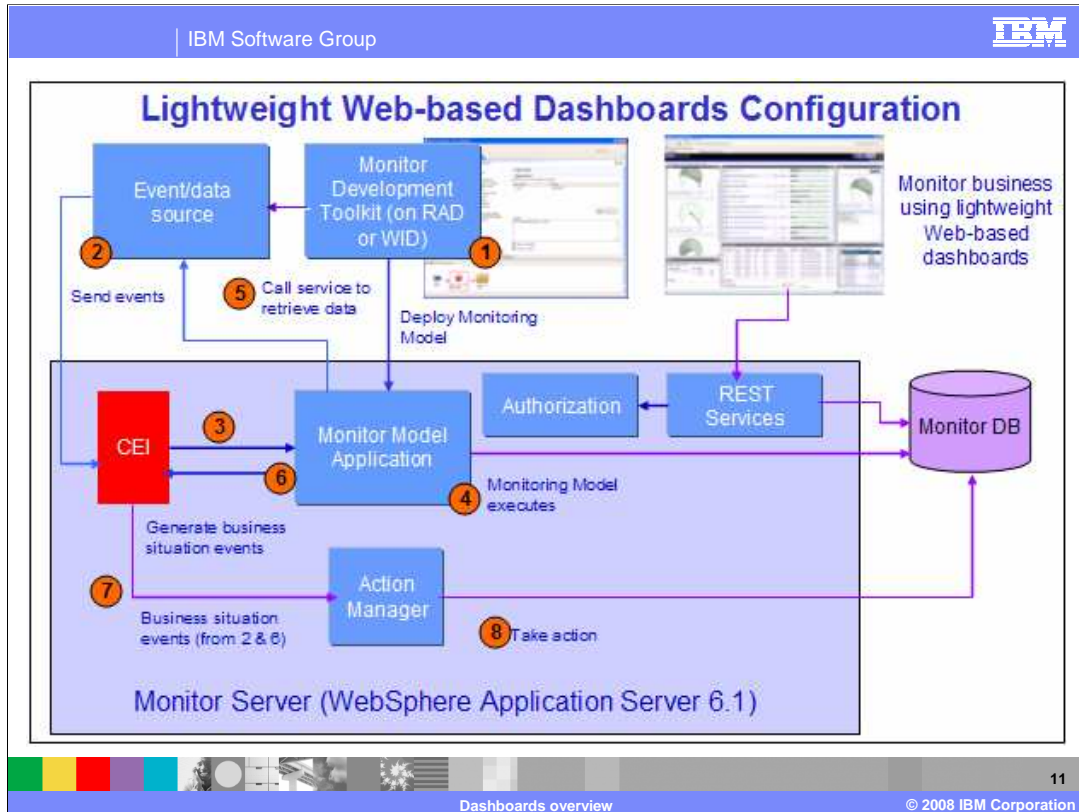
This slide shows the Web dashboard configuration without Alphablox installed. Monitor server runs on WebSphere Application Server which includes REST services. When the dashboard requests data, it does so through REST services. Without Alphablox, you can use all of the dashboard tools and views except for the dimensions and reports views.
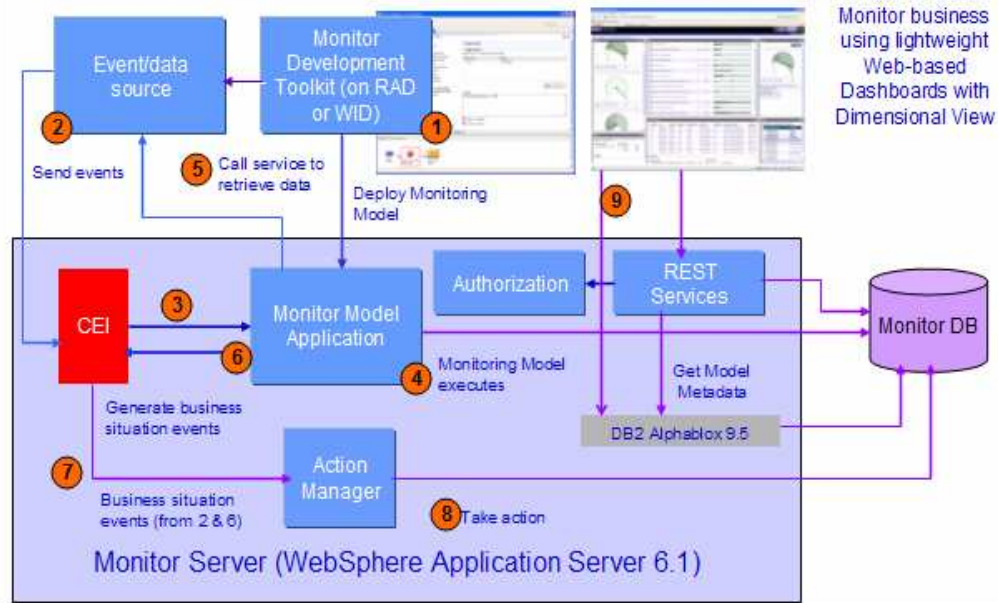
This slide shows the Web dashboard configuration with Alphablox installed. In this case you get the dimensions and reports views which access Alphablox for the cube data which is used for multi-dimensional analysis in these views.

Portlet-based dashboards

- Runs on Ajax version of WebSphere Portal Server

- Portal provides advanced dashboard capabilities
  - ▶ Role based access control
  - ▶ Click to Action
  - ▶ People awareness
  - ▶ Page aggregation
  - ▶ Personalization
  - ▶ Ability to combine with vendor Portlets

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The Portal dashboard runs on the AJAX version of WebSphere Portal Server which includes enhanced Portal features and capabilities. You will see that the Portal dashboard provides a similar user interface as the Web dashboard since AJAX provides the same rich user experience in this environment. Portal dashboards also provides advanced capabilities like role based access control, click to action, people awareness, page aggregation, personalization and the ability to integrate with vendor portlets.

Portlet-based dashboards

- Supports these views
  - ▶ Organization, Diagrams, KPIs, Instances, Alerts, and Human Tasks
  - ▶ Optional Alphablox based views
    - Dimensions and Reports
- Provides following utilities
  - ▶ Alert Subscription, Export Values and KPI Explorer
- Data Retrieval
  - ▶ Monitoring data is retrieved from RESTful data services
  - ▶ Returns data in JSON format

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Dashboards overview

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Monitor V6.1 Portal dashboards supports these views: Diagrams, KPIs, Instances, Alerts and Human Tasks. The optional Alphablox views are dimensions and reports. There are other tools also which allow you to subscribe to alerts, export monitored values back to Modeler and to maintain KPI's. This is the same functionality as the Web dashboard.

Like the Web dashboard, data is retrieved from a RESTful style URI landscape using JSON format.

You can setup end-to-end security for the human task view, setting up security in Process Server for the process and human task templates. You can setup security in Monitor server for the monitored models. You can setup security at a portlet level in Portal Server.
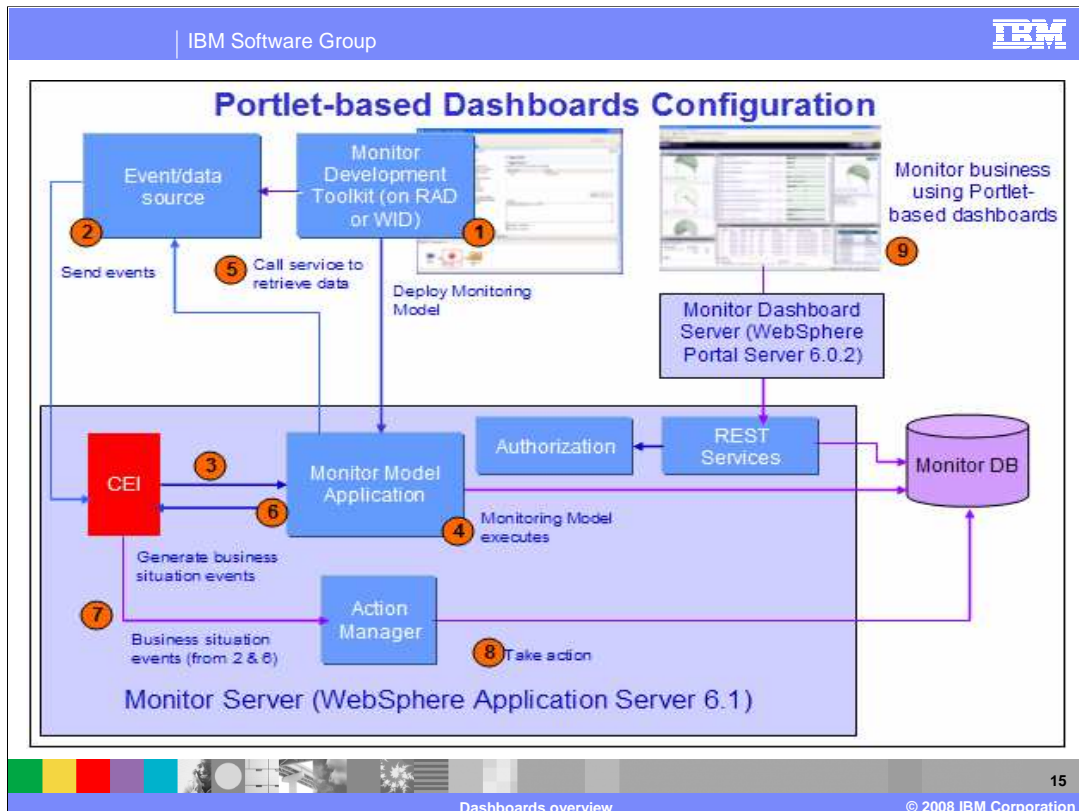
This slide shows the Portal dashboard configuration without Alphablox installed. Monitor server runs on WebSphere Application Server which includes REST services. Monitor dashboards are installed on Portal Server. When the dashboard requests data, it does so through REST services on Monitor server. Without Alphablox, you can use all of the dashboard tools and views except for the dimensions and reports views.
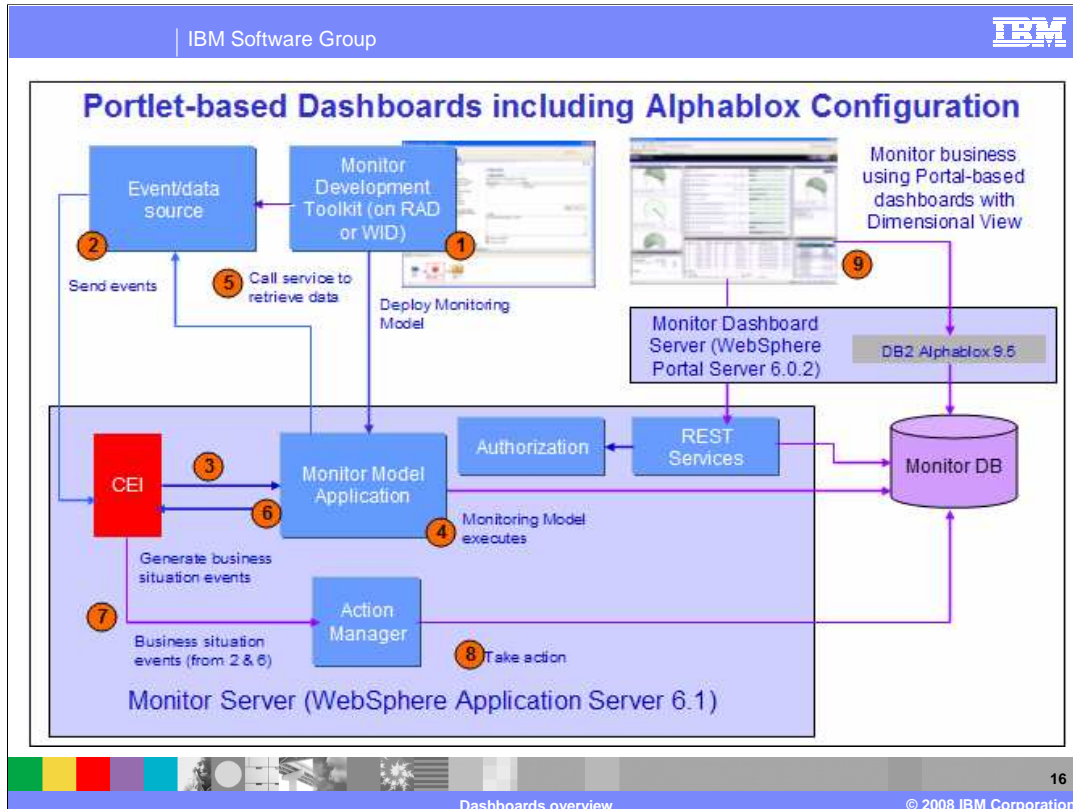
This slide shows the Portal dashboard configuration with Alphablox installed. In this case you get the dimensions and reports views which access Alphablox on the Portal server for the cube data which is used for multi-dimensional analysis in these views.

Summary

- Covered technology aspects and what's new in WebSphere Business Monitor V6.1 Dashboard

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In this presentation you have reviewed the new features in WebSphere Business Monitor version 6.1 dashboards.

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